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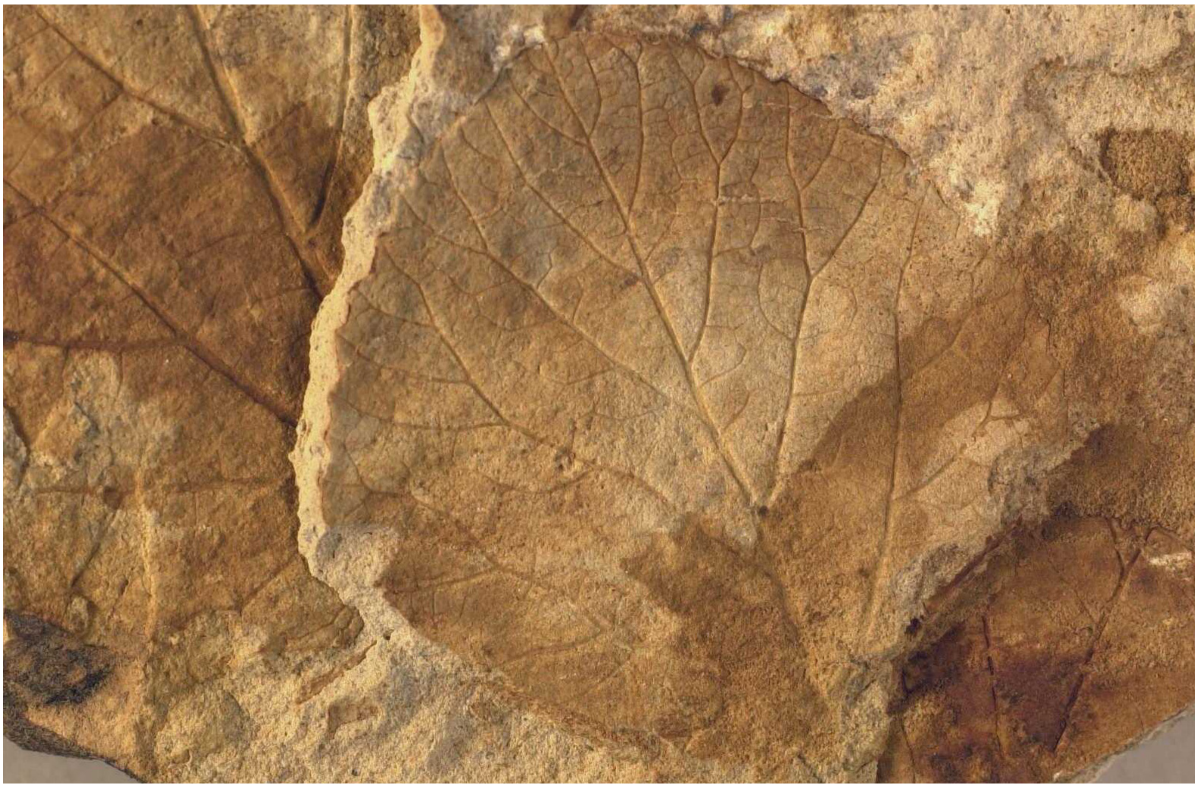
Teil 2 – Tafel- und Anhangband

H. WINTERSCHEID

Oligozäne und untermiozäne Floren in der Umgebung des Siebengebirges



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Die oligozänen und untermiozänen Floren in der Umgebung des Siebengebirges (südliche Niederrheinische Bucht)

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Teil 2: Tafel- und Anhangband

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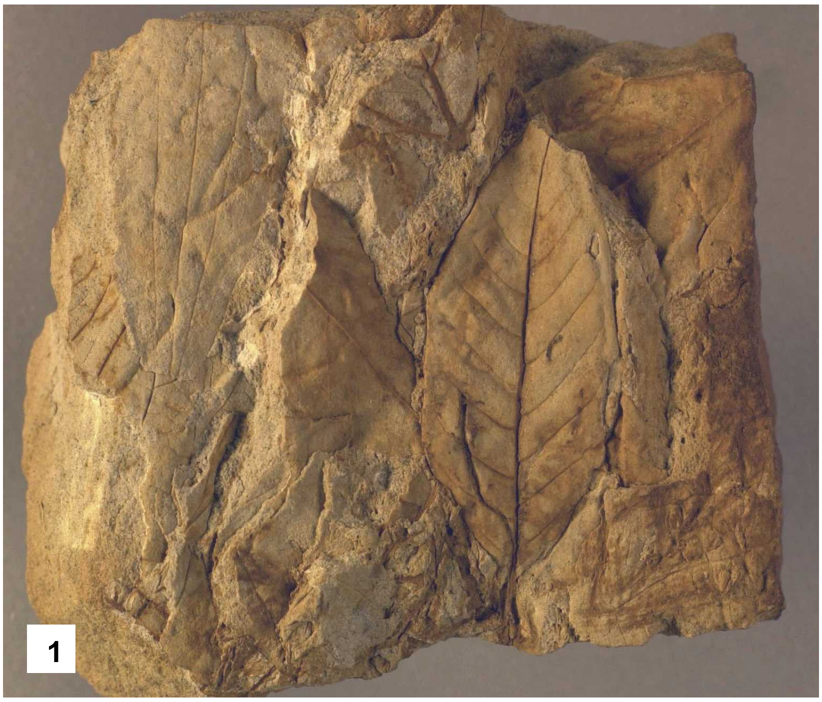

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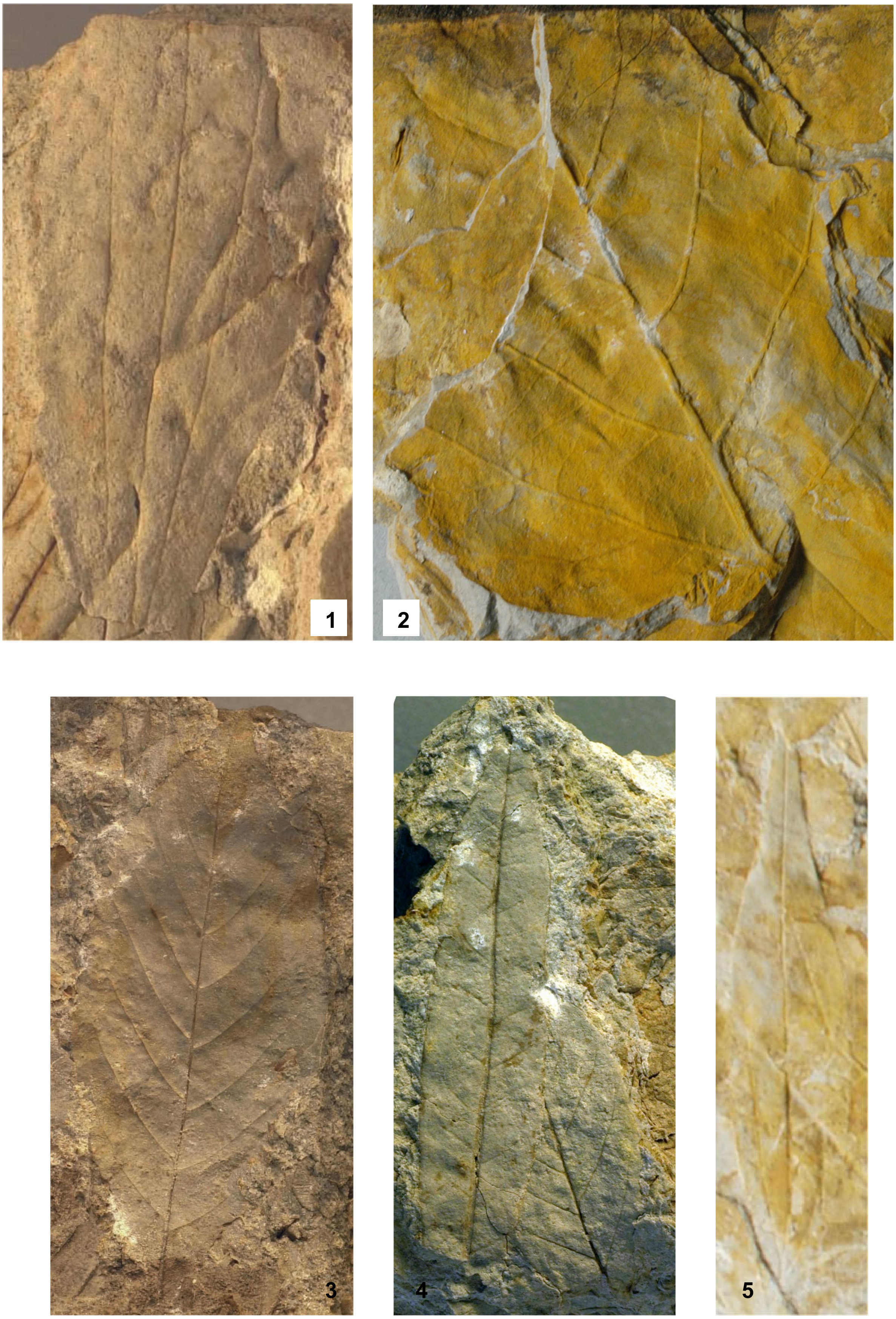

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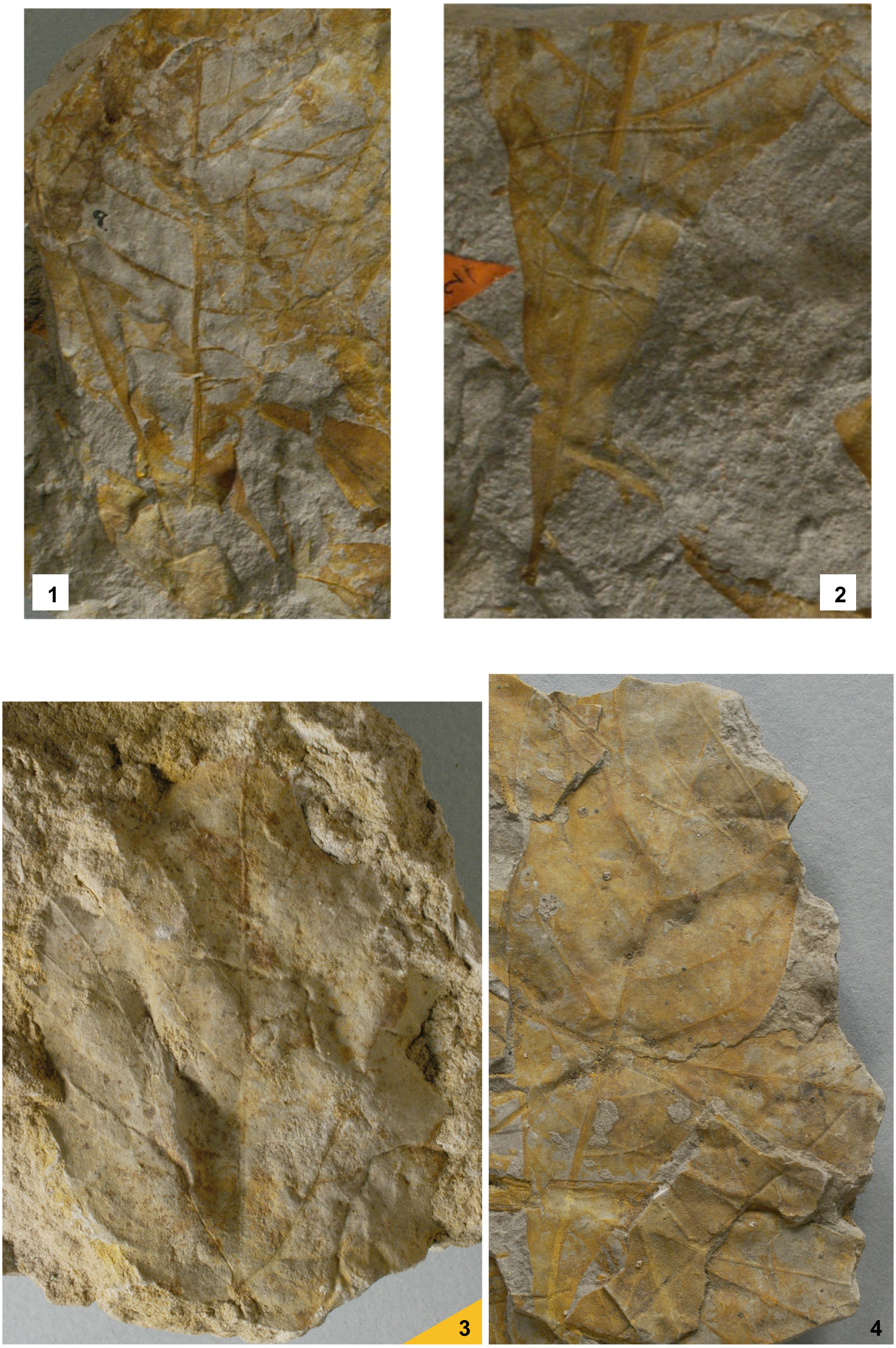

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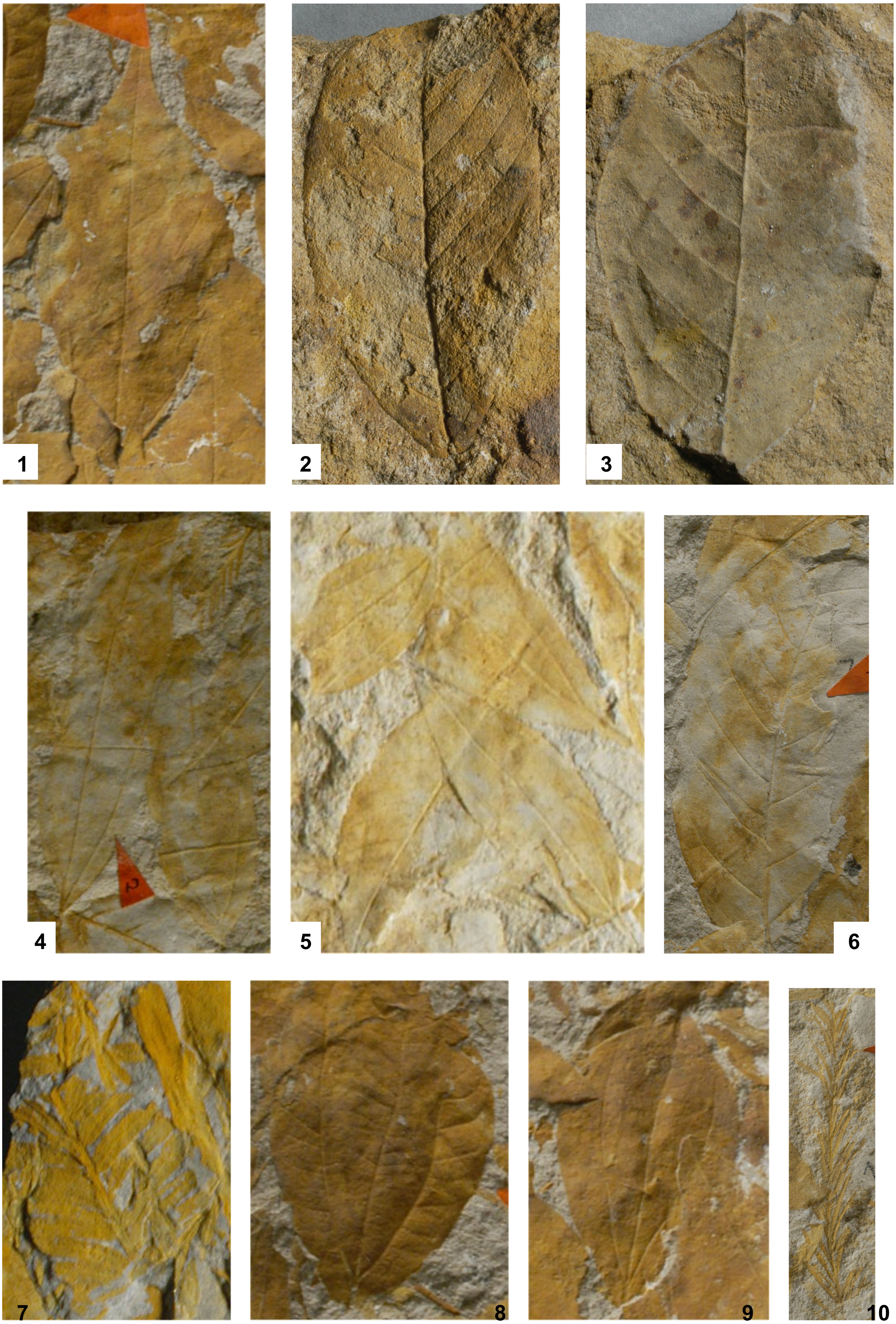

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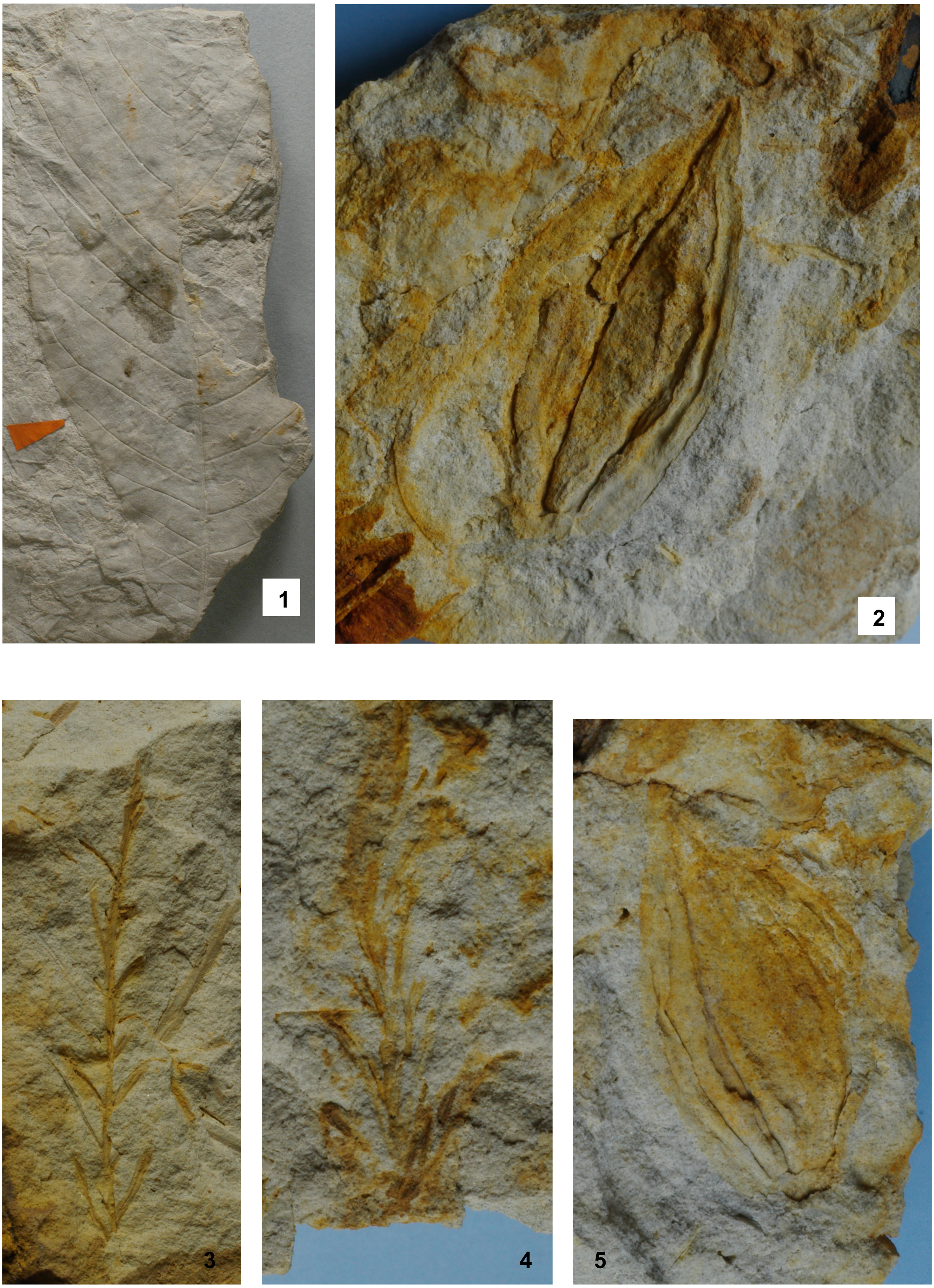

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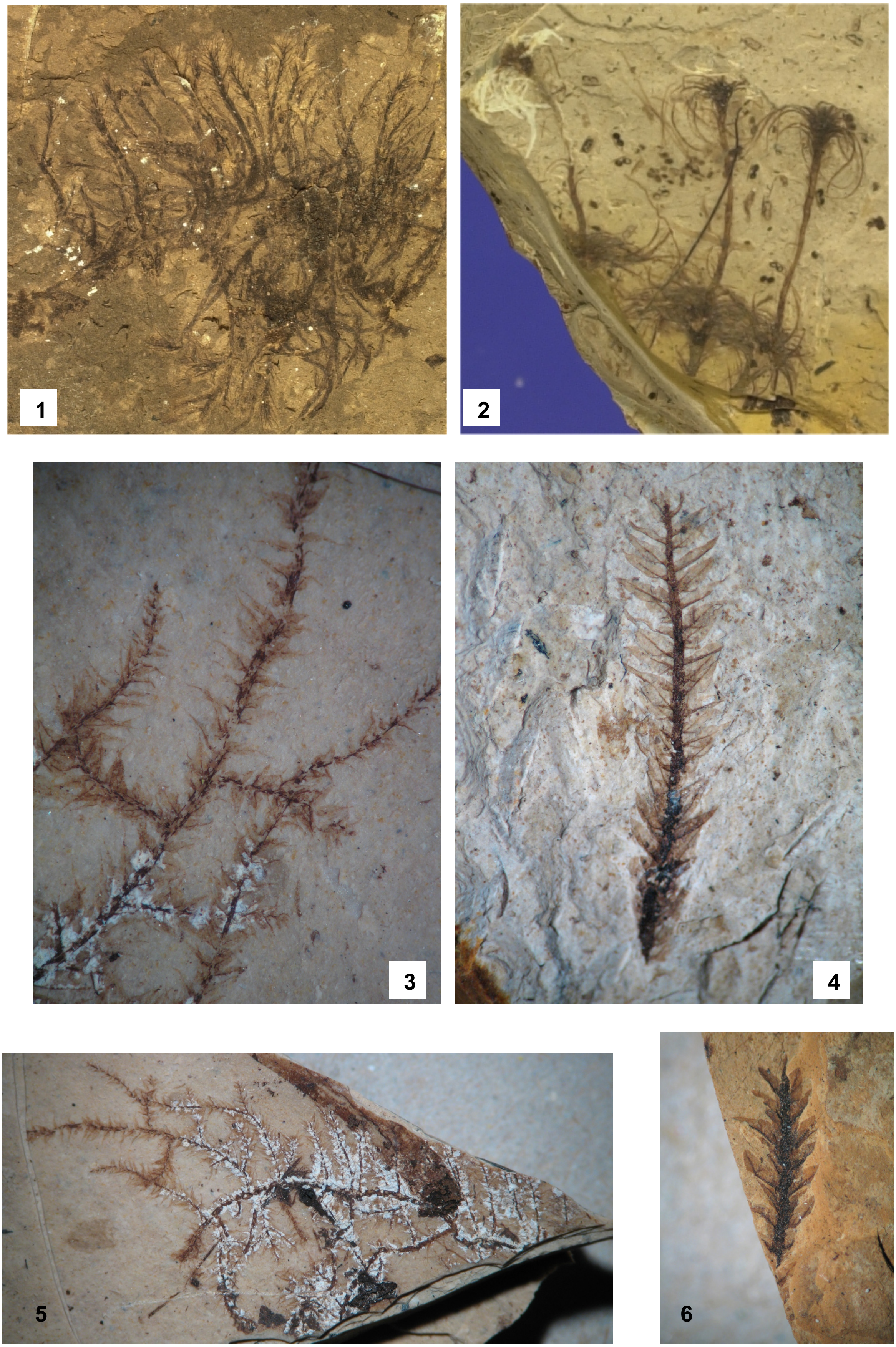

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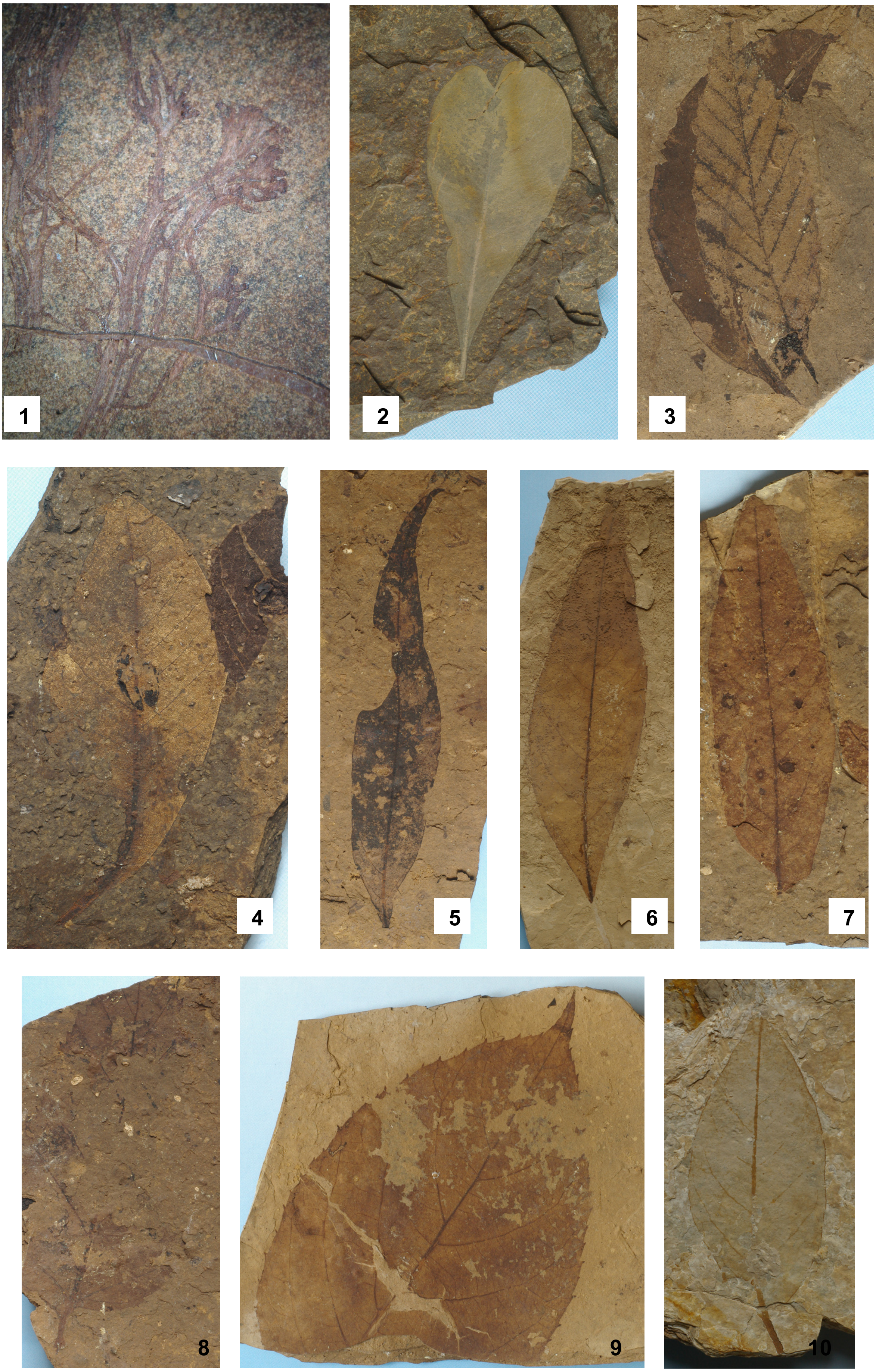

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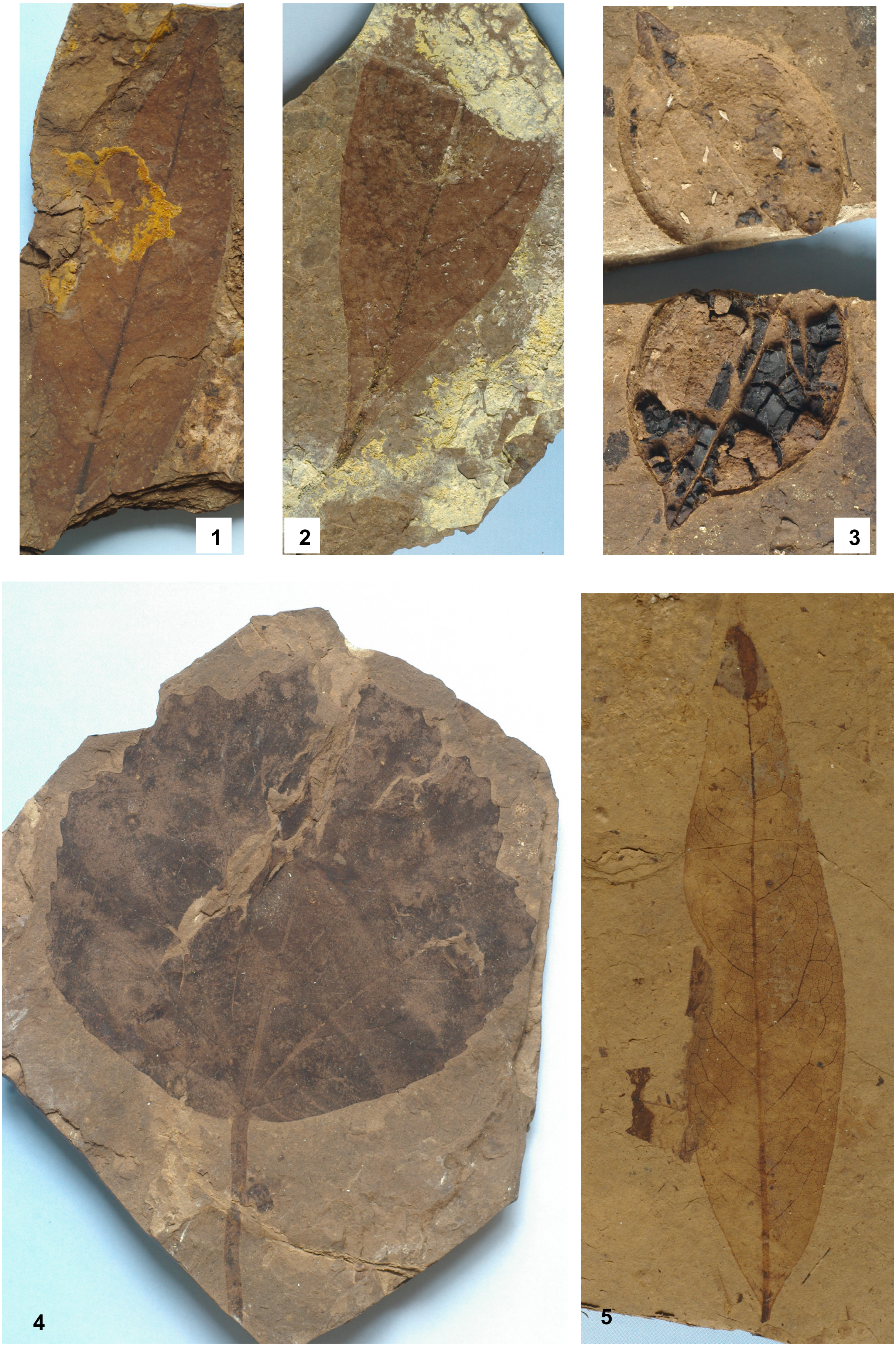

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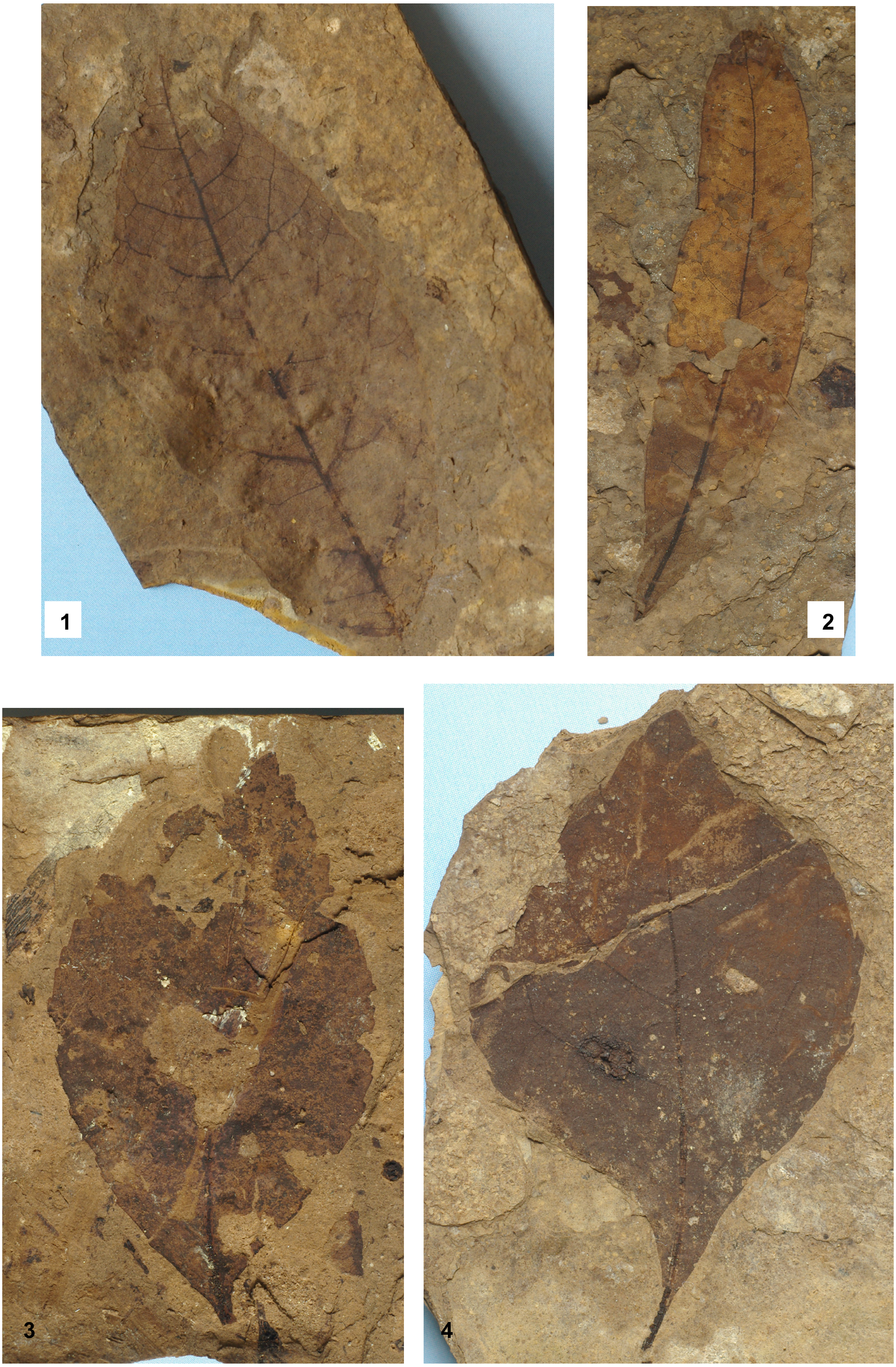

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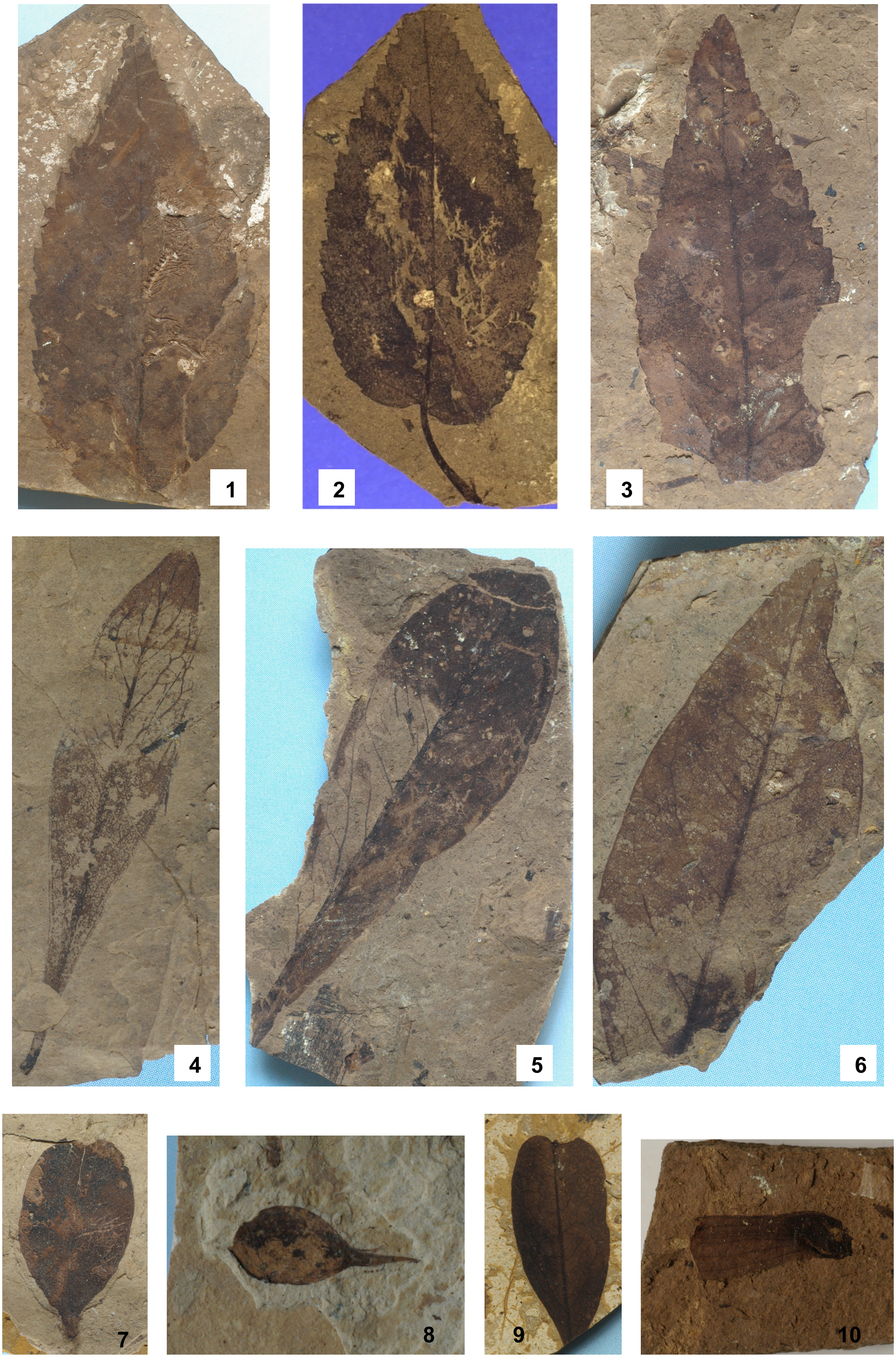

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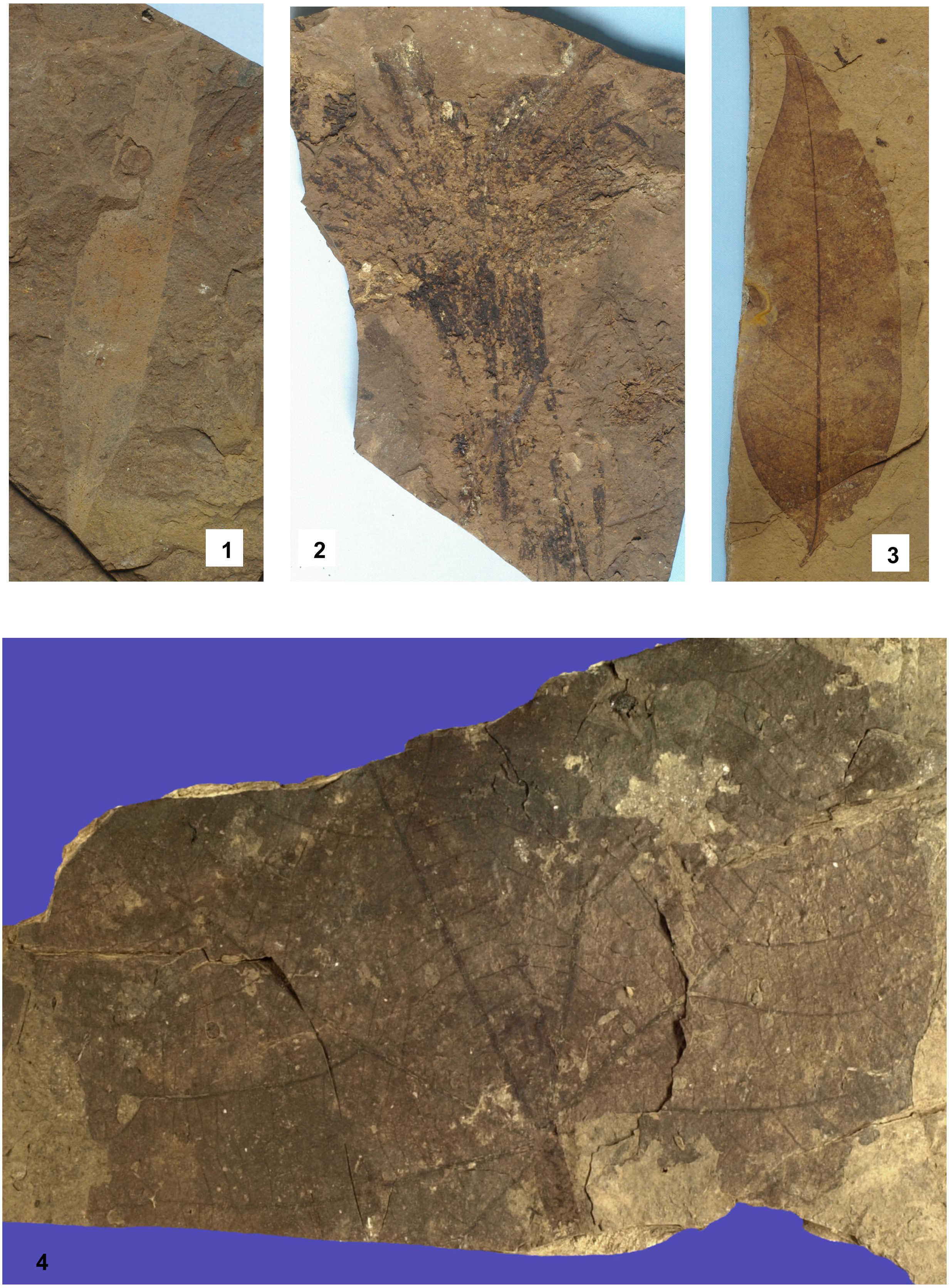

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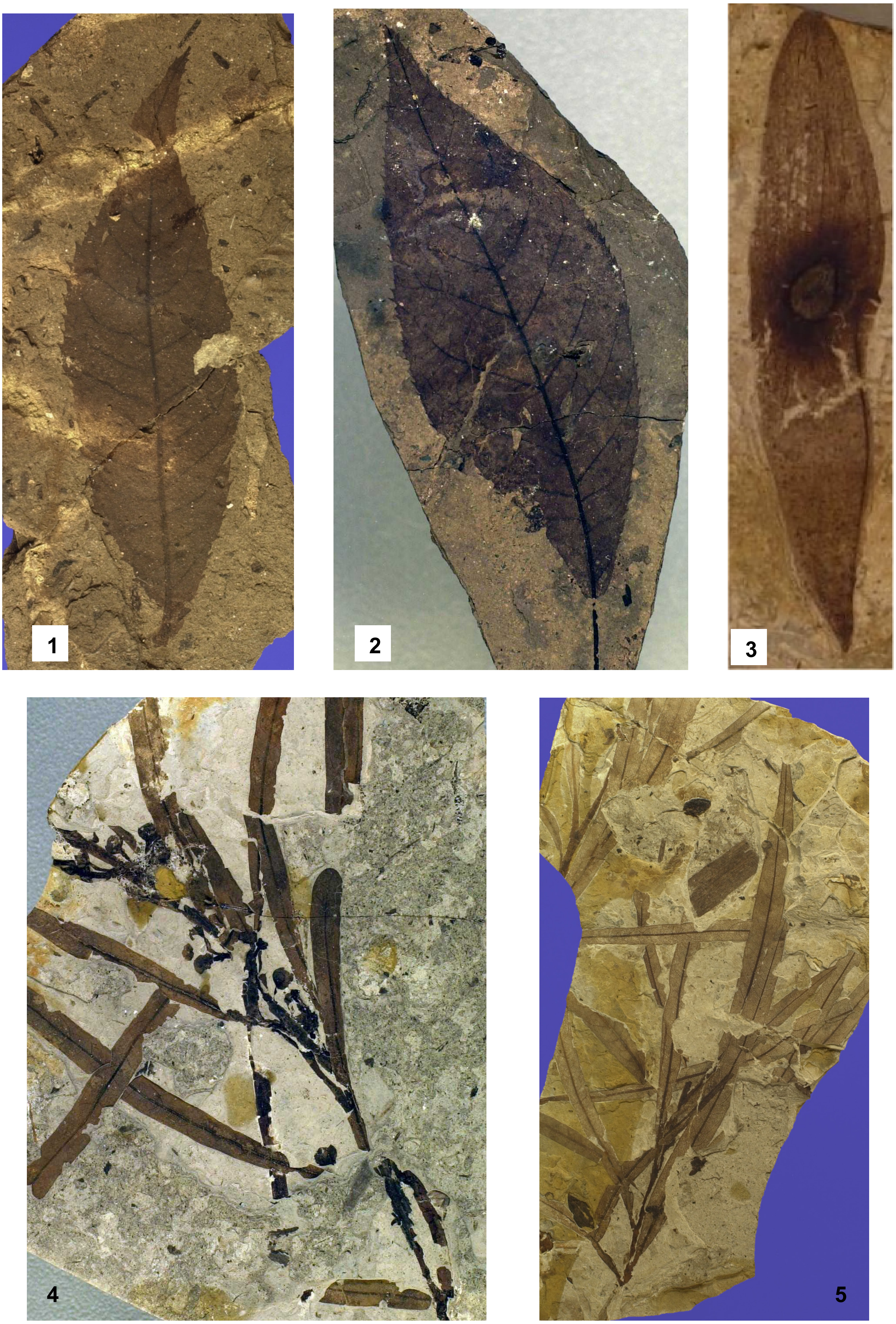

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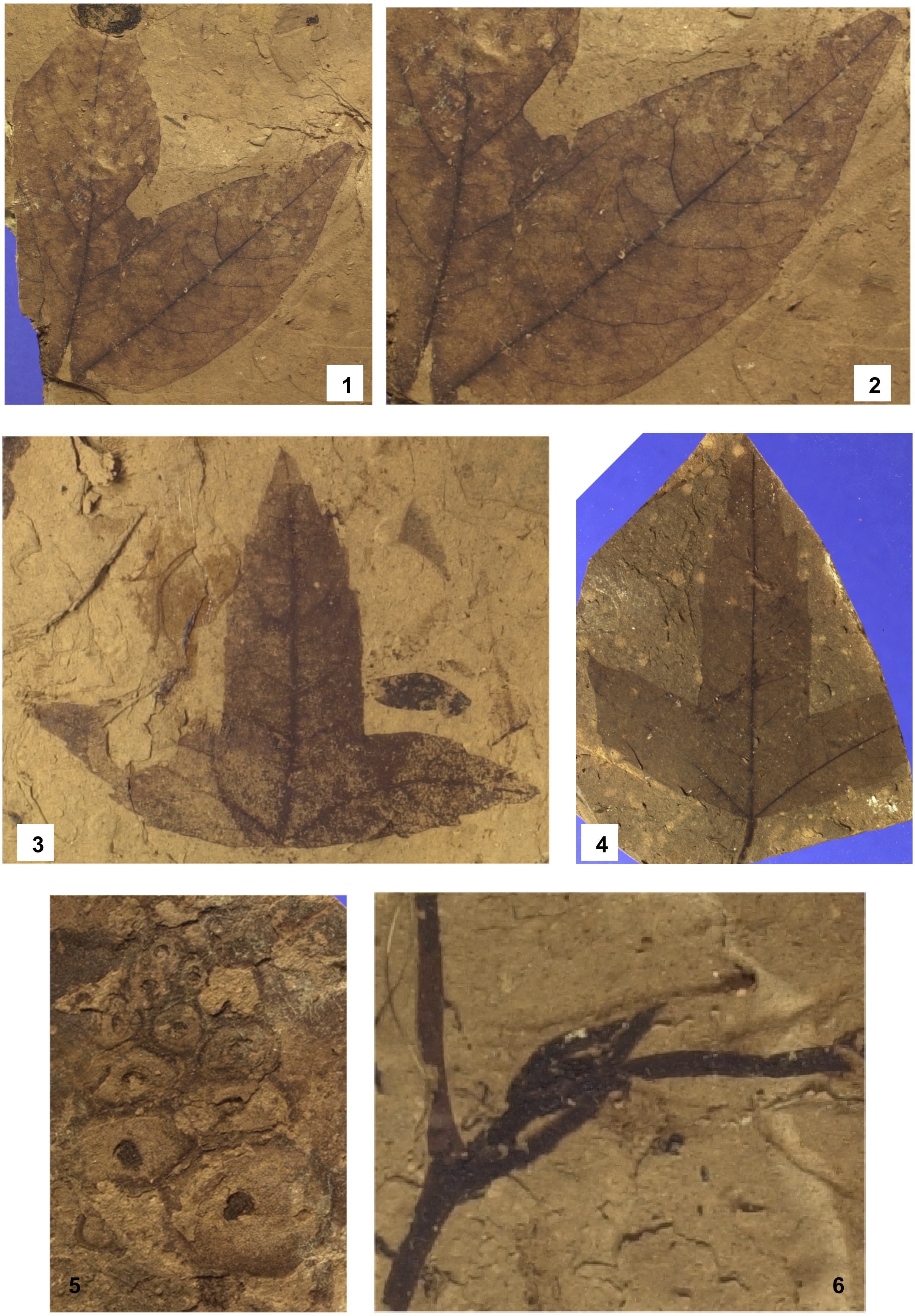

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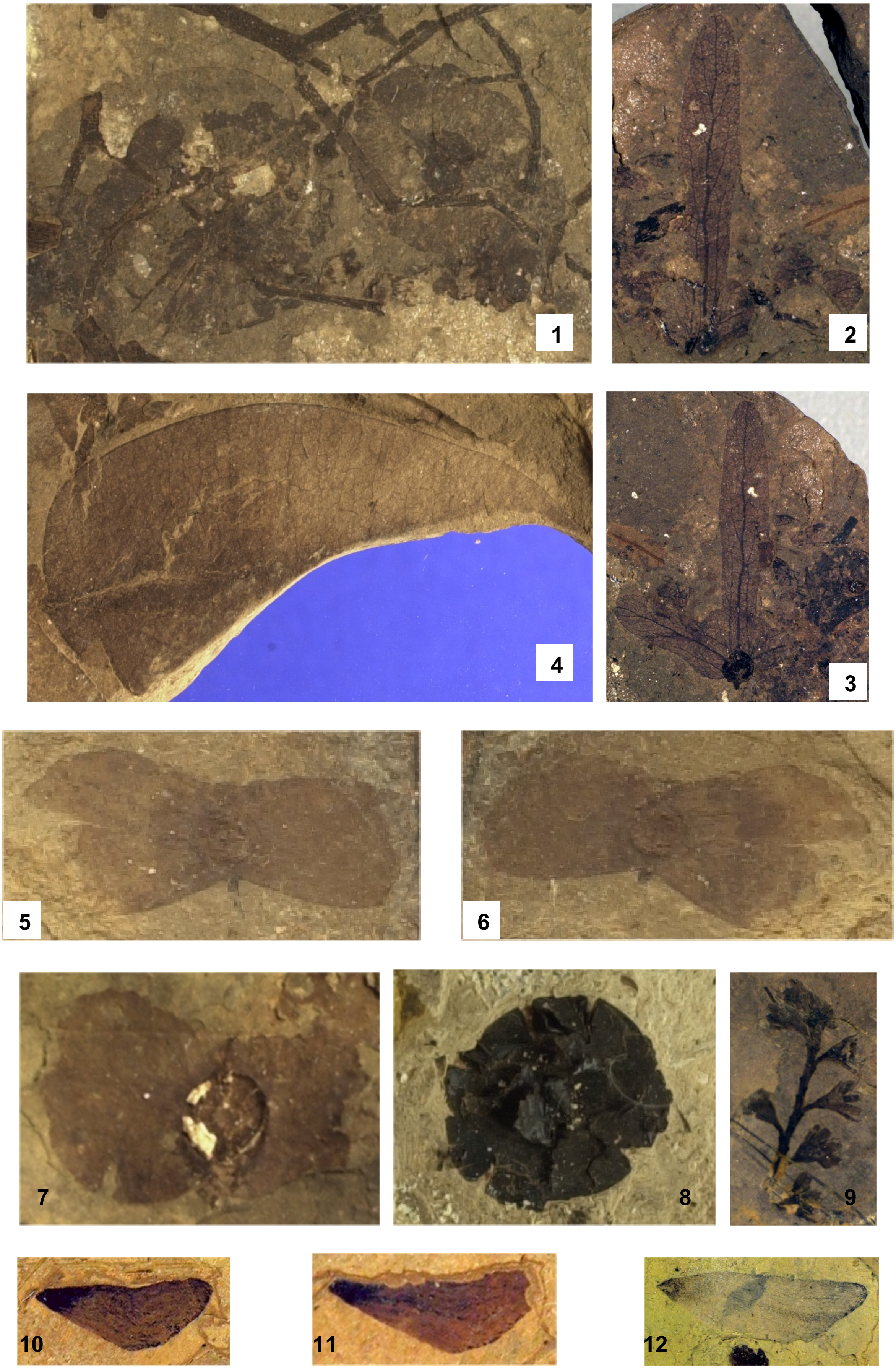

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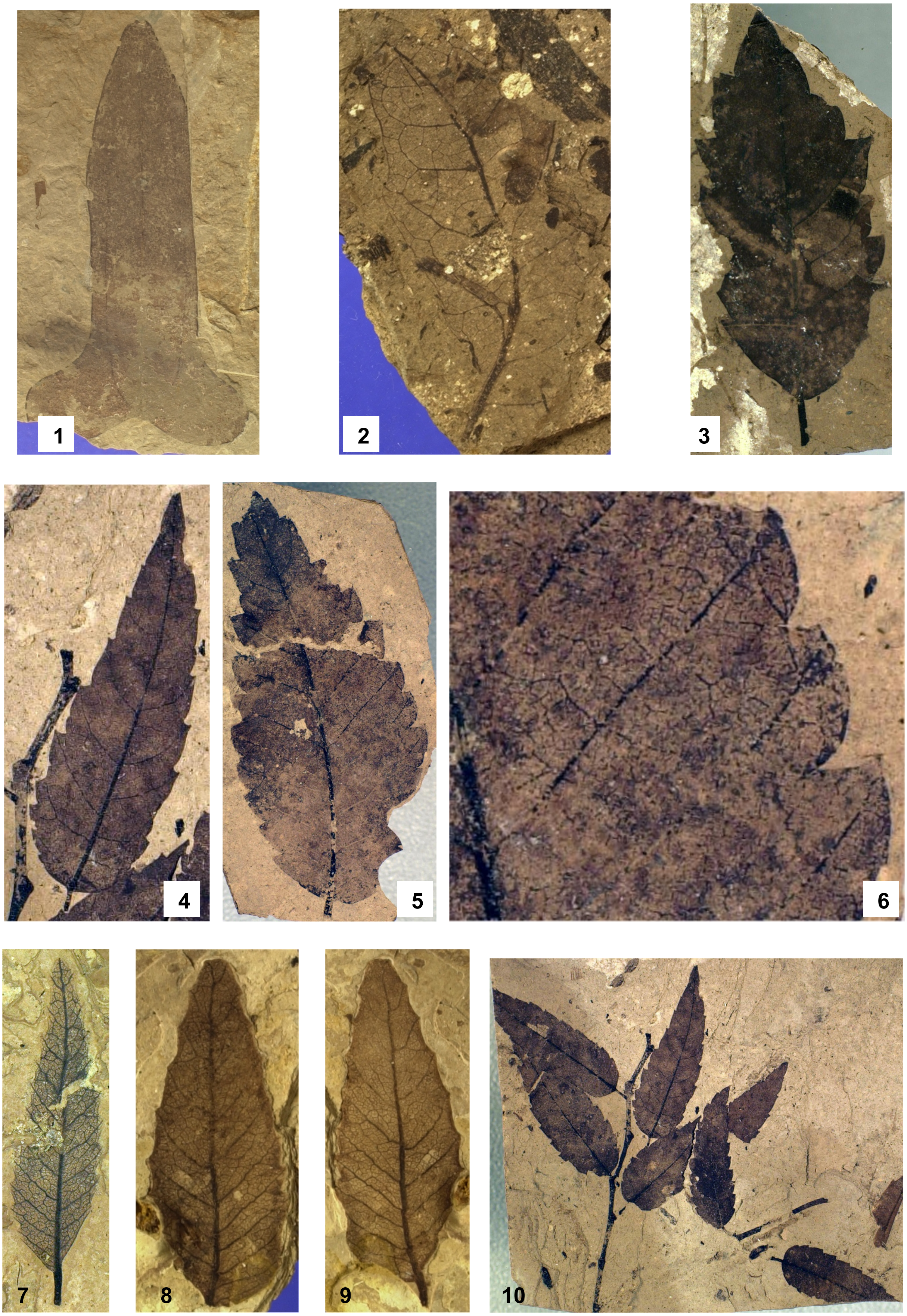

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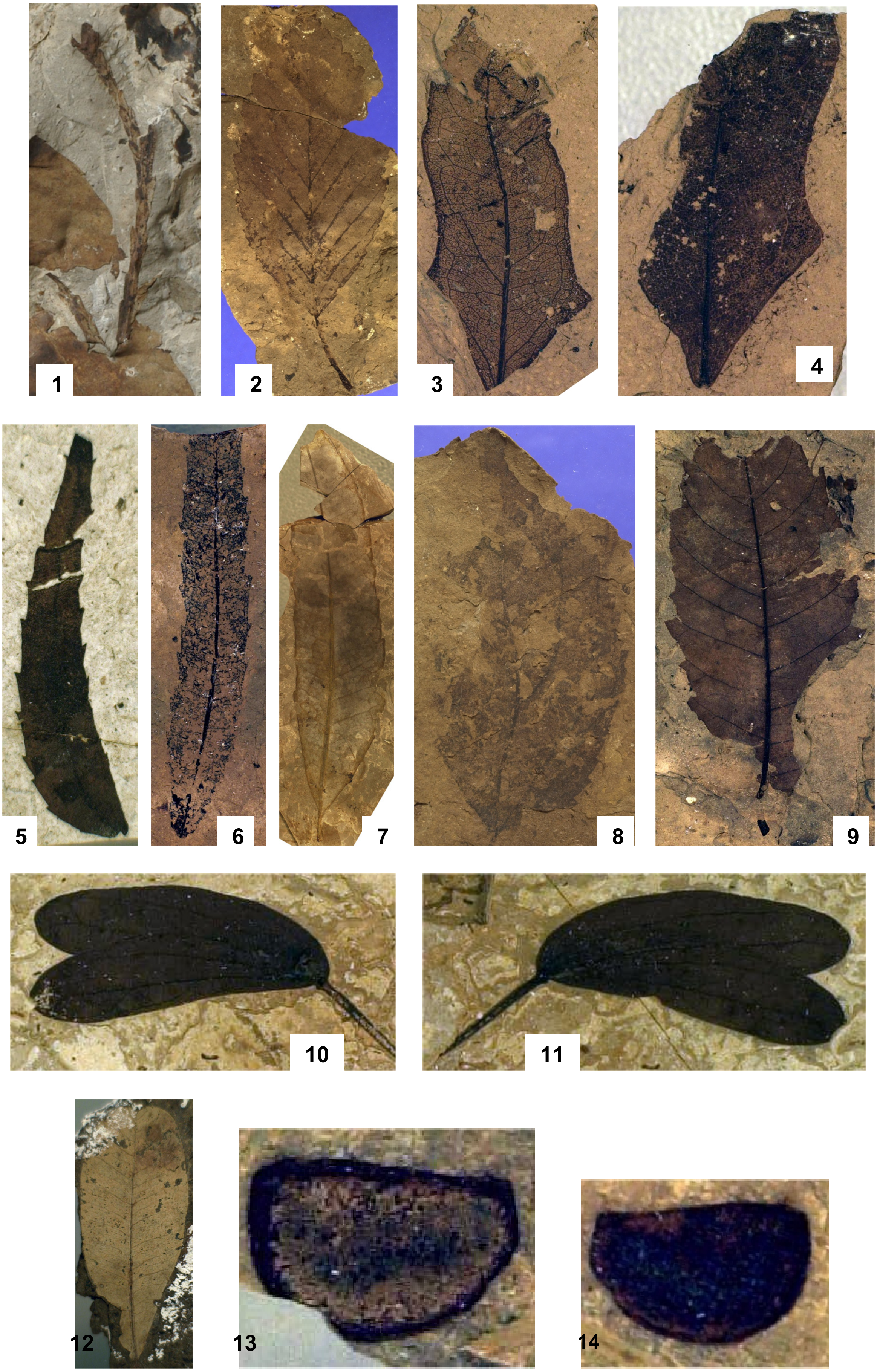
Fig. 12: Fabales fam. gen. et sp. indet. – forma 1, Rott, Fiederblatt Länge: 39 mm, Coll. HWK [Ro:109].
Fig. 13: *Acanthopanax solutus*, Rott, Endokarp, Länge: 3,5 mm, Coll. HWK [Ro:35].
Fig. 14: *Acanthopanax solutus*, Rott, Endokarp, Gegendruck von Fig. 13, Coll. HWK [Ro:35].

Tafel 18



Tafel 19

Fig. 1: *Podostemonopsis tertiaria*, Rott, Ausschnitt siehe Taf. 15 Fig. 6, Länge: 104 mm, Coll. HWK [Ro:36].

Fig. 2: Cyperales vel Typhales gen. et sp. indet., Rott, Blattrest, Vergößerung aus Taf. 11, Fig. 7, Coll. HWK [Ro:57.1].

Fig. 3: *Acer integerrimum*, Rott, Blatt, Länge: 95 mm, Breite: 110 mm, Coll. HWK [Ro:52].

Fig. 4: *Alnus* sp., Rott, Blattrest, Länge: 78 mm, Coll. HWK [Ro:78.2a].

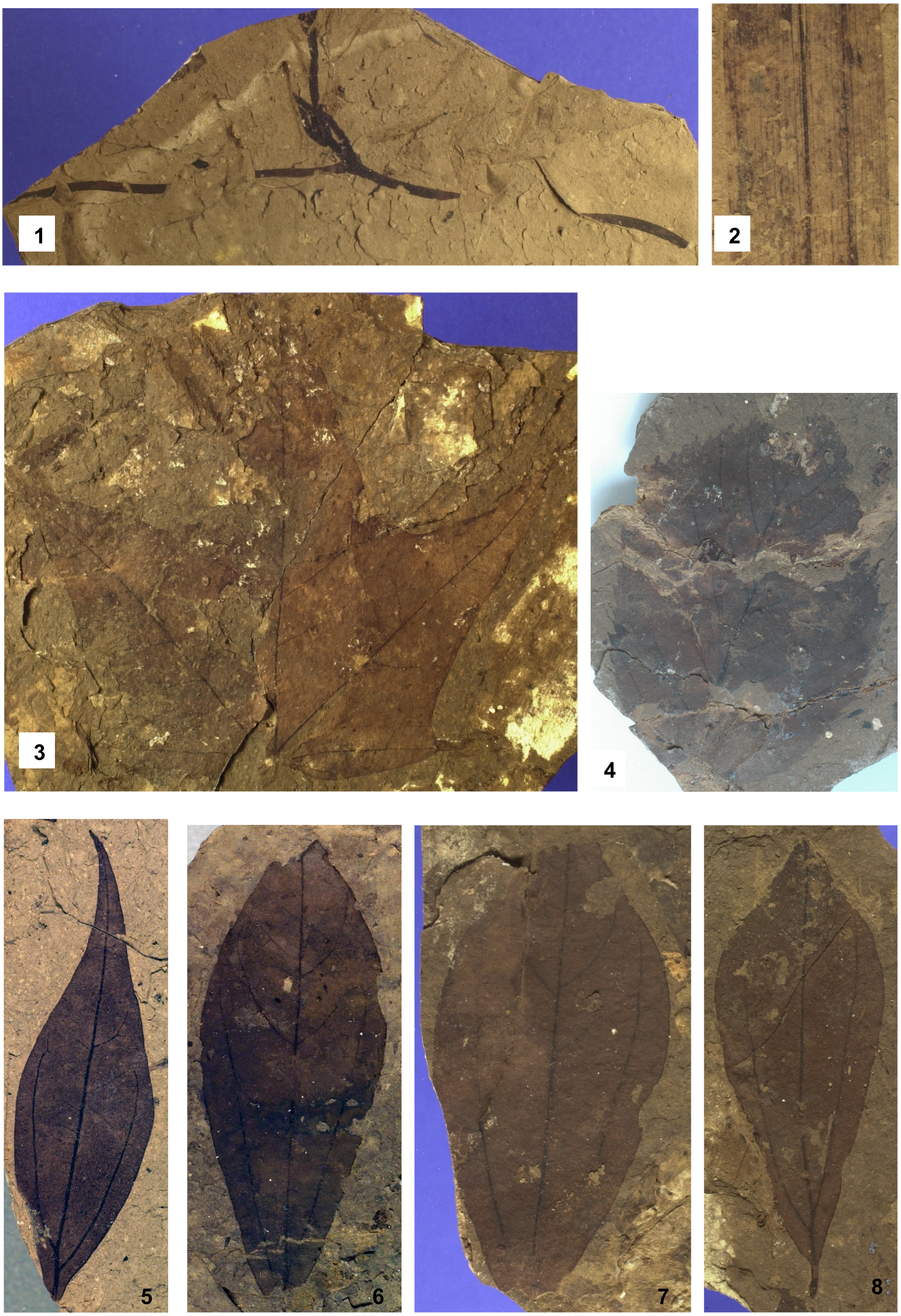
Fig. 5: *Daphnogene cinnamomifolia* forma *lanceolata*, Rott, Blatt, Länge: 68 mm, Coll. HWK [Ro:54.1].

Fig. 6: *Daphnogene cinnamomifolia* forma *cinnamomifolia*, Rott, Blatt, Länge: 54 mm, Coll. HWK [Ro:53.1].

Fig. 7: *Daphnogene cinnamomifolia* forma *cinnamomifolia*, Rott, Blatt, Länge: 52 mm, Coll. HWK [Ro:53.2].

Fig. 8: *Daphnogene cinnamomifolia* forma *cinnamomifolia*, Rott, Blatt, Länge: 57 mm, Coll. HWK [Ro:53.3].

Tafel 19



Tafel 20

Fig. 1: *Magnolia attenuata*, Rott, Blattrest, Länge: 130 mm, Coll. HWK [Ro:80].
Fig. 2: *Laurophyllum acutimontanum*, Rott, Blatt, Länge: 83 mm, Coll. HWK [Ro:68.1].
Fig. 3: *Zizyphus zizyphoides*, Rott, Blatt, Länge: 73 mm, Coll. HWK [Ro:58.1].
Fig. 4: Fabales fam. gen. et sp. indet. – forma 2, Rott, Blatt, Länge: 22 mm, Coll. HWK [Ro:59].
Fig. 5: Fabales fam. gen. et sp. indet. – forma 1, Rott, Blatt, Länge: 14 mm, Coll. HWK [Ro:109].
Fig. 6: Blatt-Morphotyp: *Laurus primigenia*, Rott, Blatt, Länge: 42 mm, Coll. HWK [Ro:82].
Fig. 7: *Euryale* sp., Rott, Petiolenrest mit Emergenzen, Länge: 80 mm, Col. HWK [Ro:61].
Fig. 8: *Trigonobalanopsis rhamnoides*, Rott, Blattrest, Länge: 43 mm, Coll. HWK [Ro:70].

Tafel 20

Tafel 21

Fig. 1: *Nyssa rottensis*, Rott, Blattrest, Länge: 52 mm, Coll. HWK [Ro:106.1].

Fig. 2: *Berchemia parvifolia*, Rott, Blatt, Länge: 40 mm, Coll. HWK [Ro:103].

Fig. 3: *Salix integra*, Rott, Blattrest, Länge: 42 mm, Coll. HWS [Ro:97].

Fig. 4: *Pistacia rottensis*, Rott, Blattrest, Länge: 41 mm, Coll. HWK [Ro:104].

Fig. 5: *Salix rottensis*, Rott, Blatt, Länge: 32 mm, Coll. HWS [Ro:99].

Fig. 6: *Sequoia abietina*, Stößchen–1, Kurztrieb, Länge: 24 mm, Coll. HWK [St–1:3.1].

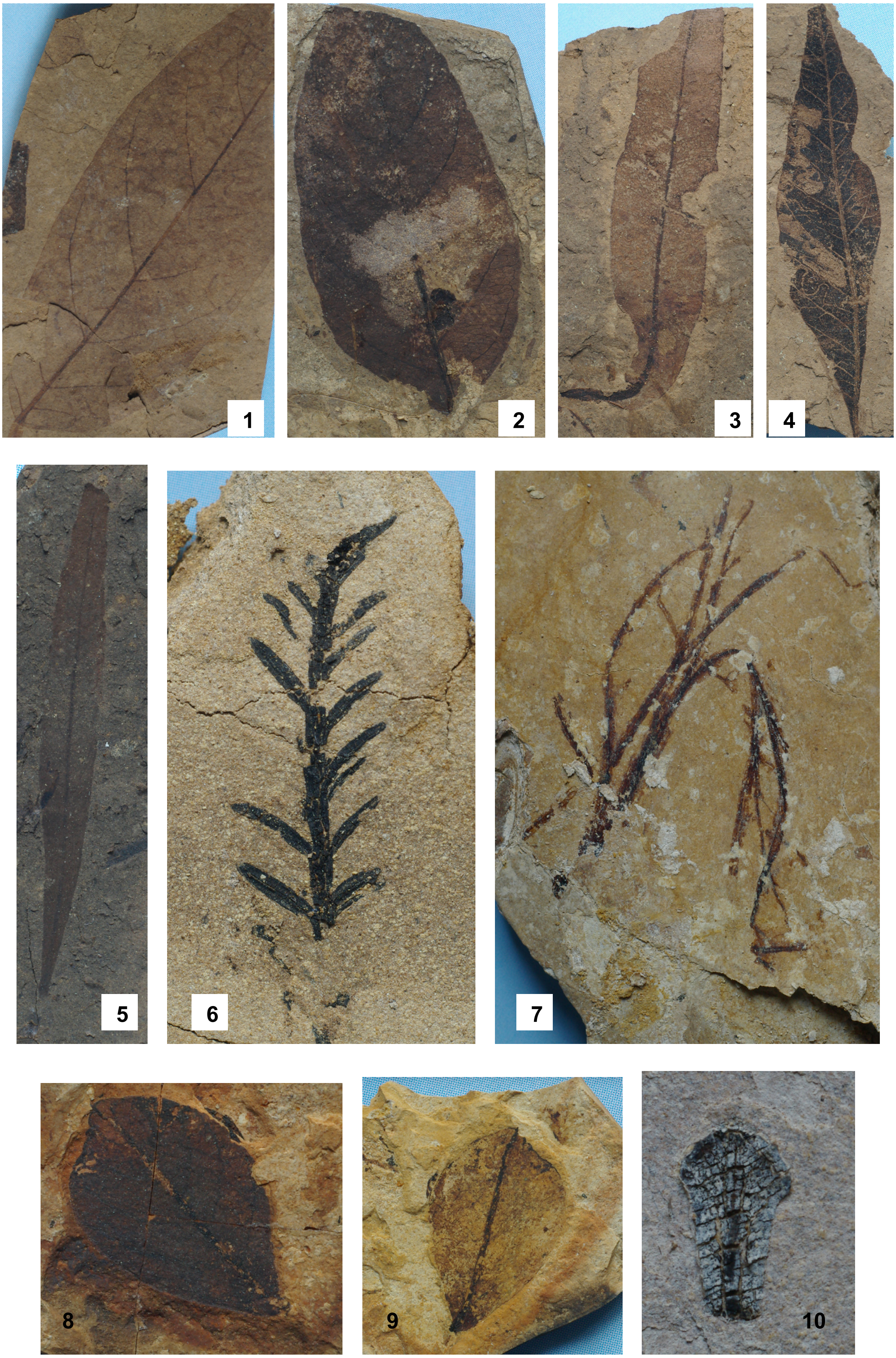
Fig. 7: *Pinus* sp. 3 – folia (*fol. quinae*), *Pinus* cf. *palaeostrobus*, Stößchen–1, Bildhöhe: 53 mm, Coll. HWK [St–1:9].

Fig. 8: cf. *Vaccinium acheronticum*, Rott, Blatt, Länge: 13 mm, Coll. HWK [Ro:95.1].

Fig. 9: cf. *Vaccinium acheronticum*, Rott, Blatt, Gegendruck von Fig. 8, Coll. HWK [Ro:95.1].

Fig. 10: *Tetraclinis salicornioides* vel *Tetraclinis brachyodon*, Stößchen–1, Schuppenblatt, Länge: 8 mm, Coll. HWK [St–1:2].

Tafel 21



Tafel 22

Fig. 1: *Myrica longifolia*, Stößchen–1, Blattrest, Länge: 47 mm, Coll. HWK [St–1:8].

Fig. 2: *Engelhardia* (sect. *Palaeocarya*) *macroptera*, Stößchen–1, Frucht, Länge: 22 mm, Breite: 18 mm, Coll. HWK [St–1:5].

Fig. 3: *Engelhardia* (sect. *Palaeocarya*) *macroptera*, Stößchen–1, Frucht, Gegendruck von Fig. 2, Coll. HWK [St–1:5].

Fig. 4: *Quasisequoia couttsiae*, Stößchen–1, Zapfen, Länge: 10 mm, Coll. HWK [St–1:7].

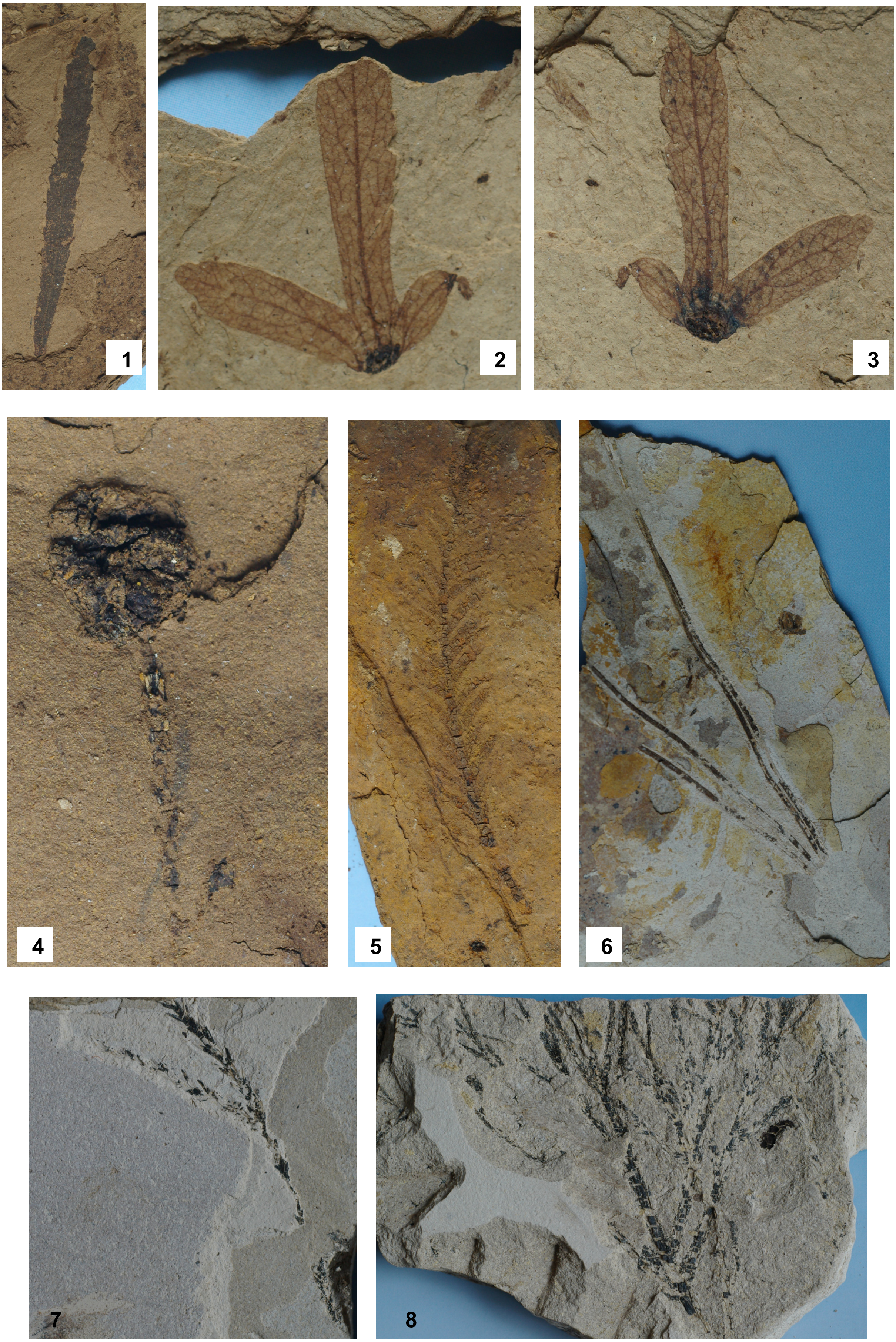
Fig. 5: *Sequoia abietina*, Stößchen–1, Kurztrieb, Länge: 70 mm, Coll. HWK [St–1:3.2].

Fig. 6: *Pinus* sp. 4 – folia (*fol. quaternae*), Stößchen–1, Länge: 85 mm, Coll. HWK [St–1:6].

Fig. 7: *Quasisequoia couttsiae*, Stößchen–1, Belaubung, Länge: 60 mm, Coll. HWK [St–1:10].

Fig. 8: *Glyptostrobus europaeus*, Stößchen–1, Belaubung, Bildbreite: 100 mm, Coll. HWK [St–1:1].

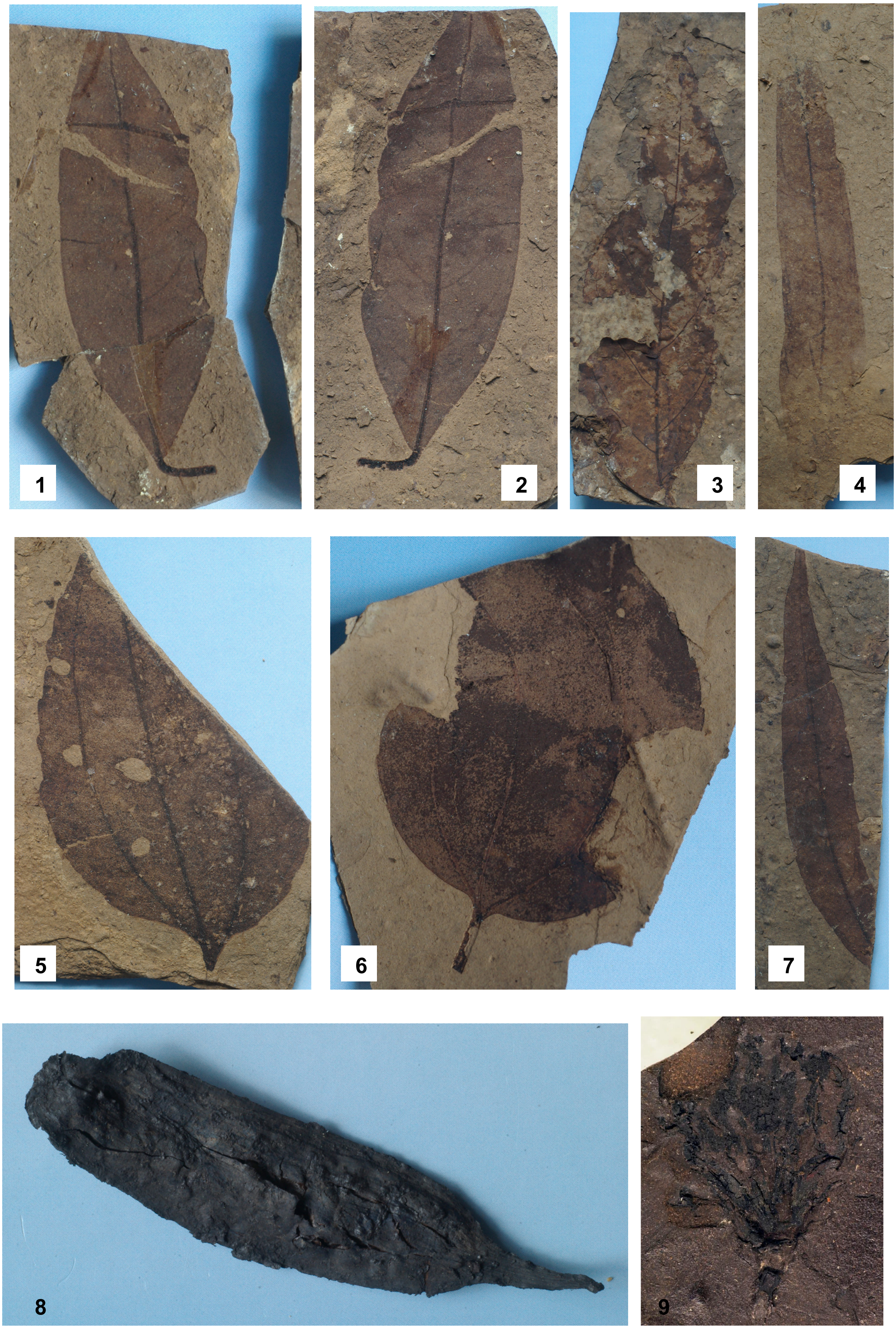
Tafel 22



Tafel 23

Fig. 1: *Sapindus falcifolius*, Rott, Blatt, Länge: 50 mm, Coll. HWK [Ro:105.1].
Fig. 2: *Sapindus falcifolius*, Rott, Blatt, Gegendruck von Fig. 1, Coll. HWK [Ro:105.1].
Fig. 3: *Nyssa rottensis*, Rott, Blattrest, Länge: 102 mm, Coll. HWK [Ro:106.2].
Fig. 4: *Salix arcinervea*, Rott, Blattrest, Länge: 65 mm, Coll. HWS [Ro:98].
Fig. 5: *Zizyphus paradisiaca*, Rott, Blattrest, Länge: 48 mm, Coll. HWK [Ro:101.3].
Fig. 6: *Paliurus tiliaefolius*, Rott, Blattrest, Länge: 55 mm, Coll. HWK [Ro:102].
Fig. 7: *Salix longa*, Rott, Blattrest, Länge: 66 mm, Coll. HWS [Ro:100.2].
Fig. 8: *Spirematospermum wetzleri*, Niederpleis–1, Fruchtrest, Länge: 69 mm, Coll. HWK [Np–1:2].
Fig. 9: *Glyptostrobus europaeus*, Orsberg, Zapfen, Coll. HWK [Ob:1].

Tafel 23



Tafel 24

Fig. 1: *Glyptostrobus europaeus*, Niederpleis–1, Zapfen, Coll. HWK [Np–1:1].

Fig. 2: *Glyptostrobus europaeus*, Niederpleis–1, zwei Zapfen, Coll. HWK [Np–1:1].

Fig. 3: *Nyssa ornithobroma*, Niederpleis–1, mehrere Früchte, Coll. HWK [Np–1:3].

Fig. 4: *Pronephrium stiriacum*, Niederpleis–1, mehrere Fiederreste, Bildbreite: 150 mm, Coll. HWK [Np–1:5].

Fig. 5: *Cathaya bergeri*, Adendorf–IIISP, vollständiger Zapfen, Länge: 35 mm, Coll. HWK [Ad/III:3.5].

Fig. 6: *Cathaya bergeri*, Adendorf–IIISP, vollständiger Zapfen, Länge: 44 mm, Coll. HWK [Ad/III:3.1].

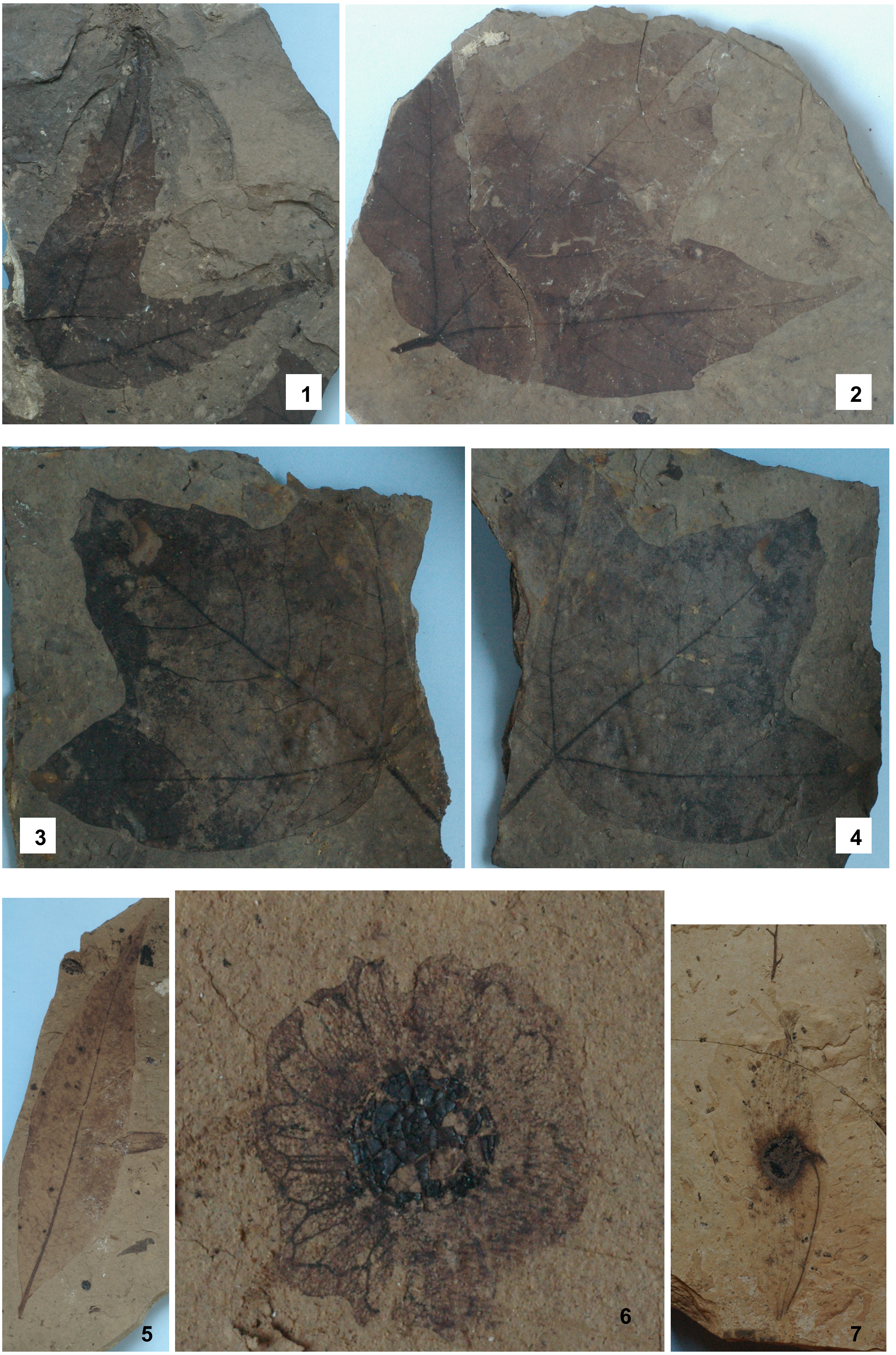
Fig. 7: *Mastixia amygdalaeformis*, Dürresbachtal, Endokarpabdruck, Länge: 18 mm, Coll. HWK [Dbt:9].

Tafel 24

Tafel 25

Fig. 1: *Acer tricuspidatum*, Rott, Blattrest, Länge: 71 mm, Coll. HWK [Ro:3.1].
Fig. 2: *Acer* sp. 3 – folia, Rott, Blattrest, Länge: 62 mm, Coll. HWK [Ro:5.1].
Fig. 3: *Acer* sp. 3 – folia, Rott, Blattrest, Länge: 51 mm, Coll. HWK [Ro:5.2].
Fig. 4: *Acer* sp. 3 – folia, Rott, Blattrest, Gegendruck von Fig. 3, Coll. HWK [Ro:5.1].
Fig. 5: Blatt-Morphotyp: *Laurus primigenia*, Rott, Blatt, Länge: 122 mm, Coll. HWK [Ro:82.4].
Fig. 6: „*Pterocarpus*” *tertiarius*, Rott, Frucht, Breite: 9 mm, Coll. HWK [Ro:22].
Fig. 7: *Ailanthus confucii*, Rott, Frucht, Länge: 29 mm, Coll. HWK [Ro:7.1].

Tafel 25



Anhang A: Taxa– und Floren–Listen

Tabellenverzeichnis

Historische Floren–Listen

Tabelle A-1: Originalflorenliste der klassischen Lokalitäten im Siebengebirge von C.O. WEBER in H. V. DECHEN (1861: 355–366).

Taxa	Quegstein	Allrott	Ofenkaule	Rott	Orsberg	Stößchen	Friesdorf	Ließem	Hardt	Witterschlick
Fungi										
Xylomites umbilicatus Ung.	-	-	-	•	•	-	-	-	-	-
Sphaerites regularis Goepp.	-	-	-	•	•	-	•	-	-	-
Musci										
Hypnum lycopodioides Web.	-	-	-	•	•	-	-	-	-	-
Filices										
Pteris Goepperti Web.	•	-	-	-	-	-	-	-	-	-
Pteris crenata Web.	-	-	-	•	-	-	-	-	-	-
Pteris xiphoides Wess. et Web.	-	-	-	•	-	-	-	-	-	-
Cystopteris formariacea Wess. et Web.	-	-	-	•	-	-	-	-	-	-
Asplenium lignitum Wess. et Web.	-	-	-	•	-	-	-	-	-	-
Gramineae										
Arundo Goepperti Heer	•	-	-	•	-	-	-	-	-	-
Cyperaceae										
Cyperus Chavannesi Heer	•	-	-	•	•	-	-	•	-	-
Smilaceae										
Smilax sagittifera Heer	-	-	-	•	•	•	-	-	-	-
Smilax grandifolia Heer	-	-	-	•	-	-	-	-	-	-
Smilax Weberi Wess.	-	-	-	•	-	-	-	-	-	-
Smilax ovata Web.	-	-	-	•	•	-	-	-	-	-
Smilax renifolia Wess.	-	-	-	•	-	-	-	-	-	-
Majanthemophyllum petiolatum Web.	•	•	-	•	-	-	-	-	-	-
Typhaceae										
Sparganium Braunii Heer	-	-	-	•	•	-	-	•	-	-
Ensatae										
Hydrocharis obcordata Web.	-	-	-	•	-	-	-	-	-	-
Iris prisca Wess. et Web.	-	-	-	•	-	-	-	-	-	-
Palmae										
Sabal major Heer	-	-	-	•	-	-	-	-	-	-
Fasciculites Hartigi Goepp. et Stenz.	-	-	-	-	-	-	•	-	•	-
Coniferae										
Libocedrus salicornioides Endl.	-	-	-	•	•	-	-	•	-	-
Glyptostrobus europaeus Heer	-	-	-	•	•	•	-	•	-	•
Cupressites Brongniarti Goepp.	-	-	-	•	•	•	-	•	-	-
Cupressites gracilis Goepp.	-	-	-	-	•	•	-	-	-	-
Cupressinoxylon durum Goepp.	-	-	-	-	-	-	•	•	•	-

Fortsetzung Tabelle A-1 **Taxa**	**Quegstein**	**Allrott**	**Ofenkaule**	**Rott**	**Orsberg**	**Stößchen**	**Friesdorf**	**Ließem**	**Hardt**	**Witterschlick**
Cupressinoxylon pallidum Goepp.	-	-	-	-	-	-	-	-	●	-
Cupressinoxylon uniradiatum Goepp.	-	-	-	-	-	-	-	●	●	-
Cupressinoxylon granulosum Goepp.	-	-	-	-	-	-	-	-	●	-
Cupressinoxylon pacyderma Goepp.	-	-	-	-	-	-	-	-	●	-
Taxodioxylon Goepperti Hartig	-	-	-	-	-	-	-	-	●	-
Piceites geanthracis Goepp.	-	-	-	-	-	-	-	●	-	-
Pinites Thomasianus Goepp.	-	-	-	-	-	-	-	●	-	-
Pinites sp. indeterm. (verkieselte Zapfen)	●	●	-	-	-	-	-	-	-	-
Pinites sp. indeterm. (Zapfen–Abdrücke)	●	●	-	-	-	-	-	-	-	-
Pinites protolarix Goepp.	-	-	-	-	-	-	●	●	-	-
Pinites ponderosus Goepp.	-	-	-	-	-	-	●	●	●	-
Stenonia Ungeri Endl.	-	-	-	-	-	-	●	●	●	-
Ataktoxylon Linkii Hart.	●	-	-	-	-	-	-	-	-	-
Sequoia Langsdorfii Heer	●	●	-	●	●	●	-	-	-	-
Taxites Ayckii Goepp.	-	-	-	-	-	-	-	-	●	-
Podocarpus eocenica Ung.	-	-	-	●	-	-	-	-	-	-
J u l i f l o r a e										
Casuarnia Haidingeri Ett.	-	-	-	●	-	-	-	-	-	-
Myrica ophir Ung.	-	-	-	●	-	-	-	-	-	-
Myrica weinmanniaefolia Web.	-	-	-	●	-	-	-	-	-	-
Alnus Kefersteini Goepp.	-	-	-	●	●	-	-	-	-	●
Alnus gracilis Ung.	-	-	-	●	●	-	-	-	-	-
Betula Brongniarti Goepp.	●	●	●	●	●	-	●	●	-	-
Betula primaeva Wess.	-	-	-	●	-	-	-	-	-	-
Betula carpinifolia Wess.	-	-	-	●	-	-	-	-	-	-
Quercus grandidentata Ung.	●	●	-	●	●	-	-	-	-	●
Quercus lonchitis Ung.	●	●	-	●	●	●	-	-	-	-
Quercus neriifolia Al. Br.	-	-	-	●	●	●	-	-	-	-
Quercus undulata Web.	●	-	-	-	-	-	-	-	-	-
Quercus Ungeri Web.	-	-	-	●	●	-	-	-	-	-
Quercus Ettingshauseni Wess.	-	-	-	●	●	-	-	-	-	-
Quercus ilicites Web.	-	-	-	●	●	-	-	-	-	-
Quercus Buchii Web.	●	-	-	●	-	-	-	-	-	-
Quercus tenerrima Web.	●	-	-	●	●	-	-	-	-	-
Quercus Goepperti Web.	●	●	-	●	-	-	-	-	-	-
Quercus tenuinervis Wess. et Web.	-	-	-	●	-	-	-	-	-	-
Quercus scutellata Wess.	-	-	-	-	●	-	-	-	-	-
Quercus Wesselii Web.	-	-	-	●	-	-	-	-	-	-
Quercus Rottensis Web.	-	-	-	●	-	-	-	-	-	-
Quercus Weberi Heer	●	-	-	●	●	-	-	-	-	-
Fagus Deucalionis Ung.	-	-	-	-	●	-	-	-	-	-
Carpinus grandis Heer	●	●	●	●	●	●	●	●	-	-
Carpinus grandis var. *elongata* Wess.	-	-	-	●	-	-	-	-	-	-
Carpinus grandis var. *minor* Wess.	-	-	-	●	-	-	-	-	-	-
Carpinus grandis var. *Rottensis* Wess.	-	-	-	●	-	-	-	-	-	-
Carpinus grandis var. *elliptica* Wess.	-	-	-	●	-	-	-	●	-	-

Fortsetzung Tabelle A-1 **Taxa**	**Quegstein**	**Allrott**	**Ofenkaule**	**Rott**	**Orsberg**	**Stößchen**	**Friesdorf**	**Ließem**	**Hardt**	**Witterschlick**
Carpinus platycarpa Wess.	-	-	-	-	●	-	-	-	-	-
Ulmus Bronnii Ung.	-	-	-	●	●	-	-	-	-	-
Ulmus prisca Ung.	-	-	-	●	●	-	-	-	-	-
Ulmus plurinervia Ung.	-	-	-	●	●	-	●	-	-	-
Planera Ungeri Ett.	●	●	-	●	●	●	●	-	-	-
Celtis Rhenana Goepp.	-	-	-	-	-	-	-	●	-	-
Ficus elegans Web.	●	-	-	●	●	●	-	-	-	-
Ficus Decheni Wess. et Web.	-	-	-	●	●	-	-	-	-	-
Ficus Orsbergensis Wess. et Web.	-	-	-	-	●	-	-	-	-	-
Ficus Noeggerathi Wess.	-	-	-	●	-	-	-	-	-	-
Ficus apocynophylla Web.	-	-	-	●	-	-	-	-	-	-
Ficus lanceolata Heer	●	●	-	●	●	-	-	-	-	●
Ficus arcinervis Heer	-	-	-	●	●	-	-	-	-	●
Ficus tiliaefolia Al. Br.	-	-	-	●	●	-	-	●	-	-
Ficus populina Heer	-	-	-	●	●	-	-	-	-	-
Liquidambar europaeum Al. Br.	●	●	-	●	●	-	-	-	-	●
Salix elongata Web.	●	●	-	●	●	-	-	-	-	●
Salix arcinervea Web.	●	●	-	●	-	-	-	-	-	-
Salix grandifolia Web.	●	●	-	●	●	-	-	-	-	-
Salix longissima Web.	-	-	-	●	●	-	-	-	-	-
Populus (?) *betulaeformis* Web.	-	-	-	●	●	-	-	-	-	-
Populus (?) *styracifolia* Web.	-	-	-	●	-	-	-	-	-	-
Populus latior Al. Br. var *undulata* Web.	-	-	-	●	-	-	-	-	-	●
Populus dubia Wess.	-	-	-	-	●	-	-	-	-	-
Populus emarginata Wess. et Web.	-	-	-	●	-	-	-	-	-	-
Populus mutabilis Heer	-	-	-	●	-	-	-	-	-	-
Thymeleae										
Laurus primigenia Ung.	●	●	-	●	●	●	-	-	-	●
Laurus princeps Heer	●	-	-	●	●	-	-	-	-	-
Laurus agathophyllum Ung.	-	-	-	-	●	-	-	-	-	-
Laurus styracifolia Web.	●	-	●	●	●	●	-	-	-	●
Laurus benzoidea Web.	●	-	●	-	-	-	-	-	-	-
Laurus obovata Web.	●	-	-	-	-	-	-	-	-	-
Laurus protodaphne Web.	●	-	-	●	●	●	-	-	-	-
Laurus tristaniaefolia Web.	-	-	-	●	●	-	-	-	-	●
Laurus dermatophyllon Web.	-	-	-	●	-	-	-	-	-	-
Laurus glaucoides Web.	-	-	-	●	-	-	-	-	-	-
Laurus nectandraefolia Web.	-	-	-	●	-	-	-	-	-	-
Cinnamomum Rossmaessleri Heer	●	●	●	●	●	●	-	-	-	-
Cinnamomum polymorphum Ung.	●	●	-	●	●	●	-	-	-	●
Cinnamomum lanceolatum Heer	●	●	-	●	●	●	-	-	-	-
Cinnamomum Scheuchzeri Heer	-	-	-	●	●	-	-	-	-	-
Daphnogene Ungeri Heer	●	●	-	●	●	●	-	-	-	●
Daphnogene elliptica Web.	●	●	-	-	-	●	-	-	-	-
Daphne persooniaefolia Web.	-	-	-	●	-	-	-	-	-	-
Daphne oreodaphnoides Web.	-	-	-	●	-	-	-	-	-	-

Fortsetzung Tabelle A-1 **Taxa**	**Quegstein**	**Allrott**	**Ofenkaule**	**Rott**	**Orsberg**	**Stößchen**	**Friesdorf**	**Ließem**	**Hardt**	**Witterschlick**
Nyssa obovata Web.	-	-	-	•	-	-	•	-	-	-
Nyssa rugosa Web.	•	-	-	•	•	-	•	-	-	-
Nyssa maxima Web.	•	-	-	•	-	-	-	-	-	-
Leptomeria divarivata Wess. et Web.	-	-	-	•	-	-	-	-	-	-
Elaeagnus acuminata Web.	-	-	•	-	-	-	-	-	-	-
Protea linguaefolia Web.	-	-	-	•	-	-	-	-	-	-
Banksia Orsbergensis Wess. et Web.	-	-	-	•	•	-	-	-	-	-
Banksia longifolia Ung	-	-	-	•	•	-	-	-	-	-
Hakea lanceolata Web.	-	-	-	•	•	-	-	-	-	-
Dryandra Schrankii Heer	-	-	-	•	•	-	-	-	-	-
Dryandra macroloba Wess. et Web.	-	-	-	-	•	-	-	-	-	-
Dryandroides banksiaefolia Heer	-	-	-	•	-	-	-	-	-	-
Dryandroides lignitum Heer	-	-	-	•	•	-	-	-	-	-
S e r p e n t a r i a e										
Aristolochia primaeva Web.	-	-	-	•	-	-	-	-	-	-
Aristolochia dentata Web.	-	-	-	•	-	-	-	-	-	-
Aristolochia hastata Web.	-	-	-	•	-	-	-	-	-	-
C a p r i f o l i a c e a e										
Rubiacitas asperuloides Web.	-	-	-	•	-	-	-	-	-	-
Rubiacites asclepioides Web.	-	-	-	•	-	-	-	-	-	-
Sambucus celtifolia Web.	-	-	-	•	-	-	-	-	-	-
C o n t o r t a e										
Fraxinus excelsifolia Web.	-	-	-	•	•	-	-	-	-	-
Fraxinus rhoefolia Web.	-	-	-	•	•	-	-	-	-	-
Elaeoides lanceolata Web.	-	-	•	•	•	-	-	-	-	-
Echitonium Sophiae Web.	•	•	-	•	•	-	-	-	-	-
Plumeria nereifolia Wess.	-	-	-	•	•	-	-	-	-	-
P e r s o n a t a e										
Dipterospermum bignonioides Goepp.	-	-	-	-	-	-	-	•	-	-
P e n t a l a n t h e a e										
Chrysophyllum nervosissimum Web.	•	-	-	•	-	-	-	-	-	-
Bumelia Oreadum Ung.	•	-	-	•	•	•	-	-	-	-
Sapotacites minor Heer	•	-	-	•	•	•	-	•	-	-
Diospyros Myosotis Ung.	-	-	-	•	•	-	-	•	-	-
B i c o r n e s										
Andromeda Weberi Andrae	-	-	-	•	•	-	-	-	-	-
Andromeda protogaea Ung.	-	-	-	•	•	-	-	-	-	-
Andromeda vaccinifolia Ung.	-	-	-	•	•	-	-	-	-	-
Vaccinium acheronticum Ung.	-	-	-	•	•	-	-	-	-	-
Gautiera lignitum Web.	-	-	-	•	-	-	-	-	-	-
D i s c a n t r i a e										
Panax longissimum Ung.	-	-	-	•	-	-	-	-	-	-
Cornus rhamnifolia Web.	-	-	-	•	-	-	-	-	-	-
Cornus acuminata Web.	-	-	-	•	-	-	-	-	-	-
P o l y c a r p i c a e										
Magnolia attenuata Web.	•	-	-	-	•	-	-	-	-	-

Fortsetzung Tabelle A-1 **Taxa**	**Quegstein**	**Allrott**	**Ofenkaule**	**Rott**	**Orsberg**	**Stößchen**	**Friesdorf**	**Ließem**	**Hardt**	**Witterschlick**
Magnolia Cyclopum Web.	-	-	-	●	-	-	-	-	-	-
N e l u m b i a										
Nymphaea lignitica Wess. et Web.	-	-	-	●	-	-	-	-	-	-
C o l u m n i f e r a										
Dombeyopsis Decheni Web.	●	●	-	●	●	●	-	-	-	-
Dombeyopsis pentagonalis Web.	-	-	-	-	●	-	-	-	-	-
Grewia crenata Heer	-	-	●	●	●	-	-	-	-	-
A c e r a										
Acer trilobatum Al. Br.	-	-	-	●	●	●	-	-	-	-
Acer trilobatum var. *tricuspidatum* A. Br.	-	-	-	●	●	●	-	-	-	-
Acer trilobatum var *productum* Al. Br.	●	-	-	●	●	●	-	-	-	-
Acer integrilobum Web.	●	-	-	●	●	●	-	-	-	-
Acer pseudocampestre Ung.	-	●	-	●	●	●	-	-	-	-
Acer vitifolium Al. Br.	●	-	-	●	●	●	-	-	-	-
Acer indivisum Web.	-	-	-	●	-	-	-	-	-	-
Acer dubium Web.	●	-	-	●	●	-	-	-	-	-
Acer cyclospermum Goepp.	-	-	-	●	●	-	-	●	-	-
Malpighiastrum lanceolatum Ung.	-	-	-	●	●	●	-	-	-	-
Malpighia glabraefolia Web.	-	-	-	●	●	-	●	-	-	-
Dodonaea prisca Web.	●	●	●	●	●	-	●	-	-	-
Dodonaea pteleaefolia Web.	●	-	●	●	●	-	-	-	-	●
Pavia septimontanum Web.	●	-	-	●	-	-	-	-	-	-
F r a n g u l a c e a e										
Celastrus Persei Ung.	-	-	-	●	-	-	-	-	-	-
Celastrus Andromedae Ung.	-	-	-	●	-	-	-	-	-	-
Celastrus scandentifolius Web.	-	-	-	●	●	●	-	-	-	-
Pomaderris lanuginosa Web.	-	-	-	●	●	-	-	-	-	-
Ilex Parschlugiana Ung.	-	-	-	●	●	-	-	-	-	-
Ilex sphenophylla Ung.	●	-	-	●	●	-	-	-	-	-
Ilex dubia Web.	●	-	-	●	●	●	-	-	-	-
Ilex rhombifolia Wess. et Web.	-	-	-	●	●	-	-	-	-	-
Ilex Cassinites Web.	-	-	-	●	●	-	-	-	-	-
Prinos obovata Web.	-	-	-	●	-	-	-	-	-	-
Labatia salicites Wess. et Web.	-	-	-	●	-	-	-	-	-	-
Zizyphus ovata Web.	-	-	-	●	●	-	-	-	-	-
Zizyphus Ungeri Heer	-	-	-	●	●	-	-	-	-	-
Zizyphus paradisiaca Heer	-	-	-	●	●	-	-	-	-	-
Rhamnus aizoon Ung.	-	-	-	●	-	-	-	-	-	-
Rhamnus decheni Web.	●	●	●	●	●	●	-	-	-	●
Rhamnus acuminatifolia Web.	●	●	-	-	-	-	●	-	-	-
Rhamnus parvifolius Web.	-	-	-	●	●	-	-	-	-	-
Ceanothus ebuloides Web.	●	-	-	-	-	-	-	-	-	-
T r i c o c e a e										
Clytia aglaiaefolia Wess. et Web.	-	-	-		-	-	-	-	-	-
Euphorbioides prisca Web.	-	-	-		-	-	-	-	-	-
T e r e b i n t h i n e a e										

Fortsetzung Tabelle A-1 **Taxa**	**Quegstein**	**Allrott**	**Ofenkaule**	**Rott**	**Orsberg**	**Stößchen**	**Friesdorf**	**Ließem**	**Hardt**	**Witterschlick**
Juglans ventricosa Brgt.	-	-	-	●	●	-	●	-	-	-
Juglans costata Ung.	-	-	-	●	-	-	●	-	-	-
Juglans venosa Goepp.	-	-	-	●	-	-	-	-	-	-
Juglans acuminata Al. Br.	●	●	-	●	●	●	-	-	-	-
Juglans bilinica Ung.	●	-	-	●	●	-	-	-	-	-
Carya elaenoides Ung.	●	●	-	●	-	●	-	-	-	-
Pterocarya denticulata Web.	-	-	-	●	●	●	-	-	-	-
Rhus Noeggerathi Web.	●	●	●	●	●	●	●	-	-	-
Rhus ailanthifolia Web.	●	-	-	●	-	-	-	-	-	-
Rhus malpighiaefolia Web.	-	-	-	●	-	-	-	-	-	-
Rhus Pyrrhae Ung.	-	-	-	●	●	-	-	-	-	-
Ptelea Weberi Heer	-	-	-	●	-	-	-	-	-	-
Xanthoxylon Braunii Web.	-	-	-	●	●	●	-	-	-	-
Calyciflorae										
Combretum europaeum Web.	●	●	●	●	●	●	-	-	-	-
Getonia Oeningensis Ung.	-	-	-	●	●	-	-	-	-	-
Terminalia miocenica Ung.	-	-	-	●	●	-	-	-	-	-
Myrtiflorae										
Melastomites marumiaefolia Web.	-	-	-	-	-	●	-	-	-	-
Melastomites lanceolata Web.	●	-	-	-	-	-	-	-	-	-
Eucalyptus oceanica Ung.	-	-	-	●	-	-	-	-	-	-
Eucalyptus daphnoides Web.	-	-	-	●	-	-	-	-	-	-
Eucalyptus polyanthoides Web.	-	-	-	●	-	-	-	-	-	-
Punicites Hesperidum Web.	-	-	-	●	-	-	-	-	-	-
Rosiflorae										
Crataegus incisus Web.	-	-	-	●	-	-	-	-	-	-
Pyrus theobroma Ung.	-	-	-	●	●	-	-	-	-	-
Pyrus Saturni Web.	-	-	-	●	-	-	-	-	-	-
Rosa dubia Web.	●	-	●	-	●	-	-	-	-	-
Rosa Nausicaes Wess. et Web.	-	-	-	●	●	-	-	-	-	-
Amygdalus persicifolia Web.	●	●	-	-	-	-	-	-	-	-
Amygdalus pereger Ung.	-	-	-	●	●	-	-	-	-	-
Amygdalus insignis Wess. et Web.	-	-	-	●	-	-	-	-	-	-
Prunus prinoides Web.	-	-	-	-	●	-	-	-	-	-
Prunus pyrifolia Web.	-	-	-	●	●	-	-	-	-	-
Leguminosae										
Robinia subcordata Web.	-	-	-	●	-	-	-	-	-	-
Robinia heteromorphoides Web.	-	-	-	●	-	-	-	-	-	-
Colutea edwardsiaefolia Web.	-	-	-	●	-	-	-	-	-	-
Phaseolites criosemaefolium Ung.	-	-	-	●	●	-	-	-	-	-
Phaseolites dolichophyllum Web.	-	-	-	●	-	-	-	-	-	-
Sphinctolobum simile Web.	-	-	-	●	●	-	-	-	-	-
Dalbergia retusaefolia Web.	-	-	-	●	●	-	-	-	-	-
Haematoxylon coriaceum Web.	-	-	-	●	-	-	-	-	-	-
Haematoxylon cuneatum Web.	-	-	-	●	●	-	-	-	-	-
Gleditschia Wesseli Web.	-	-	-	●	●	-	-	-	-	-

Fortsetzung Tabelle A-1 **Taxa**	**Quegstein**	**Allrott**	**Ofenkaule**	**Rott**	**Orsberg**	**Stößchen**	**Friesdorf**	**Ließem**	**Hardt**	**Witterschlick**
Gleditschia gracillima Web.	●	-	-	●	●	●	●	-	-	-
Cassia phaseolites Ung.	-	-	-	●	●	●	-	-	-	-
Cassia ambigua Ung.	-	-	-	●	-	-	-	-	-	-
Cassia Berenices Ung.	-	-	-	●	●	-	-	-	-	-
Cassia lignitum Ung.	-	-	-	●	●	-	-	-	-	-
Cassia palaeogaea Web.	-	-	-	●	●	-	-	-	-	-
Ceratonia septimontana Wess. et Web.	-	-	-	●	●	●	-	-	-	-
Acacia Sokkiana Ung.	-	-	-	●	-	●	-	-	-	-
Acacia amrphoides Web.	-	-	-	●	-	●	-	-	-	-
Plantae incertae sedis										-
Cucubalitis Goldfussi Goepp.	-	-	-	●	●	●	-	-	-	-
Planta indeterminata	-	-	-	-	●	-	-	-	-	-
Calyx Bignoniaceae ?	-	-	-	●	-	-	-	-	-	-
Artemisiae fructus ?	-	-	-	●	-	-	-	-	-	-
Sambuci fructus ?	-	-	-	●	-	-	-	-	-	-
Isatis fructus ?	-	-	-	●	-	-	-	-	-	-
Fructus indeterminata	●	-	-	-	-	-	-	-	-	-

Tabelle A-2: Florenliste von H. HEYMANN (1867: 61) aus der Grube „Gottessegen“ bei Dambroich.

Acacia amorphoides Weber	„Palmenblätter”, cf. *Chamerops* sp.
Acer trilobatum Al. Braun var. *cuspidatum*	*Quercus cruciata* Heer
Cinnamomum lanceolatum Heer	*Rhamnus acuminatifolius* Weber
Cinnamomum polymorphum Unger	*Rhamnus Decheni* Weber
(= *Ceanothus* spp.)	*Rhus ailanthifolia* Weber
Ficus arcinervis Heer	*Ulmus Bronnii* Unger
(=*Apocynophyllum acuminatum* Weber)	*Ulmus prisca* Unger
Ficus lanceolata Heer	
(= *Apocynophyllum lanceolatum* Weber)	

Tabelle A-3: Florenliste von K. KIRCHHEIMER (1938: 315) aus kohligen Lagen der Grube der Tonwerke Niederpleis (Mauelshagen & Co.) bei Niederpleis.

cf. *Cinnamonum* sp. (Blätter)	*Palmoxylon daemonorops*
Ganitrocera saxonica	*Pinus laricio thomasiana*
Ganitrocera torulosa	*Retinomastixa schultei*
Juglans ventricosa	*Salvinia* sp.
Keteleeria sp.	*Sequoia couttsiae*
Mastixia pistacina	„*Spondiaecarpum turbinatum*”
Myrica sp.	*Symplocos jugata*
Myrica suppani	*Symplocos pseudogregaria*
Nyssa disseminata	*Vitis teutonica*

Tabelle A-4: Florenliste von H. WEYLAND (1940: 105) von der „Ludwigshütte" bei Altenrath.

Cinnamomum scheuchzeri (Heer) Fr.	*Manicaria formosa* Heer
Daphnogene septimontana Wld.	*Menispermites germanicus* Menz.
Lastraea stiriaca Ung.	*Persea speciosa* Heer
Laurus grandifolia Ett.	*Populus latior* Al. Br.
Laurus phoeboides Ett.	*Quercus goepperti* Web.
Laurus princeps Heer	*Taxodium distichum miocenicum* Heer

Tabelle A-5: Florenliste von H. WEYLAND (1940: 105) der humosen Tone aus der Sandgrube „Langel" in Siegburg–Stallberg.

Cinnamomum scheuchzeri (Heer) Fr.	*Populus balsamoides* Goepp.
Daphnogene septimontana Wld.	*Populus latior* Al. Br.
Laurus phoeboides Ett.	*Quercus goepperti* Web.
Laurus princeps Heer	*Sequoia langsdorfi* Heer
Persea speciosa Heer	*Taxodium distichum miocenicum* Heer

Tabelle A-6: Originalflorenliste von H. WEYLAND (1948: 148–163: „Liste der Pflanzen von Rott, Orsberg, Stößchen, sowie aus dem Trachytkonglomerat und den ‚liegenden tonigen und quarzigen Schichten' des Siebengebirges.") nach der Neubearbeitung der Flora von Rott, etc. (1937–1948).

– Die Jahreszahlen in Klammern verweisen auf das Jahr der Publikation von WEYLAND.
– Taxa ohne Organangabe beziehen sich auf Blattreste.
– Die mit * gekennzeichneten Taxa kommen nur in den Liegendschichten vor.

Algae
Algenthallus, ? Codiacee (1948)
Musci
Hypnum lycopodioides WEB. (1937)
Polytrichum rottense (SCHL.) WLD. (1937)
Mnium rottense WLD. (1937)
Barbula rottensis WLD. (1937)
Dicranites rottensis WLD. (1937)
Filices
* *Pteris goepperti* WEB.
Pteris crenata WEB. (1937)
Pteris xiphoides WESS. & WEB. (1937)
Cystopteris fumariacea WESS. & WEB. (1937)
Asplenium ligniticulm WESS. & WEB. (1937)
Osmunda heeri GAUD. (1937)
? *Aspidium meyeri* HEER (1937)
Lygodium sp. (1937)
Incertae sedis WESS. & WEB. (1948), ? *Acrostichum*
Equisetaceae
Equisetum sp. (1948)
Gymnospermae
Sequoia langsdorfi HEER (1937)
Taxodium distichum miocenicum HEER (1937)
Glyptostrobus europaeus HEER (1937)
Pinus sp. (4 Formen von Samen) (1937)

Fortsetzung Tabelle A-6

* *Pinites* sp. dub. (1940), Zapfen

Thuja (?) sp., Zapfen (1937)

Libocedrus salicornioides UNG. (1937)

Callitrites brongniarti HEER
= *Tetraclinis brongniarti* ENDL., Zapfen (1937)

Monocotyledonae

Hydrocharitaceae

Hydrocharis rottensis WLD. (1943)

Gramineae

Panicum (?) sp. (1937)

Cyperaceae

Cyperaceen-Blütenstand (1941)

Cyperaceen-Früchte, 3 Arten (1941)

Ganiocarpus BENL n. g. foss. 1942 (1941)

Scirpus sp. (1937)

Palmae

Sabal major UNG. (1937)

Juncaceae

Luzula rottensis WLD. (1937)

Liliaceae

Smilacites hastata BRGT. (1937)

Smilacites grandifolia UNG. (1937)

Smilax renifolia WESS. (1937)

Smilax Weberi WESS. (1937)
= *Smilax obtusifolia* WESS. (1937)

Smilax ovata WESS. (1937)

Scitamineae

Scitamineen-Blütenstand (1943)

* ? *Carpolithus sophiae* (WEB.) WLD. (1940), Frucht

* ? *Majanthemophyllum petiolatum* WEB. (1937, 1948)

Dicotyledonae

Salicaceae

Populus latior A. BR. (1948)

Populus rottensis WLD. (1937)

Populus sp. Deckschuppe (1948)

Salix longa A. BR. (1938)

Salix arcinerve WEB. (1941)

Salix integra GOEPP. (1938)

Salix rottensis WLD. (1938)

Myricaceae

Myrica lignitum (UNG.) SAP. (1943)

Myrica (?) *weinmanniaefolia* WEB. (1948)

Juglandaceae

Juglans ventricosa (STRG.) BRGT., Frucht (1941)

Juglans acuminata A. BR. (1941)

Juglans bilinica UNG. (1941)

Carya serraefolia (GOEPP.) KR. (1937, 1941)

Carya sp., Knospenschuppen (1938)

Engelhardtia brongniarti SAP. (1937), Frucht

Engelhardtia schlickumi WLD., Frucht (1937)

Betulaceae

Fortsetzung Tabelle A-6

Carpinus grandis UNG. (1941)
Betula prisca ETT.
Betula brongniarti ETT. (1941)
Alnus kefersteini UNG. (1941,1943)
Alnus gracilis UNG. (1943)
Alnus rottensis WLD. (1943)
Ainus palaeojaponica WLD. (1943)

F a g a c e a e

Fagus deucalionis UNG. (1943)
Quercus goepperti WEB. (1938, 1940)
Quercus tenerrima WEB. (1938)
Quercus aspera UNG. (1938)
Quercus buchi WEB. (1938)
Quercus neriifolia A. BR. (1941)
* *Quercus lonchitis* UNG. (1948)

U l m a c e a e

Ulmus sp. cf. *effusa* WILLD.. Frucht (1941)
Ulmus bronni UNG. (1941)
Ulmus prisca UNG. (1941)
Ulmus plurinervia UNG. (1941)
Zelkova ungeri KOV. (1941)
Celtis begonioides GOEPP. (1937)
Pteroceltis tertiaria WLD., Frucht (1937)

M o r a c e a e

Ficus arcinervis ROSSM. (1941)
Ficus (?) *tiliaefolia* A. BR. (1943)
cf. *Ficus pandurifolia* BERRY (1948)

L o r a n t h a c e a e

Viscophyllum rottense WLD. (1948)

P o l y g o n a c e a e

Polygonocarpum fimbriatum WLD. Frucht (1937)

N y m p h a e a c e a e

Nymphaea nymphaeoides (ETT.) WLD. (1938)
Nymphaeites Weberi CASPARY, Rhizome (1941)

R a n u n c u l a c e a e

Clematis panos HEER, Frucht (1937)

M a g n o l i a c e a e

Magnolia attenuata WEB. (1938)
Kadsura breddini WLD. (1941)

T r o c h o d e n d r a c e a e

Cercidiphyllum crenatum (UNG.) BR.

L a u r a c e a e

Cinnamomum polymorphum (A. BR.) FRTZ. (1938)
Cinnamomum scheuchzeri (HEER) FRTZ. (1938)
Cinnamomum spectabile (HEER) FRTZ. (1938)
Lindera neglecta WLD. (1938)
Lindera rottensis WLD., Blüte (1938)
Litseopsis rottensis WLD., Blüte (1948)
Laurus styracifolia WLD. (1938)
Laurus princeps HEER (1938)

Fortsetzung Tabelle A-6

Laurus primigenia UNG. (1938)

Laurus tristaniaefolia WEB. (1938)

Laurus obovata WEB. (1938)

* *Daphnogene septimontana* WLD. (1940)

Podostemonaceae

Podostemonopsis tertiaria WLD. (1937)

Hamamelidaceae

* *Liquidambar europaea* A. BR. (1948)

Liquidambar sp., weibl. Blütenstand (1948)

Platanaceae

Platanus sp., weibl. Blütenstand (1948)

Rosaceae

Pirus (?) *troglodytarum* UNG. (1948)

Pruniphyllum prinoides (WEB.) WLD. (1948) .

Pruniphyllum insigne (WEB.) WLD. (1948)

Pruniphyllum peregrum (UNG.) WLD. (1948)

Pruniphyllum nausicaes (WESS. & WEB.) WLD. (1948)

Pruniphyllum dubium (WEB.) WLD. (1948)

Pruniphyllum rhoefolium (WEB.) WLD. (1948)

Sibiraea rottensis WLD. (1941)

Leguminosae

cf. *Acacia amorphoides* WEB., Frucht (1937)

cf. *Acacia bousqueti* SAP., Frucht (1937)

cf. *Acacia insignis* UNG., Frucht (1937)

cf. *Cassia acutifolia* DEL., rez. Frucht (1937)

cf. *Cercis ameliae* SAP., Frucht (1937)

cf. *Cercis antiqua* SAP., Frucht (1937)

Pterocarpus tertiarius WLD., Frucht (1937)

? *Cassia palaeogaea* WEB., Frucht (1948)

Robinia heteromorphoides WEB. (1948)

Phaseolites dolichophyllum WEB. (1948)

Acacia sotzkiana UNG. (1948)

cf. *Dalbergia retusaefolia* HEER (1937)

cf. *Dalbergia scheitlii* HEER (1937)

cf. *Dalbergia nostratum* (KOV.) HEER (1937)

cf. *Dalbergia bella* HEER (1937)

cf. *Dalbergia podocarpa* UNG. (1937)

cf. *Haematoxylum cuneatum* WEB. (1937)

cf. *Colutea salteri* HEER (1937)

Cassia aymardi (MAR.) WLD. (1937, 1938)

Cassia berenices UNG. (1941)

Cassia palaeogaea WEB. (1941)

Cassia ambigua UNG. (1941)

Cassia lignitum UNG. (1941)

Cassia hyperborea UNG. (1941)

Dolichites maximus UNG. (1941)

Gleditschia Wesseli WEB. (1941)

Ceratonia septimontana WESS. & WEB. (1941)

Leguminosenblatt (1941)

? Leguminosenblatt (1937)

Fortsetzung Tabelle A-6

Z y g o p h y l l a c e a e

Zygophyllocarpum rottens WLD., Frucht (1938)

R u t a c e a e

Ptelaeocarpum bronni (UNG.) WLD. (1937, 1944)

Xanthoxylum brauni WEB. (1948)

S i m a r u b a c e a e

Ailanthus ailanthifolia (WEB.) WLD. (1937)

Ailanthus confucii UNG., Frucht (1937)

? *Rottia incerta* WLD. (1943)

M a l p i g h i a c e a e

Malpighiastrum lanceolatum UNG. (1948)

E u p h o r b i a c e a e

Cluytia (?) *aglaiaefolia* WESS. & WEB. (1943)

Statzia divaricata (WESS. & WEB.) WLD., Blüten und Zweige (1937)

Euphorbioides prisca WEB. (1948)

A n a c a r d i a c e a e

Pistacia oligocenica MAR. (1938)

Pistacia septimontana WLD., Blüten (1938)

Pistacia rottensis WLD. (1941)

Rhus (?) *noeggerathi* WEB, emend. WLD. (1941)

Rhus pteleaefolia WEB. (1943)

Rhus pyrrhae UNG.

Embothrites borealis UNG., Frucht (1938)

A q u i f o l i a c e a e

Ilex parschlugiana UNG. (1948)

llex rottensis WLD. (1938)

llex bilinica (UNG.) KR. (1941)

A c e r a c e a e

Acer trilobatum A. BR. (1937)

Acer integrilobum WEB. (1937)

Acer brachyphyllum HEER (1937)

Acer sp., 4 Formen von Früchten (1937)

S a p i n d a c e a e

Sapindus falcifolius (A. BR.) HEER (1943)

? *Dodonaea prisca* WEB., Frucht (1948)

Koelreuteria sp., Frucht (1948, 1937 zu *Abronia bronni* gestellt)

R h a m n a c e a e

Zizyphus zizyphoides (UNG.) HEER (1943)

Paliurus thurmanni HEER, Frucht (1937)

Rhamnus decheni WEB. (1943)

Berchemia parvifolia (WEB.) WLD. (1938)

Berchemia multinervis (A. BR.) HEER (1938)

Ceanothus ebuloides WEB. (1943)

Rhamnophyllum lanuginosum (WEB.) WLD. (1943)

Rhamnaceen-Dornen (1943)

V i t a c e a e

Tetrastigmophyllum rottense WLD. (1941)

B o m b a c a c e a e

Bombax decheni (WEB.) FRIEDR. (1941)

D i l l e n i a c e a e

Fortsetzung Tabelle A-6

Dilleniaecarpum rottense WLD., Frucht (1948)

D i p t e r o c a r p a c e a e

Monotes macranthus (HEER) WLD. (1937)

T h y m e l a e a c e a e

Daphne oeningensis A. BR. (1938)

Daphne (?) *persooniaeformis* WEB.(1948)

Daphne (?) *oreodaphnoides* WEB.(1948)

E l a e a g n a c e a e

Elaeagnus (?) *acuminata* WEB.(1948)

P u n i c a c e a e

Punicites hesperidum WEB. (1948)

N y s s a c e a e

Nyssa disseminata (LDW.) KIRCHH., Früchte (1941)

Nyssa rottensis WLD. (1941)

C o m b r e t a c e a e

Terminalia europaea (WEB.) WLD. (1943)

Terminalia (?) *miocenica* UNG. (1943)

Terminalia rottensis WLD. (1943)

U m b e l l i f e r a e

? Umbelliferen-Blatt (1943)

Umbelliferen-Frucht (? Dauceae) (1943)

C o r n a c e a e

Cornus acuminata WEB. = *C. studeri* HEER (1941)

Cornus (?) *rhamnifolia* WEB. (1943)

Mastixia pistacina (UNG.) KIRCHH., Frucht

E r i c a c e a e

Ledum limnophilum UNG. (1941)

Leucothoe protogaea (UNG.) SAP. (1943)

Leucothoe narbonensis SAP. (1943)

? *Gautiera lignitum* WEB. (1948)

cf. *Vaccinium acheronticum* UNG. (1943)

cf. *Vaccinium textum* HEER (1943)

Vaccinium rottense WLD. (1943)

Vaccinium (?) *persooniaeforme* WLD. (1943)

Arbutus rottensis WLD. (1943)

M y r s i n a c e a e

Pleiomeropsis rottensis WLD., Blüten (1938)

Myrsine formosa HEER (1948)

E b e n a c e a e

Cucubalites goldfussi GOEPP. (1948)

S a p o t a c e a e

Sideroxylon salicites (WEB.) WLD. (1937)

Dipholis tertiaria WLD. (1937)

Chrysophyllum nervosissimum WEB. (1941)

Bumelia (?) *oreadum* UNG. (1943)

S y m p l o c a c e a e

Symplocos myosotis (UNG.) WLD., Blüte (1938)

O l e a c e a e

Fraxinus excelsifolia WEB. (1948)

? *Elaeoides lanceolata* WEB. (1943)

Fortsetzung Tabelle A-6
A p o c y n a c e a e
Plumiera nereifolia WESS. (1938)
Echitonium sophiae WEB., unbestimmbare Blätter (1940)
Apocynophyllum lanceolatum UNG. (1943)
? *Apocynophyllum apocynophyllum* (WEB.) WLD. (1943)
? *Apocynophyllum decheni* (Web.) Wld. (1943)
? *Apocynophyllum glabraefolium* (WESS. & WEB.) WLD. (1943)
A s c l e p i a d a c e a e
Asclepiadaceen-Blüte (1943)
B i g n o n i a c e a e
Catalpa microsperma SAP., Samen (1937)
R u b i a c e a e
Morinda (?) *proserpinae* UNG. (1943)
C a p r i f o l i a c e a e
Sambucus (?) sp. WEB., Früchte (1948)
Viburnum Weberi (WEB.) SCHENK (1938)
C o m p o s i t a e
Cypselites costatus HEER, Früchte (1938)
Cypselites angustus HEER, Früchte (1938)

Tabelle A-7: Florenliste aus WEYLAND, KILPPER & BEHRENDT (1966: 76) aus dem „unteren humosen Horizont“ der Tongrube „Großpeter & Lindemann“ bei Niederpleis [Niederpleis–1].

Taxon	unteren humosen Horizont
Glyptostrobus sp. (Zweige und Blätter)	●
Lygodium sp. (Blätter)	●
Myrica pseudointegerrima (Blätter)	●
Spinopalmoxylon rhenanum (Achsen, Stacheln, Blätter und Blüten) = *Palmoxylon daemonorops* (Stacheln)	●

Tabelle A-8: Florenliste aus KEMPF (1971: 50) aus der Tongrube „Großpeter & Lindemann“ bei Niederpleis [Niederpleis–1].

Taxon	Grobdetritus–Gyttja–Horizont		
	Unterer	Mittlerer	Oberer
Cladium sp.	●	-	-
Decodon globosus	●	-	-
Diclidocarya menzelii	●	●	-
Epipremnum cristatum	●	●	●
Glyptostrobus europaea	●	-	-
Hypericum sp.	●	-	-
Myrica suppani	●	●	●
Nymphaea sp.	●	-	-
Nyssa disseminata	●	-	-
Palmacites daemonorops	●	-	●
Rubus sp.	●	●	●
Salvinia cerebrata	●	●	●
Spirematospermum wetzleri	●	●	-
Spondiaecarpum turbinatum	●	-	-

Fortsetzung Tabelle A-8

Taxon	Grobdetritus–Gyttja–Horizont		
	Unterer	Mittlerer	Oberer
Typha sp.	●	-	-
Vitis teutonica	-	-	●

Tabelle A-9: Florenliste aus GREGOR (1986b: 20) aus der Tongrube Niederpleis [Niederpleis–1].

Taxon	Kohle–Horizont			Obere Tonlagen
	Unterster	Unterer	Oberer	
Glyptostrobus europaea	●	●	●	●
Spinophyllum daemonorops	●	●	●	●
Punica natans	●	-	-	-
Myrica boveyana	●	●	●	●
Nyssa ornithobroma	●	●	●	●
Carpolithus hafniensis	-	●	●	●
Urospathites dalgasi	-	-	-	●
Spirematospermum wetzleri	-	●	-	●
Taxodium sp.	-	-	-	●
Decodon globosus	-	-	-	●
Microdiptera parva	-	-	-	●
Vitis sp.	-	-	-	●
Ilex sp.	-	-	-	●
Alnus sp.	-	-	-	●

Tabelle A-10: Florenliste von W. HELLMUND (1975) vom Telegraphenberg bei Troisdorf-Spich.

Taxon	Braunkohlenflöz	liegender Ton
Salvinia sp.	-	●
Taxodium distichum miozenicum	-	●
Zelkova ungeri	-	●
Ulmus sp. – F	-	●
Ulmus carpinoides	-	●
Ulmus longifolia	-	●
Laurophyllum sp.	-	●
Cinnamomophyllum polymorphum	-	●
Nyssa disseminata	-	●
Spondiaecarpum turbinatum	●	●
„*Spondiaecarpum troisdorfense*" n. sp. [?]	-	●
Monokotyleae-Blattreste	-	●
Spirematospermum wetzleri	-	●

Tabelle A-11: Florenliste nach GOSSMANN (1989:13-14: „Vorläufige Florenliste der Tongrube Fischer bei Adendorf“)

Mycophyta	*Myrica stoppii*	*Omalahthus costatus*
Cenococcum geophilum	**Juglandaceae**	*Sapium germanicum*
Rosselinites areolatus	*Engelhardia macroptera*	**Theaceae**
Pinaceae	**Droseraceae**	*Cleyera stigmosa*
Cathaya bergeri	*Aldrovanda praevesiculosa*	*Visnea germanica*
Cathaya sp.	**Rosaceae**	**Ericaceae**
Pinus hampeana	*Rubus laticostatus*	*Leucothoe narbonnensis*
Pinus grossana	*Rubus* sp.	*Pieris* sp. vel *Andromeda* sp.
Pinus spinosa	*Sorbus herzogenrathensis*	Ericaceae gen. et sp. indet.
Taxodiaceae	**Lythraceae**	**Styracaceae**
Sequoia abietina	*Decodon globosus*	*Rehderodendron ehrenbergii*
Glyptostrobus europaea	**Rutaceae**	**Symplocaceae**
Cupressaceae	*Toddalia rhenana*	*Symplocos lignitarum*
Tetraclinis brachyodon	*Zanthoxylum* nov.sp.	*Symplocos ludwigii*
Magnoliaceae	**Anacardiaceae**	*Symplocos lusatica*
Magnolia burseracea	*? Spondiaemorpha dehmii*	*Symplocos minutula*
Magnolia sp.	**Mastixioideae**	*Symplocos poppeana*
Manglietia germanica	*Eomastixia menzelii*	*Symplocos salzhausensis*
Manglietia zinkeisenii	*Mastixia lusatica*	*Symplocos schereri*
Liriodendron geminata	*Retinomastixia oerteli*	*Symplocos wiesaensis*
Annonaceae	*Tectocarya rhenana*	*Sphenotheca incurva*
Asimina browni	**Nyssaceae**	*Pallioporia symplocoides*
Lauraceae	*Nyssa ornithobroma*	**Gentianaceae**
Laurophyllum pseudoprinceps	**Araliaceae**	*Pulmonaria* nov. sp.
Ocotea rhenana	*Acanthopanax solutus*	**Oleaceae**
Sassafras lusaticum	**Apiaceae**	*Chionanthus taschei*
Cabombaceae	*Umbelliferopsis molassicus*	**? Boraginaceae**
Brasenia victoria	**Aquifoliaceae**	*Carpolithus hafniensii*
Hamamelidaceae	*Ilex saxonica*	? Boraginaceae gen. et sp. indet
Disanthus bavaricus	*Ilex* sp.	**Hydrocharitaceae**
Fortunearia europaea	**Rhamnaceae**	*Stratiotes kaltennordheimensis*
Liquidambar magniloculata	*Frangula solitaria*	**Potamogetonaceae**
Fagaceae	**Vitaceae**	*Potamogeton wiesaensis*
Trigonobalanopsis exacantha	*Ampelopsis ludwigii*	**Zingiberaceae**
Trigonobalanopsis rhamnoides	*Tetrastigma lobata*	*Spirematospermum wetzleri*
Myricaceae	*Tetrastigma chandleri*	**Cyperaceae**
Myrica boveyana	*Vitis palaeomuscadinuia*	*Carex* sp. *Cladiocarya* sp.
Myrica ceriferiformis	*Vitis teutonica*	**Typhaceae**
Myrica ceriferiformoides	**Loranthaceae**	*Sparganium* sp.
Myrica geinitzii	*Viscum lusaticum*	**Araceae**
Myrica suppanii	**Euphorbiaceae**	*Epipremnites ornatus*

Tabelle A-12: Liste der Einzelfunde und Einzelmitteilungen von Pflanzenresten.

Lokalität	Autor	Funde
„Süßwasser–Halbopal“ von **Muffendorf** bei Bonn–Bad Godesberg	WEBER (1850: 13–18)	„*Carpolites granulatus*”, Samen „*Culmites striatus*“, Rhizome und Stengel *Nymphaea Arethusae* BRGT., Rhizome
	POHLIG (1885: 258)	*Cinnamomum lanceolatum* HEER
„Hungskuhle“ am Osthang der Dollendorfer Hardt	V. DECHEN (1852: 461)	Hölzer im Trachyttuff
Scheuren im Pleisbachtal	V. DECHEN (1852: 461)	Blätter im Basalttuff
„Siegburger Berge“	V. DECHEN (1852: 461-462)	Hölzer im Basalttuff
Unkeler Steinbrüche	V. DECHEN (1852: 462)	Hölzer im Basalttuff
Froschberg	SCHAFFHAUSEN (1875: 199) WILCKENS (1927: 50)	„*Rhamnus* (?)“–Blatt im Trachyttuff
Großen Weilberg und **SW' von Vinxel**	NOEGGERATH nach WILCKENS (1927: 50)	inkohltes Holz in Tuff
Papelsberg zwischen Rabeney und Dollendorfer Hardt	FAUJAS DE SAINT-FONDS (1803)	„Holzopal in Basalttuff“
	GOEPPERT (1850: 198)	„*Pinites protolarix*“
	FELIX (1883: 59)	= *Cladocupressinoxylon pannonicum*
	KRÄUSEL (1919: 196)	= Hölzer nicht bestimmbar
	WILCKENS (1927: 89)	„Holzopale der Papelsberger Basalttuffe“
„Eisenstein/Limonit“-Vorkommen vom **Kreuzberg bei Bonn**	POHLIG (1883a: 106)	cf. *Widringtonia helvetica* HEER, Früchte *Evonymus* (?) *quinquegranosa* POHLIG, Früchte *Malva* (?) sp., Früchte *Sequoia* sp., Zapfen
„**Godesberg**“, ? Victorshöhe	POHLIG (1883b: 168-169)	„*Taxodites* (*Glyptostrobus*) cf. *europaeus*“
Grube „Horn“ zwischen Stieldorferhohn und Höhnerhof	KAISER (1897: 136-137)	*Juglans ventricosa* Brongn.
„Blättersandstein“ vom **Dürresbachtal**	BURRE (1930: 31, nach Bestimmungen von W. GOTHAN)	*Cinnamomum* sp. *Laurophyllum* div. sp. *Platanus aceroides* GOEPP. *Quercus* sp.
Quegstein	KIRCHHEIMER (1951a: 243-244)	*Mastixia amygdalaeformis*
Orsberg	MAI (1964: 134)	*Palmoxylon* sp. *Taxodioxylon gypsaceum* (GOEPP.) KR.
	MAI (1970a: 467)	*Mastixia amygdalaeformis*
Tunnel-Neubau in der Siegniederung und dem unteren Pleisbachtal ICE-Neubaustrecke, Projekt Siegquerung bei Niederpleis	PEITZ et al. (2001: 79), Fundorte nicht genauer lokalisiert.	Blattabdrücke verschiedener Taxa: *Daphnogene* sp., *Laurophyllum* sp., *Taxodium* sp., *Glyptostrobus* sp.; Samen von: *Rubus* sp., *Epipremnum* sp. und verschiedene Pollen-Taxa.

Revidierte Taxa–Listen

In den nachfolgenden Listen werden die Taxa (und Synonyme) aus den Bearbeitungen der früheren Autoren den Resultaten der vorliegenden Revision tabellarisch gegenüber gestellt.

Abkürzungen der Organe: w- = ♀ = weiblich; m- = ♂ = männlich; BL = Blüten; BS = Blütenstand; F = früchte; S = Samen; Cup = Kupula; DS = Deckschuppen; CZ = Koniferenzapfen; Cal = Calyx; SA = Sproßachse; B = Belaubung / Blätter; R = Rhizome; H = Holz.

Tabelle A-13: Liste der Taxa, Zitate und Fundortangaben nach der Bearbeitung von **WEBER (1852 in Sonderabdruck aus *Palaeontographica*, 2)** und nach der vorliegenden Revision.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Xylomites umbilicatus	: 39, Taf. 1 Fig. 1	Rott	*Nymphaea arethusae*	R
Sphaerites regularis	: 40, 108, Taf. 8 Fig. 1	Ließem	*Sphaeria regularis*	Pilz
Pteris Göpperti	: 40, Taf. 1 Fig. 2	Quegstein	*Pteris goepperti*	B
Pteris crenata	: 40-41, Taf. 1 Fig. 3	Rott	*Pteris goepperti*	B
Bambusium sepultum	: 41	Quegstein, Rott	Cyperales vel Typhales fam., gen. et sp. indet.	A
Smilacites hastata	: 41-42, Taf. 1 Fig. 4	Rott, Stößchen	*Smilax remifolia*	B
Smilacites grandifolia	: 42	Rott	*Smilax remifolia*	B
Majanthemophyllum petiolatum	: 42-43, Taf. 1 Fig. 5	Quegstein	Magnoliopsida incertae sedis: *Majanthemophyllum petiolatum* [fam. indet.]	B
Sparganium latum	: 43-44, Taf. 1 Fig. 6	Rott, Orsberg, Ließem (?)	Cyperales vel Typhales fam., gen. et sp. indet.	B
Flabellaria maxima	: 44	Rott	*Sabal major*	B
Fasciculites Hartigii	: 44-45	Friesdorf	*Palmoxylon* sp.	H
Burtinia Faujasii	: 45-46, Taf. 1 Fig. 7	Lieblar	?	F
Libocedrites salicornioides	: 46, Taf. 1 Fig. 10	Orsberg, Ließem	*Tetraclinis salicornioides* vel *Tetraclinis brachyodon*	B, CZ
Cupressites Brongniarti	: 47	Rott, Orsberg, Stößchen, Friesdorf	*Tetraclinis salicornioides* vel *Tetraclinis brachyodon*	B
Cupressites racemosus = *Glyptostrobus Oeningensis*	: 47, 108	Stößchen, Ließem	*Glyptostrobus europaeus*	B
Cupressites gracilis	: 47	Orsberg, Stößchen	*Glyptostrobus europaeus*	B
Cupressinoxylon pachyderma	: 47-48	Hardt	*Juniperoxylon pachyderma*	H
Cupressinoxylon uniradiatum	: 48, 108	Liblar, Brühl	*Taxodioxylon gypsaceum*	H
Cupressinoxylon durum	: 48	Friesdorf, Hardt	*Taxodioxylon gypsaceum*	H
Cupressinoxylon granulosum	: 48	Hardt	*Taxodioxylon gypsaceum*	H
Cupressinoxylon pallidum	: 108	Hardt	*Taxodioxylon gypsaceum*	H
Taxodioxylon Göpperti	: 48	Hardt	*Taxodioxylon gypsaceum*	H
Piceites Geanthracis	: 48-49	Lieblar	?	H
Pinites protolarix	: 49	Friesdorf	*Taxodioxylon gypsaceum*	H
Pinites Thomasianus	: 50	Lieblar	*Pinus hampeana*	CZ
Pinites sp. dub.	: 50	Allrott	Pinaceae gen. et sp. indet. 1	CZ
Pinites sp. dub.	: 50	Quegstein	Pinaceae gen. et sp. indet. 1	CZ
Stenonia ungeri Endl.	: 51	Hardt ?	Pinales fam. gen. et sp. indet.	CZ
Ataktoxylon Linkii	: 51	„Siebengebirge“, Quegstein	*Taxodioxylon sp.*	H
Steinhauera oblonga	: 52, Taf. 1 Fig. 11	Allrott	*Liquidambar* sp. 2	F
Taxites Langsdorfii	: 52-53, Taf. 1 Fig. 8-9	Quegstein, Rott	*Sequoia abietina*	B, CZ
Taxites Ayckii	: 53	Hardt	Pinales fam. gen. et sp. indet.	H

Fortsetzung Tabelle A-13.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Myrica Ophir	: 53	Rott	*Myrica longifolia*	B
Alnus Kefersteinii	: 53-54, Taf. Fig.	Rott, Orsberg	*Alnus* sp.	B
Quercus grandidentata	: 54-55, Taf. 1 Fig. 12	Quegstein, Allrott	*Eotrigonobalanus furcinervis*	B
Quercus lonchitis	: 55, Taf. 1 Fig. 16	Quegstein, Allrott, Rott, Stößchen	*Quercus lonchitis*	B
Quercus undulata	: 56, Taf. 2 Fig. 1	Quegstein	*Eotrigonobalanus furcinervis*	B
Quercus Ungeri	: 56, Taf. 2 Fig. 3	Rott	*Myrica ettingshausenii*	B
Quercus Buchii	: 57, Taf. 2 Fig. 4	Rott	*Quercus buchi*	B
Quercus ilicites	: 57, Taf. 1 Fig. 14	Rott	*Quercus aspera*	B
Quercus Göpperti	: 57-58, Taf. 2 Fig. 2	Quegstein, Allrott, Rott ?	*Eotrigonobalanus furcinervis*	B
Quercus lignitum	: 58	Rott	*Myrica lignitum*	B
Quercus Oreadum	: 58, Taf. 1 Fig. 13	Quegstein, Rott, Stößchen	*Zelkova zelkovaefolia*	B
Quercus tenerrima	: 58-59, Taf. 1 Fig. 15	Rott, Orsberg	*Tremophyllum tenerrimum*	B
Fagus atlantica	: 59	Rott	*Zelkova zelkovaefolia*	B
Carpinus macroptera	: 59	Quegstein, Allrott, Ofenkaule, Rott	*Engelhardia* (sect. *Palaeocarya*) *macroptera*	F
Carpinus oblonga	: 58-59, Taf. 2 Fig. 8	Quegstein, Rott, Orsberg	*Carpinus grandis*	B
Ulmus zelkovaefolia	: 60, Taf. 2 Fig. 6	Rott, Stößchen, Friesdorf	*Zelkova zelkovaefolia*	B
Ulmus plurinervia	: 60-61, Taf. 2 Fig. 5	Rott, Friesdorf	*Zelkova zelkovaefolia*	B
Ulmus Bronnii	: 61	Rott, Orsberg	*Craigia bronnii*	F
Ficus elegans	: 61-62, Taf. 2 Fig. 7	Quegstein, Rott	*Tetrastigmophyllum rottense*	B
Liquidambar europaeum	: 62	Quegstein, Allrott, (?) Rott	*Liquidambar europaea*	B, F
Salix elongata	: 63, Taf. 2 Fig. 10	Quegstein, Allrott, Rott	*Salix longa*	B
Salix arcinervea	: 63-64, Taf. 2 Fig. 9	Quegstein, Allrott	*Salix arcinervea*	B
Salix grandifolia	: 64, Taf. 3 Fig. 1	Quegstein, Allrott, Rott, Stößchen	sp. excl.	B
Populus betulaeformis	: 64-65, Taf. 2 Fig. 11	Rott	*Tetrastigmophyllum rottense*	B
Populus styracifolia	: 65-66, Taf. 2 Fig. 12	Rott	*Tetrastigmophyllum rottense*	B
Laurus styracifolia	: 66, Taf. 3 Fig. 3	Allrott, (?) Ofenkaule, Orsberg	Blatt-Typ: *Laurus styracifolia*	B
Laurus benzoidea	: 66, Taf. 3 Fig. 5	Quegstein, Ofenkaule	Blatt-Typ: *Laurus tristaniaefolia*	B
Laurus obovata	: 66-67, Taf. 3 Fig. 4	Quegstein	Blatt-Typ: *Laurus obovata*	B
Laurus primigenia	: 67, Taf. 3 Fig. 6	Quegstein, Allrott, Rott, Orsberg, Stößchen	Blatt-Typ: *Laurus primigenia*	B
Laurus protodaphne	: 67-68, Taf. 3 Fig. 7	Quegstein, Rott, Stößchen	Blatt-Typ: *Laurus primigenia*	B
Laurus dermatophyllon	: 68, Taf. 2 Fig. 13	Rott	Blatt-Typ: *Laurus obovata*	B
Laurus tristaniaefolia	: 68, Taf. 3 Fig. 2	Rott	Blatt-Typ: *Laurus tristaniaefolia*	B
Daphnogene cinnamomifolia	: 69	Quegstein, Allrott, Ofenkaule, Rott, Stößchen, Ließem	*Daphnogene cinnamomifolia* forma *cinnamomifolia*	B
Daphnogene lanceolata	: 69, Taf. 3 Fig. 8	Quegstein, Allrott, Rott	*Daphnogene cinnamomifolia* forma *lanceolata*	B
Daphnogene elliptica	: 69-70, Taf. 3 Fig. 9	Quegstein, Stößchen	*Daphnogene cinnamomifolia* forma *cinnamomifolia*	B
Daphnogene paradisiaca	: 70	Rott	*Zizyphus zizyphoides*	B

Fortsetzung Tabelle A-13.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Daphnogene latifolia *= Daphnogene cinnamomifolia*	: 70, 109	Ließem	*Daphnogene cinnamomifolia* *forma cinnamomifolia*	B
Nyssa obovata	: 70-71, Taf. 3 Fig. 11	Rott, Friesdorf	*Styrax maximus*	F
Nyssa rugosa	: 71, Taf. 3 Fig. 10	Quegstein, Rott, Orsberg, Friesdorf	*Mastixia amygdalaeformis*	F
Nyssa maxima	: 71, Taf. 3 Fig. 12	Rott	*Styrax maximus*	F
Elaeagnus acuminata	: 71-72, Taf. 3 Fig. 13	Ofenkaule	sp. excl.	B
Aristolochia primaeva	: 72, Taf. 3 Fig. 14	Rott	sp. excl.	B
Fraxinus rhoefolia	: 72-73, Taf. 3 Fig. 16	Rott, Orsberg	*Pruniphyllum rhoefolium*	B
Elaeoides lanceolata	: 73, Taf. 3 Fig. 15	Ofenkaule	inc. sed.	B
Echitonium Sophiae	: 73-74, Taf. 3 Fig. 17	Quegstein (B), Allrott (F), Rott (B)	*Carpolithus sophiae* (F) „*Echitonium*“ *sophiae* (B)	B, F
Apocynophyllum lanceolatum	: 74-75, Taf. 4 Fig. 1	Quegstein, Allrott, Rott	*Apocynophyllum lanceolatum*	B
Apocynophyllum acuminatum	: 75, Taf. 4 Fig. 2	Quegstein, Rott	*Laurophyllum pseudoprinceps*	B
Chrysophyllum nervosissimum	: 75-76, Taf. 4 Fig. 3	Quegstein, Rott		B
Bumelia oreadum	: 76, Taf. 4 Fig. 4	Quegstein, Rott, Orsberg, Stößchen (?)	Magnoliopsida incertae sedis: „*Bumelia*“ *oreadum* [? Sapotaceae]	B
Diospyros Myosotis	: 76, Taf. 4 Fig. 5	Rott	Magnoliopsida fam. gen. et sp. indet. 1	BL
Andromeda protogaea	: 77, Taf. 4 Fig. 7	Rott	*Leucothoë narbonensis*	B
Gautiera lignitum	: 77, Taf. 4 Fig. 6	Rott	Magnoliopsida incertae sedis: „*Gautiera*“ *lignitum* [? Ericaceae]	B
Panax longissimum	: 78	Rott	inc. sed.	B
Cornus rhamnifolia	: 78, Taf. 4 Fig. 8	Rott	Magnoliopsida incertae sedis: „*Cornus*“ *rhamnifolia* [? Cornaceae]	B
Cornus acuminata	: 78, Taf. 4 Fig. 9	Rott	„*Cornus*“ *acuminata*	B
Magnolia attenuata	: 78-79, Taf. 5 Fig. 1	Quegstein	*Magnolia attenuata*	B
Dombeyopsis Dechenii	: 79-80, Taf. 4 Fig. 10	Quegstein, Allrott, Rott, Stößchen	*Dombeyopsis dechenii*	B
Dombeyopsis pentagonalis	: 80, Taf. 4 Fig. 11	Orsberg	*Dombeyopsis dechenii*	B
Dombeyopsis tiliaefolia	: 80-81	Stößchen	*Dombeyopsis dechenii*	B
Dombeyopsis Oeynhausiana	: 81, 109, Taf. 8 Fig. 3	Ließem	*Cercidiphyllum crenatum*	B
Acer trilobatum	: 81	Quegstein, Rott, Orsberg, Friesdorf	*Acer tricuspidatum*	B
Acer tricuspidatum	: 81-82	Rott, Friesdorf	*Acer tricuspidatum*	B
Acer productum	: 82	Quegstein, Rott, Orsberg	*Acer tricuspidatum*	B
Acer integrilobum	: 82, Taf. 5 Fig. 5a-5c	Quegstein, Rott, Stößchen	*Acer integrilobum*	B
Acer pseudocampestre	: 83, Taf. 5 Fig. 6a-6b	Rott, Orsberg, Ofenkaule	*Acer* sp. 2 – fructi	B
Acer vitifolium	: 83-84, 109, Taf. 5 Fig. 4	Allrott, Rott, Orsberg, Stößchen	*Acer tricuspidatum*	B
Acer indivisum	: 84, Taf. 5 Fig. 2b	Rott	*Acer* sp. 2 – fructi	F
Acer dubium	: 84-85, Taf. 5 Fig. 3	Quegstein, Allrott, Rott, Orsberg	cf. *Acer* sp.	B
Acer cyclospermum	: 85, 110, Taf. 8 Fig. 4	Ließem	*Acer cyclospermum*	F
Malpighiastrum lanceolatum	: 85, Taf. 5 Fig. 7	Rott, Orsberg	*Laurophyllum pseudoprinceps*	B
Dodonaea prisca	: 85-86, Taf. 5 Fig. 8	Quegstein, Allrott, Ofenkaule, Rott	Magnoliopsida incertae sedis: „*Dodonaea*“ *prisca* [? Sapindaceae]	F
Pavia septimontana	: 86-87, Taf. 5 Fig. 11	Quegstein, Rott	*Pterocarya paradisiaca*	B
Celastrus scandentifolius	: 87-88, Taf. 5 Fig. 10	Rott, Orsberg, Stößchen	*Statzia divaricata*	B, F

Fortsetzung Tabelle A-13.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Celastrus Persei	: 88	Rott	inc. sed.	B
Celastrus Andromedae	: 88	Rott	inc. sed.	B
Ilex sphenophylla	: 88-89	Quegstein, Rott	*Ilex parschlugiana*	B
Ilex Parschlugiana	: 89	Rott	*Ilex parschlugiana*	B
Ilex dubia	: 89, Taf. 5 Fig. 9	Allrott, Rott, Orsberg, Stößchen	*Ilex parschlugiana*	B
Zizyphus ovata	: 89-90, Taf. 5 Fig. 12, Taf. 6 Fig. 1	Rott, Friesdorf	*Zizyphus zizyphoides*	B
Rhamnus aizoon	: 90	Rott	inc. sed.	B
Rhamnus Dechenii	: 90-92, Taf. 6 Fig. 2	Quegstein, Allrott, Ofenkaule, Rott (?), Stößchen (?)	*Trigonobalanopsis rhamnoides*	B
Rhamnus acuminatifolius	: 92, Taf. 5 Fig. 13	Quegstein, Allrott, Friesdorf	*Trigonobalanopsis rhamnoides*	B
Ceanothus polymorphus	: 92-93, Taf. 6 Fig. 4	Quegstein, Allrott, Ofenkaule, Rott, Orsberg, Stößchen	*Daphnogene cinnamomifolia* forma *cinnamomifolia*	B
Ceanothus lanceolatus	: 93, Taf. 6 Fig. 5	Quegstein, Allrott, Ofenkaule, Rott, Orsberg	*Daphnogene cinnamomifolia* forma *lanceolata*	B
Ceanothus zizyphoides	: 93	Rott	*Zizyphus zizyphoides*	B
Ceanothus ebuloides	: 94, Taf. 6 Fig. 3	Quegstein	*Zizyphus zizyphoides*	B
Ceanothus subrotundrus	: 94, Taf. 6 Fig. 6	Allrott, Rott	*Daphnogene cinnamomifolia* forma *cinnamomifolia*	B
Juglans ventricosa	: 94-95	Friesdorf, Ließem	*Juglans ventricosa*	F
Juglans costata	: 95	Rott, Ließem	? *Juglans costata*	F
Juglans venosa	: 95-96, Taf. 6 Fig. 11	Rott	*Mastixia amygdalaeformis*	F
Juglans acuminata	: 96, Taf. 6 Fig. 8	Quegstein, Rott, Stößchen	*Juglans acuminata*	B
Juglans deformis	: 96-97, Taf. 6 Fig. 7	Quegstein	*Pterocarya paradisiaca*	B
Juglans denticulata	: 97, Taf. 6 Fig. 10	Rott	*Pterocarya paradisiaca*	B
Juglans elaenoides	: 97, Taf. 6 Fig. 9	Allrott, Rott	*Myrica lignitum*	B
Rhus Noeggerathii	: 98-99, Taf. 6 Fig. 14	Quegstein (?), Allrott, Ofenkaule, Rott, Orsberg, Stößchen, Friesdorf	*Rhus noeggerathii*	B
Rhus pteleaefolia	: 99, Taf. 6 Fig. 13	Allrott, Rott, Orsberg	*Apocynophyllum glabraefolium*	B
Rhus ailanthifolia	: 99-100, Taf. 6 Fig. 15	Quegstein, Rott	*Ailanthus ailanthifolia*	B
Rhus malpighiaefolia	: 100, Taf. 6 Fig. 12	Rott	inc. sed.	B
Rhus Pyrrhae	: 100	Rott	*Rhus pyrrhae*	B
Combretum europaeum	: 100-101, Taf. 7 Fig. 1	Allrott, Ofenkaule, Rott, Orsberg, Stößchen	Magnoliopsida incertae sedis: *„Terminalia" europaea* [? Combretaceae]	B
Getonia oeningensis	: 101, Taf. 7 Fig. 2	Orsberg	Magnoliopsida incertae sedis: *„Viburnum" weberi* [? Caprifoliaceae]	BL
Terminalia miocenica	: 101-102, Taf. 7 Fig. 3	Rott	*„Terminalia" miocenica*	B
Melastomites marumiaefolia	: 102, Taf. 7 Fig. 4	Rott (Sphärosiderit)	sp. excl.	B
Melastomites miconioides	: 102-103, Taf. 7 Fig. 5	Quegstein, Rott (?)	*Daphnogene cinnamomifolia* forma *lanceolata*	B
Melastomites lanceolata	: 103, Taf. 7 Fig. 6	Quegstein	Magnoliopsida incertae sedis: *Majanthemophyllum petiolatum* [fam. indet.]	B
Crataegus incisa	: 103, Taf. 7 Fig. 7	Rott	sp. excl.	B
Rosa dubia	: 103-104, Taf. 7 Fig. 8	Quegstein, Ofenkaule	*Pruniphyllum dubium*	B
Amygdalus persicifolia	: 104-105, Taf. 7 Fig. 9	Quegstein, Allrott	*Pruniphyllum peregrum*	B

Fortsetzung Tabelle A-13.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Gleditschia gracillima	: 105, Taf. 7 Fig. 10	Quegstein, Rott, Stößchen, Friesdorf	Fabales fam. gen. et sp. indet. – forma 3	B
Cassia Phaseolites	: 105	Rott, Stößchen (?)	Fabales fam. gen. et sp. indet. – forma 2	B
Cucubalites Goldfussii	: 105-106, Taf. 7 Fig. 11	Rott	*Cucubalites goldfussii*	BL
Celtis rhenana	: 109, Taf. 8 Fig. 2	Ließem	*Celtis begonioides*	F
Dipterospermum bignonioides	: 109, Taf. 8 Fig. 5	Ließem	*Ailanthus confucii*	F
Xanthoxylon Braunii	: 110, Taf. 8 Fig. 6	Stößchen, (?) Rott	*„Xanthoxylum“ Braunii*	B

Tabelle A-14: Liste der Taxa, Zitate und Fundortangaben nach der Bearbeitung von **WESSEL & WEBER (1856 in Sonderabdruck aus *Palaeontographica*, 4)** und nach der vorliegenden Revision.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Hypnum lycopodioides	: 16, Taf. 11 Fig. 12	Rott, Orsberg	*Hypnum lycopodioides*	SA
Pteris xyphoides	: 16, Taf. 11 Fig. 5	Rott	*Pteris xyphoides*	B
Cystopteris fumariacea	: 16-17, Taf. 1 Fig. 1-4	Rott	*Cystopteris fumariaceae*	B
Asplenium lignitum	: 17, Taf. 1 Fig. 6	Rott	*Asplenium lignitum*	B
Smilax Weberi	: 17, Taf. 2 Fig. 1	Rott	*Smilax weberi*	B
Smilax ovata	: 17-18, Taf. 2 Fig. 2-3	Rott, Orsberg	*Smilax weberi*	B
Smilax obtusifolia	: 18, Taf. 2 Fig. 4	Rott	*Smilax weberi*	B
Smilax remifolia	: 18-19, Taf. 2 Fig. 5	Rott	*Smilax remifolia*	B
Hydrocharites obcordatus	: 19, Taf. 11 Fig. 2	Rott	inc. sed.	B
Iris prisca	: 19-20, Taf. 1 Fig. 7	Rott	Cyperales vel Typhales fam., gen. et sp. indet.	B
Podocarpus taxites	: 20, Taf. 6 Fig. 5	Rott, Stößchen	*Viscophyllum rottense*	B
Casuarina Haidingeri	: 20, Taf. 6 Fig. 4	Rott	sp. excl.	SA
Myrica Weinmanniaefolia	: 20, Taf. 11 Fig. 4	Rott	inc. sed.	B
Betula primaeva	: 21, Taf. 5 Fig. 4	Rott	*Alnus menzelii*	B
Betula carpinifolia	: 21, Taf. 5 Fig. 5	Rott	*Alnus menzelii*	B
Alnus gracilis	: 21	Orsberg	*Alnus gracilis*	F
Quercus tenerrima	: 21-22, Taf. 2 Fig. 6-7	Rott, Orsberg	*Tremophyllum tenerrimum*	B
Quercus Rottensis	: 22, Taf. 2 Fig. 8-10	Rott	*Tremophyllum tenerrimum*	B
Quercus ungeri	: 22, Taf. 2 Fig. 11	Rott, Orsberg	*Myrica ettingshausenii*	B
Quercus Ettingshauseni	: 22, Taf. 3 Fig. 10-11	Rott, Orsberg	*Myrica ettingshausenii*	B
Quercus tenuinervis	: 23, Taf. 3 Fig. 9	Rott	*Myrica ettingshausenii*	B
Quercus scutellata	: 23, Taf. 3 Fig. 8	Orsberg	sp. excl.	B
Quercus Wesseli	: 23, Taf. 3 Fig. 6	Rott	sp. excl.	B
Quercus spec. flos mascula	: 23-24, Taf. 3 Fig. 7, Taf. 6 Fig. 1	Rott	cf. *Quercus* sp. – ♂-Blütenstand	BL
Corylus Rhenana	: 24, Taf. 3 Fig. 5	Orsberg	*Alnus* cf. *nostratum* et *rostaniana*	B
Carpinus elongata	: 24-25, Taf. 3 Fig. 2	Rott	*Carpinus grandis*	B
Carpinus platycarpa	: 25, Taf. 3 Fig. 1	Orsberg	*Engelhardia (*sect. *Palaeocarya) macroptera*	F
Carpinus minor	: 25, Taf. 3 Fig. 3	Rott	*Carpinus minor*	B
Carpinus elliptica	: 25, Taf. 3 Fig. 4	Stößchen	*Carpinus grandis*	B
Carpinus producta	: 26	Rott, Orsberg	*Engelhardia (*sect. *Palaeocarya) macroptera*	F
Carpinus Rottensis	: 26, Taf. 4 Fig. 3	Rott	*Carpinus grandis*	B
Fagus Deucalionis	: 26-27	Orsberg	Magnoliopsida incertae sedis: *„Fagus“ deucalionis* [? Fagaceae]	B, F
Ulmus prisca	: 27	Rott, Orsberg	*Ulmus plurinervia*	B
Ulmus plurinervia	: 27, Taf. 4 Fig. 4, 6	Rott, Orsberg, Friesdorf	*Ulmus plurinervia*	B, F

Fortsetzung Tabelle A-14.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Planera Ungeri	: 27-28, Taf. 4 Fig. 5, 8, 9, Taf. 6 Fig. 2	Rott, Orsberg, Stößchen, Friesdorf	*Zelkova zelkovaefolia*	B
Ficus Decheni	: 28, Taf. 4 Fig. 10	Rott, Orsberg	*Apocynophyllum decheni*	B
Ficus Orsbergensis	: 29, Taf. 4 Fig. 11	Orsberg	sp. excl.	B
Ficus Noeggerathi	: 29, Taf. 4 Fig. 12, 13	Orsberg	sp. excl.	B
Ficus apocynophylla	: 29-30, Taf. 7 Fig. 9	Rott	*Apocynophyllum apocynophyllum*	B
Liquidambar europaeum	: 30	Quegstein, Allrott, Rott, Orsberg	*Liquidambar europaea* (B) *Liquidambar* sp. 2 (F)	B, F
Salix longissima	: 30-31, Taf. 5 Fig. 6	Rott, Orsberg	*Sideroxylon salicites*	B
Populus betulaeformis	: 31, Taf. 4 Fig. 7	Rott	*Tetrastigmophyllum rottense*	B
Populus undulata	: 31, Taf. 5 Fig. 1	Rott	*Populus germanica*	B
Populus dubia	: 32, Taf. 5 Fig. 2	Orsberg	sp. excl.	B
Populus emarginata	: 32, Taf. 5 Fig. 3	Rott	*Zelkova zelkovaefolia*	B
Laurus nectandraefolia	: 33, Taf. 7 Fig. 5	Rott	Blatt-Typ: *Laurus obovata*	B
Laurus Agathophyllum	: 33, Taf. 6 Fig. 3	Rott, Orsberg	Blatt-Typ: *Laurus obovata*	B
Laurus tristaniaefolia	: 33-34, Taf. 7 Fig. 6	Rott	Blatt-Typ: *Laurus tristaniaefolia*	B
Laurus glaucoides	: 34, Taf. 7 Fig. 8	Rott	Blatt-Typ: *Laurus obovata*	B
Daphne persooniaeformis	: 34, Taf. 7 Fig. 4	Rott	inc. sed.	B
Daphne oreodaphnoides	: 34, Taf. 7 Fig. 7	Rott	inc. sed.	B
Leptomeria divaricata	: 35, Taf. 6 Fig. 6-7	Rott	*Statzia divaricata*	SA
Protea linguaefolia	: 35, Taf. 7 Fig. 1	Rott	sp. excl.	B
Banksia Orsbergensis	: 36, Taf. 6 Fig. 9a-9d	Orsberg	*Engelhardia* (sect. *Palaeocarya*) *orsbergensis*	B
Banksia longifolia	: 36, Taf. 6 Fig. 10a-10b	Rott, Orsberg	*Engelhardia* (sect. *Palaeocarya*) *orsbergensis*	B
Dryandra Brongniarti	: 37, Taf. 6 Fig. 12	Orsberg	? *Comptonia difformis*	B
Dryandra macroloba	: 37, Taf. 6 Fig. 11	Orsberg	? *Comptonia difformis*	B
Hakea lanceolata	: 37, Taf. 6 Fig. 13	Rott, Orsberg	*Zelkova zelkovaefolia*	B
Dryandroides angustifolia	: 38, Taf. 7 Fig. 2	Rott	*Engelhardia* (sect. *Palaeocarya*) *orsbergensis*	B
Aristolochia dentata	: 38, Taf. 7 Fig. 10	Rott	sp. excl.	B
Aristolochia hastata	: 38, Taf. 7 Fig. 11	Rott	sp. excl.	B
Rubiacites asperuloides	: 39, Taf. 7 Fig. 12	Rott	Rubiaceae gen. et sp. indet. 1 – Blüte	BL
Rubiacites asclepioides	: 39, Taf. 7 Fig. 13	Rott	Rubiaceae gen. et sp. indet. 2 – Blütenstand	BL
Sambucus celtifolia	: 39-40, Taf. 8 Fig. 1, 1a	Rott, Orsberg	*Tetrastigmophyllum rottense*	B
Fraxinus excelsifolia	: 40, Taf. 8 Fig. 3	Rott, Orsberg	Magnoliopsida incertae sedis: *„Fraxinus“ excelsifolia* [? Oleaceae]	B
Plumeria nereifolia	: 40-41, Taf. 8 Fig. 4-5	Rott, Orsberg	Magnoliopsida incertae sedis: *„Plumeria“ nereifolia* [? Apocynaceae]	B
Vaccinium acheronticum	: 41	Rott, Orsberg	cf. *Vaccinium acheronticum*	B
Magnolia Cyclopum	: 41, Taf. 8 Fig. 6	Rott	*Magnolia attenuata*	B
Nymphaea lignitica	: 41-42, Taf. 6 Fig. 8	Rott	*Nymphaea nymphaeoides*	B
Acer pseudocampestre	: 42, Taf. 8 Fig. 7	(?) Orsberg	*Acer* sp. 2 – fructi	B
Malpighia glabraefolia	: 42-43, Taf. 8 Fig. 8-9	Rott, Orsberg	*Apocynophyllum glabraefolium*	B
Pomaderris lagnuginosa	: 43, Taf. 8 Fig. 10	Rott, Orsberg	*Rhamnophyllum lanuginosum*	B
Ilex dubia	: 43, Taf. 8 Fig. 11	Quegstein, Allrott, Rott, Orsberg, Stößchen	*Ilex parschlugiana*	B
Ilex rhombifolia	: 43, Taf. 8 Fig. 12	Rott, Orsberg	sp. excl.	B
Ilex cassinites	: 43-44, Taf. 8 Fig. 13	Rott, Orsberg	sp. excl.	B
Prinos obovata	: 44, Taf. 8 Fig. 16	Rott	*Ilex parschlugiana*	B
Labatia salicites	: 44, Taf. 9 Fig. 1-3	Rott	*Sideroxylon salicites*	B

Fortsetzung Tabelle A-14.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Rhamnus parvifolius	: 44, Taf. 8 Fig. 16	Rott, Orsberg	*Berchemia parvifolia*	B
Ceanothus zizyphoides	: 44-45, Taf. 8 Fig. 15	Orsberg (Epidermis)	*Zizyphus zizyphoides*	B
Cluytia aglaiaefolia	: 45, Taf. 9 Fig. 4	Rott	*„Cluytia“ aglaiaefolia*	B
Euphorbia prisca	: 45, Taf. 11 Fig. 1	Rott	*Euphorbioides prisca*	B
Juglans deformis	: 46, Taf. 9 Fig. 5	Orsberg (Epidermis)	*Pterocarya paradisiaca*	B
Rhus Pyrrhae	: 46, Taf. 9 Fig. 6	Rott	*Rhus pyrrhae*	B
Rhus pteleaefolia	: 46, Taf. 9 Fig. 7	Rott	*Rhus pteleaefolia*	B
Eucalyptus oceanica	: 46, Taf. 9 Fig. 14	Rott	sp. excl.	B
Eucalyptus daphnoides	: 47, Taf. 9 Fig. 8	Rott	sp. excl.	B
Eucalyptus polyanthoides	: 47, Taf. 9 Fig. 9	Rott	sp. excl.	B
Punicites Hesperidum	: 47-48, Taf. 11 Fig. 11	Rott	Magnoliopsida incertae sedis: *Punicites hesperidum* [? Punicaceae]	BL
Pyrus Theobroma	: 48	Rott, Orsberg	*Terminalia rottensis*	B
Pyrus minor	: 48, Taf. 9 Fig. 10	Rott, Orsberg	inc. sed.	B
Pyrus Saturni	: 48, Taf. 9 Fig. 11	Rott	inc. sed.	B
Rosa Nausicaes	: 48-49, Taf. 9 Fig. 12	Rott, Orsberg	*Pruniphyllum nausicaes*	B
Amygdalus pereger	: 49	Rott, Orsberg	*Pruniphyllum peregrum*	B
Amygdalus insignis	: 49, Taf. 9 Fig. 13	Rott	*Pruniphyllum insigne*	B
Prunus prinoides	: 49-50, Taf. 9 Fig. 14	Orsberg	*Pruniphyllum prinoides*	B
Prunus pyrifolia	: 50, Taf. 9 Fig. 15-16	Rott, Orsberg	inc. sed.	B
Templetonia retusaefolia	: 50, Taf. 10 Fig. 7	Rott	Fabales fam. gen. et sp. indet. – forma 1	B
Robinia subcordata	: 51, Taf. 10 Fig. 21	Rott	sp. excl.	B
Robinia heteromorphoides	: 51, Taf. 10 Fig. 6	Rott	Fabales fam. gen. et sp. indet. – forma 2	B
Colutea edwardsiaefolia	: 51, Taf. 10 Fig. 22	Rott	Fabales fam. gen. et sp. indet. – forma 1	B
Phaseolites eriosemaefolium	: 51, Taf. 10 Fig. 4	Rott, Orsberg	inc. sed.	B
Phaseolites dolichophyllum	: 51, Taf. 10 Fig. 9	Rott	Fabales fam. gen. et sp. indet. – forma 5	B
Spinctolobium simile	: 52, Taf. 10 Fig. 18	Rott, Orsberg	sp. excl.	B
Dalbergia podocarpa	: 52, Taf. 10 Fig. 8	Rott, Orsberg	Fabales fam. gen. et sp. indet. – forma 2	F
Haematoxylon coriaceum	: 52, Taf. 10 Fig. 3	Rott	inc. sed.	B
Haematoxylon cuneatum	: 52, Taf. 10 Fig. 5	Rott, Orsberg	Fabales fam. gen. et sp. indet. – forma 1	B
Gleditschia Wesseli	: 52-53, Taf. 10 Fig. 10-12	Rott, Orsberg	*Leguminocarpon* sp. Fabales fam. gen. et sp. indet. – forma 3	F B
Cassia Berenices	: 53, Taf. 10 Fig. 16, 20	Rott, Orsberg	Fabales fam. gen. et sp. indet. – forma 2	B
Cassia palaeogaea	: 53, Taf. 10 Fig. 13, 14, 19	Rott, Orsberg	*Leguminocarpon* sp. Fabales fam. gen. et sp. indet. – forma 5	F B
Ceratonia septimontana	: 53-54, Taf. 10 Fig. 15	Rott, Orsberg	Fabales fam. gen. et sp. indet. – forma 2	B
Acacia Sotzkiana	: 54, Taf. 10 Fig. 2	Rott, Orsberg	Fabales fam. gen. et sp. indet. – forma 3	B
Acacia amorphoides	: 54, Taf. 10 Fig. 1a-1c, 17	Rott, Orsberg	*Leguminocarpon* sp. Fabales fam. gen. et sp. indet. – forma 3	F B
Plantae incertae sedis, 1. Blätter	: 55, Taf. 11 Fig. 5	Orsberg	inc. sed.	B
Plantae incertae sedis, 2. Blüthentheile	: 55, Taf. 11 Fig. 6	Rott	inc. sed.	BL
Plantae incertae sedis, 3. Fruchttheile, Artemisiae spec. ?	: 55-56, Taf. 11 Fig. 3	Rott	Magnoliopsida incertae sedis: *Dilleniaecarpum rottense* [? Dilleniaceae]	F
Plantae incertae sedis, *Sambucus* ?	: 56, Taf. 11 Fig. 7	Rott	Magnoliopsida incertae sedis: *„Sambucus“* sp. – Früchte [? Caprifoliaceae]	F
Plantae incertae sedis, *Isatis* ?	: 56, Taf. 11 Fig. 8	Rott	Fabales fam. gen. et sp. indet. – forma 4	F

Tabelle A-15: Liste der Taxa, Zitate und Fundortangaben nach der Bearbeitung von **WEYLAND (1934 in *Abh. preuß. Geol. L.-A., N.F.*, 161)** und nach der vorliegenden Revision.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Lastraea stiriaca	: 37-38, Taf. 1 Fig. 2	Altenrath	*Pronephrium stiriacum*	B
Taxodium distichum mioc.	: 39	Altenrath	*Taxodiun dubium*	B
Manicaria formosa	: 40, Taf. 1 Fig. 6	Altenrath	*Mabicaria formosa*	B
Populus latior	: 43	Altenrath	*Populus populina*	B
Quercus goepperti	: 59-60, Taf. 6 Fig. 1-2, Abb. 1-2	Altenrath	*Eotrigonobalanus furcinervis*	B
Menispermites germanicus	: 66, Taf. 10 Fig. 1	Altenrath	*Populus germanica*	B
Laurus princeps	: 72-73, Taf. 11 Fig. 4, Taf. 13 Fig. 4, Abb. 4-5	Altenrath	*Laurophyllum pseudoprinceps*	B
Laurus phoeboides	: 74, Taf. 14 Fig. 3, Abb. 6	Altenrath	*Laurophyllum pseudoprinceps*	B
Laurus grandifolia	: 75, Taf. 16 Fig. 7	Altenrath	Blatt-Typ: *Laurus grandifolia*	B
Persea speciosa	: 78-80, 12 Fig. 6, 9	Altenrath	*Trigonobalanopsis rhamnoides*	B
Cinnamomum scheuchzeri	: 81	Altenrath	*Daphnogene cinnamomifolia* forma *lanceolata*	B
Daphnogene lanceolata	: 83-84, Taf. 11 Fig. 6, Taf. 13 Fig. 7, Taf. 14 Fig. 8	Altenrath	*Daphnogene cinnamomifolia* forma *lanceolata*	B

Tabelle A-16: Liste der Taxa, Zitate und Fundortangaben nach der Bearbeitung von **WEYLAND (1937 in *Palaeontographica*, Abt. B, 83)** und nach der vorliegenden Revision.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Hypnum lycopodioides	: 69-70, Taf. 9 Abb. 1-3	Rott	*Hypnum lycopodioides*	SA
Polytrichum rottense	: 70-71, Taf. 9 Abb. 4-7	Rott	*Polytrichum rottense*	SA
Mnium rottense	: 71, Taf. 9 Abb. 8-9, Textabb. 1-2	Rott	*Mnium rottensis*	SA
Barbula rottensis	: 72, Taf. 9 Abb. 10-11, Textabb. 3-4	Rott	*Barbula rottensis*	SA
Dicranites rottensis	: 73, Taf. 9 Abb. 12	Rott	*Dicranites rottensis*	SA
Pteris goepperti	: 73	Quegstein	*Pteris goepperti*	B
Pteris xiphoides	: 73	Rott	*Pteris xiphoides*	B
Pteris crenata	: 73	Rott	*Pteris crenata*	B
Cystopteris fumariaceae	: 73	Rott	*Cystopteris fumariaceae*	B
Asplenium ligniticum	: 73	Rott	*Asplenium lignitum*	B
Osmunda heerii	: 73	Rott	*Osmunda heeri*	B
Aspidium meyeri	: 73	Rott	*Aspidium meyeri*	B
Lygodium sp.	: 74	Rott	*Lygodium* sp.	B
Tetraclinis brongniarti	: 74-75, Textabb. 5-1	Rott	*Tetraclinis salicornioides* vel *Tetraclinis brachyodon*	B, CZ
Thuja (?) sp.	: 76, Textabb. 12-13	Rott	cf. *Thuja* sp.	CZ
„*Pinus* – Samen“, 4 Formen	: 76-77, Taf. 9 Abb. 13-18	Rott	*Pinus* sp. 2 – semen	S
Sabal sp.	: 78, Textabb. 14	Rott	*Sabal major*	B
Panicum (?) sp.	: 79-80, Taf. 10 Abb. 1	Rott	cf. *Panicum* sp.	B, BL
Scirpus sp.	: 80, Textabb. 15	Rott	cf. *Scirpus* sp.	B, BL
Luzula rottensis	: 80, Taf. 10 Abb. 2-4	Rott	*Luzula rottensis*	BL
Populus rottensis	: 81-82, Taf. 10 Abb. 7-9	Rott	*Populus rottensis*	B
Carya serraefolia	: 82, Taf. 10 Abb. 5	Rott	*Carya serraefolia*	B
Engelhadtia brongniarti	: 82-84, Taf. 10 Abb. 10-11	Rott	*Engelhardia* (sect. *Palaeocarya*) *macroptera*	F
Engelhardtia schlickumi	: 82-84, Taf. 10 Abb. 12-13	Rott	*Engelhardia* (sect. *Palaeocarya*) *macroptera*	F
Pteroceltis tertiaria	: 84-86, Taf. 10 Abb. 14-15, Textabb. 16	Rott	*Pteroceltis tertiaria*	F

Fortsetzung Tabelle A-16.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Celtis begonioides	: 86, Taf. 10 Abb. 6	Rott	*Celtis begonioides*	B
Polygonocarpum fimbriatum	: 87-88, Taf. 11 Abb. 1	Rott	*Polygonocarpum fimbriatum*	F
Abronia bronni	: 88-89, Taf. 11 Abb. 2-3, Textabb. 17-19	Rott	*Craigia bronni*	F
Clematis panos	: 89-90, Taf. 11 Abb. 4-5	Rott	*Cladiocarya trebovensis*	F
Podostemonopsis tertiaria	: 90-94, Taf. 11 Abb. 6-10, Textabb. 20-32	Rott	*Podostemonopsis tertiaria*	SA, F
cf. *Acacia amorphoides*	: 94, Textabb. 36	Rott	*Leguminocarpon* sp.	F
Gleditschia wesseli	: 94	Rott	*Leguminocarpon* sp.	F
Cassia palaeogaea	: 94	Rott	*Leguminocarpon* sp.	F
cf. *Acacia bousqueti* vel *Acacia insignis*	: 94, Taxtabb. 34	Rott	*Leguminocarpon* sp.	F
cf. *Cercis ameliae* vel *Cercis antiqua*	: 94, Taxtabb. 37	Rott	*Leguminocarpon* sp.	F
cf. *Cassia acutifolia*	: 94-95, Textabb. 35	Rott	*Leguminocarpon* sp.	F
Pterocarpus tertiarius	: 95-96, Taf. 13 Abb. 2-3, Textabb. 38	Rott	„*Pterocarpus*“ *tertiarius*	F
cf. *Dalbergia retusaefolia*	: 96, Taf. 11 Fig. 21	Rott	Fabales fam. gen. et sp. indet. – forma 1	B
cf. *Haematoxylon cuneatum*	: 97, Taf. 11 Fig. 22-23	Rott	Fabales fam. gen. et sp. indet. – forma 1	B
cf. *Dalbergia Scheitelii*	: 97, Taf. 11 Fig. 20	Rott	Fabales fam. gen. et sp. indet. – forma 1	B
Leguminosen- oder Anacardiaceen-Blätter, cf. *Dalbergia nostratum*	: 97, Taf. 11 Fig. 18-19	Rott	p.p. Fabales fam. gen. et sp. indet. – forma 1	B
cf. *Dalbergia bella*	: 97, Taf. 11 Fig. 24	Rott	Fabales fam. gen. et sp. indet. – forma 1	B
cf. *Colutea Salteri*	: 97, Taf. 11 Fig. 15	Rott	Fabales fam. gen. et sp. indet. – forma 1	B
cf. *Dalbergia podocarpa*	: 98, Taf. 11 Fig. 17	Rott	Fabales fam. gen. et sp. indet. – forma 2	B
? Leguminosen-Blatt, "unpaariges Fiederblatt"	: 98, Taf.11 Fig. 16	Rott	Fabales fam. gen. et sp. indet. – forma 2	B
Cassia rottensis	: 98-99, Taf. 11 Abb. 11-14, Textabb. 39	Rott	Fabales fam. gen. et sp. indet. – forma 4	B
Ailanthus confucii	: 100-101, Taf. 12 Abb. 14, Textabb. 40	Rott	*Ailanthus confuci*	F
Ailanthus ailanthifolia	: 101, Taf. 12 Abb. 15	Rott	*Ailanthus ailanthifolia*	B
Statzia divaricata	: 101-106, Taf. 12 Abb. 1-13, Textabb. 41-50	Rott	*Statzia divaricata*	BL
„*Acer* – Früchte“, 4 Formen	: 106-108, Taf. 13 Abb. 4-7	Rott	„*Acer* – Früchte“, 4 Formen	F
Acer trilobatum	: 108	Rott	*Acer tricuspidatum*	B
Acer intregilobum	: 108	Rott	*Acer intregilobum*	B
Acer brachyphyllum	: 108	Rott	*Acer tricuspidatum*	B
Paliurus thurmanni	: 108-109, Taf. 12 Abb. 16	Rott	*Paliurus favonii*	F
Monotes macranthus	: 109-112, Taf. 13 Abb. 9-13, Textabb. 51-53	Rott	*Monotes macranthus*	BL
Sideroxylon salicites	: 112-115, Taf. 14 Abb. 1-8	Rott	*Sideroxylon salicites*	B, BL
Dipholis tertiaria	: 115, Taf. 13 Abb. 14-15, Textabb. 54	Rott	*Dipholis tertiaria*	B
Catalpa microsperma	: 116, Taf. 13 Abb. 8, Textabb. 55	Rott	*Catalpa microsperma*	S

Tabelle A-17: Liste der Taxa, Zitate und Fundortangaben nach der Bearbeitung von **WEYLAND (1938 in *Palaeontographica*, Abt. B, 83)** und nach der vorliegenden Revision.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Salix longa	: 127-128, Taf. 15 Abb. 3	Rott	*Salix longa*	B
Salix integra	: 128-129, Taf. 15 Abb. 1-2	Rott	*Salix integra*	B
Salix rottensis	: 129-130, Taf. 15 Abb. 4-9	Rott	*Salix rottensis*	B
Myrica lignitum	: 130-132, Taf. 16 Abb. 1-6	Rott	*Myrica lignitum*	B
Comptonia acutiloba	: 132-133	Rott	? *Comptonia difformis*	B
? *Carya* sp.	: 133-134, Taf. 16 Abb. 9-12	Rott	? *Carya* sp.	\
Quercus tenerrima	: 134-136, Taf. 17 Abb. 3-8	Rott	*Tremophyllum tenerrimum*	B
Quercus aspera	: 136, Taf. 17 Abb. 1-2	Rott	*Quercus aspera*	B
Quercus buchi	: 136	Rott	*Quercus buchi*	B
Quercus goepperti	: 136-137, Textabb. 1-2	Rott	*Eotrigonobalanus furcinervis*	B
Quercus grandidentata	: 137	Quegstein, Allrott, Remscheid	*Eotrigonobalanus furcinervis*	B
Celtis begonioides	: 138, Taf. 21 Abb. 7-9	Rott	*Celtis begonioides*	B
Magnolia attenuata	: 138-140, Taf. 19 Abb. 4, Textabb. 3-5	Rott	*Magnolia attenuata*	B
Nymphaea nymphaeoides	: 140	Rott	*Nymphaea nymphaeoides*	B
Lindera rottensis	: 141, Taf. 18 Abb. 5-10, Textabb. 6-11	Rott	*Lindera rottensis*	BL
Litseopsis rottensis	: 141-143, Taf. 19 Abb. 1, Textabb. 12	Rott	*Litseopsis rottensis*	BL
Lindera neglecta	: 144-148, Taf. 18 Abb. 1-2	Rott	*Daphnogene cinnamomifolia* forma *lanceolata*	B
Laurus styracifolia	: 148-149, Taf. 19 Abb. 3, Textabb. 19	Rott	Blatt-Typ: *Laurus styracifolia*	B
Laurus princeps	: 149, Textabb. 20-23	Rott	*Laurophyllum pseudoprinceps*	B
Laurus primigenia	: 149	Rott	Blatt-Typ: *Laurus primigenia*	B
Laurus tristaniaefolia	: 149-150, Textabb. 24	Rott	Blatt-Typ: *Laurus tristaniaefolia*	B
Laurus obovata	: 150	Rott	Blatt-Typ: *Laurus obovata*	B
„*Laurus dermotophyllon*”	: 150-151	Rott	sp. excl.	B
„*Laurus agathophyllum*“	: 151	Rott	sp. excl.	B
„*Laurus nectandrifolia*“	: 151	Rott	sp. excl.	B
Cassia aymardi	: 151-152	Rott	Fabales fam. gen. et sp. indet. – forma 4	B
Zygophyllocarpum rottense	: 152-153, Taf. 22 Abb. 1-2, Textabb. 25-30	Rott	Magnoliopsida incertae sedis: *Zygophyllocarpum rottense* [? Zygophyllaceae]	F
Pistacia oligocenica	: 153-154, Taf. 20 Abb. 4-7	Rott	*Pistacia oligocenica*	B
Pistacia septimontana	: 154-155, Taf. 20 Abb. 1-3	Rott	*Pistacia septimontana*	BL
Embothrites borealis	: 155-158, Taf. 21 Abb. 1-3	Rott	*Cedrelospermum aquense*	F
Ilex rottensis	: 158-159, Taf. 19 Abb. 5	Rott	*Ilex rottensis*	B
Sapindus pythii	: 159	Rott	*Myrica ettingshausenii*	B
Berchemia parvifolia	: 159-160, Taf. 22 Abb. 3-4	Rott	*Berchemia parvifolia*	B
Daphne oeningensis	: 160-161, Taf. 22 Abb. 6-7	Rott	*Daphne oeningensis*	B
Pleiomeropsis rottensis	: 161-163, Taf. 23 Abb. 1-7, Textabb. 31-37	Rott	*Pleiomeropsis rottensis*	BL
Symplocos myosotis (e.p.)	: 163-164	Rott	Magnoliopsida fam. gen. et sp. indet. 1 – flos	BL
Plumeria nereifolia	: 164, Taf. 23 Abb. 8-9, Textabb. 38	Rott	„*Plumeria*“ *nereifolia*	B
Viburnum weberi	: 165, Taf. 23 Abb. 10	Orsberg	„*Viburnum*“ *weberi*	BL
Cypselites costatus	: 165-166, Taf. 23 Abb. 12-13	Rott	*Cypselites costatus*	F
Cypselites angustus	: 165-166, Taf. 23 Abb. 11	Rott	*Cypselites angustus*	F

Tabelle A-18: Liste der Taxa, Zitate und Fundortangaben nach der Bearbeitung von **WEYLAND (1940 in *Palaeontographica*, Abt. B, 84)** und nach der vorliegenden Revision.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
Lastraea stiriaca	: 105	Altenrath	*Pronephrium stiriacum*	B
Taxodium distich. miocenic.	: 105	Altenrath, Stallberg	*Taxodium dubium*	B
Sequoia langsdorfi	: 105	Stallberg	*Sequoia abietina*	B
Manicaria formosa	: 105	Altenrath	*Manicaria formosa*	B
Populus latior	: 105	Altenrath, Stallberg	*Populus populina*	B
Populus balsamoides	: 105	Stallberg	*Populus balsamoides*	B
Menispermites germanicus	: 105	Altenrath	*Populus germanica*	B
Laurus princeps	: 105	Altenrath, Stallberg	*Laurophyllum pseudoprinceps*	B
Laurus phoeboides	: 105	Altenrath, Stallberg	*Laurophyllum pseudoprinceps*	B
Laurus grandifolia	: 105	Altenrath	Blatt-Typ: *Laurus grandifolia*	B
Persea speciosa	: 105	Altenrath, Stallberg	*Trigonobalanopsis rhamnoides*	B
Cinnamomum scheuchzeri	: 105	Altenrath, Stallberg	*Daphnogene cinnamomifolia* forma *lanceolata*	B
Pinites sp. dub.	: 108-109, Taf. 4 Abb. 1-2	Allrott	Pinaceae gen. et sp. indet. 1	CZ
Quercus goepperti	: 105, 109-110, Textabb. 1-14	Altenrath, Stallberg, Quegstein, Allrott, Remscheid	*Eotrigonobalanus furcinervis*	B
Daphnogene septimontana	: 105, 110-111, Taf. 4 Abb. 3-7	Altenrath, Stallberg, Remscheid, Wintermühlenhof	*Daphnogene cinnamomifolia* forma *lanceolata*	B
Carpolithus sophiae	: 111-113, Taf. 5 Abb. 1-6	Allrott	*Carpolithus sophiae*	F

Tabelle A-19: Liste der Taxa, Zitate und Fundortangaben nach der Bearbeitung von **WEYLAND (1941 in *Palaeontographica*, Abt. B, 86)** und nach der vorliegenden Revision.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
„Cyperaceenfrüchte"	: 83-85, Taf. 16 Abb. 1-3, Textabb. 1	Rott	*Cladiocarya trebovensis*	F
Salix arcinervea	: 8586, Taf. 16 Abb. 4-7	Rott	*Salix arcinervea*	B
Juglans bilinica	: 86-87, Taf. 16 Abb. 9	Rott	*Pterocarya paradisiaca*	B
Carya serraefolia	: 87-88, Taf. 16 Abb. 10, Taf. 17 Abb. 1-6	Rott	*Carya serraefolia*	B
Quercus neriifolia	: 88-89, Taf. 18 Abb. 1-5	Rott	*Quercus neriifolia*	B
Ulmus plurinervia	: 89-90	Rott	*Ulmus plurinervia*	B
Ulmus-Frucht	: 90, Taf. 16 Abb. 8	Rott	--	F
Kadsura breddini	: 90, Taf. 19 Abb. 3-5	Rott	*Kadsura breddini*	B
Sibiraea rottensis	: 90-91, Taf. 19 Abb. 7-8	Rott	*Sibiraea rottensis*	B
Cassia berenices	: 92, Taf. 20 Fig. 7	Rott	Fabales fam. gen. et sp. indet. – forma 2	B
Cassia palaeogaea	: 92	Rott	Fabales fam. gen. et sp. indet. – forma 5	B
Cassia ambigua	: 92	Rott	Fabales fam. gen. et sp. indet. – forma 2	B
Cassia lignitum	: 92	Rott	Fabales fam. gen. et sp. indet. – forma 2	B
Cassia hyperborea	: 92, Taf. 20 Fig. 8	Rott	Fabales fam. gen. et sp. indet. – forma 5	B
Dolichites maximus	: 92, Taf. 19 Fig. 10	Rott	Fabales fam. gen. et sp. indet. – forma 5	B
Gleditschia gracillima	: 92	Rott	Fabales fam. gen. et sp. indet. – forma 3	B
Gleditschia wesseli	: 92, Taf. 20 Fig. 4	Rott	Fabales fam. gen. et sp. indet. – forma 3	B
Ceratonia septimontana	: 92, Taf. 20 Fig. 1	Rott	Fabales fam. gen. et sp. indet. – forma 2	B

Fortsetzung Tabelle A-19.

Taxon	**Zitat**	**Fundort**	**Taxon / Revision**	**Organ**
Leguminosenblatt	: 93, Taf. 20 Fig. 5-6	Rott	Fabales fam. gen. et sp. indet. – forma 3	B
cf. *Dalbergia retusaefolia*	: 93, Taf. 20 Fig. 2-3	Rott	Fabales fam. gen. et sp. indet. – forma 1	B
Pistacia rottensis	: 93-94, Taf. 20 Abb. 9, Taf. 21 Abb. 1-5	Rott	*Pistacia rottensis*	B
Rhus noeggerathi	: 94-96, Taf. 21 Abb. 9-12, Taf. 22 Abb. 1-7, Taf. 23 Abb. 1	Rott	*Rhus noeggerathi*	B
Ilex bilinica	: 96-102, Taf. 25 Abb. 1-2	Rott	*Ilex bilinica*	B
Tetrastigmophyllum rottense	: 102-104, Taf. 23 Abb. 5-10, Taf. 24 Abb. 1-3, Textabb. 13-15	Rott	*Tetrastigmophyllum rottense*	B
Nyssa rottensis	: 104-105, Taf. 27 Abb. 3-7	Rott	*Nyssa rottensis*	B
Ledum limnophyllum	: 105-107, Taf. 16 Abb. 11, Taf. 27 Abb. 1A	Rott	*Ledum limnophyllum*	B
Chrysophyllum nervosissimum	: 107, Taf. 24 Abb. 9, Taf. 27 Abb. 2A	Rott	*Chrysophyllum nervosissimum*	B

Tabelle A-20: Liste der Taxa, Zitate und Fundortangaben nach der Bearbeitung von **WEYLAND (1943 in *Palaeontographica*, Abt. B, 87)** und nach der vorliegenden Revision.

Taxon	**Zitat**	**Fundort**	**Taxon / Revision**	**Organ**
Hydrocharis rottensis	: 98-99, Taf. 16 Abb. 1	Rott	*Hydrocharis rottensis*	B, F
„Scitamineen – Blütenstand“	: 99-100, Taf. 16 Abb. 2-3, Textabb. 1	Rott	Zingiberaceae gen. et sp. indet. – Infloreszenz	BL
Myrica lignitum	: 100-101, Taf. 16 Abb. 4-6, Textabb. 2	Rott	*Myrica lignitum*	B
Alnus rottensis	: 101-102, Taf. 17 Abb. 1	Rott	*Alnus rottensis*	B
Alnus palaeojaponica	: 103-104, Taf. 17 Abb. 4, 9-10, Taf. 18 Abb. 1-4	Rott	*Alnus palaeojaponica*	B
Fagus deucalionis	: 104, Textabb. 3	Rott	*Fagus deucalionis*	B
Ficus arcinervis	: 106-107	Rott	Formenkreis *Laurophyllum pseudoprinceps*	B
Ficus (?) *tiliaefolia*	: 107	Rott	*Dombeyopsis decheni*	B
„*Protea* (?) *linguaefolia*”	: 107-108; Taf: 19 Fig. 2	Rott	sp. excl.	B
Rottia incerta	: 108-110, Taf. 19 Abb. 3-7, Textabb. 4	Rott	Magnoliopsida incertae sedis: *Rottia incerta* [? Burseraceae]	SA, BL, B
Cluytia (?) *aglaiaefolia*	: 110, Taf. 19 Abb. 8	Rott	Magnoliopsida incertae sedis: „*Cluytia*“ *aglaiaefolia* [? Euphorbiaceae]	B
Rhus pteleaefolia	: 110-111, Taf. 19 Abb. 9	Rott	*Rhus pteleaefolia*	B
Sapindus falcifolius	: 111, Taf. 20 Abb. 1	Rott	*Sapindus falcifolius*	B
Rhamnus decheni	: 111-112, Taf. 23 Abb. 9-10	Quegstein	*Trigonobalanopsis rhamnoides*	B
Rhamnophyllum lanuginosum	: 113, Taf. 24 Abb. 1-2	Rott	*Rhamnophyllum lanuginosum*	B
Zizyphus zizyphoides	: 113	Rott	*Zizyphus zizyphoides*	B
Ceanothus ebuloides	: 114, Taf. 24 Abb. 3-5	Rott	*Zizyphus zizyphoides*	B
„Rhamnaceen – Dornen“	: 114, Taf. 23 Abb. 16-18	Rott	Magnoliopsida div. fam. gen. et sp. indet. – spinae	SA
Terminalia europaea	: 114-115, Taf. 20 Abb. 2-4	Rott	Magnoliopsida incertae sedis: „*Terminalia*“ *europaea* [? Combretaceae]	B
Terminalia miocenica	: 115	Rott	Magnoliopsida incertae sedis: „*Terminalia*“ *miocenica* [? Combretaceae]	B
Terminalia rottensis	: 115-116, Taf. 20 Abb. 6	Rott	*Terminalia rottensis*	B
? Umbelliferen – Blatt	: 116-117, Taf. 20 Abb. 10, Taf. 21 Abb. 1A	Rott	Magnoliopsida fam. gen. et sp. indet. 2 – folium	B

Fortsetzung Tabelle A-20.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
? Umbelliferen – Frucht (Dauceae?)	: 116, Textabb. 5	Rott	Magnoliopsida fam. gen. et sp. indet. 3 – fructus	F
Cornus (?) *rhamnifolia*	: 117, Taf. 21 Abb. 2	Rott	„*Cornus*“ *rhamnifolia*	B
Leucothoe protogaea	: 118-120, Taf. 21 Abb. 3-6	Rott	*Leucothoë protogaea*	B
Leucothoe narbonensis	: 118-120, Taf. 22 Abb. 4-5	Rott	*Leucothoë narbonensis*	B
Arbutus rottensis	: 120-121, Taf. 22 Abb. 7-9	Rott	*Arbutus rottensis*	B
cf. *Vaccinium acheronticum*	: 121-122, Taf. 22 Abb. 11-14	Rott	cf. *Vaccinium acheronticum*	B
Vaccinium rottensis	: 122, Taf. 23 Abb. 4-8	Rott	? *Vaccinium rottensis*	B
Vaccinium (?) *persooniaeforme*	: 123, Taf. 23 Abb. 1-2	Rott	? *Vaccinium persooniaeformis*	B
Bumelia (?) *oreadum*	: 123-124, Textabb. 6	Rott	Magnoliopsida incertae sedis: „*Bumelia*“ *oreadum* [? Sapotaceae]	B
„*Elaeoides lanceolata*”	: 124, Taf. 23 Abb. 19	Orsberg	inc. sed.	B
Apocanophyllum lanceolatum	: 124-126, Taf. 24 Abb. 6-11, Textabb. 7	Wintermühlenhof, Rott	*Apocanophyllum lanceolatum*	B
Apocynophyllum apocynophyllum	: 126-127, Taf. 25 Abb. 1	Rott	*Apocynophyllum apocynophyllum*	B
Apocynophyllum decheni	: 127-128, Taf. 25 Abb. 6, Textabb. 8	Rott	*Apocynophyllum decheni*	B
Apocynophyllum glabraefolium	: 128-129, Taf. 25 Abb. 7	Rott	*Apocynophyllum glabraefolium*	B
„Asclepiadaceen – Blüte”	: 129-130, Taf. 25 Abb. 10, Textabb. 9	Rott	Asclepiadaceae gen. et sp. indet. – flos	BL
Morinda (?) *proserpinae*	: 130-132, Textabb. 10	Rott	„*Morinda*“ *proserpinae*	B

Tabelle A-21: Liste der Taxa, Zitate und Fundortangaben nach der Bearbeitung von **WEYLAND (1948 in *Palaeontographica*, Abt. B, 88)** und nach der vorliegenden Revision.

Taxon	Zitat	Fundort	Taxon / Revision	Organ
„Algen – Thallus (? Codiaceae)”	: 116-117, Taf. 18 Abb. 1, Textabb. 1-2	Rott	„Algae” incertae sedis – 1	Thallus
„? Farnpflanze”	: 118, Taf. 18 Abb. 2	Rott	inc. sed.	B
Equisetum sp.	: 118, Taf. 18 Abb. 3	Rott	*Equisetum* sp.	SA
Majanthemophyllum petiolatum	: 118-120, Taf. 18 Abb. 4-6	Quegstein	Magnoliopsida incertae sedis: *Majanthemophyllum petiolatum* [fam. indet.]	B
Populus sp.	: 120-121, Taf. 18 Fig. 8	Stößchen	*Populus* sp.	B
Populus sp.	: 120-121, Taf. 18 Fig. 9	Rott	*Populus* sp. - Deckschuppe	DS
Myrica (?) *weinmanniaefolia*	: 121, Taf. 18 Abb. 7	Rott	inc. sed.	B
Myrica ophir	: 121-122	Rott	*Myrica lignitum*	B
Quercus lonchitis	: 122, Taf. 19 Abb. 1-2	Quegstein	*Quercus lonchitis*	B
Quercus buchi	: 122, Taf. 18 Abb. 10	Rott	*Quercus buchi*	B
cf. *Ficus pandurifolia*	: 122, Taf. 18 Abb. 11-13	Rott	*Berchemia parvifolia*	B
Viscophyllum rottense	: 123-125, Taf. 19 Abb. 3, Textabb. 3	Stößchen	*Viscophyllum rottense*	B
Liquidambar sp. (♀-Blütenstand)	: 125, Taf. 19 Abb. 4	Rott	*Liquidambar* sp. 1	w-BL
Platanus sp. (♀-Blütenstand)	: 125, Taf. 19 Abb. 5-6	Rott	*Sloanea* sp. – Fruchtklappe	F
Pirus (?) *troglodytarum*	: 126, Taf. 20 Fig. 1-3	Rott	--	B
cf. *Spiraea* sp.	: 129, Taf. 20 Fig. 11	Rott	--	B
Pruniphyllum prinoides	: 129, Taf. 21 Abb. 1A, Textabb. 4	Orsberg	*Pruniphyllum prinoides*	B
Pruniphyllum insigne	: 129, Taf. 20 Abb. 4-5	Rott	*Pruniphyllum insigne*	B
Pruniphyllum peregrum	: 129, Taf. 20 Abb. 6-8	Quegstein, Allrott	*Pruniphyllum peregrum*	B
Pruniphyllum nausicaes	: 129, Taf. 19 Abb. 7-8	Rott	*Pruniphyllum nausicaes*	B
Pruniphyllum dubium	: 129	Rott	*Pruniphyllum dubium*	B

Fortsetzung Tabelle A-21.

Taxon	Zitat	Fundort	Taxon	Organ
Pruniphyllum rhoefolium	: 129, Taf. 20 Abb. 9-10	Rott, Orsberg	*Pruniphyllum rhoefolium*	B
Robinia heteromorphoides	: 129, Taf. 21 Abb. 4	Rott	Fabales fam. gen. et sp. indet. – forma 2	B
Phaseolites dolichophyllum	: 129	Rott	Fabales fam. gen. et sp. indet. – forma 5	B
Acacia sotzkiana	: 130, Taf. 21 Abb. 3	Rott	Fabales fam. gen. et sp. indet. – forma 3	B
? *Cassia palaeogaea*	: 130	Rott	*Leguminocarpon* sp.	F
Xanthoxylum brauni	: 130, Taf. Abb.	Stößchen	„*Xanthoxylum*“ *brauni*	B
Pteleaecarpum bronni	: 130-134, Taf. 21 Abb. 5, Textabb. 5-9	Rott	*Craigia bronnii*	F
Koelreuteria sp.	: 133	Rott	*Koelreuteria macroptera*	F
? *Malpighiastrum lanceolatum*	: 135, Taf. 22 Abb. 1-2	Quegstein, Rott	*Laurophyllum pseudoprinceps*	B
Euphorbioides prisca	: 136, Taf. 22 Abb. 7	Rott	Magnoliopsida incertae sedis: *Euphorbioides prisca* [? Euphorbiaceae]	BS
Ilex parschlugiana	: 136-137, Taf. 22 Abb. 6	Rott	*Ilex parschlugiana*	B
"*Ilex sphenophylla*"	: 136-137, Taf. 22 Abb. 5	Rott	*Ilex parschlugiana*	B
"Die *Celastrus*–Arten WEBER´s"	: 137	Rott	sp. excl.	B
Dodonaea (?) *prisca*	: 137-138	Rott	Magnoliopsida incertae sedis: „*Dodonaea*“ *prisca* [? Sapindaceae]	B, F
Dilleniaecarpum rottense	: 138-141, Taf. 22 Abb. 9, Textabb. 10-12	Rott	Magnoliopsida incertae sedis: *Dilleniaecarpum rottense* [? Dilleniaceae]	F
Daphne (?) *persooniaeformis*	: 141, Taf. 23 Abb. 6	Rott	inc. sed.	B
Daphne (?) *oreodaphnoides*	: 141, Taf. 23 Abb. 5	Rott	sp. excl.	B
Elaeagnus (?) *acuminata*	: 141-142, Taf. 22 Abb. 8	Ofenkaule	inc. sed.	B
Punicites hesperidum	: 142, Taf. 21 Abb. 7, Textabb. 13	Rott	Magnoliopsida incertae sedis: *Punicites hesperidum* [? Punicaceae]	F
"Die *Eucalyptus*–Arten WEBER´s"	: 142-143, Taf. 23 Abb. 3-4	Rott	sp. excl.	B
"Die Melastomaceen–Arten WEBER´s"	: 143	Rott	sp. excl.	B
Gautiera lignitum	: 143, Taf. 22 Abb. 10	Rott	Magnoliopsida incertae sedis: „*Gautiera*“ *lignitum* [? Ericaceae]	B
Myrsine formosa	: 144-145, Taf. 23 Abb. 7-9	„Trachyttuff des Siebengebirges”	Magnoliopsida incertae sedis: „*Myrsine*“ *formosa* [? Myrsinaceae]	B
Cucubalites goldfussi	: 145-146, Taf. 22 Abb. 11, Textabb. 14	Rott	Magnoliopsida incertae sedis: *Cucubalites goldfussi* [? Ebenaceae]	BL
Fraxinus excelsifolia	: 146, Taf. 23 Abb. 11	Rott	Magnoliopsida incertae sedis: „*Fraxinus*“ *excelsifolia* [? Oleaceae]	B
Apocynophyllum glabraefolium	: 146, Taf. 23 Abb. 12	Rott	*Apocynophyllum glabraefolium*	B
Sambucus celtifolia	: 146-147, Taf. 23 Abb. 2	Rott	sp. excl.	B
Sambucus ? (Fruchtstand)	: 147, Taf. 23 Abb. 1	Rott	Magnoliopsida incertae sedis: „Sambucus“ sp. [? Caprifoliaceae]	F

Revidierte Floren–Liste

Abkürzungen der Fundorte: **Ar**: Altenrath: Kiesgrube an der „Ludwigshütte“; **Ar–1**: Altenrath–1: Sandgrube auf dem Roonhügel; **Stb**: Stallberg: Kiesgrube „Langel“; **Dbt**: Dürresbachtal bei Hennef-Söven; **Fb**: Falkenberg im Siebengebirge; **All**: Allrott im Siebengebirge; **Qs**: Quegstein im Siebengebirge; **Rs**: Remscheid im Siebengebirge; **Wm**: Wintermühlenhof im Siebengebirge. **Ok**: Ofenkaule im Siebengebirge; **HTb**: Heisterbach: Heisterbacher Talbahn. **Hdt**: Hardt: Gruben „Bleibtreu“ und „Horn“; **Np–1**: Niederpleis–1: Tongrube der Fa. „Großpeter & Lindemann“; **Tgb**: Telegraphenberg bei Troisdorf-Spich. **Ro**: Rott: Halden der Grube „Krautgarten“ etc.; **Ob**: Orsberg: Halden der Grube „Vereinigung“; **St**: Stößchen: Grube „Stösschen“; **St–1**: Stößchen–1: Schurf „Am Stößchen“; **Fri**: Friesdorf: „Pützberg“; **Lie**: Ließem: Grube „Theresia“; **Uw**: Uthweiler: Aufschluß am Pleisbach. **Md**: Muffendorf; **St–2**: Stößchen–2: Aufschluß „Am Stößchen“. **Np**: Niederpleis: Tonwerke „Mauelshagen & Co.“; **Ad**: Adendorf: Tongrube der Fa. WBB Fuchs.

Abkürzungen der Organe: **w-** = ♀ = weiblich; **m-** = ♂ = männlich; **BL** = Blüten; **BS** = Blütenstand; **F** = Früchte; **S** = Samen; **Cup** = Kupula; **DS** = Deckschuppen; **CZ** = Koniferenzapfen; **Cal** = Calyx; **SA** = Sproßachse; **B** = Belaubung / Blätter; **R** = Rhizome; **H** = Holz.

Tabelle A-22: Revidierte Floren–Liste.

Taxon	Organ	Ar	Ar-1	Stb	Dbt	Fb	All	Qs	Rs	Wm	Ok	HTb	Hdt	Np-1	Tgb	Ro	Ob	St	St-1	Fri	Lie	Uw	Md	St-2	Np	Ad
EUMYCOTA																										
Sphaeriaceae																										
Rosellinites areolatus	\													—												—
Sphaeria regularis	\															—	—			—	—					
Neurosporaceae																										
Neurosporaceae gen. et sp. indet.	\																									—
Poriales																										
Poriaceae gen. et sp. indet.	\																									—
„Lichenes“ inc. sed.																										
„Lichenes” incertae sedis – cf. *Cladonia* sp.	Thallus																		—							
„Algae“ inc. sed.																										
„Algae” incertae sedis – 1	Thallus															—										
„Algae” incertae sedis – 2	Thallus																		—							
BRYOPHYTA																										
Polytrichaceae																										
Polytrichum rottense	B															—										
Hypnaceae																										
Hypnum lycopodioides	B															—	—									
Pottiaceae																										
Barbula rottensis	B															—										
Dicranaceae																										
Dicranites rottensis	B															—										
Mniaceae																										
Mnium rottense	B															—										
EQUISETOPHYTA																										
Equisetaceae																										
? *Equisetum* sp.	SA															—										
PTERIDOPHYTA																										
Pteridaceae																										
Pteris goepperti	B							—																		
Pteris crenata	B															—	—									

Fortsetzung Tabelle A-22 **Taxon**	**Organ**	**Ar**	**Ar-1**	**Stb**	**Dbt**	**Fb**	**All**	**Qs**	**Rs**	**Wm**	**Ok**	**HTb**	**Hdt**	**Np-1**	**Tgb**	**Ro**	**Ob**	**St**	**St-1**	**Fri**	**Lie**	**Uw**	**Md**	**St-2**	**Np**	**Ad**
Pteris xiphoides	B															—										
Cystopteris fumariacea	B															—										
Aspleniaceae																										
Asplenium ligniticum	B															—										
Osmundaceae																										
Osmunda heeri	B															—										
Lygodiaceae																										
Lygodium sp.	B															—										
Tectariaceae																										
? *Aspidium meyeri*	B															—										
Thelypteridaceae																										
Pronephrium stiriacum	B	—												—												
Pterididae incertae sedis																										
? Polypodiales fam. gen. et sp. indet. 1	B															—										
? Polypodiales fam. gen. et sp. indet. 2	R															—										
Salviniaceae																										
Salvinia cerebrata	Sp													—											—	
Salvinia sp.	B														—											
PINOPHYTA																										
Pinaceae																										
Cathaya bergeri	CZ																								—	—
Keteleeria hoehnei	CZ																									—
Pinus hampeana	CZ																				—				—	—
Pinus sp. 1	CZ																									—
Pinus sp. 2	S															—										
Pinus sp. 3 – *fol. quinae* *Pinus* cf. *palaeostrobus*	B																		—							
Pinus sp. 4 – *fol. quaternae*	B																		—							
Pinaceae gen. et sp. indet. 1	CZ						—	—	—																	
Pinaceae gen. et sp. indet. 2	B								—																	
Taxodiaceae																										
Sequoia abietina	B, CZ		—	—	—		—	—	—							—	—	—	—						—	
Quasisequoia couttsiae	B, CZ																		—						?	
Taxodium dubium	B	—	—	—				—								?										
Taxodium sp.	S													—	—											
Glyptostrobus europaeus	B, CZ				—									—		—	—	—	—		—					
Cupressaceae																										
Tetraclinis salicornioides vel *Tetraclinis brachyodon*	B, CZ															—	—	—	—	—	—					—
? *Thuja* sp.	CZ															—										
MAGNOLIOPHYTA																										
Magnoliaceae																										
Magnolia attenuata	B							—								—										
Magnolia burseracea	S															—										—
Schisandraceae																										
Kadsura breddini	B															—										
Annonaceae																										
Asimina browni	F																									—
Lauraceae																										
Litseopsis rottensis	BL															—										
Lindera rottensis	BL															—										

Fortsetzung Tabelle A-22 **Taxon**	**Organ**	**Ar**	**Ar-1**	**Stb**	**Dbt**	**Fb**	**All**	**Qs**	**Rs**	**Wm**	**Ok**	**HTb**	**Hdt**	**Np-1**	**Tgb**	**Ro**	**Ob**	**St**	**St-1**	**Fri**	**Lie**	**Uw**	**Md**	**St-2**	**Np**	**Ad**
Lauraceae gen. et sp. indet.	BL															—										
Ocotea rhenana	F																									—
Laurocarpum sp. 1	F				—				—																	
Laurocarpum sp. 2	F															—										
Laurocarpum sp. 3	F															—										
Laurophyllum acutimontanum	B			—												—										
Laurophyllum pseudoprinceps	B	—		—				—								—	—									—
Blatt-Typ: *Laurus styracifolia*	B						—	—			?					—										
Blatt-Typ: *Laurus primigenia*	B						—	—								—	—	—								
Blatt-Typ: *Laurus tristaniaefolia*	B							—			—					—										
Blatt-Typ: *Laurus obovata*	B							—								—	—									
Blatt-Typ: *Laurus grandifolia*	B	—																								
Laurophyllum sp.	B															—										
Daphnogene cinnamomifolia forma *cinnamomifolia*	B						—	—	—		—					—	—	—			—					
Daphnogene cinnamomifolia forma *lanceolata*	B	—		—	—	—	—	—	—	—	—	—				—	—	—			—		—	—	—	
Daphnogene cinnamomifolia – f. *cinnamomifolia* – f. *lanceolata*	B															—			—							
Nymphaeaceae																										
Nymphaea nymphaeoides	B															—										
Nymphaea arethusae	R															—	—						—			
Nymphaea sp.	S													—												
Nymphaeites weberi	S																						—			
Euryale sp.	Petiole															—										
Nymphaeaceae gen et sp. indet.	S																							—		
Cabombaceae																										
Brasenia victoria	S															—										
Cercidiphyllaceae																										
Cercidiphyllum crenatum	B															—					—					
Myricaceae																										
Myrica lignitum	B						—									—	—		—							
Myrica ettingshausenii	B															—	—									
Myrica longifolia	B															—			—							
Myrica boveyana	S													—												
Myrica suppanii	S													—											—	—
Myrica minima	S																									—
Myrica sp.	S																								—	
? *Comptonia difformis*	B															—	—									
Juglandaceae																										
Juglans acuminata	B						—	—								—	—	—								
? *Juglans costata*	F															—				—	—					
Carya serraefolia	B															—										
Carya ventricosa	F												—			—				—	—				—	
Carya cf. *lacrymabunda*	F															—										
? *Carya* sp.	DS															—										
cf. *Carya* sp. vel *Juglans* sp.	F																									—
Pterocarya paradisiaca	B															—										
Engelhardia sect. (*P.*) *macroptera*	F															—	—		—							
Engelhardia sect. (*P.*) *orsbergensis*	B															—	—		—							
Hamamelidaceae																										

Fortsetzung Tabelle A-22 Taxon	Organ	Ar	Ar-1	Stb	Dbt	Fb	All	Qs	Rs	Wm	Ok	HTb	Hdt	Np-1	Tgb	Ro	Ob	St	St-1	Fri	Lie	Uw	Md	St-2	Np	Ad
Liquidambar magniloculata	F																									—
Liquidambar europaea	B						—	—								—	—									
Liquidambar sp. 1	w-BS															—										
Liquidambar sp. 2	F				—	—	—	—	—																	
Fortunearia (vel *Sinowilsonia*) *europaea*	S																									—
Platanaceae																										
Platanus neptuni	B															—										
Fagaceae																										
Quercus lonchitis	B						—	—								—		—								
Quercus buchi	B															—										
Quercus aspera	B															—										
Quercus neriifolia	B															—										
cf. *Quercus* sp.	m-BS															—										
Eotrigonobalanus furcinervis cf. forma *haselbachensis*	B	—		—	—		—	—	—			—				?	?									
Trigonobalanopsis exacantha	F, S															?										—
Trigonobalanopsis rhamnoides	B	—		—	—	—		—	—							—										—
Fagus deucalionis	Cup															—	—									
Betulaceae																										
Carpinus grandis	B							—								—	—	—								
Carpinus minor	B															—										
Alnus menzelii	B						—	—			—					—	—			—	—					
Alnus rottensis	B															—										
Alnus cf. *nostratum*	B																—									
Alnus palaeojaponica	B															—										
Alnus cf. *julianaeformis*	B															—	—									
Alnus gracilis	B																—									
Alnus kefersteinii	B																—									
Alnus sp.	B															—										
Ulmaceae																										
Ulmus plurinervia	B															—	—			—						
Ulmus sp.	B														—	—										
Zelkova zelkovaefolia	B							—							—	—	—	—		—						
Celtis begonioides	B															—					—					
Pteroceltis tertiaria	F															—	—									
Cedrelospermum aquense	F															—	—									
Tremophyllum tenerrimum	B															—	—					—				
Polygonaceae																										
Polygonocarpum fimbriatum	F															—										
Rosaceae																										
Rubus laticostatus	F																									—
Rubus sp.	F													—												
Sibiraea rottensis	B															—										
Pruniphyllum prinoides	B																—									
Pruniphyllum insigne	B															—										
Pruniphyllum peregrum	B						—	—								—	—									
Pruniphyllum nausicaes	B															—	—									
Pruniphyllum dubium	B							—			—					—										
Pruniphyllum rhoefolium	B															—	—									
Podostemaceae																										

Fortsetzung Tabelle A-22 **Taxon**	**Organ**	**Ar**	**Ar-1**	**Stb**	**Dbt**	**Fb**	**All**	**Qs**	**Rs**	**Wm**	**Ok**	**HTb**	**Hdt**	**Np-1**	**Tgb**	**Ro**	**Ob**	**St**	**St-1**	**Fri**	**Lie**	**Uw**	**Md**	**St-2**	**Np**	**Ad**
Podostemonopsis tertiaria	SA															—										
Fabaceae																										
„*Pterocarpus*” *tertiarius*	F															—										
Fabales indet. – fructi																										
Leguminocarpon div. sp.	F															—	—									
Fabales indet. – folia																										
Fabales indet. – forma 1	B															—	—									
Fabales indet. – forma 2	B															—	—	?								
Fabales indet. – forma 3	B							—								—	—	—		—						
Fabales indet. – forma 4	B															—										
Fabales indet. – forma 5	B															—	—									
Punicaceae																										
Punica natans	S																								—	
Thymelaeaceae																										
Daphne oeningensis	B															—										
Combretaceae																										
Terminalia rottensis	B															—	—									
Lythraceae																										
Decodon globosus	S													—												
Microdiptera parva	S													—												
Microdiptera menzelii	S													—												
Simaroubaceae																										
Ailanthus ailanthifolia	B							?								—										
Ailanthus confucii	F															—	—				—					
Anacardiaceae																										
Pistacia septimontana	B															—										
Pistacia rottensis	B															—										
Pistacia oligocenica	B															—										
Rhus noeggerathi	B						?	—			—					—	—	—		—						
Rhus pteleaefolia	B						—	—			—					—	—									
Rhus pyrrhae	B															—										
Spondieaemorpha sp.	F														—											
Rutaceae																										
Toddalia rhenana	S																									—
Toddalia sp.	S															—										
Sapindaceae																										
Koelreuteria reticulata	F															—										
Sapindus falcifolius	B															—										
Aceraceae																										
Acer cyclospermum	F																				—					
Acer tricuspidatum	B						—	—								—	—	—		—						
Acer integerrimum	B															—										
Acer integrilobum	B							—								—		—								
Acer sp. 1	BL															—										
Acer sp. 2	F															—	—									
Acer sp. 3	B															—										
Cornaceae																										
„*Cornus*“ *acuminata*	B															—										
„*Cornus*“ *rhamnifolia*	B															—										
Mastixiaceae																										
Eomastixia persicoides	F																								—	—

Fortsetzung Tabelle A-22 Taxon	Organ	Ar	Ar-1	Stb	Dbt	Fb	All	Qs	Rs	Wm	Ok	HTb	Hdt	Np-1	Tgb	Ro	Ob	St	St-1	Fri	Lie	Uw	Md	St-2	Np	Ad
cf. *Eomastixia* sp.	F								—																	
Eomastixia saxonica	F																								—	
Tectocarya lusatica	F																									—
Retinomastixia schultei	F																								—	
Mastixia amygdalaeformis	F				—			—	—							—	—			—					—	—
Mastixia lusatica	F																									—
Nyssaceae																										
Nyssa rottensis	B															—										
Nyssa ornithobroma	F													—	—	—									—	
Nyssa sp.	F															—										
Araliaceae																										
Acanthopanax solutus	S															—										—
Rhamnaceae																										
Zizyphus zizyphoides	B							?								—				—						
Zizyphus paradisiaca	B															—										
Paliurus favonii	F															—										
Paliurus tiliaefolius	B															—										
Berchemia parvifolia	B															—	—									
Berchemia multinervis	B															—										
Vitaceae																										
Vitis teutonica	S													—											—	
Vitis sp. 1	S																									—
Vitis sp. 2	S													—												
Tetrastigma chandleri	S																									—
Tetrastigma lobata	S																									—
Tetrastigmophyllum rottense	B							—								—	—									
Aquifoliaceae																										
Ilex bilinica	B															—										
Ilex rottensis	B															—										
Ilex parschlugiana	B															—										
Ilex saxonica	S																									—
Loranthaceae																										
Viscophyllum rottense	B															—		—								
Euphorbiaceae																										
Statzia divaricata	SA, BL															—	—	—								
Theaceae																										
Eurya stigmosa	S																									—
Ternstroemia neglecta	S																									—
Dipterocarpaceae																										
Monotes macranthus	BL															—										
Hypericaceae																										
Hypericum sp.	S													—												
Elaeocarpaceae																										
Sloanea sp.	F															—										
Tiliaceae																										
Craigia bronnii	F															—	—									
Sterculiaceae																										
Dombeyopsis dechenii	B						—	—								—	—	—			—					
Salicaceae																										
Populus rottensis	B															—										

Fortsetzung Tabelle A-22 Taxon	Organ	Ar	Ar-1	Stb	Dbt	Fb	All	Qs	Rs	Wm	Ok	HTb	Hdt	Np-1	Tgb	Ro	Ob	St	St-1	Fri	Lie	Uw	Md	St-2	Np	Ad
Populus germanica	B	▬			▬			▬	▬							▬										
Populus populina	B	▬		▬																						
Populus balsamoides	B			▬																						
Populus sp.	DS															▬										
Salix rottensis	B															▬										
Salix longa	B						▬	▬								▬										
Salix integra	B															▬										
Salix arcinervea	B						▬	▬								▬										
Ericaceae																										
Leucothoë narbonnensis	F, S																									▬
Leucothoë narbonnensis	B															▬										
Leucothoë protogaea	B															▬										
Ledum limnophyllum	B															▬										
cf. *Vaccinium acheronticum*	B															▬	▬									
? *Vaccinium rottense*	B															▬										
? *Vaccinium persooniaeformis*	B															▬	▬									
Arbutus rottensis	B															▬										
Sapotaceae																										
Sideroxylon salicites	B, BL															▬	▬									
Dipholis tertiaria	B															▬										
Chrysophyllum nervosissimum	B							▬								▬										
Styracaceae																										
Styrax maximus	F															▬	▬			▬						
Symplocaceae																										
Sphenotheca incurva	F																									▬
Pallioporia symplocoides	F																									▬
Symplocos lignitarum	S																								▬	▬
Symplocos salzhausensis	S																									▬
Symplocos schereri	S																									▬
Symplocos wiesaensis	S																									▬
Symplocos pseudogregaria	S																								▬	
Myrsinaceae																										
Pleiomeropsis rottensis	BL															▬										
Boraginaceae																										
Cordia mettenii	F													▬	▬										▬	▬
Rubiaceae																										
Rubiaceae gen. et sp. indet. 1	BL															▬										
Rubiaceae gen. et sp. indet. 2	BL															▬										
Bignoniaceae																										
Catalpa microsperma	S															▬										
Apocynaceae																										
Apocynophyllum lanceolatum	B						▬	▬		▬						▬										
Apocynophyllum apocynophyllum	B															▬										
Apocynophyllum decheni	B															▬										
Apocynophyllum glabraefolium	B															▬	▬	▬								
Asclepiadaceae																										
Asclepiadaceae gen. et sp. indet.	BL															▬										
Asteraceae																										
Cypselites angustus	F															▬										
Cypselites costatus	F															▬										
Magnoliopsida inc. sed.																										

Fortsetzung Tabelle A-22 **Taxon**	**Organ**	**Ar**	**Ar-1**	**Stb**	**Dbt**	**Fb**	**All**	**Qs**	**Rs**	**Wm**	**Ok**	**HTb**	**Hdt**	**Np-1**	**Tgb**	**Ro**	**Ob**	**St**	**St-1**	**Fri**	**Lie**	**Uw**	**Md**	**St-2**	**Np**	**Ad**
Cucubalites goldfussii	Cal															—										
Dilleniaecarpum rottense	F															—										
Euphorbioides prisca	BS															—										
Majanthemophyllum petiolatum	B				—		—	—																		
Punicites hesperidum	BL															—										
Rhamnophyllum lanuginosum	B															—	—									
Rottia incerta	BL, B															—										
Zygophyllocarpum rottense	F															—										
„*Bumelia*" *oreadum* [? Sapotaceae]	B							—								—	—	?								
„*Cluytia*" *aglaiaefolia* [? Euphorbiaceae]	B															—										
„*Dodonaea*" *prisca* [? Sapindaceae]	B						—	—			—					—										
„*Echitonium*" *sophiae* [? Apocynaceae]	B				—		—	—																		
„*Fraxinus*" *excelsifolia* [? Oleaceae]	B															—	—									
„*Gautiera*" *lignitum* [? Ericaceae]	B															—										
„*Morinda*" *proserpinae* [? Rubiaceae]	B															—										
„*Myrsine*" *formosa* [? Myrsinaceae]	B											—														
„*Plumeria*" *nereifolia* [? Apocynaceae]	B															—	—									
„*Sambucus*" sp. [? Caprifoliaceae]	F															—										
„*Terminalia*" *europaea* [? Combretaceae]	B						—				—					—	—	—								
„*Terminalia*" *miocenica* [? Combretaceae]	B															—										
„*Viburnum*" *weberi* [? Caprifoliaceae]	BL																—									
„*Xanthoxylum*" *brauni* [? Rutaceae]	B																	—								
Hydrocharitaceae																										
Hydrocharis rottensis	B															—										
Stratiotes kaltennordheimensis	S															—									—	—
Potamogetonaceae																										
Potamogeton wiesaensis	S																									—
Potamogeton sp.	S																									—
Arecaceae																										
Sabal major	B															—										
Manicaria formosa	B	—																								
Spinopalmoxylon daemonorops	Spinae													—											—	
Spinopalmoxylon rhenanum	SA, BL													—												
Araceae																										
Urospathites dalgasii	S													—												
Epipremnum cristatum	S													—												
Juncaceae																										
Luzula rottensis	BL															—										
Cyperaceae																										
cf. *Carex* sp. 1	F																									—
cf. *Carex* sp. 2	F																									—

Fortsetzung Tabelle A-22 **Taxon**	**Organ**	**Ar**	**Ar-1**	**Stb**	**Dbt**	**Fb**	**All**	**Qs**	**Rs**	**Wm**	**Ok**	**HTb**	**Hdt**	**Np-1**	**Tgb**	**Ro**	**Ob**	**St**	**St-1**	**Fri**	**Lie**	**Uw**	**Md**	**St-2**	**Np**	**Ad**
cf. *Scirpus* sp.	F															—										
Cladium sp.	F													—												
Cladiocarya trebovensis	F															—										
Cladiocarya sp.	F															—										
Cyperaceae gen. et sp. indet. forma 1	F															—										
Cyperaceae gen. et sp. indet. forma 2	F															—										
cf. *Panicum* sp.	BL															—										
Typhaceae																										
Typha sp.	F													—												
Commelinidae inc. sed.																										
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B				—			—	—						—	—	—		—		—		—	—		
Zingiberaceae																										
Spirematospermum wetzleri	F, S													—	—											
Zingiberaceae gen. et sp. indet.	BL															—										
Smilacaceae																										
Smilax remifolia	B															—		—								
Smilax weberi	B															—	—									
Magnoliophytina inc. sed.																										
Carpolithus sophiae	F				—		—																			

Ökologische Daten

Abkürzungen der Organe: **w-** = ♀ = weiblich; **m-** = ♂ = männlich; **BL** = Blüten; **BS** = Blütenstand; **F** = Früchte; **S** = Samen; **Cup** = Kupula; **DS** = Deckschuppen; **CZ** = Koniferenzapfen; **Cal** = Calyx; **SA** = Sproßachse; **B** = Belaubung / Blätter; **R** = Rhizome; **H** = Holz.

Abkürzungen der Vegetationstypen (Habitate): **1** = Hydrophyten–Gesellschaft; **2** = Ried– und Ufer–Gesellschaften; **3** = Bruch– und Sumpfwald; **4** = Auenwald; **5** = Mesophytischer Wald.

Blattgrößee nach: ASH, et al. (1999: 16-17, Fig. 6).

Typus der Samenausbreitung nach: RIDLEY (1930), HOVESTADT et al. (1999), SCHÄFER (2003).

Floren aus der Siliziklastika–Fazies der „Liegendschichten“

Tabelle A-23: Altenrath.

Altenrath					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Thelypteridaceae					
Pronephrium stiriacum	B	3	Farn	--	anemochor – hydrochor
Taxodiaceae					
Taxodium dubium	B	3	Baum	--	anemochor
Lauraceae					
Laurophyllum pseudoprinceps	B	4 – 5	Baum / Busch	notophyll	endozoochor (Aves)
Blatt-Typ: *Laurus grandifolia*	B	4 – 5	Baum / Busch	notophyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Fagaceae					
Eotrigonobalanus furcinervis cf. forma *haselbachensis*	B	4 – 5	Baum	notophyll	zoochor
Trigonobalanopsis rhamnoides	B	4 – 5	Baum	microphyll	zoochor
Salicaceae					
Populus germanica	B	4	Baum	mesophyll	anemochor
Populus populina	B	4	Baum	notophyll	anemochor
Arecaceae					
Manicaria formosa	B	3 – 4	Palme	--	? hydrochor

Tabelle A-24: Altenrath–1.

Altenrath–1					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Taxodium dubium	B	3	Baum	--	anemochor

Tabelle A-25: Stallberg.

Stallberg					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Taxodium dubium	B	3	Baum	--	anemochor

Stallberg (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Lauraceae					
Laurophyllum acutimontanum	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Laurophyllum pseudoprinceps	B	4 – 5	Baum / Busch	notophyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Fagaceae					
Eotrigonobalanus furcinervis cf. forma *haselbachensis*	B	4 – 5	Baum	notophyll	zoochor
Trigonobalanopsis rhamnoides	B	4 – 5	Baum	microphyll	zoochor
Salicaceae					
Populus populina	B	4	Baum	notophyll	anemochor
Populus balsamoides	B	4	Baum	notophyll	anemochor

Tabelle A-26: Dürresbachtal.

Dürresbachtal					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Glyptostrobus europaeus	B	3	Baum	--	anemochor – hydrochor
Lauraceae					
Laurocarpum sp. 1	F	4 – 5	Baum / Busch	--	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Hamamelidaceae					
Liquidambar sp. 2	F	4	Baum	--	anemochor
Fagaceae					
Eotrigonobalanus furcinervis cf. forma *haselbachensis*	B	4 – 5	Baum	notophyll	zoochor
Trigonobalanopsis rhamnoides	B	4 – 5	Baum	microphyll	zoochor
Mastixiaceae					
Mastixia amygdalaeformis	F	4	Baum	--	zoochor (Aves)
Salicaceae					
Populus germanica	B, CZ	4	Baum	mesophyll	anemochor
Magnoliopsida inc. sed.					
Majanthemophyllum petiolatum	B	4 – 5	?	microphyll	?
„*Echitonium*“ *sophiae* [? Apocynaceae]	B	4 – 5	? Busch	nanophyll	?
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	B	2 – 3	Kraut	--	hydrochor – anemochor
Magnoliophytina inc. sed.					
Carpolithus sophiae	F	4	?	--	? hydrochor

Tabelle A-27: Falkenberg.

Falkenberg					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Lauraceae					
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Hamamelidaceae					
Liquidambar sp. 2	F	4	Baum	--	anemochor
Fagaceae					
Trigonobalanopsis rhamnoides	B	4 – 5	Baum	microphyll	zoochor

Tabelle A-28: Allrott.

Allrott					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Pinaceae					
Pinaceae gen. et sp. indet. 1	CZ	5	Baum	--	anemochor
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Lauraceae					
Blatt-Typ: *Laurus styracifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus primigenia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *cinnamomifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Myricaceae					
Myrica lignitum	B	5	Busch	microphyll	endozoochor
Juglandaceae					
Juglans acuminata	B	4	Baum	notophyll	zoochor
Hamamelidaceae					
Liquidambar europaea	B	4	Baum	mesophyll	anemochor
Liquidambar sp. 2	F	4	Baum	--	anemochor
Fagaceae					
Quercus lonchitis	B	4 – 5	Baum	notophyll	zoochor
Eotrigonobalanus furcinervis cf. forma *haselbachensis*	B	4 – 5	Baum	notophyll	zoochor
Betulaceae					
Alnus menzelii	B	4	Baum	microphyll	anemochor
Rosaceae					
Pruniphyllum peregrum	B	4 – 5	Baum / Busch	microphyll	? zoochor
Anacardiaceae					
Rhus pteleaefolia	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Aceraceae					
Acer tricuspidatum	B	4	Baum	notophyll	anemochor
Sterculiaceae					
Dombeyopsis dechenii	B	5	Baum	mesophyll	anemochor
Salicaceae					
Salix longa	B	4	Baum	nanophyll	anemochor
Salix arcinervea	B	4	Baum		anemochor
Apocynaceae					
Apocynophyllum lanceolatum	B	4 – 5	Busch	notophyll	anemochor
Magnoliopsida inc. sed.					
Majanthemophyllum petiolatum	B	4 – 5	?	microphyll	?
„*Dodonaea*“ *prisca* [? Sapindaceae]	B	5	? Busch	microphyll	? anemochor
„*Echitonium*“ *sophiae* [? Apocynaceae]	B	4 – 5	? Busch	nanophyll	?
„*Terminalia*“ *europaea* [? Combretaceae]	B	4 – 5	Baum	microphyll	? anemochor
Magnoliophytina inc. sed.					
Carpolithus sophiae	F	4	?	--	? hydrochor

Tabelle A-29: Quegstein.

Quegstein					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Pteridaceae					
Pteris goepperti	B	4	Farn	--	anemochor
Pinaceae					
Pinaceae gen. et sp. indet. 1	CZ	5	Baum	--	anemochor
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Taxodium dubium	B	3	Baum	--	anemochor
Magnoliaceae					
Magnolia attenuata	B	5	Baum	notophyll	endozoochor
Lauraceae					
Laurophyllum pseudoprinceps	B	4 – 5	Baum / Busch	notophyll	endozoochor (Aves)
Blatt-Typ: *Laurus styracifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus primigenia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus tristaniaefolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus obovata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *cinnamomifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Juglandaceae					
Juglans acuminata	B	4	Baum	mesophyll	zoochor
Hamamelidaceae					
Liquidambar europaea	B	4	Baum	mesophyll	anemochor
Liquidambar sp. 2	F	4	Baum	--	anemochor
Fagaceae					
Quercus lonchitis	B	4 – 5	Baum	microphyll	zoochor
Eotrigonobalanus furcinervis cf. forma *haselbachensis*	B	4 – 5	Baum	notophyll	zoochor
Trigonobalanopsis rhamnoides	B	4 – 5	Baum	microphyll	zoochor
Betulaceae					
Carpinus grandis	B	5	Baum	microphyll	anemochor
Alnus menzelii	B	4	Baum	microphyll	anemochor
Ulmaceae					
Zelkova zelkovaefolia	B	5	Baum	microphyll	
Rosaceae					
Pruniphyllum peregrum	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum dubium	B	4 – 5	Baum / Busch	microphyll	endozoochor
Fabales indet. – folia					
Fabales indet. – forma 3	B	4 (– 5)	Baum / Busch	nanophyll	? anemochor / zoochor
Anacardiaceae					
Rhus noeggerathi	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Rhus pteleaefolia	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Aceraceae					
Acer tricuspidatum	B	4	Baum	notophyll	anemochor
Acer integrilobum	B	4	Baum	notophyll	anemochor
Mastixiaceae					
Mastixia amygdalaeformis	F	4	Baum	--	zoochor (Aves)
Vitaceae					
Tetrastigmophyllum rottense	B	3 – 5	Kletterer	microphyll	endozoochor (Aves)
Sterculiaceae					
Dombeyopsis dechenii	B	5	Baum	mesophyll	anemochor
Salicaceae					
Populus germanica	B	4	Baum	mesophyll	anemochor
Salix longa	B	4	Baum	nanophyll	anemochor
Salix arcinervea	B	4	Baum	nanophyll	anemochor

Quegstein (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Sapotaceae					
Chrysophyllum nervosissimum	B	5	Baum	microphyll	zoochor (Aves)
Apocynaceae					
Apocynophyllum lanceolatum	B	4 – 5	Busch	notophyll	anemochor
Magnoliopsida inc. sed.					
Majanthemophyllum petiolatum	B	4 – 5	?	microphyll	?
„*Bumelia*“ *oreadum* [? Sapotaceae]	B	5	Baum	nanophyll	? zoochor (Aves)
„*Dodonaea*“ *prisca* [? Sapindaceae]	B	5	? Busch	microphyll	? anemochor
„*Echitonium*“ *sophiae* [? Apocynaceae]	B	4 – 5	? Busch	nanophyll	?
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B	2 – 3	Kraut	--	hydrochor – anemochor

Tabelle A-30: Remscheid.

Remscheid					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Pinaceae					
Pinaceae gen. et sp. indet. 1	CZ	5	Baum	--	anemochor
Pinaceae gen. et sp. indet. 2	B	5	Baum	--	anemochor
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Lauraceae					
Laurocarpum sp. 1	F	4 – 5	Baum / Busch	--	endozoochor (Aves)
Daphnogene cinnamomifolia forma *cinnamomifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Hamamelidaceae					
Liquidambar sp. 2	F	4	Baum	--	anemochor
Fagaceae					
Eotrigonobalanus furcinervis cf. forma *haselbachensis*	B	4 – 5	Baum	notophyll	zoochor
Trigonobalanopsis rhamnoides	B	4 – 5	Baum	microphyll	zoochor
Mastixiaceae					
cf. *Eomastixia* sp.	F	3 – 4	Baum	--	zoochor (Aves)
Mastixia amygdalaeformis	F	4	Baum	--	zoochor (Aves)
Salicaceae					
Populus germanica	B	4	Baum	mesophyll	anemochor
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B	2 – 3	Kraut	--	hydrochor – anemochor

Tabelle A-31: Wintermühlenhof.

Wintermühlenhof					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Lauraceae					
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Apocynaceae					
Apocynophyllum lanceolatum	B	4 – 5	Busch	notophyll	anemochor

Floren aus den Siebengebirge– Pyroklastika

Tabelle A-32: Ofenkaulberg.

Ofenkaulberg					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Lauraceae					
Blatt-Typ: *Laurus tristaniaefolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *cinnamomifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Betulaceae					
Alnus menzelii	B	4	Baum	microphyll	anemochor
Rosaceae					
Pruniphyllum dubium	B	4 – 5	Baum / Busch	microphyll	endozoochor
Anacardiaceae					
Rhus noeggerathi	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Rhus pteleaefolia	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Magnoliopsida inc. sed.					
„*Dodonaea*“ *prisca* [? Sapindaceae]	B	5	? Busch	microphyll	? anemochor
„*Terminalia*“ *europaea* [? Combretaceae]	B	4 – 5	Baum	microphyll	? anemochor

Tabelle A-33: Heisterbacher Talbahn.

Heisterbacher Talbahn					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Lauraceae					
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Fagaceae					
Eotrigonobalanus furcinervis cf. forma *haselbachensis*	B	4 – 5	Baum	notophyll	zoochor
Magnoliopsida inc. sed.					
„*Myrsine*“ *formosa* [? Myrsinaceae]	B	5	Baum	mesophyll	?

Floren aus der Pelit– und Braunkohlen–Fazies der „Hangendschichten“

Tabelle A-34: Hardt.

Hardt					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Pinales					
Taxodioxylon gypsaceum	H	3	Baum	--	anemochor
Juniperoxylon pachyderma	H	5	Baum	--	endozoochor
Pinales fam. gen. et sp. indet.	H	5	Baum	--	anemochor
Juglandaceae	H				
Carya ventricosa	F	4	Baum	--	zoochor

Tabelle A-35: Niederpleis–1.

Niederpleis–1					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Sphaeriaceae					
Rosellinites areolatus	--	--	Pilz	--	
Thelypteridaceae					
Pronephrium stiriacum	B	3	Farn	--	anemochor – hydrochor
Salviniaceae					
Salvinia cerebrata	Sp	1	Schwimmfarn	--	hydrochor
Taxodiaceae					
Taxodium sp.	S	3	Baum	--	anemochor
Glyptostrobus europaeus	B, CZ	3	Baum	--	anemochor – hydrochor
Nymphaeaceae					
Nymphaea sp.	S	1	Hydrophyt	--	hydrochor
Myricaceae					
Myrica boveyana	S	5	Busch	--	endozoochor
Myrica suppanii	S	5	Busch	--	endozoochor
Rosaceae					
Rubus sp.	F	4	Busch	--	endozoochor (Aves)
Lythraceae					
Decodon globosus	S	3	Busch	--	
Microdiptera parva	S	1 – 3	Busch	--	
Microdiptera menzelii	S	1 – 3	Busch	--	
Nyssaceae					
Nyssa ornithobroma	F	3	Baum	--	endozoochor (Aves)
Vitaceae					
Vitis teutonica	S	3 – 5	Kletterer	--	endozoochor (Aves)
Vitis sp. 2	S	3 – 5	Kletterer	--	endozoochor (Aves)
Hypericaceae					
Hypericum sp.	S			--	? hydro-, zoo-, anemochor
Boraginaceae					
Cordia mettenii	F	2	?	--	? hydrochor
Arecaceae					
Spinopalmoxylon daemonorops	Spinae	3	Kletterer	--	
Spinopalmoxylon rhenanum	SA, BL	3	Kletterer	--	
Araceae					
Urospathites dalgasii	S	2 – 3	Kraut	--	zoochor (Aves)
Epipremnum cristatum	S	2 – 3	Kraut	--	zoochor (Aves)
Cyperaceae					
Cladium sp.	F	2 – 3	Kraut	--	hydrochor – anemochor
Typhaceae					
Typha sp.	F	2 – 3	Kraut	--	hydrochor – anemochor
Zingiberaceae					
Spirematospermum wetzleri	F, S	2	Kraut	--	hydrochor

Tabelle A-36: Telegraphenberg.

Telegraphenberg					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Salviniaceae					
Salvinia sp.	B	1	Schwimmfarn	--	hydrochor
Taxodiaceae					
Taxodium dubium	B	3	Baum	--	anemochor
Ulmaceae					

Telegraphenberg (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Zelkova zelkovaefolia	B	5	Baum	nanophyll	anemochor
Ulmus spp. – F, B	F, B	4	Baum	microphyll	anemochor
Lauraceae					
Laurophyllum sp.	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene sp.	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Nyssaceae					
Nyssa ornithobroma	F	3	Baum	--	endozoochor (Aves)
Anacardiaceae					
Spondieaecarpum sp.	F	2	?	--	? hydrochor
Boraginaceae					
Cordia mettenii	F	2	?	--	? hydrochor
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	B	2 – 3	Kraut	--	hydrochor – anemochor
Zingiberaceae					
Spirematospermum wetzleri	F, S	2	Kraut	--	hydrochor

Floren aus der Sapropelit– und Diatomit–Fazies der „Hangendschichten“

Tabelle A-37: Rott.

Rott					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Sphaeriaceae					
Sphaeria regularis	--	--	Pilz	--	--
„Algae“ inc. sed.					
„Algae” incertae sedis – 1	--	1	Alge	--	--
Polytrichaceae					
Polytrichum rottense	B	3 – 4	Moos	--	hydrochor
Hypnaceae					
Hypnum lycopodioides	B	3 – 4	Moos	--	hydrochor
Pottiaceae					
Barbula rottensis	B	3 – 4	Moos	--	hydrochor
Dicranaceae					
Dicranites rottensis	B	3 – 4	Moos	--	hydrochor
Mniaceae					
Mnium rottense	B	3 – 4	Moos	--	hydrochor
Equisetaceae					
? *Equisetum* sp.	SA	2 – 3	Schachtelhalm	--	hydrochor – anemochor
Pteridaceae					
Pteris crenata	B	3 – 4	Farn	--	anemochor
Pteris xiphoides	B	3 – 4	Farn	--	anemochor
Cystopteris fumariacea	B	3 – 4	Farn	--	anemochor
Aspleniaceae					
Asplenium ligniticum	B	3 – 4	Farn	--	anemochor
Osmundaceae					
Osmunda heeri	B	3 – 4	Farn	--	anemochor
Lygodiaceae					
Lygodium sp.	B	3 – 5	Kletterfarn	--	anemochor
Tectariaceae					

Rott (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
? *Aspidium meyeri*	B	3 – 4	Farn	--	anemochor
Pterididae incertae sedis					
? Polypodiales fam. gen. et sp. indet. 1	B	3 – 4	Farn	--	anemochor
? Polypodiales fam. gen. et sp. indet. 2	R	3 – 4	Farn	--	anemochor
Pinaceae					
Pinus sp. 2	S	5	Baum	--	anemochor
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Glyptostrobus europaeus	B, CZ	3	Baum	--	anemochor – hydrochor
Cupressaceae					
Tetraclinis salicornioides vel *Tetraclinis brachyodon*	B, CZ	5	Baum	--	anemochor
? *Thuja* sp.	CZ	5	Baum / Busch	--	anemochor
Magnoliaceae					
Magnolia attenuata	B	5	Baum	mesophyll	endozoochor
Magnolia burseracea	S	5	Baum	--	endozoochor
Schisandraceae					
Kadsura breddini	B	5	Baum / Busch	microphyll	
Lauraceae					
Litseopsis rottensis	BL	4 – 5	Baum / Busch	--	endozoochor (Aves)
Lindera rottensis	BL	4 – 5	Baum / Busch	--	endozoochor (Aves)
Lauraceae gen. et sp. indet.	BL	4 – 5	Baum / Busch	--	endozoochor (Aves)
Laurocarpum sp. 2	F	4 – 5	Baum / Busch	--	endozoochor (Aves)
Laurocarpum sp. 3	F	4 – 5	Baum / Busch	--	endozoochor (Aves)
Laurophyllum acutimontanum	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Laurophyllum pseudoprinceps	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus styracifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus primigenia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus tristaniaefolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus obovata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Laurophyllum sp.	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *cinnamomifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia – f. *cinnamomifolia* – f. *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Nymphaeaceae					
Nymphaea nymphaeoides	B	1	Hydrophyt	mesophyll	hydrochor
Nymphaea arethusae	R	1	Hydrophyt	--	hydrochor
Euryale sp.	Petiole	1	Hydrophyt	--	hydrochor
Cabombaceae					
Brasenia victoria	S	1	Hydrophyt	--	hydrochor
Cercidiphyllaceae					
Cercidiphyllum crenatum	B	5	Baum	notophyll	
Myricaceae					
Myrica lignitum	B	5	Busch	microphyll	endozoochor (Aves)
Myrica ettingshausenii	B	5	Busch	microphyll	endozoochor (Aves)
Myrica longifolia	B	5	Busch	microphyll	endozoochor (Aves)
? *Comptonia difformis*	B	5	Busch	microphyll	endozoochor (Aves)
Juglandaceae					
Juglans acuminata	B	4	Baum	mesophyll	zoochor
? *Juglans costata*	F	4	Baum	microphyll	zoochor
Carya serraefolia	B	4	Baum	microphyll	endozoochor
Carya ventricosa	F	4	Baum	--	endozoochor
Carya cf. *lacrymabunda*	F	4	Baum	--	endozoochor
? *Carya* sp.	DS	4	Baum	--	endozoochor
Pterocarya paradisiaca	B	4	Baum	microphyll	anemochor

Rott (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Engelhardia sect. (*P.*) *macroptera*	F	4	Baum	--	anemochor
Engelhardia sect. (*P.*) *orsbergensis*	B	4	Baum	nanophyll	anemochor
Hamamelidaceae					
Liquidambar europaea	B	4	Baum	mesophyll	anemochor
Liquidambar sp. 1	w-BS	4	Baum	--	anemochor
Platanaceae					
Platanus neptuni	B	2 – 4	Baum	microphyll	anemochor
Fagaceae					
Quercus lonchitis	B	4 – 5	Baum	microphyll	zoochor
Quercus buchi	B	4 – 5	Baum	microphyll	zoochor
Quercus aspera	B	4 – 5	Baum	microphyll	zoochor
Quercus neriifolia	B	4 – 5	Baum	microphyll	zoochor
cf. *Quercus* sp.	m-BS	4 – 5	Baum	--	zoochor
Trigonobalanopsis exacantha	F, S	4 – 5	Baum	--	zoochor
Trigonobalanopsis rhamnoides	B	4 – 5	Baum	microphyll	zoochor
Fagus deucalionis	Cup	4 – 5	Baum	--	zoochor
Betulaceae					
Carpinus grandis	B	5	Baum	microphyll	anemochor
Carpinus minor	B	5	Baum	microphyll	anemochor
Alnus menzelii	B	4	Baum	microphyll	anemochor
Alnus rottensis	B	4	Baum	microphyll	anemochor
Alnus cf. *nostratum*	B	4	Baum	microphyll	anemochor
Alnus palaeojaponica	B	4	Baum	microphyll	anemochor
Alnus cf. *julianaeformis*	B	4	Baum	microphyll	anemochor
Alnus sp.	B	4	Baum	microphyll	anemochor
Ulmaceae					
Ulmus plurinervia	B	4	Baum	microphyll	anemochor
Ulmus sp.	B	4	Baum	notophyll	anemochor
Zelkova zelkovaefolia	B	5	Baum	microphyll	anemochor
Celtis begonioides	B	5	Baum	microphyll	zoochor (Aves)
Pteroceltis tertiaria	F	5	Baum	--	anemochor
Cedrelospermum aquense	F	4	Baum	--	anemochor
Tremophyllum tenerrimum	B	4	Baum	nanophyll	anemochor
Polygonaceae					
Polygonocarpum fimbriatum	F	5	Baum / Busch	--	anemochor
Rosaceae					
Sibiraea rottensis	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum prinoides	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum insigne	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum peregrum	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum nausicaes	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum dubium	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum rhoefolium	B	4 – 5	Baum / Busch	microphyll	endozoochor
Podostemaceae					
Podostemonopsis tertiaria	SA		Hydrophyt	--	hydrochor
Fabaceae					
„*Pterocarpus*” *tertiarius*	F	4 (– 5)	Baum / Busch	--	anemochor
Fabales indet. – fructi					
Leguminocarpon div. sp.	F	4 (– 5)	Baum / Busch	--	? anemochor / zoochor
Fabales indet. – folia					
Fabales indet. – forma 1	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Fabales indet. – forma 2	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Fabales indet. – forma 3	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Fabales indet. – forma 4	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Fabales indet. – forma 5	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Thymelaeaceae					
Daphne oeningensis	B	5	Baum	nanophyll	zoochor (Aves)
Combretaceae					

Rott (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Terminalia rottensis	B	4 – 5	Baum	microphyll	anemochor
Simaroubaceae					
Ailanthus ailanthifolia	B	4 – 5	Baum	microphyll	anemochor
Ailanthus confucii	F	4 – 5	Baum	--	anemochor
Anacardiaceae					
Pistacia septimontana	B	4 – 5	Busch	nanophyll	? zoochor
Pistacia rottensis	B	4 – 5	Busch	nanophyll	? zoochor
Pistacia oligocenica	B	4 – 5	Busch	nanophyll	? zoochor
Rhus noeggerathi	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Rhus pteleaefolia	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Rhus pyrrhae	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Rutaceae					
Toddalia sp.	S	5	Busch	--	zoochor
Sapindaceae					
Koelreuteria reticulata	F	5	Baum	--	anemochor
Sapindus falcifolius	B	5	Baum	microphyll	anemochor
Aceraceae					
Acer cyclospermum	F	4	Baum	--	anemochor
Acer tricuspidatum	B	4	Baum	notophyll	anemochor
Acer integerrimum	B	4	Baum	notophyll	anemochor
Acer integrilobum	B	4	Baum	notophyll	anemochor
Acer sp. 1	BL	4	Baum	--	anemochor
Acer sp. 2	F	4	Baum	--	anemochor
Acer sp. 3	B	4	Baum	notophyll	anemochor
Cornaceae					
„*Cornus*“ *acuminata*	B	5	Baum / Busch	notophyll	zoochor
„*Cornus*“ *rhamnifolia*	B	5	Baum / Busch	notophyll	zoochor
Mastixiaceae					
Mastixia amygdalaeformis	F	4	Baum	--	zoochor (Aves)
Nyssaceae					
Nyssa rottensis	B	3	Baum	microphyll	endozoochor (Aves)
Nyssa ornithobroma	F	3	Baum	--	endozoochor (Aves)
Nyssa sp.	F	3	Baum	--	endozoochor (Aves)
Araliaceae					
Acanthopanax solutus	S	5	Busch	--	zoochor
Rhamnaceae					
Zizyphus zizyphoides	B	5	Busch	microphyll	zoochor (? Aves / Mammalia)
Zizyphus paradisiaca	B	5	Busch	microphyll	zoochor (? Aves / Mammalia)
Paliurus favonii	F	5	Busch	--	anemochor
Paliurus tiliaefolius	B	5	Busch	microphyll	anemochor
Berchemia parvifolia	B	3 – 4	Busch / Liane	microphyll	endozoochor (Aves)
Berchemia multinervis	B	3 – 4	Liane	microphyll	endozoochor (Aves)
Vitaceae					
Tetrastigmophyllum rottense	B	3 – 5	Kletterer	microphyll	endozoochor (Aves)
Aquifoliaceae					
Ilex bilinica	B	5	Busch	microphyll	endozoochor (Aves)
Ilex rottensis	B	5	Busch	microphyll	endozoochor (Aves)
Ilex parschlugiana	B	5	Busch	microphyll	endozoochor (Aves)
Loranthaceae					
Viscophyllum rottense	B	4 – 5	? Baumparasit	microphyll	? endozoochor (Aves)
Euphorbiaceae					
Statzia divaricata	SA, BL	4 – 5	? Busch	--	?
Dipterocarpaceae					
Monotes macranthus	BL	5	Baum	--	Anemochor
Elaeocarpaceae					
Sloanea sp.	F	5	Baum / Busch	--	? zoochor
Tiliaceae					
Craigia bronnii	F	5	Baum	--	anemochor

Rott (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Sterculiaceae					
Dombeyopsis dechenii	B	5	Baum	mesophyll	anemochor
Salicaceae					
Populus rottensis	B	4	Baum	microphyll	anemochor
Populus germanica	B	4	Baum	mesophyll	anemochor
Populus sp.	DS	4	Baum	--	anemochor
Salix rottensis	B	4	Baum	microphyll	anemochor
Salix longa	B	4	Baum	microphyll	anemochor
Salix integra	B	4	Baum	microphyll	anemochor
Salix arcinervea	B	4	Baum	microphyll	anemochor
Ericaceae					
Leucothoë narbonnensis	B	4	Busch	microphyll	anemochor
Leucothoë protogaea	B	4	Busch	microphyll	anemochor
Ledum limnophyllum	B	?	?	microphyll	?
cf. *Vaccinium acheronticum*	B	4 – 5	Baum / Busch	microphyll	? zoochor (Aves)
? *Vaccinium rottense*	B	4 – 5	Baum / Busch	microphyll	? zoochor (Aves)
? *Vaccinium persooniaeformis*	B	4 – 5	Baum / Busch	microphyll	? zoochor (Aves)
Arbutus rottensis	B	4 – 5	Baum	microphyll	? zoochor (Aves)
Sapotaceae					
Sideroxylon salicites	B, BL	5	Baum	microphyll	zoochor (? Aves / Mammalia)
Dipholis tertiaria	B			microphyll	
Chrysophyllum nervosissimum	B	5	Baum	microphyll	zoochor (Aves)
Styracaceae					
Styrax maximus	F	3 / 5	Baum	--	zoochor (Aves)
Myrsinaceae					
Pleiomeropsis rottensis	BL	5	Baum / Busch	--	
Rubiaceae					
Rubiaceae gen. et sp. indet. 1	BL	5	Baum / Busch	--	
Rubiaceae gen. et sp. indet. 2	BL	5	Baum / Busch	--	
Bignoniaceae					
Catalpa microsperma	S	5	Baum	--	anemochor
Apocynaceae					
Apocynophyllum lanceolatum	B	4 – 5	Busch	notophyll	anemochor
Apocynophyllum apocynophyllum	B	4 – 5	Busch	microphyll	anemochor
Apocynophyllum decheni	B	4 – 5	Busch	microphyll	anemochor
Apocynophyllum glabraefolium	B	4 – 5	Busch	microphyll	anemochor
Asclepiadaceae					
Asclepiadaceae gen. et sp. indet.	BL	5	Baum / Busch	--	
Asteraceae					
Cypselites angustus	F	4	Kraut	--	anemochor
Cypselites costatus	F	4	Kraut	--	anemochor
Magnoliopsida inc. sed.					
Cucubalites goldfussii	Cal	?	?	?	?
Dilleniaecarpum rottense	F	?	?	?	?
Euphorbioides prisca	BS	?	?	?	?
Punicites hesperidum	BL	?	?	?	endozoochor
Rhamnophyllum lanuginosum	B	?	?	microphyll	?
Rottia incerta	BL, B	?	?	nanophyll	?
Zygophyllocarpum rottense	F			--	
„*Bumelia*“ *oreadum* [? Sapotaceae]	B	5	Baum	microphyll	? zoochor (Aves)
„*Cluytia*“ *aglaiaefolia* [? Euphorbiaceae]	B	?	?	microphyll	?
„*Dodonaea*“ *prisca* [? Sapindaceae]	B	5	? Busch	microphyll	? anemochor
„*Fraxinus*“ *excelsifolia* [? Oleaceae]	B	4	Baum	microphyll	anemochor

Rott (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
„*Gautiera*“ *lignitum* [? Ericaceae]	B	?	?	microphyll	?
„*Morinda*“ *proserpinae* [? Rubiaceae]	B	5	Baum / Busch	mesophyll	?
„*Plumeria*“ *nereifolia* [? Apocynaceae]	B			notophyll	
„*Sambucus*“ sp. [? Caprifoliaceae]	F	5	Busch	--	zoochor (Aves)
„*Terminalia*“ *europaea* [? Combretaceae]	B	4 – 5	Baum	microphyll	? anemochor
„*Terminalia*“ *miocenica* [? Combretaceae]	B	4 –5	Baum	microphyll	? anemochor
Hydrocharitaceae					
Hydrocharis rottensis	B	1	Hydrophyt	microphyll	hydrochor
Stratiotes kaltennordheimensis	S	1	Hydrophyt	--	hydrochor
Arecaceae					
Sabal major	B	3 – 4	Palme	mesophyll	
Juncaceae					
Luzula rottensis	BL	2 – 3	Kraut	--	hydrochor – anemochor
Cyperaceae					
cf. *Scirpus* sp.	F	2 – 3	Kraut	--	hydrochor – anemochor
Cladiocarya trebovensis	F	2 – 3	Kraut	--	hydrochor – anemochor
Cladiocarya sp.	F	2 – 3	Kraut	--	hydrochor – anemochor
Cyperaceae gen. et sp. indet. forma 1	F	2 – 3	Kraut	--	hydrochor – anemochor
Cyperaceae gen. et sp. indet. forma 2	F	2 – 3	Kraut	--	hydrochor – anemochor
cf. *Panicum* sp.	BL	2 – 3	Kraut	--	hydrochor – anemochor
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B	2 – 3	Kraut	--	hydrochor – anemochor
Zingiberaceae					
Zingiberaceae gen. et sp. indet.	BL	2 – 3	Kraut	--	hydrochor
Smilacaceae					
Smilax remifolia	B	4 – 5	Busch / Kletterer	microphyll	? zoochor
Smilax weberi	B	4 – 5	Busch / Kletterer	microphyll	? zoochor

Tabelle A-38: Orsberg.

Orsberg					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Sphaeriaceae					
Sphaeria regularis	--	--	Pilz	--	--
Hypnaceae					
Hypnum lycopodioides	B	3 – 4	Moos	--	hydrochor
Pteridaceae					
Pteris crenata	B	3 – 4	Farn	--	anemochor
Taxodiaceae					
Sequoia abietina	B, CZ	4	Baum	--	anemochor
Glyptostrobus europaeus	B, CZ	3	Baum	--	anemochor – hydrochor
Cupressaceae					
Tetraclinis salicornioides vel *Tetraclinis brachyodon*	B, CZ	5	Baum	--	anemochor
Lauraceae					
Laurophyllum pseudoprinceps	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus primigenia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Blatt-Typ: *Laurus obovata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *cinnamomifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)

Orsberg (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Nymphaeaceae					
Nymphaea arethusae	R	1	Hydrophyt	--	hydrochor
Myricaceae					
Myrica lignitum	B	5	Busch	microphyll	endozoochor (Aves)
Myrica ettingshausenii	B	5	Busch	microphyll	endozoochor (Aves)
? *Comptonia difformis*	B	5	Busch	microphyll	endozoochor (Aves)
Juglandaceae					
Juglans acuminata	B	4	Baum	mesophyll	endozoochor
Engelhardia sect. (*P.*) *macroptera*	F	4	Baum	--	anemochor
Engelhardia sect. (*P.*) *orsbergensis*	B	4	Baum	microphyll	anemochor
Hamamelidaceae					
Liquidambar europaea	B	4	Baum	mesophyll	anemochor
Fagaceae					
Fagus deucalionis	Cup	4 – 5	Baum	--	zoochor
Betulaceae					
Carpinus grandis	B	5	Baum	microphyll	anemochor
Alnus menzelii	B	4	Baum	microphyll	anemochor
Alnus cf. *nostratum*	B	4	Baum	microphyll	anemochor
Alnus cf. *julianaeformis*	B	4	Baum	microphyll	anemochor
Alnus gracilis	B	4	Baum	microphyll	anemochor
Alnus kefersteinii	B	4	Baum	microphyll	anemochor
Ulmaceae					
Ulmus plurinervia	B	4	Baum	microphyll	anemochor
Zelkova zelkovaefolia	B	5	Baum	nanophyll	
Pteroceltis tertiaria	F	5	Baum	--	
Cedrelospermum aquense	F	4	Baum	--	anemochor
Tremophyllum tenerrimum	B	4	Baum	nanophyll	anemochor
Rosaceae					
Pruniphyllum prinoides	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum peregrum	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum nausicaes	B	4 – 5	Baum / Busch	microphyll	endozoochor
Pruniphyllum rhoefolium	B	4 – 5	Baum / Busch	microphyll	endozoochor
Fabales indet. – fructi					
Leguminocarpon div. sp.	F	4 (– 5)	Baum / Busch	--	? anemochor / zoochor
Fabales indet. – folia					
Fabales indet. – forma 1	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Fabales indet. – forma 2	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Fabales indet. – forma 3	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Fabales indet. – forma 5	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Combretaceae					
Terminalia rottensis	B	4 – 5	Baum	microphyll	anemochor
Simaroubaceae					
Ailanthus confucii	F	4 – 5	Baum	--	anemochor
Anacardiaceae					
Rhus noeggerathi	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Rhus pteleaefolia	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Aceraceae					
Acer tricuspidatum	B	4	Baum	mesophyll	anemochor
Acer sp. 2	F	4	Baum	--	anemochor
Mastixiaceae					
Mastixia amygdalaeformis	F	4	Baum	--	zoochor (Aves)
Rhamnaceae					
Berchemia parvifolia	B	3 – 4	Busch / Liane	microphyll	endozoochor (Aves)
Vitaceae					
Tetrastigmophyllum rottense	B	3 – 5	Kletterer	microphyll	endozoochor (Aves)
Euphorbiaceae					

Orsberg (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Statzia divaricata	SA, BL	4 – 5	? Busch	--	?
Tiliaceae					
Craigia bronnii	F	5	Baum	--	anemochor
Sterculiaceae					
Dombeyopsis dechenii	B	5	Baum	mesophyll	anemochor
Ericaceae					
cf. *Vaccinium acherontícum*	B	4 – 5	Baum / Busch	microphyll	? zoochor (Aves)
? *Vaccinium persooniaeformis*	B	4 – 5	Baum / Busch	microphyll	? zoochor (Aves)
Sapotaceae					
Sideroxylon salicites	B, BL	5	Baum	microphyll	zoochor (? Aves / Mammalia)
Styracaceae					
Styrax maximus	F	3 / 5	Baum	--	zoochor (Aves)
Apocynaceae					
Apocynophyllum glabraefolium	B	4 – 5	Busch	microphyll	anemochor
Magnoliopsida inc. sed.					
Rhamnophyllum lanuginosum	B	5	Baum / Busch	microphyll	? zoochor (Aves)
„*Bumelia*“ *oreadum* [? Sapotaceae]	B	5	Baum	microphyll	? zoochor (Aves)
„*Fraxinus*“ *excelsifolia* [? Oleaceae]	B	4	Baum	microphyll	? anemochor
„*Plumeria*“ *nereifolia* [? Apocynaceae]	B	5	Baum	notophyll	? zoochor
„*Terminalia*“ *europaea* [? Combretaceae]	B	4 – 5	Baum	microphyll	? anemochor
„*Viburnum*“ *weberi* [? Caprifoliaceae]	BL	4 – 5	Baum / Busch	--	? zoochor
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B	2 – 3	Kraut	--	hydrochor – anemochor
Smilacaceae					
Smilax weberi	B	4 – 5	Busch / Kletterer	notophyll	? zoochor

Tabelle A-39: Stößchen.

Stößchen					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Glyptostrobus europaeus	B, CZ	3	Baum	--	anemochor – hydrochor
Cupressaceae					
Tetraclinis salicornioides vel *Tetraclinis brachyodon*	B, CZ	5	Baum	--	anemochor
Lauraceae					
Blatt-Typ: *Laurus primigenia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *cinnamomifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Juglandaceae					
Juglans acuminata	B	4	Baum	mesophyll	endozoochor
Fagaceae					
Quercus lonchitis	B	4 – 5	Baum	microphyll	zoochor
Betulaceae					
Carpinus grandis	B	5	Baum	microphyll	anemochor
Ulmaceae					
Zelkova zelkovaefolia	B	5	Baum	microphyll	anemochor
Fabales indet. – folia					

Stößchen (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Fabales indet. – forma 2	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Fabales indet. – forma 3	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Anacardiaceae					
Rhus noeggerathi	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Aceraceae					
Acer tricuspidatum	B	4	Baum	notophyll	anemochor
Acer integrilobum	B	4	Baum	notophyll	anemochor
Loranthaceae					
Viscophyllum rottense	B	4 – 5	? Baumparasit	microphyll	? endozoochor (Aves)
Euphorbiaceae					
Statzia divaricata	SA, BL	4 – 5	? Busch	--	?
Sterculiaceae					
Dombeyopsis dechenii	B	5	Baum	mesophyll	anemochor
Apocynaceae					
Apocynophyllum glabraefolium	B	4 – 5	Busch	microphyll	anemochor
Magnoliopsida inc. sed.					
? „*Bumelia*“ *oreadum* [? Sapotaceae]	B	5	Baum	microphyll	? zoochor (Aves)
„*Terminalia*“ *europaea* [? Combretaceae]	B	4 – 5	Baum	microphyll	? anemochor
„*Xanthoxylum*“ *brauni* [? Rutaceae]	B	5	Baum	microphyll	?
Smilacaceae					
Smilax remifolia	B	4 – 5	Busch / Kletterer	notophyll	? zoochor

Tabelle A-40: Stößchen–1.

Stößchen–1					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
„Lichenes“ inc. sed.					
„Lichenes” incertae sedis – cf. *Cladonia* sp.	--	--	Flechte	--	--
„Algae“ inc. sed.					
„Algae” incertae sedis – 2	--	1	Alge	--	--
Pinaceae					
Pinus sp. 3 – *fol. quinae* *Pinus* cf. *palaeostrobus*	B	5	Baum	--	anemochor
Pinus sp. 4 – *fol. quaternae*	B	5	Baum	--	anemochor
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Quasisequoia couttsiae	B, CZ	3	Baum	--	anemochor – hydrochor
Glyptostrobus europaeus	B, CZ	3	Baum	--	anemochor – hydrochor
Cupressaceae					
Tetraclinis salicornioides vel *Tetraclinis brachyodon*	B, CZ	5	Baum	--	anemochor
Lauraceae					
Daphnogene cinnamomifolia – f. *cinnamomifolia* – f. *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Myricaceae					
Myrica lignitum	B	5	Busch	microphyll	endozoochor (Aves)
Myrica longifolia	B	5	Busch	microphyll	endozoochor (Aves)
Juglandaceae					
Engelhardia sect. (*P.*) *macroptera*	F	4	Baum	--	anemochor
Engelhardia sect. (*P.*) *orsbergensis*	B	4	Baum	microphyll	anemochor
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B	2 – 3	Kraut	--	hydrochor – anemochor

Tabelle A-41: Friesdorf.

Friesdorf					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Sphaeriaceae					
Sphaeria regularis	--	--	Pilz	--	--
Cupressaceae					
Tetraclinis salicornioides vel *Tetraclinis brachyodon*	B, CZ	5	Baum	--	anemochor
Juglandaceae					
? *Juglans costata*	F	4	Baum	--	endozoochor
Carya ventricosa	F	4	Baum	--	endozoochor
Betulaceae					
Alnus menzelii	B	4	Baum	microphyll	anemochor
Ulmaceae					
Ulmus plurinervia	B	4	Baum	microphyll	anemochor
Zelkova zelkovaefolia	B	5	Baum	microphyll	anemochor
Fabales indet. – folia					
Fabales indet. – forma 3	B	4 (– 5)	Baum / Busch	nano-microphyll	? anemochor / zoochor
Anacardiaceae					
Rhus noeggerathi	B	5	Baum / Busch	microphyll	endozoochor (Aves)
Aceraceae					
Acer tricuspidatum	B	4	Baum	notophyll	anemochor
Mastixiaceae					
Mastixia amygdalaeformis	F	4	Baum	--	zoochor (Aves)
Rhamnaceae					
Zizyphus zizyphoides	B	5	Busch	microphyll	zoochor (? Aves / Mammalia)
Styracaceae					
Styrax maximus	F	3 / 5	Baum / Busch	--	zoochor (Aves)

Tabelle A-42: Ließem.

Ließem					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Sphaeriaceae					
Sphaeria regularis	--	--	Pilz	--	--
Pinaceae					
Pinus hampeana	CZ	5	Baum	--	anemochor
Taxodiaceae					
Glyptostrobus europaeus	B, CZ	3	Baum	--	anemochor – hydrochor
Cupressaceae					
Tetraclinis salicornioides vel *Tetraclinis brachyodon*	B, CZ	5	Baum	--	anemochor
Lauraceae					
Daphnogene cinnamomifolia forma *cinnamomifolia*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Cercidiphyllaceae					
Cercidiphyllum crenatum	B	5	Baum	notophyll	
Juglandaceae					
? *Juglans costata*	F	4	Baum	--	endozoochor
Carya ventricosa	F	4	Baum	--	endozoochor
Betulaceae					
Alnus menzelii	B	4	Baum	microphyll	anemochor
Ulmaceae					
Celtis begonioides	B	5	Baum	microphyll	zoochor (Aves)
Simaroubaceae					

Ließem (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Ailanthus confucii	F	4 – 5	Baum	--	anemochor
Aceraceae					
Acer cyclospermum	F	4	Baum	--	anemochor
Sterculiaceae					
Dombeyopsis dechenii	B	5	Baum	mesophyll	anemochor
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B	2 – 3	Kraut	--	hydrochor – anemochor

Tabelle A-43: Uthweiler.

Uthweiler					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Ulmaceae					
Tremophyllum tenerrimum	B	4	Baum	nanophyll	anemochor

Floren aus der Chert–Fazies der „Hangendschichten“

Tabelle A-44: Muffendorf.

Muffendorf					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Lauraceae					
Daphnogene cinnamomifolia f. *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor
Nymphaeaceae					
Nymphaea arethusae	R	1	Hydrophyt	--	hydrochor
Nymphaeites weberi	S	1	Hydrophyt	--	hydrochor
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B	2 – 3	Kraut	--	hydrochor – anemochor

Tabelle A-45: Stößchen–2.

Stößchen–2					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Lauraceae					
Daphnogene cinnamomifolia f. *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Nymphaeaceae					
Nymphaeaceae gen. et sp. indet.	S	1	Hydrophyt	--	hydrochor
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B	2 – 3	Kraut	--	hydrochor – anemochor

Floren aus der Pelit– und Siliziklastika–Fazies der „Driftschichten“

Tabelle A-46: Niederpleis.

Niederpleis					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Salviniaceae					
Salvinia cerebrata	Sp	1	Wasserfarn	--	hydrochor
Pinaceae					
Cathaya bergeri	CZ	5	Baum	--	anemochor
Pinus hampeana	CZ	5	Baum	--	anemochor
Taxodiaceae					
Sequoia abietina	B, CZ	5	Baum	--	anemochor
Quasisequoia couttsiae	B, CZ	3	Baum	--	anemochor – hydrochor
Lauraceae					
Daphnogene cinnamomifolia forma *lanceolata*	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Daphnogene sp.	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Myricaceae					
Myrica suppanii	S	5	Busch	--	endozoochor (Aves)
Myrica sp.	S	5	Busch	--	endozoochor (Aves)
Juglandaceae					
Carya ventricosa	F	4	Baum	--	zoochor
Mastixiaceae					
Eomastixia persicoides	F	3 – 4	Baum	--	zoochor (Aves)
Eomastixia saxonica	F	4	Baum	--	zoochor (Aves)
Retinomastixia schultei	F	4	Baum	--	zoochor (Aves)
Mastixia amygdalaeformis	F	4	Baum	--	zoochor (Aves)
Nyssaceae					
Nyssa ornithobroma	F	3	Baum	--	endozoochor (Aves)
Vitaceae					
Vitis teutonica	S	3 – 5	Kletterer	--	endozoochor (Aves)
Symplocaceae					
Symplocos lignitarum	S	3 / 5	Baum / Busch	--	zoochor
Symplocos pseudogregaria	S	3 / 5	Baum / Busch	--	zoochor
Boraginaceae					
Cordia mettenii	F	3	?	--	? hydrochor
Hydrocharitaceae					
Stratiotes kaltennordheimensis	S	1	Hydrophyt	--	hydrochor
Arecaceae					
Spinopalmoxylon daemonorops	Spinae	3	Kletterer	--	zoochor

Tabelle A-47: Adendorf.

Adendorf					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Sphaeriaceae					
Rosellinites areolatus	--	--	Pilz	--	--
Neurosporaceae					
Neurosporaceae gen. et sp. indet.	--	--	Pilz	--	--
Poriales					
Poriaceae gen. et sp. indet.	--	--	Pilz	--	--
Pinaceae					
Cathaya bergeri	CZ	5	Baum	--	anemochor
Keteleeria hoehnei	CZ	5	Baum	--	anemochor

Adendorf (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Pinus hampeana	CZ	5	Baum	--	anemochor
Pinus sp. 1	CZ	5	Baum	--	anemochor
Cupressaceae					
Tetraclinis salicornioides vel *Tetraclinis brachyodon*	B, CZ	5	Baum	--	anemochor
Magnoliaceae					
Magnolia burseracea	S	5	Baum	--	endozoochor
Annonaceae					
Asimina browni	F	5	Baum / Busch	--	endozoochor
Lauraceae					
Ocotea rhenana	F	4 – 5	Baum / Busch	--	endozoochor (Aves)
Laurophyllum pseudoprinceps	B	4 – 5	Baum / Busch	microphyll	endozoochor (Aves)
Myricaceae					
Myrica suppanii	S	5	Busch	--	endozoochor (Aves)
Myrica minima	S	5	Busch	--	endozoochor (Aves)
Juglandaceae					
cf. *Carya* sp. vel *Juglans* sp.	F	4	Baum	--	zoochor
Hamamelidaceae					
Liquidambar magniloculata	F	4	Baum	--	anemochor
Fortunearia (vel *Sinowilsonia*) *europaea*	S	4	Baum	--	
Fagaceae					
Trigonobalanopsis exacantha	F, S	4 – 5	Baum	--	zoochor
Trigonobalanopsis rhamnoides	B	4 – 5	Baum	--	zoochor
Rosaceae					
Rubus laticostatus	F	4	Busch	--	endozoochor (Aves)
Rutaceae					
Toddalia rhenana	S	5	Busch	--	zoochor
Mastixiaceae					
Eomastixia persicoides	F	3 – 4	Baum	--	zoochor (Aves)
Tectocarya lusatica	F	4	Baum	--	zoochor (Aves)
Mastixia amygdalaeformis	F	4	Baum	--	zoochor (Aves)
Mastixia lusatica	F	4	Baum	--	zoochor (Aves)
Araliaceae					
Acanthopanax solutus	S		Busch	--	
Vitaceae					
Vitis sp. 1	S	3 – 5	Kletterer	--	endozoochor (Aves)
Tetrastigma chandleri	S	3 – 5	Kletterer	--	endozoochor (Aves)
Tetrastigma lobata	S	3 – 5	Kletterer	--	endozoochor (Aves)
Aquifoliaceae					
Ilex saxonica	S	5	Busch	--	endozoochor (Aves)
Theaceae					
Eurya stigmosa	S		Busch	--	zoochor (Aves)
Ternstroemia neglecta	S		Busch	--	zoochor (Aves)
Ericaceae					
Leucothoë narbonnensis	F, S	5	Busch	--	anemochor
Symplocaceae					
Sphenotheca incurva	F	3 / 5	Baum / Busch	--	zoochor
Pallioporia symplocoides	F	3 / 5	Baum / Busch	--	zoochor
Symplocos lignitarum	S	3 / 5	Baum / Busch	--	zoochor
Symplocos salzhausensis	S	3 / 5	Baum / Busch	--	zoochor
Symplocos schereri	S	3 / 5	Baum / Busch	--	zoochor
Symplocos wiesaensis	S	3 / 5	Baum / Busch	--	zoochor
Boraginaceae					
Cordia mettenii	F	3	?	--	? hydrochor
Hydrocharitaceae					
Stratiotes kaltennordheimensis	S	1	Hydrophyt	--	hydrochor

Adendorf (Forts.)					
Taxon	**Organ**	**Habitat**	**Habitus**	**Blattgröße**	**Samenausbreitung**
Potamogetonaceae					
Potamogeton wiesaensis	S	1	Hydrophyt	--	hydrochor
Potamogeton sp.	S	1	Hydrophyt	--	hydrochor
Cyperaceae					
cf. *Carex* sp. 1	F	2 – 3	Kraut	--	hydrochor – anemochor
cf. *Carex* sp. 2	F	2 – 3	Kraut	--	hydrochor – anemochor

Ökologisch Komposition der Floren

Tabelle A-48: Verteilung der Habitate [in %].

Lokalität	Habitat				
	1	2	3	4	5
Siliziklastika–Fazies					
Altenrath	0	0	18,8	50	31,2
Altenrath–1	0	0	50	0	50
Stallberg	0	0	7	50	43
Dürresbachtal	0	5	10	50	35
Falkenberg	0	0	0	60	40
Allrott	0	0	0	53	47
Quegstein	0	1	7	45	47
Remscheid	0	5	10	45	40
Wintermühlenhof	0	0	0	50	50
Pyroklastika					
Ofenkaulberg	0	0	0	38	62
Heisterbacher Talbahn	0	0	0	34	66
Pelit– und Braunkohlen–Fazies					
Hardt	0	0	25	25	50
Niederpleis–1	11	26	44	4	15
Telegraphenberg	8	29	21	21	21
Sapropelit– und Diatomit–Fazies					
Rott	2	4	12	42	40
Orsberg	2	2	7	46	43
Stößchen	0	0	3	44	53
Stößchen–1	2	2	20	20	46
Friesdorf	0	0	8	54	38
Ließem	0	6	11	39	44
Uthweiler	0	0	0	100	0
Chert–Fazies					
Muffendorf	32	17	17	17	17
Stößchen–2	20	20	20	20	20
Pelit– und Siliziklastika–Fazies					
Niederpleis	6	0	29	29	36
Adendorf	7	4	23	21	45

Tabelle A-49: Verteilung der Habitus [in %].

Lokalität	Habitus				
	Moos	Farn	Kraut	Busch	Baum
Siliziklastika–Fazies					
Altenrath	0	8	0	25	67
Altenrath–1	0	0	0	0	100
Stallberg	0	0	0	25	75
Dürresbachtal	0	0	8	23	69
Falkenberg	0	0	0	25	75
Allrott	0	0	0	34	66
Quegstein	0	0	3	30	67
Remscheid	0	0	6	19	75
Wintermühlenhof	0	0	0	67	33
Pyroklastika					
Ofenkaulberg	0	0	0	47	53
Heisterbacher Talbahn	0	0	0	0	100
Pelit– und Braunkohlen–Fazies					
Hardt	0	0	0	0	100
Niederpleis–1	0	13	31	37,5	18,5
Telegraphenberg	0	9	18	18	55
Sapropelit– und Diatomit–Fazies					
Rott	2	4	5	33	56
Orsberg	1	1	1	33	64
Stößchen	0	0	0	32	68
Stößchen–1	0	0	8	23	69
Friesdorf	0	0	0	27	73
Ließem	0	0	6	13	81
Uthweiler	0	0	0	0	100
Chert–Fazies					
Muffendorf	0	0	33,3	33,3	33,3
Stößchen–2	0	0	33,3	33,3	33,3
Pelit– und Siliziklastika–Fazies					
Niederpleis	0	5	0	27	68
Adendorf	0	0	4	41	55

Tabelle A-50: Verteilung der Blattgrößenklassen [in %].

Lokalität	**Blattflächengröße**			
	nanophyll	microphyll	notophyll	mesophyll
Siliziklastika–Fazies				
Altenrath	0	28	57	15
Altenrath–1	0	0	0	0
Stallberg	0	43	57	0
Dürresbachtal	16	52	16	16
Falkenberg	0	100	0	0
Allrott	10	55	25	10
Quegstein	17	54	17	12
Remscheid	0	60	20	20
Wintermühlenhof	0	50	50	0
Pyroklastika				
Ofenkaulberg	0	100	0	0
Heisterbacher Talbahn	0	0	50	50
Pelit– und Braunkohlen–Fazies				
Hardt	0	0	0	0
Niederpleis–1	0	0	0	0
Telegraphenberg	25	75	0	0
Sapropelit– und Diatomit–Fazies				
Rott	10	76	8	6
Orsberg	12	76	4	8
Stößchen	10	67	13	10
Stößchen–1	0	100	0	0
Friesdorf	12,5	75	12,5	0
Ließem	0	66	17	17
Uthweiler	100	0	0	0
Chert–Fazies				
Muffendorf	0	100	0	0
Stößchen–2	0	100	0	0
Pelit– und Siliziklastika–Fazies				
Niederpleis	0	100	0	0
Adendorf	0	100	0	0

Tabelle A-51: Verteilung der Chorien [in %].

Lokalität	Chorie			
	hydrochor	anemochor	zoochor	endozoochor
Siliziklastika–Fazies				
Altenrath	18,5	36	18,5	27
Altenrath–1	0	100	0	0
Stallberg	0	33	42	25
Dürresbachtal	23	38	23	16
Falkenberg	0	34	33	33
Allrott	5	52	17	26
Quegstein	2,5	45	20	32,5
Remscheid	7	43	29	21
Wintermühlenhof	0	50	0	50
Pyroklastika				
Ofenkaulberg	0	33	0	67
Heisterbacher Talbahn	0	0	100	0
Pelit– und Braunkohlen–Fazies				
Hardt	0	50	25	25
Niederpleis–1	37	25	13	25
Telegraphenberg	42	33	0	25
Sapropelit– und Diatomit–Fazies				
Rott	13	44	20	23
Orsberg	6	46	23	25
Stößchen	4	50	21	25
Stößchen–1	20	60	0	20
Friesdorf	0	46	31	23
Ließem	20	53	10	27
Uthweiler	0	100	0	0
Chert–Fazies				
Muffendorf	60	20	0	20
Stößchen–2	50	25	0	25
Pelit– und Siliziklastika–Fazies				
Niederpleis	17,5	17,5	39	26
Adendorf	15	21	38	26

Tabelle A-52: Approximierte Altersdaten, Diversität, Blattphysiognomie und abgeleitete Jahresmittel-Temperatur (LMAT: leaf-estimated mean annual temperature).

Erläuterung der Spaltenüberschriften:
(A) Approximierte Altersdaten **[** in **Ma]** .
(B) Gesamt-Taxa (Diversität).
(C) Spermatophyta-Taxa.
(D) Magnoliopsida-Blatt-Taxa.
(E) Ganzrandige Magnoliopsida-Blatt-Taxa, Floren mit ≥ 10 Taxa aus (D).
(F) Ganzrandige Magnoliopsida-Blatt-Taxa **[** in **%]** .
(G) LMAT **[** in **°C]** = (1,14) + (0,306) x (Prozent der Spezies mit ganzrandigen Blättern); abgeleitet aus (F). Nach WING & GREENWOOD (1993), WILF (1997) und SMITH et al. (1998).

Lokalität	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Siliziklastika–Fazies							
Altenrath		10	9	7	--	--	--
Altenrath–1	~ 27,5 – 26,5	2	2	0	--	--	--
Stallberg		9	9	7	--	--	--
Dürresbachtal		13	13	6	--	--	--
Falkenberg		3	3	2	--	--	--
Allrott		25	25	21	11	52,38	17,2
Quegstein	~ 27 – 26,5	41	40	34	17	50,00	16,4
Remscheid		13	13	5	--	--	--
Wintermühlenhof		2	2	2	--	--	--
Pyroklastika							
Ofenkaulberg	**~ 26,5**	9	9	9	--	--	--
Heisterbacher Talbahn		2	2	2	--	--	--
Pelit– und Braunkohlen–Fazies							
Hardt	~ 25 – 22	4	4	0	--	--	--
Niederpleis–1	~ 23,5 – 23	24	21	0	--	--	--
Telegraphenberg	~ 24 – 23	11	10	4	--	--	--
Sapropelit– und Diatomit–Fazies							
Rott	**~ 24 – 23,03**	203	186	112	61	54,46	17,8
Orsberg	~ 25 – 23,03	65	62	44	19	43,18	14,4
Stößchen		23	23	19	12	63,16	20,5
Stößchen–1		14	12	4	--	--	--
Friesdorf	~ 26 – 23,03	13	12	7	--	--	--
Ließem		15	14	6	--	--	--
Uthweiler	~ 26,5 – 23,03	1	1	1	--	--	--
Chert–Fazies							
Muffendorf	~ 26 – 23,03	4	4	1	--	--	--
Stößchen–2		3	3	1	--	--	--
Pelit– und Siliziklastika–Fazies							
Niederpleis	~ 23 – ~ 20	22	21	2	--	--	--
Adendorf		45	42	2	--	--	--

Floristische Daten

Abkürzungen der Fundorte: **Ar**: Altenrath: Kiesgrube an der „Ludwigshütte“; **Ar–1**: Altenrath–1: Sandgrube auf dem Roonhügel; **Stb**: Stallberg: Kiesgrube „Langel“; **Dbt**: Dürresbachtal bei Hennef-Söven; **Fb**: Falkenberg im Siebengebirge; **All**: Allrott im Siebengebirge; **Qs**: Quegstein im Siebengebirge; **Rs**: Remscheid im Siebengebirge; **Wm**: Wintermühlenhof im Siebengebirge. **Ok**: Ofenkaule im Siebengebirge; **HTb**: Heisterbach: Heisterbacher Talbahn. **Hdt**: Hardt: Gruben „Bleibtreu“ und „Horn“; **Np–1**: Niederpleis–1: Tongrube der Fa. „Großpeter & Lindemann“; **Tgb**: Telegraphenberg bei Troisdorf-Spich. **Ro**: Rott: Halden der Grube „Krautgarten“ etc.; **Ob**: Orsberg: Halden der Grube „Vereinigung“; **St**: Stößchen: Grube „Stösschen“; **St–1**: Stößchen–1: Schurf „Am Stößchen“; **Fri**: Friesdorf: „Pützberg“; **Lie**: Ließem: Grube „Theresia“; **Uw**: Uthweiler: Aufschluß am Pleisbach. **Md**: Muffendorf; **St–2**: Stößchen–2: Aufschluß „Am Stößchen“. **Np**: Niederpleis: Tonwerke „Mauelshagen & Co.“; **Ad**: Adendorf: Tongrube der Fa. Fischer.

Abkürzungen der Organe: **w-** = ♀ = weiblich; **m-** = ♂ = männlich; **BL** = Blüten; **BS** = Blütenstand; **F** = Früchte; **S** = Samen; **Cup** = Kupula; **DS** = Deckschuppen; **CZ** = Koniferenzapfen; **Cal** = Calyx; **SA** = Sproßachse; **B** = Belaubung / Blätter; **R** = Rhizome; **H** = Holz.

Tabelle A-53: Floristische Daten.

Taxon	Organ	Nearest Living Relative	Taxon Level	Verbreitung	Lokalitäten
EUMYCOTA					
Sphaeriaceae					
Rosellinites areolatus	--	Sphaeriaceae	Fam.	Kosmopol.	Np–1 Ad–III
Sphaeria regularis	--	Sphaeriaceae	Fam.	Kosmopol.	Ro Ob Fri Lie
Neurosporaceae					
Neurosporaceae gen. et sp. indet.	--	Neurosporaceae	Fam.	--	Ad–III
Poriales					
Poriaceae gen. et sp. indet.	--	Poriaceae	Fam.	--	Ad–III
„Lichenes“ inc. sed.					
„Lichenes” incertae sedis – cf. *Cladonia* sp.	--	cf. *Cladonia* sp.	Gen.	Kosmopol.	St–1
„Algae“ inc. sed.					
„Algae” incertae sedis – 1	--	--		--	Ro
„Algae” incertae sedis – 2	--	--		--	St–1
BRYOPHYTA					
Polytrichaceae					
Polytrichum rottense	B	Polytrichaceae	Fam.		Ro
Hypnaceae					
Hypnum lycopodioides	B	Hypnaceae	Fam.		Ro Ob
Pottiaceae					
Barbula rottensis	B	Pottiaceae	Fam.		Ro
Dicranaceae					
Dicranites rottensis	B	Dicranacaea	Fam.		Ro
Mniaceae					
Mnium rottense	B	Mniaceae	Fam.		Ro
EQUISETOPHYTA					
Equisetaceae					
? *Equisetum* sp.	SA	*Equisetum* sp.	Gen.	Kosmopol.	Ro
PTERIDOPHYTA					
Pteridaceae					
Pteris goepperti	B	Pteridaceae	Fam.	--	Qs
Pteris crenata	B	Pteridaceae	Fam.	--	Ro Ob

Fortsetzung Tabelle A-53 **Taxon**	**Organ**	**Nearest Living Relative**	**Taxon Level**	**Verbreitung**	**Lokalitäten**
Pteris xiphoides	B	Pteridaceae	Fam.	--	Ro
Cystopteris fumariacea	B	Pteridaceae	Fam.	--	Ro
Aspleniaceae					
Asplenium ligniticum	B	Aspleniaceae	Fam.	--	Ro
Osmundaceae					
Osmunda heeri	B	*Osmunda* sp.	Gen.	--	Ro.
Lygodiaceae					
Lygodium sp.	B	*Lygodium* sp.	Gen.	--	Ro
Tectariaceae					
? *Aspidium meyeri*	B	Tectariaceae	Fam.	--	Ro
Thelypteridaceae					
Pronephrium stiriacum	B	Thelypteridaceae	Fam.	--	Ar Np–1
Pterididae incertae sedis					
? Polypodiales fam. gen. et sp. indet. 1	B	Polypodiales	Ord.	--	Ro
? Polypodiales fam. gen. et sp. indet. 2	R	Polypodiales	Ord.	--	Ro
Salviniaceae					
Salvinia cerebrata	Sp	*Salvinia* sp.	Gen.	--	Np–1 Np
Salvinia sp.	B	*Salvinia* sp.	Gen.	--	Tgb
PINOPHYTA					
Pinaceae					
Cathaya bergeri	CZ	*C. nanchuanensis*	Sp.	China	Np Ad–III
Keteleeria hoehnei	CZ	*K. fortunei*	Sp.	China	Ad–III
Pinus hampeana	CZ	*P. thunbergiana*	Sp.	Japan, Korea	Lie Np Ad–III
Pinus sp. 1	CZ	*Pinus* sp.	Gen.	--	Ad–III
Pinus sp. 2	S	*Pinus* sp.	Gen.	--	Ro
Pinus sp. 3 – *fol. quinae* *Pinus* cf. *palaeostrobus*	B	*Pinus* sp.	Gen.	--	St–1
Pinus sp. 4 – *fol. quaternae*	B	*Pinus* sp.	Gen.	--	St–1
Pinaceae gen. et sp. indet. 1	CZ	Pinaceae	Fam.	--	All Qs Rs
Pinaceae gen. et sp. indet. 2	B	Pinaceae	Fam.	--	Rs
Taxodiaceae					
Sequoia abietina	B, CZ	*S. sempervirens*	Sp.	NA	Ar–1 Stb Qs All Rs Dbt Ro Ob St St–1 Np
Quasisequoia couttsiae	B, CZ	Taxodiaceae	Fam.	--	St–1 ? Np.
Taxodium dubium	B	*T. distichum*	Sp.	NA	Ar Ar–1 Stb Qs ?Ro
Taxodium sp.	S	*Taxodium* sp.	Gen.	NA	Tgb Np–1
Glyptostrobus europaeus	B, CZ	*G. pensilis*	Sp.	China	Dbt Ro Ro–P Ob St St–1 Lie Np–1 Wi
Cupressaceae					
Tetraclinis salicornioides vel *Tetraclinis brachyodon*	B, CZ	*T. articulata*	Sp.	Med.	Ro Ob St St–1 Fri Lie Ad–III
? *Thuja* sp.	CZ	--		--	Ro
MAGNOLIOPHYTA					
Magnoliaceae					
Magnolia attenuata	B	*Magnolia* sp.	Gen.	--	Qs Ro
Magnolia burseracea	S	*Magnolia* sp.	Gen.	--	Ro Ad–III
Schisandraceae					
Kadsura breddini	B	Schisandraceae	Fam.		Ro
Annonaceae					

Fortsetzung Tabelle A-53 **Taxon**	**Organ**	**Nearest Living Relative**	**Taxon Level**	**Verbreitung**	**Lokalitäten**
Asimina browni	F	*A. triloba*	Sp.	NA	Ad–III
Lauraceae					
Litseopsis rottensis	BL	*Tetradenia* sp.	Gen.	--	Ro
Lindera rottensis	BL	*L. communis*	Sp.	E-AS	Ro
Lauraceae gen. et sp. indet.	BL	Lauraceae	Fam.	--	Ro
Ocotea rhenana	F	*O. foetens*	Sp.	Kanaren	Ad–III
Laurocarpum sp. 1	F	Lauraceae	Fam.	--	Rs Dbt
Laurocarpum sp. 2	F	Lauraceae	Fam.	--	Ro
Laurocarpum sp. 3	F	Lauraceae	Fam.	--	Ro
Laurophyllum acutimontanum	B	Lauraceae	Fam.	--	Stb Ro
Laurophyllum pseudoprinceps	B	Lauraceae	Fam.	--	Ar Stb Qs Ro Ob Ad–III
Blatt-Typ: *Laurus styracifolia*	B	Lauraceae	Fam.	--	Qs All Ok ? Ro
Blatt-Typ: *Laurus primigenia*	B	Lauraceae	Fam.	--	Qs All Ro Ob St
Blatt-Typ: *Laurus tristaniaefolia*	B	Lauraceae	Fam.	--	Qs Ok Ro
Blatt-Typ: *Laurus obovata*	B	Lauraceae	Fam.	--	Qs Ro Ob
Blatt-Typ: *Laurus grandifolia*	B	Lauraceae	Fam.	--	Ar
Laurophyllum sp.	B	Lauraceae	Fam.	--	Ro
Daphnogene cinnamomifolia forma *cinnamomifolia*	B	Lauraceae	Fam.	--	Qs All Rs Ok Ro Ob St Lie
Daphnogene cinnamomifolia forma *lanceolata*	B	Lauraceae	Fam.	--	Ar Stb Qs All Rs Wm Dbt Ok Ro Ob St St–2 Md Lie Np
Daphnogene cinnamomifolia – f. *cinnamomifolia* – f. *lanceolata*	B	Lauraceae	Fam.	--	Ro St–1
Nymphaeaceae					
Nymphaea nymphaeoides	B	*Nymphaea* sp.	Gen.	--	Ro
Nymphaea arethusae	R	*Nymphaea* sp.	Gen.	--	Ro Ob Md
Nymphaea sp.	S	*Nymphaea* sp.	Gen.	--	Np–1
Nymphaeites weberi	S	*Nymphaea* sp. vel *Brasenia* sp.	Fam.	--	Md
Euryale sp.	Petiole	*Euryale* sp.	Gen.	--	Ro
Nymphaeaceae gen et sp. indet.	S	Nymphaeaceae	Fam.	--	St–2
Cabombaceae					
Brasenia victoria	S	*Brasenia* sp.	Gen.	--	Ro
Cercidiphyllaceae					
Cercidiphyllum crenatum	B	*C. japonicum*	Sp.	Japan	Ro Lie
Myricaceae					
Myrica lignitum	B	*Myrica* sp.	Gen.	--	All Ro Ob St–1
Myrica ettingshausenii	B	*Myrica* sp.	Gen.	--	Ro Ob
Myrica longifolia	B	*Myrica* sp.	Gen.	--	Ro St–1
Myrica boveyana	S	*Myrica* sp.	Gen.	--	Np–1
Myrica suppanii	S	*Myrica* sp.	Gen.	--	Np–1 Np Ad–III
Myrica minima	S	*Myrica* sp.	Gen.	--	Ad–III
Myrica sp.	S	*Myrica* sp.	Gen.	--	Np
? *Comptonia difformis*	B	*Comptonia* sp.	Gen.	--	? Ro Ob

Fortsetzung Tabelle A-53 **Taxon**	**Organ**	**Nearest Living Relative**	**Taxon Level**	**Verbreitung**	**Lokalitäten**
Juglandaceae					
Juglans acuminata	B	*J. regia*	Sp.		Qs All Ro Ob St
? *Juglans costata*	F	*Myrica* sp.	Gen.		Ro Fri Lie
Carya serraefolia	B	*Carya* sp.	Gen.		Ro
Carya ventricosa	F	*Carya* sp.	Gen.		Ro Fri Lie Np Hdt
Carya cf. *lacrymabunda*	F	*Carya* sp.	Gen.		Ro
? *Carya* sp.	DS	*Carya* sp.	Gen.		Ro
cf. *Carya* sp. vel *Juglans* sp.	F	Juglandaceae	Fam.		Ad–III
Pterocarya paradisiaca	B	*P. fraxinifolia*	Sp.	Kleinasien	Ro
Engelhardia sect. (*P.*) *macroptera*	F	*E. roxburghiana*	Sp.	E-AS	Ro Ob St–1
Engelhardia sect. (*P.*) *orsbergensis*	B	*E. roxburghiana*	Sp.	E-AS	Ro Ob St-1
Hamamelidaceae					
Liquidambar magniloculata	F	*L. orientalis* *L. styraciflua*	Sp.	AS, NA	Ad–III
Liquidambar europaea	B	*Liquidambar* sp.	Gen.	NA	Qs All ?Ro Ob
Liquidambar sp. 1	w-BS	*Liquidambar* sp.	Gen.	NA	Ro
Liquidambar sp. 2	F	*Liquidambar* sp.	Gen.	NA	All Qs Dbt Rs Fb
Fortunearia (vel *Sinowilsonia*) *europaea*	S	*Fortunearia* (vel *Sinowilsonia*) sp.	Gen.	China	Ad–III
Platanaceae					
Platanus neptuni	B	*Platanus* sp.	Gen.	NA	Ro
Fagaceae					
Quercus lonchitis	B	*Lepidobalanus* sp.	Gen.		Qs All Ro St
Quercus buchi	B	*Quercus* sp.	Gen.		Ro
Quercus aspera	B	*Q. ilex*, *Q. coccifera*	Sp.	Med.	Ro
Quercus neriifolia	B	*Quercus* sp.	Gen.	NA, MA	Ro
cf. *Quercus* sp.	m-BS	Fagaceae	Fam.		Ro
Eotrigonobalanus furcinervis cf. forma *haselbachensis*	B	Fagaceae	Fam.		Ar Stb Qs All Rs Dbt HTb ?Ro ?Ob ?Wi
Trigonobalanopsis exacantha	F, S	*T. doichangensis* *T. excelsa*	Sp.	SE-AS, S-AM	? Ro Ad–III
Trigonobalanopsis rhamnoides	B	*T. doichangensis* *T. excelsa*	Sp.	SE-AS, S-AM	Ar Stb Dbt Rs Qs Ro Ad–III
Fagus deucalionis	Cup	*F. grandifolia*	Sp.	NA	Ro Ob
Betulaceae					
Carpinus grandis	B	*Carpinus* sp.	Gen.		Qs Ro Ob St
Carpinus minor	B	*Carpinus* sp.			Ro.
Alnus menzelii	B	*Alnus* sp.	Gen.		Qs All Ok Ro Ob Fri Lie
Alnus rottensis	B	*Alnus* sp.	Gen.		Ro
Alnus cf. *nostratum*	B	*Alnus* sp.	Gen.		Ob
Alnus palaeojaponica	B	*A. japonica*	Sp.	Japan	Ro
Alnus cf. *julianaeformis*	B	*A. japonica*	Sp.	Japan	Ro Ob
Alnus gracilis	B	*Alnus* sp.	Gen.	--	Ob
Alnus kefersteinii	B	*Alnus* sp.	Gen.		Ob
Alnus sp.	B	*Alnus* sp.	Gen.		Ro
Ulmaceae					
Ulmus plurinervia	B	*Ulmus* sp.	Gen.		Ro Ob Fri

Fortsetzung Tabelle A-53 **Taxon**	**Organ**	**Nearest Living Relative**	**Taxon Level**	**Verbreitung**	**Lokalitäten**
Ulmus sp.	F B	*Ulmus* sp.	Gen.		Ro Tgb
Zelkova zelkovaefolia	B	*Z. carpinifolia*	Sp.		Qs Ro Ob St Fri Tgb
Celtis begonioides	B	*C. australis*	Sp.		Ro Lie
Pteroceltis tertiaria	F	*P. tatarinowii*	Sp.	China	Ro Ob
Cedrelospermum aquense	F	Ulmaceae	Fam.		Ro Ob
Tremophyllum tenerrimum	B	Ulmaceae	Fam.		Ro Uw Ob
Polygonaceae					
Polygonocarpum fimbriatum	F	*Oxyria digyna*	Sp.	Arktis	Ro
Rosaceae					
Rubus laticostatus	F	*R. caesius*	Sp.		Ad–III
Rubus sp.	F	*Rubus* sp.	Gen.		Np–1
Sibiraea rottensis	B	*S. laevigata*	Sp.	SE-EU	Ro
Pruniphyllum prinoides	B	Rosaceae	Fam.	--	Ob
Pruniphyllum insigne	B	Rosaceae	Fam.	--	Ro.
Pruniphyllum peregrum	B	Rosaceae	Fam.	--	Qs All Ro Ob
Pruniphyllum nausicaes	B	Rosaceae	Fam.	--	Ro Ob
Pruniphyllum dubium	B	Rosaceae	Fam.	--	Qs Ok Ro
Pruniphyllum rhoefolium	B	Rosaceae	Fam.	--	Ro Ob
Podostemaceae					
Podostemonopsis tertiaria	SA	Podostemaceae	Fam.		Ro
Fabaceae					
„*Pterocarpus*" *tertiarius*	F	*Pterocarpus–Riedeliella* Gruppe	Gen.	Pantropisch	Ro
Fabales indet. – fructi					
Leguminocarpon div. sp.	F	Fabales	Ord.	--	Ro, Ob
Fabales indet. – folia					
Fabales indet. – forma 1	B	Fabales	Ord.	--	Ro Ob
Fabales indet. – forma 2	B	Fabales	Ord.	--	Ro Ob ?St
Fabales indet. – forma 3	B	Fabales	Ord.	--	Qs Ro Ob St Fri
Fabales indet. – forma 4	B	Fabales	Ord.	--	Ro
Fabales indet. – forma 5	B	Fabales	Ord.	--	Ro Ob
Punicaceae					
Punica natans	S	*Punica* sp.	Gen.		Np
Thymelaeaceae					
Daphne oeningensis	B	Thymelaeaceae	Fam.		Ro
Combretaceae					
Terminalia rottensis	B	*T. catappa*	Sp.	Indien, Malaysia	Ro Ob
Lythraceae					
Decodon globosus	S	*Decodon* sp.	Gen.	E-NA	Np–1
Microdiptera parva	S	Lythraceae	Fam.	--	Np–1
Microdiptera menzelii	S	Lythraceae	Fam.	--	Np–1
Simaroubaceae					
Ailanthus ailanthifolia	B	*A. altissima*	Sp.	China	?Qs Ro
Ailanthus confucii	F	*A. altissima*	Sp.	China	Ro Ob Lie
Anacardiaceae					
Pistacia septimontana	B	*Pistacia* sp.	Gen.		Ro
Pistacia rottensis	B	*Pistacia* sp.	Gen.		Ro
Pistacia oligocenica	B	*Pistacia* sp.	Gen.		Ro
Rhus noeggerathi	B	*Rhus* sp.	Gen.		Qs ?All Ok Ro Ob St Fri

Fortsetzung Tabelle A-53 **Taxon**	**Organ**	**Nearest Living Relative**	**Taxon Level**	**Verbreitung**	**Lokalitäten**
Rhus pteleaefolia	B	*Rhus* sp.	Gen.		Qs All Ok Ro Ob Wi
Rhus pyrrhae	B	*Rhus* sp.	Gen.		Ro
Spondieaemorpha sp.	F	Anacardiaceae	Fam.		Tgb
Rutaceae					
Toddalia rhenana	S	*T. asiatica*	Sp.	AS, E-AF	Ad–III
Toddalia sp.	S	*T. asiatica*	Sp.	AS, E-AF	Ro
Sapindaceae					
Koelreuteria reticulata	F	*Koelreuteria* sp.	Gen.		Ro
Sapindus falcifolius	B	*Sapindus* sp.	Gen.	NA	Ro
Aceraceae					
Acer cyclospermum	F	*A. ucurudense* *A. spicatum*	Sp.	E-AS E-NA	Lie
Acer tricuspidatum	B	*A. rubrum*	Sp.	SE-NA	Qs All Ro Ob St Fri
Acer integerrimum	B	*A. cappadocicum*	Sp.	S-AS	Ro
Acer integrilobum	B	*A. cappadocicum*	Sp.	S-AS	Qs Ro St
Acer sp. 1	BL	*Acer* sp.	Gen.	--	Ro
Acer sp. 2	F	*Acer* sp.	Gen.	--	Ro Ob
Acer sp. 3	B	*Acer* sp.	Gen.	--	Ro
Cornaceae					
„*Cornus*“ *acuminata*	B	Cornaceae	Fam.	--	Ro
„*Cornus*“ *rhamnifolia*	B	Cornaceae	Fam.	--	Ro
Mastixiaceae					
Eomastixia persicoides	F	Mastixiaceae	Fam.	--	Np Ad–III
cf. *Eomastixia* sp.	F	Mastixiaceae	Fam.	--	Rs
Eomastixia saxonica	F	Mastixiaceae	Fam.	--	Np
Tectocarya lusatica	F	Mastixiaceae	Fam.	--	Ad–III
Retinomastixia schultei	F	Mastixiaceae	Fam.	--	Np
Mastixia amygdalaeformis	F	*Mastixia* sp.	Gen.	S-AS, Indien, Malaysia, Indonesien, Philipinen	Qs Dbt Rs Ro Ob Fri Np Ad–III
Mastixia lusatica	F	*Mastixia* sp.	Gen.	dto.	Ad–III
Nyssaceae					
Nyssa rottensis	B	*N. sylvatica*	Sp.	NA	Ro
Nyssa ornithobroma	F	*N. sinensis* *N. talamancana*	Sp.	SE-AS	Ro Np Tgb Np–1
Nyssa sp.	F	*Nyssa* sp.	Gen.	--	Ro
Araliaceae					
Acanthopanax solutus	S	*A. senticosus*	Sp.	AS	Ro Ad–II
Rhamnaceae					
Zizyphus zizyphoides	B	*Zizyphus* sp.	Gen.		? Qs Ro Fri
Zizyphus paradisiaca	B	*Zizyphus* sp.	Gen.		Ro
Paliurus favonii	F	*P. spina-christi*	Sp.	S-EU	Ro
Paliurus tiliaefolius	B	*P. spina-christi*	Sp.	S-EU	Ro
Berchemia parvifolia	B	*Berchemia* sp.	Gen.	--	Ro Ob
Berchemia multinervis	B	*B. scandens*	Sp.	SE-NA	Ro
Vitaceae					
Vitis teutonica	S	*V. balsamaeana* *V. thunbergii*	Sp.	SE-AS	Np Np–1
Vitis sp. 1	S	*Vitis* sp.	Gen.	--	Ad–III
Vitis sp. 2	S	*Vitis* sp.	Gen.	--	Np–1
Tetrastigma chandleri	S	*T. lanceolarium*	Sp.	China, Indien	Ad–III
Tetrastigma lobata	S	*T. lanceolarium*	Sp.	China, Indien	Ad–III

Fortsetzung Tabelle A-53 **Taxon**	**Organ**	**Nearest Living Relative**	**Taxon Level**	**Verbreitung**	**Lokalitäten**
Tetrastigmophyllum rottense	B	*Parthenocissus* sp.	Gen.		Qs Ro Ob
Aquifoliaceae					
Ilex bilinica	B	*Ilex* sp.	Gen.	--	Ro
Ilex rottensis	B	*Ilex* sp.	Gen.	--	Ro
Ilex parschlugiana	B	*Ilex* sp.	Gen.	--	Ro
Ilex saxonica	S	*I. perado*	Sp.	Madeira	Ad–III
Loranthaceae					
Viscophyllum rottense	B	Loranthaceae	Fam.	--	Ro St
Euphorbiaceae					
Statzia divaricata	SA, BL	Euphorbiaceae	Fam.	--	Ro Ob St
Theaceae					
Eurya stigmosa	S	*E. japonica*	Sp.	E-AS	Ad–II Ad–III
Ternstroemia neglecta	S	*Ternstroemia* sp.	Gen.	E-AS, NA, AF	Ad–III
Dipterocarpaceae					
Monotes macranthus	BL	*Monotes* sp.	Gen.		Ro
Hypericaceae					
Hypericum sp.	S	*Hypericum* sp.	Gen.		Np–1
Elaeocarpaceae					
Sloanea sp.	F	*Sloanea* sp.	Gen.		Ro
Tiliaceae					
Craigia bronnii	F	*Craigia* sp.	Gen.	China	Ro Ob
Sterculiaceae					
Dombeyopsis dechenii	B	?	--	--	Qs All Ro Ob St Lie
Salicaceae					
Populus rottensis	B	*P. angustifolia*	Sp.	NA	Ro.
Populus germanica	B	*P. szechuanica*	Sp.	China	Ar Dbt Qs Rs Ro
Populus populina	B	?	--	--	Ar Stb
Populus balsamoides	B	*P. balsamifera*	Sp.	NE-NA	Stb
Populus sp.	DS	*Populus* sp.	Gen.	--	Ro
Salix rottensis	B	*S. humboldtiana*	Sp.	SA	Ro
Salix longa	B	*S. longifolia*	Sp.		Qs All Ro
Salix integra	B	*S. repens*	Sp.		Ro
Salix arcinervea	B	*S. nigra*	Sp.		Qs All Ro
Ericaceae					
Leucothoë narbonnensis	F, S	*L. stenophylla*	Sp.	NA	Ad–II Ad–III
Leucothoë narbonnensis	B	*L. stenophylla*	Sp.	NA	Ro
Leucothoë protogaea	B	*L. multiflora*	Sp.	NA	Ro
Ledum limnophyllum	B	*Ledum* sp.	Gen.		Ro
cf. *Vaccinium acheronticum*	B	?	--	--	Ro Ob
? *Vaccinium rottense*	B	?	--	--	Ro.
? *Vaccinium persooniaeformis*	B	?	--	--	Ro Ob.
Arbutus rottensis	B	*A. unedo*	Sp.	Medttarran	Ro
Sapotaceae					
Sideroxylon salicites	B, BL	*S. marmulano*	Sp.	Kanaren	Ro Ob
Dipholis tertiaria	B	D. *salicifolia*	Sp.	Indonesien	Ro
Chrysophyllum nervosissimum	B	Sapotaceae	Fam.	--	Qs Ro
Styracaceae					
Styrax maximus	F	S. *japonicus*	Sp.	Japan	Ro Ob Fri
Symplocaceae					
Sphenotheca incurva	F	Symplocaceae	Fam.	Tropen	Ad–III

Fortsetzung Tabelle A-53 **Taxon**	**Organ**	**Nearest Living Relative**	**Taxon Level**	**Verbreitung**	**Lokalitäten**
Pallioporia symplocoides	F	Symplocaceae	Fam.	Tropen	Ad–III
Symplocos lignitarum	S	*Symplocos* sp.	Gen.	SE-AS	Np Ad–III
Symplocos salzhausensis	S	*Symplocos* sp.	Gen.	SE-AS	Ad–III
Symplocos schereri	S	Symplocaceae	Fam.	Tropen	Ad–III
Symplocos wiesaensis	S	Symplocaceae	Fam.	Tropen	Ad–III
Symplocos pseudogregaria	S	Symplocaceae	Fam.	Tropen	Np
Myrsinaceae					
Pleiomeropsis rottensis	BL	*Pleiomeris* sp.	Gen.	Tropen	Ro
Rubiaceae					
Rubiaceae gen. et sp. indet. 1	BL	Rubiaceae	Fam.	--	Ro
Rubiaceae gen. et sp. indet. 2	BL	Rubiaceae	Fam.	--	Ro
Bignoniaceae					
Catalpa microsperma	S	*C. bungeri*	Sp.		Ro
Apocynaceae					
Apocynophyllum lanceolatum	B	? Apocynaceae	Fam.	--	Qs All Wm Ro
Apocynophyllum apocynophyllum	B	? Apocynaceae	Fam.	--	Ro
Apocynophyllum decheni	B	? Apocynaceae	Fam.	--	Ro
Apocynophyllum glabraefolium	B	? Apocynaceae	Fam.	--	Ro Ob St
Asclepiadaceae					
Asclepiadaceae gen. et sp. indet.	BL	Asclepiadaceae	Fam.	--	Ro
Asteraceae					
Cypselites angustus	F	Asteraceae	Fam.	--	Ro
Cypselites costatus	F	Asteraceae	Fam.	--	Ro
Magnoliopsida inc. sed.					
Cucubalites goldfussii	Cal	? Ebenaceae	Fam.	--	Ro
Dilleniaecarpum rottense	F	? Dilleniaceae	Fam.	--	Ro
Euphorbioides prisca	BS	? Euphorbiaceae	Fam.	--	Ro
Majanthemophyllum petiolatum	B	?	--	--	Qs All Dbt
Punicites hesperidum	BL	? Punicaceae	Fam.	--	Ro
Rhamnophyllum lanuginosum	B	?	--	--	Ro Ob
Rottia incerta	BL, B	?	--	--	Ro.
Zygophyllocarpum rottense	F	? Zygophyllaceae	Fam.	--	Ro.
„*Bumelia*“ *oreadum* [? Sapotaceae]	B	? Sapotaceae	Fam.	--	Qs Ro Ob ?St
„*Cluytia*“ *aglaiaefolia* [? Euphorbiaceae]	B	? Euphorbiaceae	Fam.	--	Ro
„*Dodonaea*“ *prisca* [? Sapindaceae]	B	? Sapindaceae	Fam.	--	Qs All Ok Ro
„*Echitonium*“ *sophiae* [? Apocynaceae]	B	? Apocynaceae	Fam.	--	Qs All Dbt
„*Fraxinus*“ *excelsifolia* [? Oleaceae]	B	? Oleaceae	Fam.	--	Ro Ob
„*Gautiera*“ *lignitum* [? Ericaceae]	B	? Ericaceae	Fam.	--	Ro
„*Morinda*“ *proserpinae* [? Rubiaceae]	B	? Rubiaceae	Fam.	--	Ro
„*Myrsine*“ *formosa* [? Myrsinaceae]	B	? Myrsinaceae	Fam.	--	"Tuff des Siebengebirges"
„*Plumeria*“ *nereifolia* [? Apocynaceae]	B	? Apocynaceae	Fam.	--	Ro Ob
„*Sambucus*“ sp. [? Caprifoliaceae]	F	? Caprifoliaceae	Fam.	--	Ro

Fortsetzung Tabelle A-53 **Taxon**	**Organ**	**Nearest Living Relative**	**Taxon Level**	**Verbreitung**	**Lokalitäten**
„*Terminalia*" *europaea* [? Combretaceae]	B	? Combretaceae	Fam.	--	All Ok Ro Ob St
„*Terminalia*" *miocenica* [? Combretaceae]	B	? Combretaceae	Fam.	--	Ro
„*Viburnum*" *weberi* [? Caprifoliaceae]	BL	? Caprifoliaceae	Fam.	--	Ob
„*Xanthoxylum*" *brauni* [? Rutaceae]	B	? Rutaceae	Fam.	--	St
Hydrocharitaceae					
Hydrocharis rottensis	B	*H. morsus-ranae*	Sp.		Ro
Stratiotes kaltennordheimensis	S	*Stratiotes* sp.	Gen.	--	Ro Np–1 Ad–III
Potamogetonaceae					
Potamogeton wiesaensis	S	*Potamogeton* sp.	Gen.		Ad–III
Potamogeton sp.	S	*Potamogeton* sp.	Gen.		Ad–II Ad–III
Arecaceae					
Sabal major	B	*Sabal* sp.	Gen.		Ro
Manicaria formosa	B	*M. saccifera*	Sp.	Tropen	Ar
Spinopalmoxylon daemonorops	Spinae	*Calamus* sp.	Gen.	Tropen	Np–1 Np
Spinopalmoxylon rhenanum	SA, BL	*Calamus* sp.	Gen.	Tropen	Np–1
Araceae					
Urospathites dalgasii	S	Araceae	Fam.		Np–1
Epipremnum cristatum	S	*Epipremnum* sp.	Gen.		Np–1
Juncaceae					
Luzula rottensis	BL	*Luzula* sp.	Gen.		Ro
Cyperaceae					
cf. *Carex* sp. 1	F	*Carex* sp.	Gen.	Kosmopol.	Ad–III
cf. *Carex* sp. 2	F	*Carex* sp.	Gen.	Kosmopol.	Ad–I
cf. *Scirpus* sp.	F	*Scirpus* sp.	Gen.	Kosmopol.	Ro
Cladium sp.	F	*Cladium* sp.	Gen.	Kosmopol.	Np–1
Cladiocarya trebovensis	F	Cyperaceae	Fam.	Kosmopol.	Ro
Cladiocarya sp.	F	Cyperaceae	Fam.	Kosmopol.	Ro
Cyperaceae gen. et sp. indet. forma 1	F	Cyperaceae	Fam.	Kosmopol.	Ro
Cyperaceae gen. et sp. indet. forma 2	F	Cyperaceae	Fam.	Kosmopol.	Ro
cf. *Panicum* sp.	BL	Cyperaceae	Fam.	Kosmopol.	Ro
Typhaceae					
Typha sp.	F	*Typha* sp.	Gen.	Kosmopol.	Np–1
Commelinidae inc. sed.					
Cyperales vel Typhales fam. gen. et sp. indet.	R, SA, B	Cyperales vel Typhales	Fam.	Kosmopol.	Dbt Qs Rs Ro Ob St–1 St–2 Lie Tgb Md
Zingiberaceae					
Spirematospermum wetzleri	F, S	Zingiberaceae	Fam.		Tgb Np–1
Zingiberaceae gen. et sp. indet.	BL	Zingiberaceae	Fam.		Ro
Smilacaceae					
Smilax remifolia	B	*Smilax* sp.	Gen.		Ro St
Smilax weberi	B	*Smilax* sp.	Gen.		Ro Ob
Magnoliophytina inc. sed.					
Carpolithus hafniensii	F	? Boraginaceae	Fam.	--	Np Tgb Np–1 Ad–I
Carpolithus sophiae	F	? Zingiberales	Ord.	--	All Dbt

Sammlungslisten

Tabelle A-54: Sammlung Siebengebirgsmuseum, Königswinter.

Slg.–Nr.	Fundort	Taxon
V5.46	Quegstein	*Laurus styracifolia*
V5.47	Quegstein	*Populus germanica*
V5.48	Quegstein	1 – *Daphnogene cinnamomifolia* forma *lanceolata* 2 – *Trigonobalanopsis rhamnoides*
V5.49	Quegstein	*Eotrigonobalanus furcinervis*
V5.52	Quegstein	1 – *Trigonobalanopsis rhamnoides* 2 – *Quercus grandidentata* ?
V5.53 (B28)	Quegstein	1 – *Daphnogene cinnamomifolia* forma *cinnamomifolia* 2 – *Daphnogene cinnamomifolia* forma *lanceolata* 3 – *Trigonobalanopsis rhamnoides*
V5.54 (B16)	Quegstein	1 – *Sequoia abietina* 2 – *Daphnogene cinnamomifolia* forma *lanceolata* 3 – *Trigonobalanopsis rhamnoides*
K26.435	Heisterbacher Talbahn	1 – *Daphnogene cinnamomifolia* forma *lanceolata* 2 – *Trigonobalanopsis rhamnoides*
K26.438	Heisterbacher Talbahn	*Trigonobalanopsis rhamnoides*
K26.440	Heisterbacher Talbahn	*Eotrigonobalanus furcinervis*
K26.442	Heisterbacher Talbahn	*Trigonobalanopsis rhamnoides*

Tabelle A-55: Sammlung H. Winterscheid, Köln.

Dbt	Dürresbachtal
Dbt: 1	*Populus germanica*
Dbt: 2	*Liquidambar* sp. 2
Dbt: 3	cf. *Glyptostrobus europaeus*
Dbt: 4	*Sequoia abietina*
Dbt: 5	*Laurocarpum* sp. 1
Dbt: 6	*Daphnogene cinnamomifolia* f. *lanceolata*
Dbt: 7	*Trigonobalanopsis rhamnoides*
Dbt: 8	*Carpolithus sophiae*
Dbt: 9	*Mastixia* cf. *amygdalaeformis*
Dbt:10	*Majanthemophyllum petiolata*
Dbt:11	Holz– und Astabdrücke
Dbt:12	„*Echitonium*“ *sophiae*
Dbt:13	*Eotrigonobalanus furcinervis* ssp. *haselbachensis*

Qs	Quegstein
Qs: 1	*Sequoia abietina*
Qs: 2	*Trigonobalanopsis rhamnoides*

Fb	Falkenberg
Fb: 1	unbestimmbare Blattreste
Fb: 2	Holz– und Astabdrücke
Fb: 3	*Liquidambar* sp. 2
Fb: 4	*Daphnogene cinnamomifolia* f. *lanceolata*
Fb: 5	*Trigonobalanopsis rhamnoides*

Rs	Remscheid
Rs: 1	Pinaceae, Gen. indet. - Z
Rs: 2	*Liquidambar* sp. 2
Rs: 3	*Populus germanica*
Rs: 4	*Eomastixia* sp.
Rs: 5	Holz– und Astabdrücke
Rs: 6	*Laurocarpum sp.* 1
Rs: 7	*Daphnogene cinnamomifolia* f. *cinnamomifolia*
Rs: 8	Pinaceae, Gen. indet. - B
Rs: 9	*Trigonobalanopsis rhamnoides*
Rs:10	*Eotrigonobalanus furcinervis* ssp. *haselbachensis*
Rs:11	*Mastixia* cf. *amygdalaeformis*
Rs:12	*Sequoia abietina*
Rs:13	*Laurophyllum pseudoprinceps*
Rs:14	„*Echitonium*“ *sophiae*
Rs:15	*Daphnogene cinnamomifolia* f. *lanceolata*

Ar–1	Altenrath–1
Ar–1:1	*Taxodium dubium*
Ar–1:2	*Sequoia abietina*

Ro	Rott
Ro: 1	*Carya serraefolia*
Ro: 2	*Sideroxylon salicites*
Ro: 3	*Acer tricuspidatum*
Ro: 4	*Acer integrilobum*
Ro: 5	*Acer sp.* – B
Ro: 6	*Acer sp.* – F
Ro: 7	*Ailanthus confucii*
Ro: 8	*Koelreuteria reticulata*
Ro: 9	*Craigia bronni*
Ro:10	*Hypnum lycopodioides*
Ro:11	*Polytrichum rottensis*
Ro:12	*Nymphaeites weberi*
Ro:13	*Nymphaea nymphaeoides*
Ro:14	*Dombeyopsis dechenii*
Ro:15	*Statzia divaricata*
Ro:16	? Rhamnaceae, Gen. indet. - Dornen
Ro:17	Fam. indet. - Dornen
Ro:18	Filicales, Fam. indet. – Fiederblättchen
Ro:19	Filicales. Fam. indet. - Rhizom
Ro:20	*Engelhardia* (*Palaeocarya*) *macroptera*
Ro:21	*Pteroceltis tertiaria*
Ro:22	*Pterocarpus tertiarius*
Ro:23	*Paliurus favonii*
Ro:24	*Catalpa microsperma*
Ro:25	cf. *Carya* sp. - Knospenschuppen
Ro:26	*Cedrelospermum leptospermum*
Ro:27	Cyperaceae, Gen. indet.
Ro:28	*Pinus* sp. - Samen
Ro:29	*Pleiomeropsis rottensis*
Ro:30	*Toddalia* sp. - Samen
Ro:31	*Smilax weberi*

Ro:32 *Smilax renifolia*
Ro:33 *Barbula rottensis*
Ro:34 *Juglans acuminata*
Ro:35 *Acanthopanax solutus*
Ro:36 *Podostemonopsis tertiaria*
Ro:37 *Magnolia burseracea*
Ro:38 *Zelkova zelkovaefolia*
Ro:39 *Cedrelospermum* (*Tremophyllum*) *tenerrimum*
Ro:40 *Nyssa ornithobroma*
Ro:41 *Carpinus grandis*
Ro:42 *Laurocarpum* sp. 2
Ro:43 *Glyptostrobus europaeus*
Ro:44 *Cladiocarya trebovensis*
Ro:45 *Ailanthus ailanthifolia*
Ro:46 *Engelhardia* (*Palaeocarya*) *orsbergensis*
Ro:47 *Myrica lignitum*
Ro:48 *Myrica ettingshauseni*
Ro:49 *Celtis begonioides*
Ro:50 Fabales fam. gen. et sp. indet. – forma 4 [*Cassia rottensis*]
Ro:51 *Ulmus* sp. - B
Ro:52 *Acer integerrimum*
Ro:53 *Daphnogene cinnamomifolia* f. *lanceolata* – f. *cinnamomifolia*
Ro:54 *Daphnogene cinnamomifolia* f. *lanceolata*
Ro:55 *Daphnogene cinnamomifolia* f. *cinnamomifolia*
Ro:56 *Laurophyllum spp.*
Ro:57 Cyperales vel Typhales fam. gen. et sp. indet.
Ro:58 *Zizyphus zizyphoides*
Ro:59 Fabales fam. gen. et sp. indet. – forma 2
Ro:60 *Cercidiphyllum crenatum*
Ro:61 *Euryale* sp. – Petiole mit Emergenzen
Ro:62 *Nyssa* sp. – S
Ro:63 *Brasenia victoria* - S
Ro:64 *Stratiotes kaltennordheimensis*
Ro:65 *Tetrastigmophyllum rottense*
Ro:66 *Alnus menzelii*
Ro:67 *Platanus neptuni*
Ro:68 *Laurophyllum acutimontanum*
Ro:69 *Laurophyllum pseudoprinceps*
Ro:70 *Trigonobalanopsis rhamnoides*
Ro:71 *Pistacia oligocenica*
Ro:72 *Sibiraea rottensis*
Ro:73 *Populus germanica*
Ro:74 *Carya ventricosa*
Ro:75 *Carya lacrymabunda*
Ro:76 *Apocynophyllum apocynophyllum*
Ro:77 *Alnus palaeojaponica*
Ro:78 *Alnus* sp.
Ro:79 Blatt-Typ: *Laurus styracifolia*
Ro:80 *Magnolia attenuata*
Ro:81 *Laurocarpum* sp. 3
Ro:82 Blatt-Typ: *Laurus primigenia*
Ro:83 Blatt-Typ: *Laurus tristaniaefolia*
Ro:84 Blatt-Typ: *Laurus obovata*
Ro:85 *Cladiocarya* sp.
Ro:86 Cyperales vel Typhales gen. et sp. indet.
Ro:87 *Alnus* cf. *julianaeformis*
Ro:88 *Alnus nostratum*
Ro:89 *Carpinus minor*
Ro:90 *Quercus neriifolia*
Ro:91 *Apocynophyllum lanceolatum*
Ro:92 *Chrysophyllum nervosissimum*
Ro:93 *Dicotylophyllum* sp. 1

Ro:94 *Populus* sp. – Blütendeckschuppe
Ro:95 cf. *Vaccinium acheronticum*
Ro:96 *Dicotylophyllum* sp. 2
Ro:97 *Salix integra*
Ro:98 *Salix arcinervea*
Ro:99 *Salix rottensis*
Ro:100 *Salix longa*
Ro:101 *Zizyphus paradisiaca*
Ro:102 *Paliurus tiliaefolius*
Ro:103 *Berchemia parvifolia*
Ro:104 *Pistacia rottensis*
Ro:105 *Sapindus falcifolius*
Ro:106 *Nyssa rottensis*
Ro:107 *Dicotylophyllum* sp. 3
Ro:108 *Fagus deucalionis*
Ro:109 Fabales fam. gen. et sp. indet. – forma 1
RoP: 1 „Trockenrisse“
RoP: 2 „Diatomit (Polierschiefer)“
RoP: 3 *Glyptostrobus europaeus*

Uw Uthweiler
Uw: 1 *Cedrelospermum* (*Tremophyllum*) *tenerrimum*

Ob Orsberg
Ob:1 *Glyptostrobus europaeus*
Ob:2 *Acer sp.* – F
Ob:3 *Engelhardia* (*Palaeocarya*) *macrocarpa*
Ob:4 *Daphnogene cinnamomifolia* f. *lanceolata*
Ob:5 *Myrica lignitum*
Ob:6 *Pteris crenata*
Ob:7 *Alnus* cf. *julianaeformis*

St–1 Stößchen–1
St–1:1 *Glyptostrobus europaeus*
St–1:2 *Tetraclinis brachyodon* – Belaubung
St–1:3 *Sequoia abietina* – Belaubung
St–1:4 *Daphnogene cinnamomifolia* f. indet.
St–1:5 *Engelhardia* (*Palaeocarya*) *macroptera*
St–1:6 *Pinus* sp. 4 – Nadeln (*quaternae*)
St–1:7 *Quasisequoia couttsiae* – Zapfen
St–1:8 *Myrica longifolia*
St–1:9 *Pinus* sp. 3 – Nadeln, *Pinus* cf. *palaeostrobus*
St–1:10 *Quasisequoia couttsiae* – Belaubung
St–1:11 „Algae” incertae sedis – 2
St–1:12 Cyperaceae gen. et sp. indet. (schilfartige Blatt- und Stengelreste)
St–1:13 *Myrica lignitum*
St–1:14 *Engelhardia* (*Palaeocarya*) *orsbergensis*
St–1:15 „Lichenes” incertae sedis – cf. *Cladonia* sp.

St–2 Stößchen–2
St–2:1 Nymphaeaceae gen. et sp. indet. – Samen
St–2:2 Cyperales vel Typhales gen. et sp. indet.
St–2:3 *Daphnogene cinnamomifolia* f. *lanceolata*

Np–1 Niederpleis–1
Np–1:1 *Glyptostrobus europaeus*
Np–1:2 *Spirematospermum wetzleri*
Np–1:3 *Nyssa ornithobroma*
Np–1:4 *Spinopalmoxylon rhenanum*
Np–1:5 *Pronephrium stiriacum*
Np–1:6 *Myrica suppani*
Np–1:7 *Cordia mettenii*

Np–1:8 *Calamus daemonorops*
Np–1:9 *Rosellinites areolatus*

Ad Adendorf
Ad: 1 *Pinus hampeana*
Ad: 2 *Pinus sp.*
Ad: 3 *Cathaya bergeri*
Ad: 4 *Keteleeria hoehnei*
Ad: 5 *Tetraclinis salicornioides* – B
Ad: 6 *Tetraclinis salicornioides* – Z
Ad: 7.1 *Magnolia burseracea*
Ad: 7.2 *Magnolia sinuata*
Ad: 8 *Asimina browni*
Ad: 9 *Ocotea rhenana*
Ad:10 *Myrica suppani*
Ad:11 *Myrica minima*
Ad:12 cf. *Carya* sp. vel *Juglans* sp.
Ad:13 *Fortunearia europaea*
Ad:14 *Liquidambar magniloculata*
Ad:15 *Trigonobalanopsis exacantha*
Ad:16 *Rubus laticostatus*
Ad:17 *Toddalia rhenana*
Ad:18 *Eomastixia persicoides*
Ad:19 *Tectocarya lusatica*
Ad:20 *Mastixia amygdalaeformis*
Ad:21 *Mastixia lusatica*
Ad:22 *Acanthopanax solutus*
Ad:23 *Vitis sp.*
Ad:24 *Tetrastigma chandleri*
Ad:25 *Tetrastigma lobata*
Ad:26 *Ilex saxonica*
Ad:27 *Eurya stigmosa*
Ad:28 *Ternstroemia neglecta*
Ad:29 *Leucothoe narbonnensis*
Ad:30 *Shpenotheca incurva*
Ad:31 *Pallioporia symplocoides*
Ad:32 *Symplocos lignitarum*
Ad:33 *Symplocos salzhausensis*
Ad:34 *Symplocos schereri*
Ad:35 *Symplocos wiesaensis*
Ad:36 *Stratiotes kaltennordheimensis*
Ad:37 *Potamogeton wiesaensis*
Ad:38 *Potamogeton sp.*
Ad:39 *Carex* sp. 1
Ad:40 *Carex* sp. 2
Ad:41 *Cordia mettenii*
Ad:42 Ascomycota, Sphaeriaceae, *Rosellinites areolatus*
Ad:43 Ascomycota, Neurosporaceae, Gen. indet.
Ad:44 Basidiomycota, Poriaceae, Gen. indet.

Anhang B: Statistik–Daten

Datenmatrix

FUNDORTE

1 SKF_Ar
2 SKF_Stb
3 SKF_Dbt
4 SKF_All
5 SKF_Qs
6 SKF_Rs
7 V_Ok
8 PBF_Np-1
9 PBF_Tgb
10 SDF_Ro
11 SDF_Ob
12 SDF_St
13 SDF_St-1
14 SDF_Fri
15 SDF_Lie
16 CHF_Muf
17 CHF_St-2
18 PSF_Np
19 PSF_Ad

TAXA

1 Pte goe
2 Pte cre
3 Pte xip
4 Cys fum
5 Asp lig
6 Osm hee
7 Lyg sp.
8 Asp mey
9 Pro sti
10 Sal cer
11 Sal sp.
12 Cat ber
13 Ket hoe
14 Pin ham
15 Pin sp1
16 Pin sp2
17 Pin pal
18 Pin sp4
19 Seq abi
20 Qua cou
21 Tax dub
22 Gly eur
23 Tet sal
24 Mag att
25 Mag bur
26 Kad bre
27 Asi bro
28 Lit rot
29 Lin rot
30 Oco rhe
31 Lau sp1
32 Lau sp2
33 Lau sp3
34 Lau acu
35 Lau pse
36 Lau sty
37 Lau pri
38 Lau tri
39 Lau obo
40 Lau gra
41 Lau sp.
42 Dap cci
43 Dap cla
44 Dap ccl
45 Nym nym
46 Nym are
47 Bra vic
48 Cer cre
49 Myr lig
50 Myr ett
51 Myr lon
52 Myr bov
53 Myr sup
54 Myr min
55 Com dif
56 Jug acu
57 Jug cos
58 Car ser
59 Car ven
60 Car lac
61 Pte par
62 Eng mac
63 Eng ors
64 Liq mag
65 Liq eur
66 Liq sp1
67 Liq sp2
68 For eur
69 Pla nep
70 Que lon
71 Que buc
72 Que asp
73 Que ner
74 Eot fur
75 Tri exa
76 Tri rha
77 Fag deu
78 Car gra
79 Car min
80 Aln men
81 Aln rot
82 Aln nos
83 Aln pal
84 Aln jul
85 Aln gra
86 Aln kef
87 Ulm plu
88 Zel zel
89 Cel beg
90 Pte ter
91 Ced aqu
92 Tre ten
93 Pol fim
94 Rub lat
95 Sib rot
96 Pru pri
97 Pru ins
98 Pru per
99 Pru nau
100 Pru dub
101 Pru rho
102 Pod ter
103 Pte ter
104 Leg sp.
105 Fab fo1
106 Fab fo2
107 Fab fo3
108 Fab fo4
109 Fab fo5
110 Pun nat
111 Dap oen
112 Ter rot
113 Dec glo
114 Mic par
115 Mic men
116 Ail ail
117 Ail con
118 Pis sep
119 Pis rot
120 Pis oli
121 Rhu noe
122 Rhu pte
123 Rhu pyr
124 Tod rhe
125 Koe ret
126 Sap fal
127 Ace cyc
128 Ace tri
129 Ace int
130 Ace in1
131 Ace sp1
132 Ace sp2
133 Ace sp3
134 Cor acu
135 Cor rha
136 Eom per
137 Eom sp.
138 Eom sax
139 Eom men
140 Tec lus
141 Ret sch
142 Mas amy
143 Mas lus
144 Nys rot
145 Nys orn
146 Aca sol
147 Ziz ziz
148 Ziz par
149 Pal fav
150 Pal til
151 Ber par
152 Ber mul
153 Vit teu
154 Vit sp1
155 Vit sp2
156 Tet cha
157 Tet lob
158 Tet rot
159 Ile bil
160 Ile rot
161 Ile par
162 Ile sax
163 Vis rot
164 Sta div
165 Eur sti
166 Ter neg
167 Mon mac
168 Slo sp.
169 Cra bro
170 Dom dec
171 Pop rot
172 Pop ger
173 Pop pop
174 Pop bal
175 Sal rot
176 Sal lon
177 Sal int
178 Sal arc
179 Leu nar
180 Leu nar
181 Leu pro
182 Led lim
183 Vac ach
184 Vac rot
185 Vac per
186 Arb rot
187 Sid sal
188 Dip ter
189 Chr ner
190 Sty max
191 Sph inc
192 Pal sym
193 Sym lig
194 Sym sal
195 Sym sch
196 Sym wie
197 Sym pse
198 Ple rot
199 Cat mic
200 Apo lan
201 Apo apo
202 Apo dec
203 Apo gla
204 Cyp ang
205 Cyp cos
206 Cuc gol
207 Dil rot
208 Eup pri
209 Maj pet
210 Pun hes
211 Rha lan
212 Rot inc

```
213 Zyg rot              222 Sam sp.              231 Sab maj              240 Cla tre
214 Bum ore              223 Ter eur              232 Man for              241 CYP TYP
215 Clu agl              224 Ter mio              233 Spi dae              242 Spi wet
216 Dod pri              225 Vib web              234 Spi rhe              243 Smi rem
217 Ech sop              226 Xan bra              235 Uro dal              244 Smi web
218 Fra exc              227 Hyd rot              236 Epi cri              245 Cor met
219 Gau lig              228 Str kal              237 Luz rot              246 Car sop
220 Mor pro              229 Pot wie              238 Car sp1
221 Plu ner              230 Pot sp.              239 Car sp2
-----------------------------------------------------------------------------------------
```

Detrended Correspondence Analysis (DCA)

```
****************** Detrended Correspondence Analysis (DCA) ******************
PC-ORD, Version 4.33
 4 Jun 2005, 20:46

Detrended Correspondence Analysis (DCA)
Number of non-zero data items:      510

Downweighting selected.  Weights applied to columns, in sequential order:
 0.357 0.714 0.357 0.357 0.357 0.357 0.357 0.357 0.714 0.714
 0.357 0.714 0.357 1.000 0.357 0.357 0.357 0.357 1.000 0.714
 1.000 1.000 1.000 0.714 0.714 0.357 0.357 0.357 0.357 0.357
 0.714 0.357 0.357 0.714 1.000 1.000 1.000 1.000 1.000 0.357
 0.357 1.000 1.000 0.714 1.000 1.000 0.357 0.714 1.000 0.714
 0.714 0.357 1.000 0.357 0.714 1.000 1.000 0.357 1.000 0.357
 0.357 1.000 1.000 0.357 1.000 0.357 1.000 0.357 0.357 1.000
 0.357 0.357 0.357 1.000 0.714 1.000 0.714 1.000 0.357 1.000
 0.357 0.357 0.357 0.714 0.357 0.357 1.000 1.000 0.714 0.714
 0.714 0.714 0.357 0.357 0.357 0.357 0.357 1.000 0.714 1.000
 0.714 0.357 0.357 0.714 0.714 1.000 1.000 0.357 0.714 0.357
 0.357 0.714 0.357 0.357 0.357 0.714 1.000 0.357 0.357 0.357
 1.000 1.000 0.357 0.357 0.357 0.357 0.357 1.000 0.357 1.000
 0.357 0.714 0.357 0.357 0.357 0.714 0.357 0.357 0.357 0.357
 0.357 1.000 0.357 0.357 1.000 0.714 1.000 0.357 0.357 0.357
 0.714 0.357 0.714 0.357 0.357 0.357 0.357 1.000 0.357 0.357
 0.357 0.357 0.714 1.000 0.357 0.357 0.357 0.357 0.714 1.000
 0.357 1.000 0.714 0.357 0.357 1.000 0.357 1.000 0.357 0.357
 0.357 0.357 0.714 0.357 0.714 0.357 0.714 0.357 0.714 1.000
 0.357 0.357 0.714 0.357 0.357 0.357 0.357 0.357 0.357 1.000
 0.357 0.357 1.000 0.357 0.357 0.357 0.357 0.357 1.000 0.357
 0.714 0.357 0.357 1.000 0.357 1.000 1.000 0.714 0.357 0.357
 0.714 0.357 1.000 0.357 0.357 0.357 0.357 1.000 0.357 0.357
 0.357 0.357 0.714 0.357 0.357 0.357 0.357 0.357 0.357 0.357
 1.000 0.714 0.714 0.714 1.000 0.714
Axes are rescaled
Number of segments: 30
Threshold:  0.00

Total variance ("inertia") in the species data:   4.7419

                    ---------- Axis 1 ----------

 0.2085212469 = residual at iteration   0
 0.0642104596 = residual at iteration   1
 0.0041507189 = residual at iteration   2
 0.0002320774 = residual at iteration   3
 0.0000176656 = residual at iteration   4
 0.0000015334 = residual at iteration   5
 0.1265052557 = residual at iteration   6
 0.0687549114 = residual at iteration   7
 0.0044055404 = residual at iteration   8
 0.0003515719 = residual at iteration   9
 0.0000219242 = residual at iteration  10
 0.0000018778 = residual at iteration  11
 0.0000011703 = residual at iteration  12
 0.1327312738 = residual at iteration  13
 0.0065890322 = residual at iteration  14
 0.0004247408 = residual at iteration  15
 0.0000191013 = residual at iteration  16
 0.0000017000 = residual at iteration  17
 0.1134949550 = residual at iteration  18
 0.0533351749 = residual at iteration  19
 0.0027704102 = residual at iteration  20
```

```
0.0001140114 = residual at iteration  21
0.0000074291 = residual at iteration  22
0.0000010664 = residual at iteration  23
0.1745597422 = residual at iteration  24
0.0080624558 = residual at iteration  25
0.0005715055 = residual at iteration  26
0.0000244372 = residual at iteration  27
0.0000021063 = residual at iteration  28
0.1376392543 = residual at iteration  29
0.1208834127 = residual at iteration  30
0.0076119783 = residual at iteration  31
0.0005252527 = residual at iteration  32
0.0000308537 = residual at iteration  33
0.0000024152 = residual at iteration  34
0.1274148375 = residual at iteration  35
0.1059293300 = residual at iteration  36
0.0087847123 = residual at iteration  37
0.0006294133 = residual at iteration  38
0.0000450406 = residual at iteration  39
0.0000034009 = residual at iteration  40
0.0000026576 = residual at iteration  41
0.0000009089 = residual at iteration  42
0.1415210962 = residual at iteration  43
0.0308596902 = residual at iteration  44
0.0011772107 = residual at iteration  45
0.0000357960 = residual at iteration  46
0.0000020445 = residual at iteration  47
0.0000014534 = residual at iteration  48
0.1621471345 = residual at iteration  49
0.0041714041 = residual at iteration  50
0.1414191127 = residual at iteration  60
0.0000022376 = residual at iteration  70
0.0000793037 = residual at iteration  80
0.0042211558 = residual at iteration  90
0.1035845950 = residual at iteration 100
0.0000031260 = residual at iteration 110
0.0002003839 = residual at iteration 120
0.0474517122 = residual at iteration 130
0.0000012523 = residual at iteration 140
0.0000052773 = residual at iteration 150
0.0001222517 = residual at iteration 160
0.0439901389 = residual at iteration 170
0.0000011701 = residual at iteration 180
0.0002523972 = residual at iteration 190
0.0699445084 = residual at iteration 200
0.0000026145 = residual at iteration 210
0.0001377993 = residual at iteration 220
0.0170686170 = residual at iteration 230
0.2200920582 = residual at iteration 240
0.0000011922 = residual at iteration 250
0.0000203524 = residual at iteration 260
0.0030149156 = residual at iteration 270
0.1482087970 = residual at iteration 280
0.1017151624 = residual at iteration 290
0.0806608051 = residual at iteration 300
0.0000011878 = residual at iteration 310
0.0000101991 = residual at iteration 320
0.0012661264 = residual at iteration 330
0.0000014614 = residual at iteration 340
0.0000291400 = residual at iteration 350
0.0074790977 = residual at iteration 360
0.0224090572 = residual at iteration 370
0.0000012293 = residual at iteration 380
0.0000040630 = residual at iteration 390
0.0001182586 = residual at iteration 400
0.0108075468 = residual at iteration 410
0.1598416269 = residual at iteration 420
0.0000102682 = residual at iteration 430
0.0035164887 = residual at iteration 440
0.1303933561 = residual at iteration 450
0.0000143924 = residual at iteration 460
0.0008328977 = residual at iteration 470
0.0000055572 = residual at iteration 480
0.0003525807 = residual at iteration 490
0.0684325397 = residual at iteration 500
0.0000023925 = residual at iteration 510
0.0005549304 = residual at iteration 520
0.0107727572 = residual at iteration 530
```

```
 0.1758226752 = residual at iteration 540
 0.0000020343 = residual at iteration 550
 0.0000076174 = residual at iteration 560
 0.0003209606 = residual at iteration 570
 0.0934878066 = residual at iteration 580
 0.0000013884 = residual at iteration 590
 0.0000087416 = residual at iteration 600
 0.0000180244 = residual at iteration 610
 0.0056261471 = residual at iteration 620
 0.1204496920 = residual at iteration 630
 0.1335997730 = residual at iteration 640
 0.0000111248 = residual at iteration 650
 0.0055467989 = residual at iteration 660
 0.1404019892 = residual at iteration 670
 0.0000085346 = residual at iteration 680
 0.0018039682 = residual at iteration 690
 0.1731581092 = residual at iteration 700
 0.0000218883 = residual at iteration 710
 0.0024948958 = residual at iteration 720
 0.2406508327 = residual at iteration 730
 0.0000018410 = residual at iteration 740
 0.0001327915 = residual at iteration 750
 0.0578369386 = residual at iteration 760
 0.0000029334 = residual at iteration 770
 0.0004952467 = residual at iteration 780
 0.1283402443 = residual at iteration 790
 0.0000032976 = residual at iteration 800
 0.0002222808 = residual at iteration 810
 0.0364940874 = residual at iteration 820
 0.0000016603 = residual at iteration 830
 0.0000612496 = residual at iteration 840
 0.0078726653 = residual at iteration 850
 0.1543364674 = residual at iteration 860
 0.0000035250 = residual at iteration 870
 0.0004168021 = residual at iteration 880
 0.0000009331 = residual at iteration 890
 0.0000216770 = residual at iteration 900
 0.0005200697 = residual at iteration 910
 0.0001614691 = residual at iteration 920
 0.0060582696 = residual at iteration 930
 0.1096792296 = residual at iteration 940
 0.0000085692 = residual at iteration 950
 0.0000868763 = residual at iteration 960
 0.0292525049 = residual at iteration 970
 0.1952872872 = residual at iteration 980
 0.0000064436 = residual at iteration 990
 0.0031150810 = residual at iteration 999
 0.7383882403 = eigenvalue
*** BEWARE *** RESIDUAL BIGGER THAN TOLERANCE, WHICH IS 0.0000001000

Length of gradient:     3.369
Length of segments:  0.38  0.37  0.34  0.32  0.29  0.26  0.20  0.12  0.11  0.11
Length of segments:  0.11  0.12  0.12  0.13  0.13  0.13  0.13
Length of gradient:     4.017

Length of gradient:     4.758
Length of segments:  0.23  0.22  0.21  0.20  0.19  0.19  0.20  0.20  0.21  0.21
Length of segments:  0.21  0.21  0.21  0.20  0.16  0.15  0.15  0.16  0.17  0.19
Length of segments:  0.20  0.22  0.23  0.23
Length of gradient:     4.881

                    ---------- Axis 2 ----------

 0.1540455818 = residual at iteration   0
 0.0105029354 = residual at iteration   1
 0.0014790606 = residual at iteration   2
 0.0000900213 = residual at iteration   3
 0.0000185137 = residual at iteration   4
 0.0000018296 = residual at iteration   5
 0.0000004221 = residual at iteration   6
 0.0000001581 = residual at iteration   7
 0.0385641642 = residual at iteration   8
 0.0389208160 = residual at iteration   9
 0.0121160243 = residual at iteration  10
 0.0015738534 = residual at iteration  11
 0.0002939456 = residual at iteration  12
 0.0000419640 = residual at iteration  13
 0.0000082207 = residual at iteration  14
```

```
 0.0000012860 = residual at iteration  15
 0.0000011481 = residual at iteration  16
 0.0576948710 = residual at iteration  17
 0.0180264823 = residual at iteration  18
 0.0028971105 = residual at iteration  19
 0.0002153346 = residual at iteration  20
 0.0000397917 = residual at iteration  21
 0.0000034014 = residual at iteration  22
 0.0454276763 = residual at iteration  23
 0.0487214327 = residual at iteration  24
 0.0137934322 = residual at iteration  25
 0.0023190740 = residual at iteration  26
 0.0004791285 = residual at iteration  27
 0.0000799474 = residual at iteration  28
 0.0000165430 = residual at iteration  29
 0.0000028057 = residual at iteration  30
 0.0000014295 = residual at iteration  31
 0.0979733020 = residual at iteration  32
 0.0091822371 = residual at iteration  33
 0.0021139737 = residual at iteration  34
 0.0001409437 = residual at iteration  35
 0.0000318143 = residual at iteration  36
 0.0000022970 = residual at iteration  37
 0.0394829474 = residual at iteration  38
 0.0571607612 = residual at iteration  39
 0.0140679115 = residual at iteration  40
 0.0024173723 = residual at iteration  41
 0.0004526452 = residual at iteration  42
 0.0000768967 = residual at iteration  43
 0.0000144805 = residual at iteration  44
 0.0000026163 = residual at iteration  45
 0.0612819493 = residual at iteration  46
 0.0324285068 = residual at iteration  47
 0.0133816721 = residual at iteration  48
 0.0010170257 = residual at iteration  49
 0.0001991767 = residual at iteration  50
 0.0000031645 = residual at iteration  60
 0.0110945851 = residual at iteration  70
 0.0000382614 = residual at iteration  80
 0.0000014436 = residual at iteration  90
 0.0001696528 = residual at iteration 100
 0.0000144760 = residual at iteration 110
 0.0530142076 = residual at iteration 120
 0.0000859964 = residual at iteration 130
 0.0000042169 = residual at iteration 140
 0.0000013067 = residual at iteration 150
 0.0008724946 = residual at iteration 160
 0.0001820065 = residual at iteration 170
 0.0000016119 = residual at iteration 180
 0.0000016251 = residual at iteration 190
 0.0071458318 = residual at iteration 200
 0.0001108825 = residual at iteration 210
 0.0000013001 = residual at iteration 220
 0.0371415019 = residual at iteration 230
 0.0002916982 = residual at iteration 240
 0.0001686625 = residual at iteration 250
 0.0000022092 = residual at iteration 260
 0.0000002610 = residual at iteration 270
 0.0116621675 = residual at iteration 280
 0.0000424797 = residual at iteration 290
 0.0000013023 = residual at iteration 300
 0.0010163363 = residual at iteration 310
 0.0000047749 = residual at iteration 320
 0.0634449199 = residual at iteration 330
 0.0004100208 = residual at iteration 340
 0.0000000776 = residual at iteration 345
 0.3586362898 = eigenvalue

Length of gradient:     3.241
Length of segments:  0.16  0.17  0.20  0.23  0.27  0.28  0.27  0.25  0.23  0.22
Length of segments:  0.21  0.20  0.17  0.11  0.09  0.09  0.09
Length of gradient:     3.574

Length of gradient:     3.388
Length of segments:  0.18  0.19  0.21  0.22  0.23  0.22  0.21  0.21  0.21  0.20
Length of segments:  0.20  0.20  0.19  0.19  0.18  0.17  0.17
Length of gradient:     3.323
```

```
                  ---------- Axis 3 ----------

 0.0590263791 = residual at iteration   0
 0.0087371254 = residual at iteration   1
 0.0000829245 = residual at iteration   2
 0.0000011129 = residual at iteration   3
 0.0659644604 = residual at iteration   4
 0.0055079032 = residual at iteration   5
 0.0000571990 = residual at iteration   6
 0.0000008781 = residual at iteration   7
 0.0558627434 = residual at iteration   8
 0.0091118943 = residual at iteration   9
 0.0001102154 = residual at iteration  10
 0.0000014679 = residual at iteration  11
 0.0000008084 = residual at iteration  12
 0.0286401510 = residual at iteration  13
 0.0003166272 = residual at iteration  14
 0.0000041783 = residual at iteration  15
 0.0000008149 = residual at iteration  16
 0.0225815214 = residual at iteration  17
 0.0000881634 = residual at iteration  18
 0.0000010086 = residual at iteration  19
 0.0975693613 = residual at iteration  20
 0.0025193898 = residual at iteration  21
 0.0000266664 = residual at iteration  22
 0.0000008107 = residual at iteration  23
 0.0842360407 = residual at iteration  24
 0.0012300338 = residual at iteration  25
 0.0000149754 = residual at iteration  26
 0.0000008234 = residual at iteration  27
 0.0496569909 = residual at iteration  28
 0.0005000254 = residual at iteration  29
 0.0000051033 = residual at iteration  30
 0.0000007409 = residual at iteration  31
 0.0246704612 = residual at iteration  32
 0.0001473331 = residual at iteration  33
 0.0000012725 = residual at iteration  34
 0.0000007243 = residual at iteration  35
 0.0685516223 = residual at iteration  36
 0.0004615089 = residual at iteration  37
 0.0000045251 = residual at iteration  38
 0.0000007918 = residual at iteration  39
 0.0233873017 = residual at iteration  40
 0.0000460308 = residual at iteration  41
 0.0000007598 = residual at iteration  42
 0.0803742111 = residual at iteration  43
 0.0007473573 = residual at iteration  44
 0.0000070693 = residual at iteration  45
 0.0000007455 = residual at iteration  46
 0.0347932540 = residual at iteration  47
 0.0001701934 = residual at iteration  48
 0.0000012887 = residual at iteration  49
 0.0614982769 = residual at iteration  50
 0.0000066163 = residual at iteration  60
 0.0002041410 = residual at iteration  70
 0.0000008460 = residual at iteration  80
 0.0000317669 = residual at iteration  90
 0.0374131948 = residual at iteration 100
 0.0000018168 = residual at iteration 110
 0.0291706342 = residual at iteration 120
 0.0000008038 = residual at iteration 130
 0.0000930117 = residual at iteration 140
 0.0661676005 = residual at iteration 150
 0.0000189648 = residual at iteration 160
 0.0013733602 = residual at iteration 170
 0.0000007407 = residual at iteration 180
 0.0000090149 = residual at iteration 190
 0.0007553108 = residual at iteration 200
 0.0000007541 = residual at iteration 210
 0.0001301812 = residual at iteration 220
 0.0542206466 = residual at iteration 230
 0.0000008306 = residual at iteration 240
 0.0004884616 = residual at iteration 250
 0.0569749735 = residual at iteration 260
 0.0000133507 = residual at iteration 270
 0.0002458482 = residual at iteration 280
 0.0000007576 = residual at iteration 290
 0.0000014333 = residual at iteration 300
```

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 0.0891603604 = residual at iteration 310
 0.0000300834 = residual at iteration 320
 0.0457112119 = residual at iteration 330
 0.0000017240 = residual at iteration 340
 0.0196072143 = residual at iteration 350
 0.0000008235 = residual at iteration 360
 0.0000322065 = residual at iteration 370
 0.0022672124 = residual at iteration 380
 0.0000006923 = residual at iteration 390
 0.0006385057 = residual at iteration 400
 0.1039989665 = residual at iteration 410
 0.0000033469 = residual at iteration 420
 0.0500245616 = residual at iteration 430
 0.0000040609 = residual at iteration 440
 0.0002697591 = residual at iteration 450
 0.0000033898 = residual at iteration 460
 0.0712674186 = residual at iteration 470
 0.0000009817 = residual at iteration 480
 0.0000620254 = residual at iteration 490
 0.0165312104 = residual at iteration 500
 0.0000006954 = residual at iteration 510
 0.0000032627 = residual at iteration 520
 0.0501781665 = residual at iteration 530
 0.0000007730 = residual at iteration 540
 0.0004112754 = residual at iteration 550
 0.0810759217 = residual at iteration 560
 0.0000066051 = residual at iteration 570
 0.0532381013 = residual at iteration 580
 0.0000116302 = residual at iteration 590
 0.0950652957 = residual at iteration 600
 0.0000006850 = residual at iteration 610
 0.0000868648 = residual at iteration 620
 0.0922743529 = residual at iteration 630
 0.0000024581 = residual at iteration 640
 0.0001563729 = residual at iteration 650
 0.0412825383 = residual at iteration 660
 0.0000012831 = residual at iteration 670
 0.0000954338 = residual at iteration 680
 0.0694923624 = residual at iteration 690
 0.0000939942 = residual at iteration 700
 0.0679265782 = residual at iteration 710
 0.0012936216 = residual at iteration 720
 0.0000008400 = residual at iteration 730
 0.0000052607 = residual at iteration 740
 0.0346240290 = residual at iteration 750
 0.0000163123 = residual at iteration 760
 0.0506983213 = residual at iteration 770
 0.0000007430 = residual at iteration 780
 0.0001748553 = residual at iteration 790
 0.0000008280 = residual at iteration 800
 0.0000043888 = residual at iteration 810
 0.0015885620 = residual at iteration 820
 0.0000007951 = residual at iteration 830
 0.0000303816 = residual at iteration 840
 0.0289519485 = residual at iteration 850
 0.0000008264 = residual at iteration 860
 0.0004780048 = residual at iteration 870
 0.0826850533 = residual at iteration 880
 0.0000071855 = residual at iteration 890
 0.0012984388 = residual at iteration 900
 0.0000007459 = residual at iteration 910
 0.0000059517 = residual at iteration 920
 0.0299286414 = residual at iteration 930
 0.0000007427 = residual at iteration 940
 0.0002134404 = residual at iteration 950
 0.0000007563 = residual at iteration 960
 0.0000370718 = residual at iteration 970
 0.0581534654 = residual at iteration 980
 0.0000008843 = residual at iteration 990
 0.0416855291 = residual at iteration 999
 0.2806847990 = eigenvalue
*** BEWARE *** RESIDUAL BIGGER THAN TOLERANCE, WHICH IS 0.0000001000

Length of gradient:     2.480
Length of segments:  0.27  0.27  0.26  0.26  0.26  0.26  0.26  0.22  0.11  0.08
Length of segments:  0.08  0.08  0.08
Length of gradient:     4.329
```

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Length of gradient:     4.719
Length of segments:  0.21  0.20  0.19  0.18  0.19  0.20  0.20  0.21  0.21  0.20
Length of segments:  0.20  0.20  0.20  0.19  0.19  0.19  0.19  0.19  0.20  0.20
Length of segments:  0.20  0.20  0.20  0.20
Length of gradient:     4.698

Detrended Correspondence Analysis (DCA)

SPECIES SCORES

    N    NAME     AX1  AX2  AX3      |      RANKED 1      |      RANKED 2
                                     |    EIG= 0.73839    |    EIG= 0.35864    |
    1 Pte goe    -15  -89    8      |   155 Vit sp2   586 |   17 Pin pal   478 |
    2 Pte cre    -10  323  251      |    52 Myr bov   586 |   18 Pin sp4   478 |
    3 Pte xip     19  325  200      |   113 Dec glo   586 |   44 Dap ccl   406 |
    4 Cys fum     19  325  200      |   114 Mic par   586 |   51 Myr lon   406 |
    5 Asp lig     19  325  200      |   115 Mic men   586 |   20 Qua cou   397 |
    6 Osm hee     19  325  200      |   234 Spi rhe   586 |   62 Eng mac   381 |
    7 Lyg sp.     19  325  200      |   235 Uro dal   586 |   63 Eng ors   381 |
    8 Asp mey     19  325  200      |   236 Epi cri   586 |  127 Ace cyc   362 |
    9 Pro sti    395  200  170      |   153 Vit teu   517 |   49 Myr lig   350 |
   10 Sal cer    517  237  267      |    10 Sal cer   517 |   89 Cel beg   348 |
   11 Sal sp.    393  205  173      |   233 Spi dae   517 |   48 Cer cre   348 |
   12 Cat ber    464  215  201      |    53 Myr sup   504 |   23 Tet sal   344 |
   13 Ket hoe    479  150   36      |   242 Spi wet   481 |  117 Ail con   342 |
   14 Pin ham    384  305   83      |    64 Liq mag   479 |   57 Jug cos   331 |
   15 Pin sp1    479  150   36      |    68 For eur   479 |    4 Cys fum   325 |
   16 Pin sp2     19  325  200      |   140 Tec lus   479 |   16 Pin sp2   325 |
   17 Pin pal    200  478  156      |   143 Mas lus   479 |   32 Lau sp2   325 |
   18 Pin sp4    200  478  156      |   154 Vit sp1   479 |  129 Ace int   325 |
   19 Seq abi    206   93  181      |   156 Tet cha   479 |  131 Ace sp1   325 |
   20 Qua cou    359  397  259      |   157 Tet lob   479 |   33 Lau sp3   325 |
   21 Tax dub    142   46  167      |   162 Ile sax   479 |   66 Liq sp1   325 |
   22 Gly eur    306  316  112      |   165 Eur sti   479 |  133 Ace sp3   325 |
   23 Tet sal    270  344    0      |   166 Ter neg   479 |  134 Cor acu   325 |
   24 Mag att      1   25  103      |   179 Leu nar   479 |  135 Cor rha   325 |
   25 Mag bur    357  270  115      |    94 Rub lat   479 |    8 Asp mey   325 |
   26 Kad bre     19  325  200      |   191 Sph inc   479 |  222 Sam sp.   325 |
   27 Asi bro    479  150   36      |   192 Pal sym   479 |   69 Pla nep   325 |
   28 Lit rot     19  325  200      |   194 Sym sal   479 |   71 Que buc   325 |
   29 Lin rot     19  325  200      |   195 Sym sch   479 |   72 Que asp   325 |
   30 Oco rhe    479  150   36      |   196 Sym wie   479 |  144 Nys rot   325 |
   31 Lau sp1    168 -154  154      |    13 Ket hoe   479 |   73 Que ner   325 |
   32 Lau sp2     19  325  200      |    27 Asi bro   479 |  148 Ziz par   325 |
   33 Lau sp3     19  325  200      |    54 Myr min   479 |  149 Pal fav   325 |
   34 Lau acu    120  212  243      |   229 Pot wie   479 |  150 Pal til   325 |
   35 Lau pse    296  136  171      |   230 Pot sp.   479 |  152 Ber mul   325 |
   36 Lau sty    -44    4  177      |   238 Car sp1   479 |   79 Car min   325 |
   37 Lau pri    -27   51  128      |   239 Car sp2   479 |  159 Ile bil   325 |
   38 Lau tri    -33   51  160      |    15 Pin sp1   479 |  160 Ile rot   325 |
   39 Lau obo     -9  167  173      |    30 Oco rhe   479 |  161 Ile par   325 |
   40 Lau gra    283  195  167      |   124 Tod rhe   479 |   81 Aln rot   325 |
   41 Lau sp.     19  325  200      |   245 Cor met   472 |  207 Dil rot   325 |
   42 Dap cci     39   54  112      |   136 Eom per   464 |  206 Cuc gol   325 |
   43 Dap cla    185   27  383      |   193 Sym lig   464 |  205 Cyp cos   325 |
   44 Dap ccl    122  406  180      |    12 Cat ber   464 |   41 Lau sp.   325 |
   45 Nym nym     81  210  591      |   138 Eom sax   447 |   83 Aln pal   325 |
   46 Nym are     22  283  478      |   139 Eom men   447 |  167 Mon mac   325 |
   47 Bra vic     19  325  200      |   141 Ret sch   447 |  168 Slo sp.   325 |
   48 Cer cre    140  348   42      |   197 Sym pse   447 |  171 Pop rot   325 |
   49 Myr lig     45  350  224      |   110 Pun nat   447 |  175 Sal rot   325 |
   50 Myr ett    -10  323  251      |     9 Pro sti   395 |    5 Asp lig   325 |
   51 Myr lon    122  406  180      |   145 Nys orn   394 |  177 Sal int   325 |
   52 Myr bov    586  205  173      |    11 Sal sp.   393 |  180 Leu nar   325 |
   53 Myr sup    504  212  190      |    14 Pin ham   384 |  181 Leu pro   325 |
   54 Myr min    479  150   36      |   228 Str kal   376 |  182 Led lim   325 |
   55 Com dif    -10  323  251      |    20 Qua cou   359 |  184 Vac rot   325 |
   56 Jug acu    -27   51  128      |   146 Aca sol   357 |   93 Pol fim   325 |
   57 Jug cos    134  331 -200      |    75 Tri exa   357 |  186 Arb rot   325 |
   58 Car ser     19  325  200      |    25 Mag bur   357 |   47 Bra vic   325 |
   59 Car ven    325  319  -34      |    59 Car ven   325 |  188 Dip ter   325 |
   60 Car lac     19  325  200      |   142 Mas amy   321 |   95 Sib rot   325 |
   61 Pte par     19  325  200      |    22 Gly eur   306 |    3 Pte xip   325 |
   62 Eng mac     77  381  222      |    35 Lau pse   296 |    6 Osm hee   325 |
   63 Eng ors     77  381  222      |    76 Tri rha   296 |   97 Pru ins   325 |
   64 Liq mag    479  150   36      |    40 Lau gra   283 |  198 Ple rot   325 |
   65 Liq eur    -29   53  188      |   232 Man for   283 |  199 Cat mic   325 |
   66 Liq sp1     19  325  200      |    23 Tet sal   270 |  201 Apo apo   325 |
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67	Liq sp2	82	-113	134	173	Pop pop	243	202	Apo dec	325
68	For eur	479	150	36	127	Ace cyc	231	102	Pod ter	325
69	Pla nep	19	325	200	19	Seq abi	206	204	Cyp ang	325
70	Que lon	-20	-1	86	241	CYP TYP	205	103	Pte ter	325
71	Que buc	19	325	200	88	Zel zel	203	26	Kad bre	325
72	Que asp	19	325	200	17	Pin pal	200	208	Eup pri	325
73	Que ner	19	325	200	18	Pin sp4	200	210	Pun hes	325
74	Eot fur	112	-24	192	174	Pop bal	197	212	Rot inc	325
75	Tri exa	357	270	115	43	Dap cla	185	213	Zyg rot	325
76	Tri rha	296	-30	145	137	Eom sp.	170	215	Clu agl	325
77	Fag deu	-10	323	251	31	Lau sp1	168	108	Fab fo4	325
78	Car gra	-12	138	103	21	Tax dub	142	219	Gau lig	325
79	Car min	19	325	200	172	Pop ger	141	220	Mor pro	325
80	Aln men	37	195	63	89	Cel beg	140	111	Dap oen	325
81	Aln rot	19	325	200	48	Cer cre	140	224	Ter mio	325
82	Aln nos	-42	321	299	57	Jug cos	134	227	Hyd rot	325
83	Aln pal	19	325	200	44	Dap ccl	122	28	Lit rot	325
84	Aln jul	-10	323	251	51	Myr lon	122	231	Sab maj	325
85	Aln gra	-42	321	299	34	Lau acu	120	29	Lin rot	325
86	Aln kef	-42	321	299	74	Eot fur	112	58	Car ser	325
87	Ulm plu	42	305	26	117	Ail con	91	118	Pis sep	325
88	Zel zel	203	170	31	67	Liq sp2	82	237	Luz rot	325
89	Cel beg	140	348	42	45	Nym nym	81	119	Pis rot	325
90	Pte ter	-10	323	251	62	Eng mac	77	60	Car lac	325
91	Ced aqu	-10	323	251	63	Eng ors	77	120	Pis oli	325
92	Tre ten	-10	323	251	246	Car sop	67	240	Cla tre	325
93	Pol fim	19	325	200	147	Ziz ziz	52	61	Pte par	325
94	Rub lat	479	150	36	49	Myr lig	45	123	Rhu pyr	325
95	Sib rot	19	325	200	209	Maj pet	43	125	Koe ret	325
96	Pru pri	-42	321	299	217	Ech sop	43	7	Lyg sp.	325
97	Pru ins	19	325	200	87	Ulm plu	42	126	Sap fal	325
98	Pru per	-29	53	188	190	Sty max	42	132	Ace sp2	323
99	Pru nau	-10	323	251	42	Dap cci	39	221	Plu ner	323
100	Pru dub	-33	51	160	80	Aln men	37	2	Pte cre	323
101	Pru rho	-10	323	251	170	Dom dec	34	109	Fab fo5	323
102	Pod ter	19	325	200	46	Nym are	22	151	Ber par	323
103	Pte ter	19	325	200	107	Fab fo3	20	77	Fag deu	323
104	Leg sp.	-10	323	251	16	Pin sp2	19	211	Rha lan	323
105	Fab fo1	-10	323	251	71	Que buc	19	84	Aln jul	323
106	Fab fo2	-13	277	140	32	Lau sp2	19	169	Cra bro	323
107	Fab fo3	20	163	19	129	Ace int	19	90	Pte ter	323
108	Fab fo4	19	325	200	131	Ace sp1	19	91	Ced aqu	323
109	Fab fo5	-10	323	251	29	Lin rot	19	183	Vac ach	323
110	Pun nat	447	262	346	8	Asp mey	19	92	Tre ten	323
111	Dap oen	19	325	200	66	Liq sp1	19	185	Vac per	323
112	Ter rot	-10	323	251	133	Ace sp3	19	187	Sid sal	323
113	Dec glo	586	205	173	33	Lau sp3	19	99	Pru nau	323
114	Mic par	586	205	173	134	Cor acu	19	50	Myr ett	323
115	Mic men	586	205	173	135	Cor rha	19	101	Pru rho	323
116	Ail ail	1	25	103	181	Leu pro	19	104	Leg sp.	323
117	Ail con	91	342	121	118	Pis sep	19	105	Fab fo1	323
118	Pis sep	19	325	200	69	Pla nep	19	218	Fra exc	323
119	Pis rot	19	325	200	206	Cuc gol	19	55	Com dif	323
120	Pis oli	19	325	200	222	Sam sp.	19	112	Ter rot	323
121	Rhu noe	-15	94	68	81	Aln rot	19	244	Smi web	323
122	Rhu pte	-45	67	203	144	Nys rot	19	82	Aln nos	321
123	Rhu pyr	19	325	200	72	Que asp	19	85	Aln gra	321
124	Tod rhe	479	150	36	73	Que ner	19	86	Aln kef	321
125	Koe ret	19	325	200	186	Arb rot	19	96	Pru pri	321
126	Sap fal	19	325	200	148	Ziz par	19	225	Vib web	321
127	Ace cyc	231	362	-166	150	Pal til	19	59	Car ven	319
128	Ace tri	2	88	41	123	Rhu pyr	19	22	Gly eur	316
129	Ace int	19	325	200	119	Pis rot	19	87	Ulm plu	305
130	Ace in1	-2	30	50	152	Ber mul	19	190	Sty max	305
131	Ace sp1	19	325	200	231	Sab maj	19	14	Pin ham	305
132	Ace sp2	-10	323	251	4	Cys fum	19	46	Nym are	283
133	Ace sp3	19	325	200	120	Pis oli	19	106	Fab fo2	277
134	Cor acu	19	325	200	213	Zyg rot	19	164	Sta div	277
135	Cor rha	19	325	200	79	Car min	19	203	Apo gla	277
136	Eom per	464	215	201	159	Ile bil	19	146	Aca sol	270
137	Eom sp.	170	-145	141	111	Dap oen	19	75	Tri exa	270
138	Eom sax	447	262	346	149	Pal fav	19	25	Mag bur	270
139	Eom men	447	262	346	160	Ile rot	19	228	Str kal	267
140	Tec lus	479	150	36	161	Ile par	19	145	Nys orn	263
141	Ret sch	447	262	346	6	Osm hee	19	138	Eom sax	262
142	Mas amy	321	1	97	212	Rot inc	19	139	Eom men	262
143	Mas lus	479	150	36	7	Lyg sp.	19	141	Ret sch	262
144	Nys rot	19	325	200	41	Lau sp.	19	110	Pun nat	262

145	Nys orn	394	263	227	103	Pte ter	19	197	Sym pse	262
146	Aca sol	357	270	115	102	Pod ter	19	163	Vis rot	241
147	Ziz ziz	52	102	-139	5	Asp lig	19	243	Smi rem	241
148	Ziz par	19	325	200	168	Slo sp.	19	153	Vit teu	237
149	Pal fav	19	325	200	198	Ple rot	19	10	Sal cer	237
150	Pal til	19	325	200	171	Pop rot	19	233	Spi dae	237
151	Ber par	-10	323	251	175	Sal rot	19	136	Eom per	215
152	Ber mul	19	325	200	177	Sal int	19	193	Sym lig	215
153	Vit teu	517	237	267	95	Sib rot	19	12	Cat ber	215
154	Vit sp1	479	150	36	188	Dip ter	19	34	Lau acu	212
155	Vit sp2	586	205	173	180	Leu nar	19	53	Myr sup	212
156	Tet cha	479	150	36	182	Led lim	19	45	Nym nym	210
157	Tet lob	479	150	36	184	Vac rot	19	245	Cor met	210
158	Tet rot	-9	167	173	93	Pol fim	19	236	Epi cri	205
159	Ile bil	19	325	200	47	Bra vic	19	114	Mic par	205
160	Ile rot	19	325	200	83	Aln pal	19	115	Mic men	205
161	Ile par	19	325	200	207	Dil rot	19	155	Vit sp2	205
162	Ile sax	479	150	36	237	Luz rot	19	52	Myr bov	205
163	Vis rot	1	241	71	97	Pru ins	19	11	Sal sp.	205
164	Sta div	-13	277	140	58	Car ser	19	234	Spi rhe	205
165	Eur sti	479	150	36	201	Apo apo	19	113	Dec glo	205
166	Ter neg	479	150	36	202	Apo dec	19	235	Uro dal	205
167	Mon mac	19	325	200	205	Cyp cos	19	242	Spi wet	205
168	Slo sp.	19	325	200	3	Pte xip	19	241	CYP TYP	202
169	Cra bro	-10	323	251	26	Kad bre	19	9	Pro sti	200
170	Dom dec	34	172	90	210	Pun hes	19	232	Man for	195
171	Pop rot	19	325	200	204	Cyp ang	19	40	Lau gra	195
172	Pop ger	141	-48	138	108	Fab fo4	19	80	Aln men	195
173	Pop pop	243	75	226	219	Gau lig	19	170	Dom dec	172
174	Pop bal	197	0	287	220	Mor pro	19	88	Zel zel	170
175	Sal rot	19	325	200	167	Mon mac	19	223	Ter eur	168
176	Sal lon	-24	-10	144	28	Lit rot	19	158	Tet rot	167
177	Sal int	19	325	200	224	Ter mio	19	39	Lau obo	167
178	Sal arc	-24	-10	144	227	Hyd rot	19	107	Fab fo3	163
179	Leu nar	479	150	36	208	Eup pri	19	64	Liq mag	150
180	Leu nar	19	325	200	199	Cat mic	19	196	Sym wie	150
181	Leu pro	19	325	200	215	Clu agl	19	229	Pot wie	150
182	Led lim	19	325	200	240	Cla tre	19	140	Tec lus	150
183	Vac ach	-10	323	251	60	Car lac	19	143	Mas lus	150
184	Vac rot	19	325	200	61	Pte par	19	13	Ket hoe	150
185	Vac per	-10	323	251	125	Koe ret	19	15	Pin sp1	150
186	Arb rot	19	325	200	126	Sap fal	19	157	Tet lob	150
187	Sid sal	-10	323	251	128	Ace tri	2	94	Rub lat	150
188	Dip ter	19	325	200	163	Vis rot	1	156	Tet cha	150
189	Chr ner	1	25	103	116	Ail ail	1	238	Car sp1	150
190	Sty max	42	305	26	24	Mag att	1	166	Ter neg	150
191	Sph inc	479	150	36	189	Chr ner	1	68	For eur	150
192	Pal sym	479	150	36	243	Smi rem	1	179	Leu nar	150
193	Sym lig	464	215	201	130	Ace in1	-2	239	Car sp2	150
194	Sym sal	479	150	36	39	Lau obo	-9	194	Sym sal	150
195	Sym sch	479	150	36	158	Tet rot	-9	192	Pal sym	150
196	Sym wie	479	150	36	99	Pru nau	-10	30	Oco rhe	150
197	Sym pse	447	262	346	2	Pte cre	-10	230	Pot sp.	150
198	Ple rot	19	325	200	112	Ter rot	-10	195	Sym sch	150
199	Cat mic	19	325	200	183	Vac ach	-10	191	Sph inc	150
200	Apo lan	-24	-10	144	50	Myr ett	-10	54	Myr min	150
201	Apo apo	19	325	200	77	Fag deu	-10	27	Asi bro	150
202	Apo dec	19	325	200	109	Fab fo5	-10	162	Ile sax	150
203	Apo gla	-13	277	140	151	Ber par	-10	165	Eur sti	150
204	Cyp ang	19	325	200	185	Vac per	-10	154	Vit sp1	150
205	Cyp cos	19	325	200	92	Tre ten	-10	124	Tod rhe	150
206	Cuc gol	19	325	200	101	Pru rho	-10	214	Bum ore	138
207	Dil rot	19	325	200	244	Smi web	-10	78	Car gra	138
208	Eup pri	19	325	200	221	Plu ner	-10	35	Lau pse	136
209	Maj pet	43	-102	132	187	Sid sal	-10	147	Ziz ziz	102
210	Pun hes	19	325	200	169	Cra bro	-10	121	Rhu noe	94
211	Rha lan	-10	323	251	91	Ced aqu	-10	19	Seq abi	93
212	Rot inc	19	325	200	84	Aln jul	-10	128	Ace tri	88
213	Zyg rot	19	325	200	90	Pte ter	-10	173	Pop pop	75
214	Bum ore	-12	138	103	218	Fra exc	-10	122	Rhu pte	67
215	Clu agl	19	325	200	55	Com dif	-10	42	Dap cci	54
216	Dod pri	-44	4	177	105	Fab fo1	-10	65	Liq eur	53
217	Ech sop	43	-102	132	132	Ace sp2	-10	98	Pru per	53
218	Fra exc	-10	323	251	211	Rha lan	-10	37	Lau pri	51
219	Gau lig	19	325	200	104	Leg sp.	-10	100	Pru dub	51
220	Mor pro	19	325	200	78	Car gra	-12	56	Jug acu	51
221	Plu ner	-10	323	251	214	Bum ore	-12	38	Lau tri	51
222	Sam sp.	19	325	200	203	Apo gla	-13	21	Tax dub	46

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   223 Ter eur    -44  168  180      |    164 Sta div   -13 |   226 Xan bra    42 |
   224 Ter mio     19  325  200      |    106 Fab fo2   -13 |   130 Ace in1    30 |
   225 Vib web    -42  321  299      |      1 Pte goe   -15 |    43 Dap cla    27 |
   226 Xan bra    -20   42 -181      |    121 Rhu noe   -15 |   116 Ail ail    25 |
   227 Hyd rot     19  325  200      |     70 Que lon   -20 |    24 Mag att    25 |
   228 Str kal    376  267  201      |    226 Xan bra   -20 |   189 Chr ner    25 |
   229 Pot wie    479  150   36      |    178 Sal arc   -24 |   216 Dod pri     4 |
   230 Pot sp.    479  150   36      |    200 Apo lan   -24 |    36 Lau sty     4 |
   231 Sab maj     19  325  200      |    176 Sal lon   -24 |   142 Mas amy     1 |
   232 Man for    283  195  167      |     37 Lau pri   -27 |   174 Pop bal     0 |
   233 Spi dae    517  237  267      |     56 Jug acu   -27 |    70 Que lon    -1 |
   234 Spi rhe    586  205  173      |     98 Pru per   -29 |   176 Sal lon   -10 |
   235 Uro dal    586  205  173      |     65 Liq eur   -29 |   200 Apo lan   -10 |
   236 Epi cri    586  205  173      |    100 Pru dub   -33 |   178 Sal arc   -10 |
   237 Luz rot     19  325  200      |     38 Lau tri   -33 |    74 Eot fur   -24 |
   238 Car sp1    479  150   36      |     96 Pru pri   -42 |    76 Tri rha   -30 |
   239 Car sp2    479  150   36      |     85 Aln gra   -42 |   172 Pop ger   -48 |
   240 Cla tre     19  325  200      |     82 Aln nos   -42 |     1 Pte goe   -89 |
   241 CYP TYP    205  202  425      |     86 Aln kef   -42 |   217 Ech sop  -102 |
   242 Spi wet    481  205  173      |    225 Vib web   -42 |   209 Maj pet  -102 |
   243 Smi rem      1  241   71      |     36 Lau sty   -44 |   246 Car sop  -108 |
   244 Smi web    -10  323  251      |    223 Ter eur   -44 |    67 Liq sp2  -113 |
   245 Cor met    472  210  187      |    216 Dod pri   -44 |   137 Eom sp.  -145 |
   246 Car sop     67 -108  196      |    122 Rhu pte   -45 |    31 Lau sp1  -154 |

Detrended Correspondence Analysis (DCA)

SAMPLE SCORES - WHICH ARE WEIGHTED MEAN SPECIES SCORES

    N    NAME     AX1  AX2  AX3      |       RANKED 1      |       RANKED 2
                                     |     EIG= 0.73839    |     EIG= 0.35864    |
    1 SKF_Ar      225   54  196      |      8 PBF_Np-1  488 |    13 SDF_St-1  332 |
    2 SKF_Stb     201   58  215      |     19 PSF_Ad    424 |    15 SDF_Lie   253 |
    3 SKF_Dbt     170    2  187      |     18 PSF_Np    401 |    10 SDF_Ro    231 |
    4 SKF_All      19   43  153      |      9 PBF_Tgb   347 |     8 PBF_Np-1  229 |
    5 SKF_Qs       49   53  134      |      1 SKF_Ar    225 |    11 SDF_Ob    229 |
    6 SKF_Rs      176    0  195      |      2 SKF_Stb   201 |    18 PSF_Np    216 |
    7 V_Ok          0   72  168      |     13 SDF_St-1  179 |     9 PBF_Tgb   210 |
    8 PBF_Np-1    488  229  194      |     15 SDF_Lie   179 |    14 SDF_Fri   201 |
    9 PBF_Tgb     347  210  208      |      6 SKF_Rs    176 |    16 CHF_Muf   181 |
   10 SDF_Ro       51  231  174      |      3 SKF_Dbt   170 |    19 PSF_Ad    179 |
   11 SDF_Ob       38  229  188      |     17 CHF_St-2  157 |    12 SDF_St    151 |
   12 SDF_St       48  151  104      |     16 CHF_Muf   123 |    17 CHF_St-2  146 |
   13 SDF_St-1    179  332  197      |     14 SDF_Fri   119 |     7 V_Ok       72 |
   14 SDF_Fri     119  201    0      |     10 SDF_Ro     51 |     2 SKF_Stb    58 |
   15 SDF_Lie     179  253   90      |      5 SKF_Qs     49 |     1 SKF_Ar     54 |
   16 CHF_Muf     123  181  469      |     12 SDF_St     48 |     5 SKF_Qs     53 |
   17 CHF_St-2    157  146  466      |     11 SDF_Ob     38 |     4 SKF_All    43 |
   18 PSF_Np      401  216  210      |      4 SKF_All    19 |     3 SKF_Dbt     2 |
   19 PSF_Ad      424  179   96      |      7 V_Ok        0 |     6 SKF_Rs      0 |

*************************** Calculations finished **************************
```

Nonmetric Multidimensional Scaling (NMS)

```
******************** Nonmetric Multidimensional Scaling ********************
PC-ORD, Version 4.33
 4 Jun 2005, 19:53

Nonmetric Multidimensional Scaling (NMS)
Ordination of Fundorte in Taxa     space.         19 Fundorte      246 Taxa

         The following options were selected:
ANALYSIS OPTIONS
         1.    CORREL. = Distance measure
         2.          2 = Number of axes (max. = 6)
         3.        100 = Maximum number of iterations
         4.     RANDOM = Starting coordinates (random or from file)
         5.          1 = Reduction in dimensionality at each cycle
         6.       0.20 = Step length (rate of movement toward minimum stress)
         7.   USE TIME = Random number seeds (use time vs. user-supplied)
         8.         10 = Number of runs with real data
         9.          0 = Number of runs with randomized data
        10.         NO = Autopilot
        11.   0.005000 = Stability criterion, standard deviations in stress
```

```
                         over last  10 iterations.
OUTPUT OPTIONS
        13.         NO = Write distance matrix?
        14.         NO = Write starting coordinates?
        15.         NO = List stress, etc. for each iteration?
        18.        YES = Plot stress vs. iteration?
        17.         NO = Plot distance vs. dissimilarity?
        16.        YES = Write final configuration?
        19.  UNROTATED = Write varimax-rotated or unrotated scores for graph?
        20.        YES = Write run log?
        21.         NO = Write weighted-average scores for Taxa    ?
------------------------------------------------------------------------------

      5184 = Seed for random number generator.

     **************** 2-dimensional solution ****************

      21.98889 = final stress for 2-dimensional solution
       0.00498 = final instability
            25 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar      -0.3578    -0.5053
     2 SKF_Stb      0.1473     0.7694
     3 SKF_Dbt      0.0811     0.3248
     4 SKF_All     -0.7432     0.5126
     5 SKF_Qs      -0.6367     0.4144
     6 SKF_Rs       0.0144     0.1936
     7 V_Ok        -0.9428    -0.1313
     8 PBF_Np-1     0.9690    -1.3900
     9 PBF_Tgb      0.8924    -0.3530
    10 SDF_Ro      -1.3758     0.6477
    11 SDF_Ob      -0.6979     0.8687
    12 SDF_St      -0.7332     0.2107
    13 SDF_St-1     0.7485     0.6891
    14 SDF_Fri     -0.6206    -0.8510
    15 SDF_Lie     -0.0778    -0.3284
    16 CHF_Muf      0.3521     0.2682
    17 CHF_St-2     0.3210     0.1153
    18 PSF_Np       0.8536    -0.7792
    19 PSF_Ad       1.8064    -0.6762

      PLOT OF STRESS V. ITERATION NUMBER
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```
                     ITERATION NUMBER

     **************** 1-dimensional solution ****************

      28.73281 = final stress for 1-dimensional solution
       0.00450 = final instability
            13 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar       0.2751
     2 SKF_Stb     -0.0126
     3 SKF_Dbt      0.0537
     4 SKF_All     -0.7448
     5 SKF_Qs      -0.6949
     6 SKF_Rs      -0.0901
     7 V_Ok        -0.7689
     8 PBF_Np-1     1.8085
     9 PBF_Tgb      1.0092
    10 SDF_Ro      -1.6660
    11 SDF_Ob      -1.1567
    12 SDF_St      -0.8958
    13 SDF_St-1     0.5609
    14 SDF_Fri     -1.1134
    15 SDF_Lie     -0.3090
    16 CHF_Muf      0.1346
    17 CHF_St-2     0.1669
    18 PSF_Np       1.2448
    19 PSF_Ad       2.1986

      PLOT OF STRESS V. ITERATION NUMBER
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                     ITERATION NUMBER

     **************** 2-dimensional solution ****************

      35.08844 = final stress for 2-dimensional solution
       0.00468 = final instability
            13 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar      -0.0132    -0.1216
     2 SKF_Stb     -0.1269    -0.1996
```

```
     3 SKF_Dbt     -0.8164     0.0845
     4 SKF_All     -0.1249     1.0303
     5 SKF_Qs      -0.1840     0.9722
     6 SKF_Rs      -0.8591     0.0117
     7 V_Ok         0.8837     0.1330
     8 PBF_Np-1    -1.0330     0.7774
     9 PBF_Tgb      1.1230     0.4349
    10 SDF_Ro      -0.4142     0.5321
    11 SDF_Ob       0.5692    -0.9349
    12 SDF_St       0.3271     0.9890
    13 SDF_St-1     1.1160    -0.5429
    14 SDF_Fri      0.7324    -0.4797
    15 SDF_Lie     -1.0483    -0.5911
    16 CHF_Muf     -0.4885    -0.9700
    17 CHF_St-2    -0.6216    -0.8041
    18 PSF_Np       0.1406    -1.1758
    19 PSF_Ad       0.8384     0.8546

     **************** 1-dimensional solution ****************

      53.93534 = final stress for 1-dimensional solution
       0.00417 = final instability
            10 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar       1.7050
     2 SKF_Stb     -0.5758
     3 SKF_Dbt     -1.3484
     4 SKF_All      0.2364
     5 SKF_Qs      -0.2642
     6 SKF_Rs      -1.4567
     7 V_Ok         1.2975
     8 PBF_Np-1    -1.5030
     9 PBF_Tgb      1.5290
    10 SDF_Ro      -0.1103
    11 SDF_Ob       0.8446
    12 SDF_St       0.5006
    13 SDF_St-1     0.7355
    14 SDF_Fri      0.1568
    15 SDF_Lie     -0.9084
    16 CHF_Muf     -0.9222
    17 CHF_St-2    -0.9975
    18 PSF_Np      -0.0156
    19 PSF_Ad       1.0967

     **************** 2-dimensional solution ****************

      15.92627 = final stress for 2-dimensional solution
       0.00492 = final instability
            49 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1           2
     1 SKF_Ar       0.9852     0.0016
     2 SKF_Stb      0.8652    -0.1203
     3 SKF_Dbt      0.4637     0.0148
     4 SKF_All      0.2265    -0.8922
     5 SKF_Qs       0.2404    -0.7353
     6 SKF_Rs       0.4575    -0.1063
     7 V_Ok         0.1302    -0.8765
     8 PBF_Np-1    -0.4952     1.6056
     9 PBF_Tgb     -0.5334     0.9066
    10 SDF_Ro      -0.4516    -1.3502
    11 SDF_Ob      -0.4843    -0.8472
    12 SDF_St      -0.4926    -0.6365
    13 SDF_St-1    -0.8525     0.2669
    14 SDF_Fri     -0.8927    -0.4568
    15 SDF_Lie     -0.3972    -0.0331
    16 CHF_Muf      0.0871     0.2051
    17 CHF_St-2     0.1086     0.2207
    18 PSF_Np       0.1611     1.1265
    19 PSF_Ad       0.8739     1.7063

     **************** 1-dimensional solution ****************
```

```
      42.40155 = final stress for 1-dimensional solution
       0.00207 = final instability
            18 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar       1.2655
     2 SKF_Stb      1.0707
     3 SKF_Dbt      0.7299
     4 SKF_All      0.4983
     5 SKF_Qs       0.4973
     6 SKF_Rs       0.7178
     7 V_Ok         0.4896
     8 PBF_Np-1    -2.0943
     9 PBF_Tgb     -1.4309
    10 SDF_Ro      -1.0024
    11 SDF_Ob      -0.5212
    12 SDF_St      -0.4553
    13 SDF_St-1    -0.8040
    14 SDF_Fri     -1.0900
    15 SDF_Lie     -0.2301
    16 CHF_Muf      0.0033
    17 CHF_St-2     0.0233
    18 PSF_Np       0.1803
    19 PSF_Ad       2.1520

     **************** 2-dimensional solution ****************

      15.89726 = final stress for 2-dimensional solution
       0.00404 = final instability
            21 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar       0.8577    -0.4792
     2 SKF_Stb      0.6742    -0.5195
     3 SKF_Dbt      0.4084    -0.1828
     4 SKF_All     -0.2288    -0.8902
     5 SKF_Qs      -0.1469    -0.7507
     6 SKF_Rs       0.3483    -0.2971
     7 V_Ok        -0.3069    -0.8284
     8 PBF_Np-1     0.4155     1.6422
     9 PBF_Tgb     -0.0060     1.0511
    10 SDF_Ro      -1.1148    -0.9964
    11 SDF_Ob      -0.8309    -0.4874
    12 SDF_St      -0.7329    -0.3088
    13 SDF_St-1    -0.6126     0.6716
    14 SDF_Fri     -1.0139     0.0296
    15 SDF_Lie     -0.3665     0.1790
    16 CHF_Muf      0.1531     0.1709
    17 CHF_St-2     0.1930     0.1615
    18 PSF_Np       0.6945     0.8556
    19 PSF_Ad       1.6154     0.9790

     **************** 1-dimensional solution ****************

      28.86590 = final stress for 1-dimensional solution
       0.00438 = final instability
            18 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar       0.4741
     2 SKF_Stb      0.3810
     3 SKF_Dbt      0.2254
     4 SKF_All     -0.7771
     5 SKF_Qs      -0.6988
     6 SKF_Rs       0.0081
     7 V_Ok        -0.7868
     8 PBF_Np-1     1.8180
     9 PBF_Tgb      1.0290
    10 SDF_Ro      -1.6628
    11 SDF_Ob      -1.1619
    12 SDF_St      -0.8839
    13 SDF_St-1    -0.1513
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```
    14 SDF_Fri     -1.0729
    15 SDF_Lie     -0.3615
    16 CHF_Muf      0.0846
    17 CHF_St-2     0.1171
    18 PSF_Np       1.2431
    19 PSF_Ad       2.1764

     **************** 2-dimensional solution ****************

      28.07335 = final stress for 2-dimensional solution
       0.00377 = final instability
            18 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar      -0.9100     0.7971
     2 SKF_Stb     -0.7574     0.7541
     3 SKF_Dbt     -0.5833     0.4274
     4 SKF_All      0.1652     0.7652
     5 SKF_Qs       0.0054     0.6540
     6 SKF_Rs      -0.6339     0.5036
     7 V_Ok         0.2671     0.8874
     8 PBF_Np-1     1.0140    -0.9123
     9 PBF_Tgb     -0.7909    -0.9334
    10 SDF_Ro      -0.1997    -1.2204
    11 SDF_Ob       0.5604    -0.0224
    12 SDF_St       0.5144     0.2350
    13 SDF_St-1     0.3483    -0.6272
    14 SDF_Fri      0.2606    -1.0041
    15 SDF_Lie     -0.2079    -0.3175
    16 CHF_Muf     -0.9773    -0.3067
    17 CHF_St-2    -0.7923    -0.0986
    18 PSF_Np       1.2110    -0.3153
    19 PSF_Ad       1.5064     0.7341

     **************** 1-dimensional solution ****************

      54.49078 = final stress for 1-dimensional solution
       0.00053 = final instability
            11 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar      -1.2686
     2 SKF_Stb     -0.9220
     3 SKF_Dbt     -1.4189
     4 SKF_All      1.6393
     5 SKF_Qs      -0.6965
     6 SKF_Rs      -0.4427
     7 V_Ok         0.1531
     8 PBF_Np-1     0.7596
     9 PBF_Tgb     -1.0999
    10 SDF_Ro      -0.0133
    11 SDF_Ob       1.4629
    12 SDF_St      -0.2048
    13 SDF_St-1     0.5712
    14 SDF_Fri      0.3279
    15 SDF_Lie     -1.6212
    16 CHF_Muf     -0.5621
    17 CHF_St-2     0.9041
    18 PSF_Np       1.2996
    19 PSF_Ad       1.1323

     **************** 2-dimensional solution ****************

      28.05611 = final stress for 2-dimensional solution
       0.00418 = final instability
            25 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar      -1.0162    -0.6511
     2 SKF_Stb     -0.9383    -0.5309
     3 SKF_Dbt     -0.4901    -0.6449
     4 SKF_All     -0.5009     0.2552
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```
     5 SKF_Qs      -0.5475     0.1668
     6 SKF_Rs      -0.4637    -0.6227
     7 V_Ok        -0.2801     0.2554
     8 PBF_Np-1     1.3168     0.1682
     9 PBF_Tgb      0.8714    -0.8447
    10 SDF_Ro       1.2286    -0.3797
    11 SDF_Ob       0.0612     0.7909
    12 SDF_St      -0.1104     0.6759
    13 SDF_St-1     0.6271     1.0103
    14 SDF_Fri     -0.1712     1.0842
    15 SDF_Lie      0.2725    -0.1799
    16 CHF_Muf      0.1817    -1.0234
    17 CHF_St-2     0.1225    -0.9201
    18 PSF_Np       1.0659     0.5130
    19 PSF_Ad      -1.2292     0.8773

     **************** 1-dimensional solution ****************

      42.95419 = final stress for 1-dimensional solution
       0.00323 = final instability
            20 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar      -1.2663
     2 SKF_Stb     -0.7984
     3 SKF_Dbt     -0.4292
     4 SKF_All     -0.5569
     5 SKF_Qs      -0.5278
     6 SKF_Rs      -0.4226
     7 V_Ok        -0.3016
     8 PBF_Np-1     2.0368
     9 PBF_Tgb      1.3191
    10 SDF_Ro       0.8343
    11 SDF_Ob      -0.0665
    12 SDF_St      -0.0191
    13 SDF_St-1     0.8167
    14 SDF_Fri     -0.9882
    15 SDF_Lie      0.2128
    16 CHF_Muf      0.4580
    17 CHF_St-2     0.4630
    18 PSF_Np       1.4514
    19 PSF_Ad      -2.2153

     **************** 2-dimensional solution ****************

      19.81903 = final stress for 2-dimensional solution
       0.00469 = final instability
            20 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar       0.2447     0.4083
     2 SKF_Stb      0.3134     0.3009
     3 SKF_Dbt      0.0042     0.0970
     4 SKF_All     -0.6427    -0.5991
     5 SKF_Qs      -0.5238    -0.4938
     6 SKF_Rs      -0.1101     0.0716
     7 V_Ok        -0.8261    -0.4516
     8 PBF_Np-1     0.2016     1.7284
     9 PBF_Tgb     -0.4420     1.0600
    10 SDF_Ro      -0.5917    -1.4088
    11 SDF_Ob      -0.2299    -1.0298
    12 SDF_St      -0.2304    -0.7890
    13 SDF_St-1     0.8757    -0.2978
    14 SDF_Fri      0.4676    -0.9635
    15 SDF_Lie      0.3009    -0.4035
    16 CHF_Muf     -0.6139     0.3741
    17 CHF_St-2    -0.3829     0.3434
    18 PSF_Np       0.6582     1.0152
    19 PSF_Ad       1.5272     1.0379

     **************** 1-dimensional solution ****************

      41.40792 = final stress for 1-dimensional solution
       0.00428 = final instability
```

```
           22 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar      -1.0340
     2 SKF_Stb     -0.0731
     3 SKF_Dbt      0.3976
     4 SKF_All     -0.3914
     5 SKF_Qs      -0.3523
     6 SKF_Rs       0.4066
     7 V_Ok        -0.8060
     8 PBF_Np-1    -2.1224
     9 PBF_Tgb      1.0623
    10 SDF_Ro      -1.3303
    11 SDF_Ob      -0.1675
    12 SDF_St      -0.1351
    13 SDF_St-1     0.7529
    14 SDF_Fri      0.9136
    15 SDF_Lie      0.3024
    16 CHF_Muf     -0.5532
    17 CHF_St-2    -0.5264
    18 PSF_Np       1.3459
    19 PSF_Ad       2.3105

     **************** 2-dimensional solution ****************

      30.68284 = final stress for 2-dimensional solution
       0.00233 = final instability
            19 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar      -0.9980    -0.2030
     2 SKF_Stb     -0.9334    -0.2038
     3 SKF_Dbt     -0.6635     0.1445
     4 SKF_All     -0.5005     0.8672
     5 SKF_Qs      -0.4804     0.6880
     6 SKF_Rs      -0.6455     0.0045
     7 V_Ok        -0.5712     0.9298
     8 PBF_Np-1     0.3826    -1.4975
     9 PBF_Tgb      1.1760     0.0175
    10 SDF_Ro       0.8938    -0.6929
    11 SDF_Ob       0.8123    -0.2288
    12 SDF_St       0.5002     0.2251
    13 SDF_St-1     0.2856     1.0630
    14 SDF_Fri      0.9545     0.6060
    15 SDF_Lie      0.1073    -0.7261
    16 CHF_Muf     -0.0372    -0.2475
    17 CHF_St-2    -0.1435    -0.3828
    18 PSF_Np       0.6435     1.0141
    19 PSF_Ad      -0.7827    -1.3773

     **************** 1-dimensional solution ****************

      47.31388 = final stress for 1-dimensional solution
       0.00215 = final instability
            19 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar      -1.3758
     2 SKF_Stb     -1.1394
     3 SKF_Dbt     -0.8326
     4 SKF_All     -0.9667
     5 SKF_Qs      -0.4513
     6 SKF_Rs      -0.8510
     7 V_Ok        -1.4921
     8 PBF_Np-1     1.8460
     9 PBF_Tgb      1.3815
    10 SDF_Ro       1.0406
    11 SDF_Ob       0.5511
    12 SDF_St       0.4894
    13 SDF_St-1     0.3558
    14 SDF_Fri      0.8379
    15 SDF_Lie     -0.0963
```

```
    16 CHF_Muf     -0.5932
    17 CHF_St-2    -0.5790
    18 PSF_Np       1.5708
    19 PSF_Ad       0.3042

     **************** 2-dimensional solution ****************

      17.08187 = final stress for 2-dimensional solution
       0.00399 = final instability
            28 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar      -0.2060     1.0212
     2 SKF_Stb     -0.0977     0.8674
     3 SKF_Dbt     -0.1631     0.4819
     4 SKF_All      0.7768     0.4915
     5 SKF_Qs       0.6772     0.3728
     6 SKF_Rs      -0.0450     0.5042
     7 V_Ok         0.8213     0.3486
     8 PBF_Np-1    -1.2650    -1.1685
     9 PBF_Tgb     -0.5447    -0.9039
    10 SDF_Ro       1.4889    -0.1342
    11 SDF_Ob       0.9132    -0.1727
    12 SDF_St       0.7459    -0.3199
    13 SDF_St-1    -0.6779     0.0416
    14 SDF_Fri      0.6298    -0.8333
    15 SDF_Lie      0.1419    -0.4303
    16 CHF_Muf     -0.1120     0.0529
    17 CHF_St-2    -0.1774     0.0459
    18 PSF_Np      -1.0434    -0.4170
    19 PSF_Ad      -1.8629     0.1517

     **************** 1-dimensional solution ****************

      41.48014 = final stress for 1-dimensional solution
       0.00491 = final instability
            19 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar       0.6413
     2 SKF_Stb      0.4204
     3 SKF_Dbt      0.0511
     4 SKF_All      0.4681
     5 SKF_Qs       0.3469
     6 SKF_Rs      -0.2305
     7 V_Ok         0.9138
     8 PBF_Np-1     2.1360
     9 PBF_Tgb     -1.1318
    10 SDF_Ro       1.3560
    11 SDF_Ob       0.8414
    12 SDF_St       0.2533
    13 SDF_St-1    -0.7669
    14 SDF_Fri     -0.9255
    15 SDF_Lie     -0.4920
    16 CHF_Muf     -0.1285
    17 CHF_St-2    -0.1249
    18 PSF_Np      -1.3522
    19 PSF_Ad      -2.2760

     **************** 2-dimensional solution ****************

      28.98711 = final stress for 2-dimensional solution
       0.00473 = final instability
            26 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar      -1.0728     0.4135
     2 SKF_Stb     -0.9799     0.4196
     3 SKF_Dbt     -0.5790     0.1131
     4 SKF_All      0.3233     0.3492
     5 SKF_Qs       0.1324     0.2380
     6 SKF_Rs      -0.6274     0.0863
```

```
     7 V_Ok         0.4450     0.4156
     8 PBF_Np-1    -0.2496     1.3463
     9 PBF_Tgb      0.0654     1.2529
    10 SDF_Ro       1.0786    -0.6709
    11 SDF_Ob       0.5723    -0.5087
    12 SDF_St       0.6431    -0.2209
    13 SDF_St-1    -0.5581    -1.0918
    14 SDF_Fri      1.0293     0.6047
    15 SDF_Lie     -0.0698    -0.6041
    16 CHF_Muf     -0.9176    -0.3806
    17 CHF_St-2    -0.7795    -0.3363
    18 PSF_Np       1.3242     0.0571
    19 PSF_Ad       0.2200    -1.4831

     **************** 1-dimensional solution ****************

      54.15749 = final stress for 1-dimensional solution
       0.00224 = final instability
            10 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1
     1 SKF_Ar      -1.6308
     2 SKF_Stb     -1.4955
     3 SKF_Dbt      0.4066
     4 SKF_All     -0.7023
     5 SKF_Qs       0.8947
     6 SKF_Rs       1.0331
     7 V_Ok         1.6448
     8 PBF_Np-1    -1.1018
     9 PBF_Tgb      0.7339
    10 SDF_Ro       0.5444
    11 SDF_Ob       0.1973
    12 SDF_St       1.4714
    13 SDF_St-1    -1.2781
    14 SDF_Fri     -0.5498
    15 SDF_Lie     -0.9103
    16 CHF_Muf     -0.2845
    17 CHF_St-2    -0.2924
    18 PSF_Np       1.2994
    19 PSF_Ad       0.0200

RUN LOG
----------------------------------------------------------------------
    Random Start Dimen-    Final  Iter-             Best for   File
Run  data? file?  sions   stress ations Instability* x axes   saved**
----------------------------------------------------------------------
   1     0     0      2   21.989    25   0.00497635
   1     0     0      1   28.733    13   0.00449577     1  CONFIG1.GPH
   2     0     0      2   35.088    13   0.00468358
   2     0     0      1   53.935    10   0.00417263
   3     0     0      2   15.926    49   0.00492238
   3     0     0      1   42.402    18   0.00206978
   4     0     0      2   15.897    21   0.00404315     2  CONFIG2.GPH
   4     0     0      1   28.866    18   0.00438413
   5     0     0      2   28.073    18   0.00377377
   5     0     0      1   54.491    11   0.00053488
   6     0     0      2   28.056    25   0.00417966
   6     0     0      1   42.954    20   0.00322777
   7     0     0      2   19.819    20   0.00468715
   7     0     0      1   41.408    22   0.00427992
   8     0     0      2   30.683    19   0.00232623
   8     0     0      1   47.314    19   0.00215363
   9     0     0      2   17.082    28   0.00399355
   9     0     0      1   41.480    19   0.00490935
  10     0     0      2   28.987    26   0.00473026
  10     0     0      1   54.157    10   0.00223522
----------------------------------------------------------------------
Random data: 0 = not randomized, 1 = randomized
Start file: 0 = random starting coordinates, 1 = read from file
Seeds: initial seeds for random number generator
* Stability criterion not met.
**To run a single NMS ordination that repeats the best result,
  specify this file as the starting configuration,
  rather than using a random start.  It is best to
  save this file under a new name, to avoid its being
  overwritten by the next NMS run.  To do this, open the
```

```
  file using File | Open | Graph Row file, then
  File | Save as | Graph Row file (then specify new name).


STRESS IN RELATION TO DIMENSIONALITY (Number of Axes)
--------------------------------------------------------------------
          Stress in real data          Stress in randomized data
               10 run(s)               Monte Carlo test,    0 runs
      -------------------------  -----------------------------------
Axes  Minimum     Mean  Maximum  Minimum     Mean  Maximum      p
--------------------------------------------------------------------
   1   28.733   43.574   54.491
   2   15.897   24.160   35.088
--------------------------------------------------------------------
p = proportion of randomized runs with stress < or = observed stress
i.e., p  = (1 + no. permutations <= observed)/(1 + no. permutations)

Conclusion:  a 2-dimensional solution is recommended.

Selected file CONFIG2.GPH  for the starting configuration for
   the final run.

Nonmetric Multidimensional Scaling (NMS)
Ordination of Fundorte in Taxa     space.         19 Fundorte      246 Taxa

         The following options were selected:
ANALYSIS OPTIONS
         1.    CORREL. = Distance measure
         2.          2 = Number of axes (max. = 6)
         3.        100 = Maximum number of iterations
         4.  FROM FILE = Starting coordinates (random or from file)
         5.          2 = Reduction in dimensionality at each cycle
         6.       0.20 = Step length (rate of movement toward minimum stress)
         7.   USE TIME = Random number seeds (use time vs. user-supplied)
         8.          1 = Number of runs with real data
         9.          0 = Number of runs with randomized data
        10.         NO = Autopilot
        11.   0.005000 = Stability criterion, standard deviations in stress
                         over last  10 iterations.
OUTPUT OPTIONS
        13.         NO = Write distance matrix?
        14.         NO = Write starting coordinates?
        15.         NO = List stress, etc. for each iteration?
        18.        YES = Plot stress vs. iteration?
        17.         NO = Plot distance vs. dissimilarity?
        16.        YES = Write final configuration?
        19.  UNROTATED = Write varimax-rotated or unrotated scores for graph?
        20.         NO = Write run log?
        21.         NO = Write weighted-average scores for Taxa    ?
------------------------------------------------------------------------------

File containing starting coordinates:
CONFIG2.GPH

     **************** 2-dimensional solution ****************

      15.89725 = final stress for 2-dimensional solution
       0.00404 = final instability
            21 = number of iterations

Final configuration (ordination scores) for this run
    Fundorte          Axis
Number Name              1          2
     1 SKF_Ar       0.8577    -0.4792
     2 SKF_Stb      0.6742    -0.5195
     3 SKF_Dbt      0.4084    -0.1828
     4 SKF_All     -0.2288    -0.8902
     5 SKF_Qs      -0.1469    -0.7507
     6 SKF_Rs       0.3483    -0.2971
     7 V_Ok        -0.3069    -0.8284
     8 PBF_Np-1     0.4155     1.6422
     9 PBF_Tgb     -0.0060     1.0511
    10 SDF_Ro      -1.1148    -0.9964
    11 SDF_Ob      -0.8309    -0.4874
    12 SDF_St      -0.7329    -0.3088
    13 SDF_St-1    -0.6126     0.6716
    14 SDF_Fri     -1.0139     0.0296
    15 SDF_Lie     -0.3665     0.1790
```

```
    16 CHF_Muf      0.1531     0.1709
    17 CHF_St-2     0.1930     0.1615
    18 PSF_Np       0.6945     0.8556
    19 PSF_Ad       1.6154     0.9790

      PLOT OF STRESS V. ITERATION NUMBER
       44.2008133.......................
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        0.0000000.......................
                           10        20
                      ITERATION NUMBER

Calculations completed  4 Jun 2005, 19:53
        0.00 minutes elapsed time.

**************************** Calculations finished ****************************
```

Hierarchical Cluster Analysis – NEAREST NEIGHBOR

```
*********************** Hierarchical Cluster Analysis ***********************
PC-ORD, Version 4.33
 4 Jun 2005, 19:30

Hierarchical Cluster Analysis - Nearest Neighbor Correlation

Linkage method:    NEAREST NEIGHBOR
Distance measure:  Correlation

                       D I S T A N C E   S Q U A R E D

    1 SKF_Ar
 0.000E+00 1.911E-01 3.403E-01 4.665E-01 3.826E-01 3.231E-01 4.691E-01
 4.875E-01 5.163E-01 5.233E-01 4.907E-01 4.977E-01 5.233E-01 5.233E-01
 4.809E-01 4.319E-01 4.177E-01 4.946E-01 4.908E-01
    2 SKF_Stb
 1.911E-01 0.000E+00 3.295E-01 4.253E-01 3.716E-01 3.116E-01 4.652E-01
 5.265E-01 5.154E-01 4.841E-01 4.591E-01 4.569E-01 4.718E-01 5.221E-01
 4.772E-01 4.269E-01 4.122E-01 4.523E-01 4.855E-01
    3 SKF_Dbt
 3.403E-01 3.295E-01 0.000E+00 3.293E-01 3.121E-01 1.299E-01 4.783E-01
 4.964E-01 4.598E-01 5.227E-01 4.458E-01 4.443E-01 4.002E-01 4.846E-01
 4.114E-01 3.715E-01 3.476E-01 4.385E-01 5.041E-01
    4 SKF_All
 4.665E-01 4.253E-01 3.293E-01 0.000E+00 1.830E-01 3.736E-01 2.621E-01
 5.458E-01 5.266E-01 4.497E-01 3.697E-01 3.229E-01 4.756E-01 4.444E-01
 4.252E-01 4.684E-01 4.574E-01 5.032E-01 5.752E-01
```

```
   5 SKF_Qs
3.826E-01 3.716E-01 3.121E-01 1.830E-01 0.000E+00 3.139E-01 3.005E-01
5.618E-01 4.658E-01 3.999E-01 3.637E-01 3.131E-01 5.012E-01 3.758E-01
4.392E-01 4.437E-01 4.268E-01 5.113E-01 5.580E-01
   6 SKF_Rs
3.231E-01 3.116E-01 1.299E-01 3.736E-01 3.139E-01 0.000E+00 4.227E-01
5.295E-01 4.534E-01 4.943E-01 4.297E-01 4.334E-01 4.332E-01 4.788E-01
3.992E-01 3.584E-01 3.328E-01 4.275E-01 4.956E-01
   7 V_Ok
4.691E-01 4.652E-01 4.783E-01 2.621E-01 3.005E-01 4.227E-01 0.000E+00
5.280E-01 5.163E-01 4.331E-01 4.203E-01 3.916E-01 5.233E-01 4.277E-01
3.920E-01 4.319E-01 4.177E-01 4.946E-01 5.460E-01
   8 PBF_Np-1
4.875E-01 5.265E-01 4.964E-01 5.458E-01 5.618E-01 5.295E-01 5.280E-01
0.000E+00 3.657E-01 6.746E-01 5.625E-01 5.162E-01 4.936E-01 5.309E-01
4.989E-01 5.175E-01 5.151E-01 3.695E-01 5.179E-01
   9 PBF_Tgb
5.163E-01 5.154E-01 4.598E-01 5.266E-01 4.658E-01 4.534E-01 5.163E-01
3.657E-01 0.000E+00 5.352E-01 4.868E-01 4.801E-01 4.567E-01 4.567E-01
4.625E-01 4.060E-01 3.887E-01 4.298E-01 5.000E-01
  10 SDF_Ro
5.233E-01 4.841E-01 5.227E-01 4.497E-01 3.999E-01 4.943E-01 4.331E-01
6.746E-01 5.352E-01 0.000E+00 3.581E-01 4.110E-01 4.884E-01 4.264E-01
4.586E-01 4.582E-01 4.639E-01 6.396E-01 7.487E-01
  11 SDF_Ob
4.907E-01 4.591E-01 4.458E-01 3.697E-01 3.637E-01 4.297E-01 4.203E-01
5.625E-01 4.868E-01 3.581E-01 0.000E+00 3.088E-01 4.166E-01 3.736E-01
4.129E-01 4.282E-01 4.485E-01 5.408E-01 5.953E-01
  12 SDF_St
4.977E-01 4.569E-01 4.443E-01 3.229E-01 3.131E-01 4.334E-01 3.916E-01
5.162E-01 4.801E-01 4.110E-01 3.088E-01 0.000E+00 4.391E-01 3.743E-01
3.888E-01 4.654E-01 4.542E-01 4.991E-01 5.531E-01
  13 SDF_St-1
5.233E-01 4.718E-01 4.002E-01 4.756E-01 5.012E-01 4.332E-01 5.233E-01
4.936E-01 4.567E-01 4.884E-01 4.166E-01 4.391E-01 0.000E+00 4.818E-01
4.056E-01 4.400E-01 4.266E-01 4.671E-01 5.253E-01
  14 SDF_Fri
5.233E-01 5.221E-01 4.846E-01 4.444E-01 3.758E-01 4.788E-01 4.277E-01
5.309E-01 4.567E-01 4.264E-01 3.736E-01 3.743E-01 4.818E-01 0.000E+00
3.649E-01 5.146E-01 5.126E-01 4.671E-01 5.000E-01
  15 SDF_Lie
4.809E-01 4.772E-01 4.114E-01 4.252E-01 4.392E-01 3.992E-01 3.920E-01
4.989E-01 4.625E-01 4.586E-01 4.129E-01 3.888E-01 4.056E-01 3.649E-01
0.000E+00 3.771E-01 3.538E-01 4.433E-01 5.078E-01
  16 CHF_Muf
4.319E-01 4.269E-01 3.715E-01 4.684E-01 4.437E-01 3.584E-01 4.319E-01
5.175E-01 4.060E-01 4.582E-01 4.282E-01 4.654E-01 4.400E-01 5.146E-01
3.771E-01 0.000E+00 6.788E-02 4.621E-01 5.287E-01
  17 CHF_St-2
4.177E-01 4.122E-01 3.476E-01 4.574E-01 4.268E-01 3.328E-01 4.177E-01
5.151E-01 3.887E-01 4.639E-01 4.485E-01 4.542E-01 4.266E-01 5.126E-01
3.538E-01 6.788E-02 0.000E+00 4.507E-01 5.248E-01
  18 PSF_Np
4.946E-01 4.523E-01 4.385E-01 5.032E-01 5.113E-01 4.275E-01 4.946E-01
3.695E-01 4.298E-01 6.396E-01 5.408E-01 4.991E-01 4.671E-01 4.671E-01
4.433E-01 4.621E-01 4.507E-01 0.000E+00 4.122E-01
  19 PSF_Ad
4.908E-01 4.855E-01 5.041E-01 5.752E-01 5.580E-01 4.956E-01 5.460E-01
5.179E-01 5.000E-01 7.487E-01 5.953E-01 5.531E-01 5.253E-01 5.000E-01
5.078E-01 5.287E-01 5.248E-01 4.122E-01 0.000E+00

------------- C L U S T E R   C Y C L E   1 -------------

 Combined group  17   into group  16   at level 3.3940E-02
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

   16      2
                CHF_Muf  CHF_St-2

------------- C L U S T E R   C Y C L E   2 -------------

 Combined group   6   into group   3   at level 9.8910E-02
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group
```

```
    3      2
                 SKF_Dbt  SKF_Rs

------------- C L U S T E R   C Y C L E   3 -------------

 Combined group   5   into group   4   at level 1.9041E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    4      2
                 SKF_All  SKF_Qs

------------- C L U S T E R   C Y C L E   4 -------------

 Combined group   2   into group   1   at level 2.8598E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1      2
                 SKF_Ar   SKF_Stb

------------- C L U S T E R   C Y C L E   5 -------------

 Combined group   7   into group   4   at level 4.1703E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    4      3
                 SKF_All  SKF_Qs   V_Ok

------------- C L U S T E R   C Y C L E   6 -------------

 Combined group  12   into group  11   at level 5.7142E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

   11      2
                 SDF_Ob   SDF_St

------------- C L U S T E R   C Y C L E   7 -------------

 Combined group   3   into group   1   at level 7.2720E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1      4
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs

------------- C L U S T E R   C Y C L E   8 -------------

 Combined group   4   into group   1   at level 8.8327E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1      7
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   SKF_All  SKF_Qs   V_Ok

------------- C L U S T E R   C Y C L E   9 -------------

 Combined group  11   into group   1   at level 1.0398E+00
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1      9
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   SKF_All  SKF_Qs   V_Ok     SDF_Ob
SDF_St

------------- C L U S T E R   C Y C L E  10 -------------

 Combined group  16   into group   1   at level 1.2062E+00
  leaving the following groups:
```

```
       No.in
 Group  Group   Fundorte in group

    1     11
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   SKF_All  SKF_Qs   V_Ok     SDF_Ob
SDF_St
 CHF_Muf  CHF_St-2

------------- C L U S T E R   C Y C L E  11 -------------

 Combined group  15   into group   1   at level 1.3831E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    1     12
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   SKF_All  SKF_Qs   V_Ok     SDF_Ob
SDF_St
 CHF_Muf  CHF_St-2 SDF_Lie

------------- C L U S T E R   C Y C L E  12 -------------

 Combined group  10   into group   1   at level 1.5622E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    1     13
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   SKF_All  SKF_Qs   V_Ok     SDF_Ob
SDF_St
 CHF_Muf  CHF_St-2 SDF_Lie  SDF_Ro

------------- C L U S T E R   C Y C L E  13 -------------

 Combined group  14   into group   1   at level 1.7446E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    1     14
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   SKF_All  SKF_Qs   V_Ok     SDF_Ob
SDF_St
 CHF_Muf  CHF_St-2 SDF_Lie  SDF_Ro   SDF_Fri

------------- C L U S T E R   C Y C L E  14 -------------

 Combined group   9   into group   8   at level 1.9275E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    8      2
                 PBF_Np-1 PBF_Tgb

------------- C L U S T E R   C Y C L E  15 -------------

 Combined group  18   into group   8   at level 2.1122E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    8      3
                 PBF_Np-1 PBF_Tgb  PSF_Np

------------- C L U S T E R   C Y C L E  16 -------------

 Combined group   8   into group   1   at level 2.3066E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    1     17
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   SKF_All  SKF_Qs   V_Ok     SDF_Ob
SDF_St
 CHF_Muf  CHF_St-2 SDF_Lie  SDF_Ro   SDF_Fri  PBF_Np-1 PBF_Tgb  PSF_Np

------------- C L U S T E R   C Y C L E  17 -------------
```

```
 Combined group  13   into group   1   at level 2.5067E+00
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1     18
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   SKF_All  SKF_Qs   V_Ok     SDF_Ob
SDF_St
 CHF_Muf  CHF_St-2 SDF_Lie  SDF_Ro   SDF_Fri  PBF_Np-1 PBF_Tgb  PSF_Np   SDF_St-1

------------- C L U S T E R   C Y C L E  18 -------------

 Combined group  19   into group   1   at level 2.7128E+00
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1     19
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   SKF_All  SKF_Qs   V_Ok     SDF_Ob
SDF_St
 CHF_Muf  CHF_St-2 SDF_Lie  SDF_Ro   SDF_Fri  PBF_Np-1 PBF_Tgb  PSF_Np   SDF_St-1
 PSF_Ad
```

Percent chaining = 56.07

```
               Log of Distance (ln of objective function)
        -3.383          -2.288          -1.193          -0.097           0.998
          |-------+-------+-------+-------+-------+-------+-------+-------+
SKF_Ar    ------------------------------|
                                        |------------|
SKF_Stb   ------------------------------|            |
                                                     |--|
SKF_Dbt   --------------|                            |  |
                        |----------------------------|  |
SKF_Rs    --------------|                               |-|
                                                        | |
SKF_All   ------------------------|                     | |
                                  |----------|          | |
SKF_Qs    ------------------------|          |----------| |--|
                                             |            |  |
V_Ok      -----------------------------------|            |  |
                                                          |  |
SDF_Ob    ----------------------------------------|       |  |-|
                                                  |-------|  | |
SDF_St    ----------------------------------------|          | |
                                                             | |
CHF_Muf   |                                                  | ||
          |--------------------------------------------------| ||
CHF_St-2  |                                                    ||
                                                               ||-|
SDF_Lie   -----------------------------------------------------|| |
                                                                | |---|
SDF_Ro    ------------------------------------------------------| |   |
                                                                  |   |
SDF_Fri   --------------------------------------------------------|   ||
                                                                      ||
PBF_Np-1  ----------------------------------------------------------| ||
                                                                    ||||
PBF_Tgb   ----------------------------------------------------------||||-|
                                                                     | | |
PSF_Np    -----------------------------------------------------------| | |
                                                                       | |
SDF_St-1  -------------------------------------------------------------| |
                                                                         |
PSF_Ad    ---------------------------------------------------------------|

************************* Cluster analysis completed ************************
```

Hierarchical Cluster Analysis – WARD'S METHOD

```
********************** Hierarchical Cluster Analysis **********************
PC-ORD, Version 4.33
 4 Jun 2005, 23:34

Hierarchical Cluster Analysis - Ward's Method

Linkage method:    WARD`S METHOD
Distance measure:  Correlation

                       D I S T A N C E   S Q U A R E D

    1 SKF_Ar
 0.000E+00 1.911E-01 3.403E-01 4.665E-01 3.826E-01 3.231E-01 4.691E-01
 4.875E-01 5.163E-01 5.233E-01 4.907E-01 4.977E-01 5.233E-01 5.233E-01
 4.809E-01 4.319E-01 4.177E-01 4.946E-01 4.908E-01
    2 SKF_Stb
 1.911E-01 0.000E+00 3.295E-01 4.253E-01 3.716E-01 3.116E-01 4.652E-01
 5.265E-01 5.154E-01 4.841E-01 4.591E-01 4.569E-01 4.718E-01 5.221E-01
 4.772E-01 4.269E-01 4.122E-01 4.523E-01 4.855E-01
    3 SKF_Dbt
 3.403E-01 3.295E-01 0.000E+00 3.293E-01 3.121E-01 1.299E-01 4.783E-01
 4.964E-01 4.598E-01 5.227E-01 4.458E-01 4.443E-01 4.002E-01 4.846E-01
 4.114E-01 3.715E-01 3.476E-01 4.385E-01 5.041E-01
    4 SKF_All
 4.665E-01 4.253E-01 3.293E-01 0.000E+00 1.830E-01 3.736E-01 2.621E-01
 5.458E-01 5.266E-01 4.497E-01 3.697E-01 3.229E-01 4.756E-01 4.444E-01
 4.252E-01 4.684E-01 4.574E-01 5.032E-01 5.752E-01
    5 SKF_Qs
 3.826E-01 3.716E-01 3.121E-01 1.830E-01 0.000E+00 3.139E-01 3.005E-01
 5.618E-01 4.658E-01 3.999E-01 3.637E-01 3.131E-01 5.012E-01 3.758E-01
 4.392E-01 4.437E-01 4.268E-01 5.113E-01 5.580E-01
    6 SKF_Rs
 3.231E-01 3.116E-01 1.299E-01 3.736E-01 3.139E-01 0.000E+00 4.227E-01
 5.295E-01 4.534E-01 4.943E-01 4.297E-01 4.334E-01 4.332E-01 4.788E-01
 3.992E-01 3.584E-01 3.328E-01 4.275E-01 4.956E-01
    7 V_Ok
 4.691E-01 4.652E-01 4.783E-01 2.621E-01 3.005E-01 4.227E-01 0.000E+00
 5.280E-01 5.163E-01 4.331E-01 4.203E-01 3.916E-01 5.233E-01 4.277E-01
 3.920E-01 4.319E-01 4.177E-01 4.946E-01 5.460E-01
    8 PBF_Np-1
 4.875E-01 5.265E-01 4.964E-01 5.458E-01 5.618E-01 5.295E-01 5.280E-01
 0.000E+00 3.657E-01 6.746E-01 5.625E-01 5.162E-01 4.936E-01 5.309E-01
 4.989E-01 5.175E-01 5.151E-01 3.695E-01 5.179E-01
    9 PBF_Tgb
 5.163E-01 5.154E-01 4.598E-01 5.266E-01 4.658E-01 4.534E-01 5.163E-01
 3.657E-01 0.000E+00 5.352E-01 4.868E-01 4.801E-01 4.567E-01 4.567E-01
 4.625E-01 4.060E-01 3.887E-01 4.298E-01 5.000E-01
   10 SDF_Ro
 5.233E-01 4.841E-01 5.227E-01 4.497E-01 3.999E-01 4.943E-01 4.331E-01
 6.746E-01 5.352E-01 0.000E+00 3.581E-01 4.110E-01 4.884E-01 4.264E-01
 4.586E-01 4.582E-01 4.639E-01 6.396E-01 7.487E-01
   11 SDF_Ob
 4.907E-01 4.591E-01 4.458E-01 3.697E-01 3.637E-01 4.297E-01 4.203E-01
 5.625E-01 4.868E-01 3.581E-01 0.000E+00 3.088E-01 4.166E-01 3.736E-01
 4.129E-01 4.282E-01 4.485E-01 5.408E-01 5.953E-01
   12 SDF_St
 4.977E-01 4.569E-01 4.443E-01 3.229E-01 3.131E-01 4.334E-01 3.916E-01
 5.162E-01 4.801E-01 4.110E-01 3.088E-01 0.000E+00 4.391E-01 3.743E-01
 3.888E-01 4.654E-01 4.542E-01 4.991E-01 5.531E-01
   13 SDF_St-1
 5.233E-01 4.718E-01 4.002E-01 4.756E-01 5.012E-01 4.332E-01 5.233E-01
 4.936E-01 4.567E-01 4.884E-01 4.166E-01 4.391E-01 0.000E+00 4.818E-01
 4.056E-01 4.400E-01 4.266E-01 4.671E-01 5.253E-01
   14 SDF_Fri
 5.233E-01 5.221E-01 4.846E-01 4.444E-01 3.758E-01 4.788E-01 4.277E-01
 5.309E-01 4.567E-01 4.264E-01 3.736E-01 3.743E-01 4.818E-01 0.000E+00
 3.649E-01 5.146E-01 5.126E-01 4.671E-01 5.000E-01
   15 SDF_Lie
 4.809E-01 4.772E-01 4.114E-01 4.252E-01 4.392E-01 3.992E-01 3.920E-01
 4.989E-01 4.625E-01 4.586E-01 4.129E-01 3.888E-01 4.056E-01 3.649E-01
 0.000E+00 3.771E-01 3.538E-01 4.433E-01 5.078E-01
   16 CHF_Muf
 4.319E-01 4.269E-01 3.715E-01 4.684E-01 4.437E-01 3.584E-01 4.319E-01
 5.175E-01 4.060E-01 4.582E-01 4.282E-01 4.654E-01 4.400E-01 5.146E-01
```

```
 3.771E-01 0.000E+00 6.788E-02 4.621E-01 5.287E-01
   17 CHF_St-2
 4.177E-01 4.122E-01 3.476E-01 4.574E-01 4.268E-01 3.328E-01 4.177E-01
 5.151E-01 3.887E-01 4.639E-01 4.485E-01 4.542E-01 4.266E-01 5.126E-01
 3.538E-01 6.788E-02 0.000E+00 4.507E-01 5.248E-01
   18 PSF_Np
 4.946E-01 4.523E-01 4.385E-01 5.032E-01 5.113E-01 4.275E-01 4.946E-01
 3.695E-01 4.298E-01 6.396E-01 5.408E-01 4.991E-01 4.671E-01 4.671E-01
 4.433E-01 4.621E-01 4.507E-01 0.000E+00 4.122E-01
   19 PSF_Ad
 4.908E-01 4.855E-01 5.041E-01 5.752E-01 5.580E-01 4.956E-01 5.460E-01
 5.179E-01 5.000E-01 7.487E-01 5.953E-01 5.531E-01 5.253E-01 5.000E-01
 5.078E-01 5.287E-01 5.248E-01 4.122E-01 0.000E+00

------------- C L U S T E R   C Y C L E   1 -------------

 Combined group  17   into group  16   at level 3.3940E-02
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

   16      2
                 CHF_Muf  CHF_St-2

------------- C L U S T E R   C Y C L E   2 -------------

 Combined group   6   into group   3   at level 9.8910E-02
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    3      2
                 SKF_Dbt  SKF_Rs

------------- C L U S T E R   C Y C L E   3 -------------

 Combined group   5   into group   4   at level 1.9041E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    4      2
                 SKF_All  SKF_Qs

------------- C L U S T E R   C Y C L E   4 -------------

 Combined group   2   into group   1   at level 2.8598E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1      2
                 SKF_Ar   SKF_Stb

------------- C L U S T E R   C Y C L E   5 -------------

 Combined group  12   into group  11   at level 4.4037E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

   11      2
                 SDF_Ob   SDF_St

------------- C L U S T E R   C Y C L E   6 -------------

 Combined group   7   into group   4   at level 5.9741E-01
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    4      3
                 SKF_All  SKF_Qs   V_Ok

------------- C L U S T E R   C Y C L E   7 -------------

 Combined group  15   into group  14   at level 7.7986E-01
  leaving the following groups:
```

```
       No.in
 Group  Group   Fundorte in group

   14      2
                 SDF_Fri  SDF_Lie

------------- C L U S T E R   C Y C L E   8 -------------

 Combined group   9   into group   8   at level 9.6271E-01
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    8      2
                 PBF_Np-1 PBF_Tgb

------------- C L U S T E R   C Y C L E   9 -------------

 Combined group  11   into group  10   at level 1.1676E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

   10      3
                 SDF_Ro   SDF_Ob   SDF_St

------------- C L U S T E R   C Y C L E  10 -------------

 Combined group  18   into group   8   at level 1.3731E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    8      3
                 PBF_Np-1 PBF_Tgb  PSF_Np

------------- C L U S T E R   C Y C L E  11 -------------

 Combined group  14   into group  10   at level 1.6068E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

   10      5
                 SDF_Ro   SDF_Ob   SDF_St   SDF_Fri  SDF_Lie

------------- C L U S T E R   C Y C L E  12 -------------

 Combined group  13   into group  10   at level 1.8495E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

   10      6
                 SDF_Ro   SDF_Ob   SDF_St   SDF_Fri  SDF_Lie  SDF_St-1

------------- C L U S T E R   C Y C L E  13 -------------

 Combined group   3   into group   1   at level 2.0954E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    1      4
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs

------------- C L U S T E R   C Y C L E  14 -------------

 Combined group  19   into group   8   at level 2.3558E+00
  leaving the following groups:
       No.in
 Group  Group   Fundorte in group

    8      4
                 PBF_Np-1 PBF_Tgb  PSF_Np   PSF_Ad

------------- C L U S T E R   C Y C L E  15 -------------
```

```
 Combined group  10   into group   4   at level 2.6806E+00
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    4      9
                 SKF_All  SKF_Qs   V_Ok     SDF_Ro   SDF_Ob   SDF_St   SDF_Fri  SDF_Lie
SDF_St-1

------------- C L U S T E R   C Y C L E  16 -------------

 Combined group  16   into group   1   at level 3.0390E+00
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1      6
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   CHF_Muf  CHF_St-2

------------- C L U S T E R   C Y C L E  17 -------------

 Combined group   8   into group   1   at level 3.4869E+00
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1     10
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   CHF_Muf  CHF_St-2 PBF_Np-1 PBF_Tgb
PSF_Np
 PSF_Ad

------------- C L U S T E R   C Y C L E  18 -------------

 Combined group   4   into group   1   at level 4.0179E+00
  leaving the following groups:
        No.in
 Group  Group   Fundorte in group

    1     19
                 SKF_Ar   SKF_Stb  SKF_Dbt  SKF_Rs   CHF_Muf  CHF_St-2 PBF_Np-1 PBF_Tgb
PSF_Np
 PSF_Ad   SKF_All  SKF_Qs   V_Ok     SDF_Ro   SDF_Ob   SDF_St   SDF_Fri  SDF_Lie
 SDF_St-1
```

Percent chaining =   3.74

```
               Log of Distance (ln of objective function)
        -3.383          -2.190          -0.996           0.197           1.391
          |-------+-------+-------+-------+-------+-------+-------+-------+
SKF_Ar    ---------------------------|
                                     |--------------------------|
SKF_Stb   ---------------------------|                          |
                                                                |----|
SKF_Dbt   -------------|                                        |    |
                       |----------------------------------------|    |
SKF_Rs    -------------|                                             |-|
                                                                     | |
CHF_Muf   |                                                          | |
          |----------------------------------------------------------| |
CHF_St-2  |                                                            |
                                                                       |-|
PBF_Np-1  -------------------------------------------|                 | |
                                                     |----|            | |
PBF_Tgb   -------------------------------------------|    |------|     | |
                                                          |      |     | |
PSF_Np    ------------------------------------------------|      |-----| |
                                                                 |       |
PSF_Ad    -------------------------------------------------------|       |
                                                                         |
SKF_All   ----------------------|                                        |
                                |--------------|                         |
SKF_Qs    ----------------------|              |-------------------|     |
                                               |                   |     |
V_Ok      -------------------------------------|                   |     |
                                                                   |     |
SDF_Ro    ----------------------------------------------|          |     |
                                                        |---|      |-----|
```

```
SDF_Ob    ---------------------------------|             |   |       |
                                           |-------------|   |       |
SDF_St    ---------------------------------|                 |-|     |
                                                             | |     |
SDF_Fri   -----------------------------------------|         | |     |
                                                   |---------| |----|
SDF_Lie   -----------------------------------------|           |
                                                               |
SDF_St-1  -----------------------------------------------------|

************************* Cluster analysis completed *************************
```

Anhang C: Abbildungen

Abb. A-1: Geographische Übersicht über die Lage des Arbeitsgebietes.

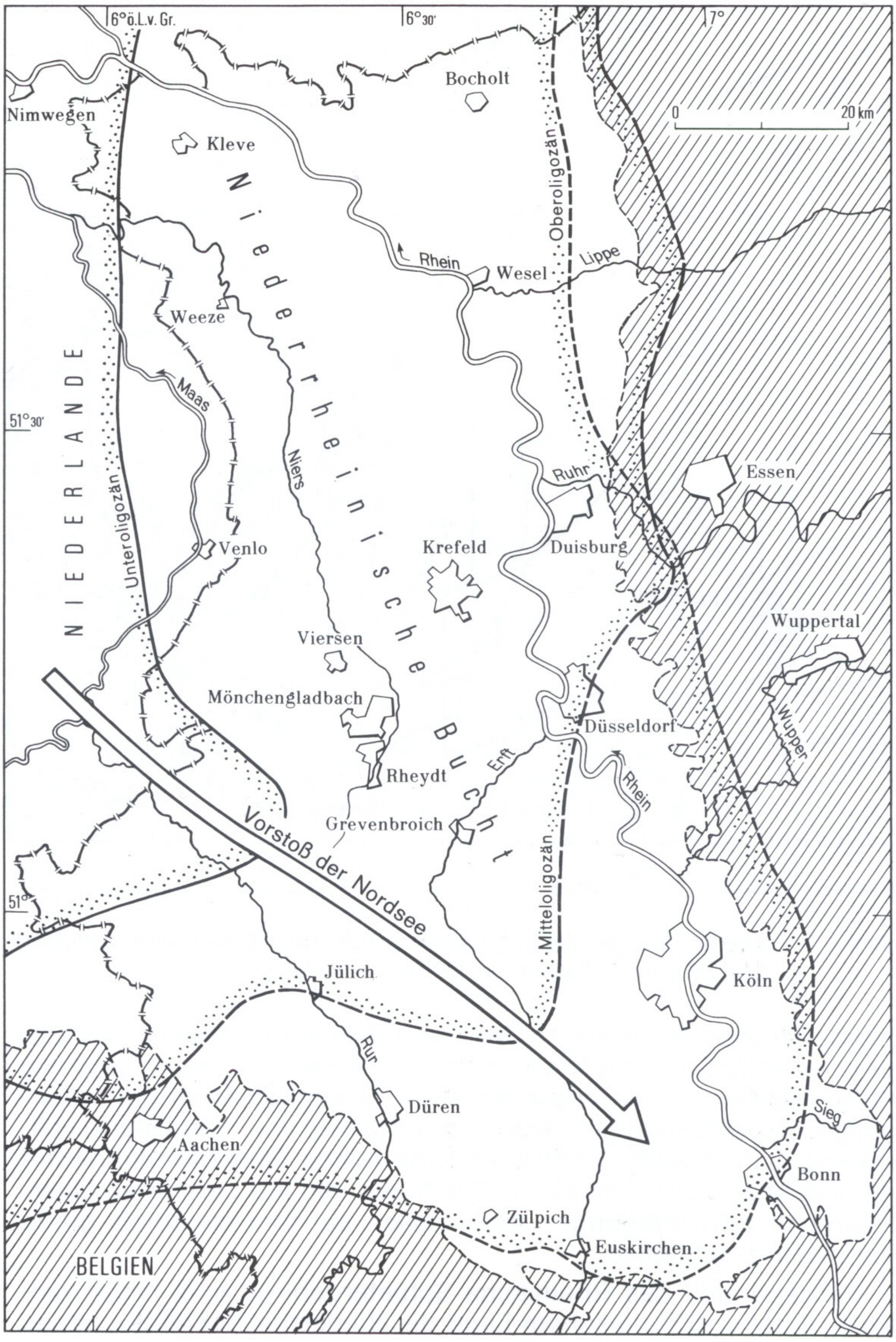


Abb. A-2: Der Vorstoß der Nordsee in die Niederrheinische Bucht und Meeresspiegelstände im Oligozän (aus BURGHARDT, 1979).

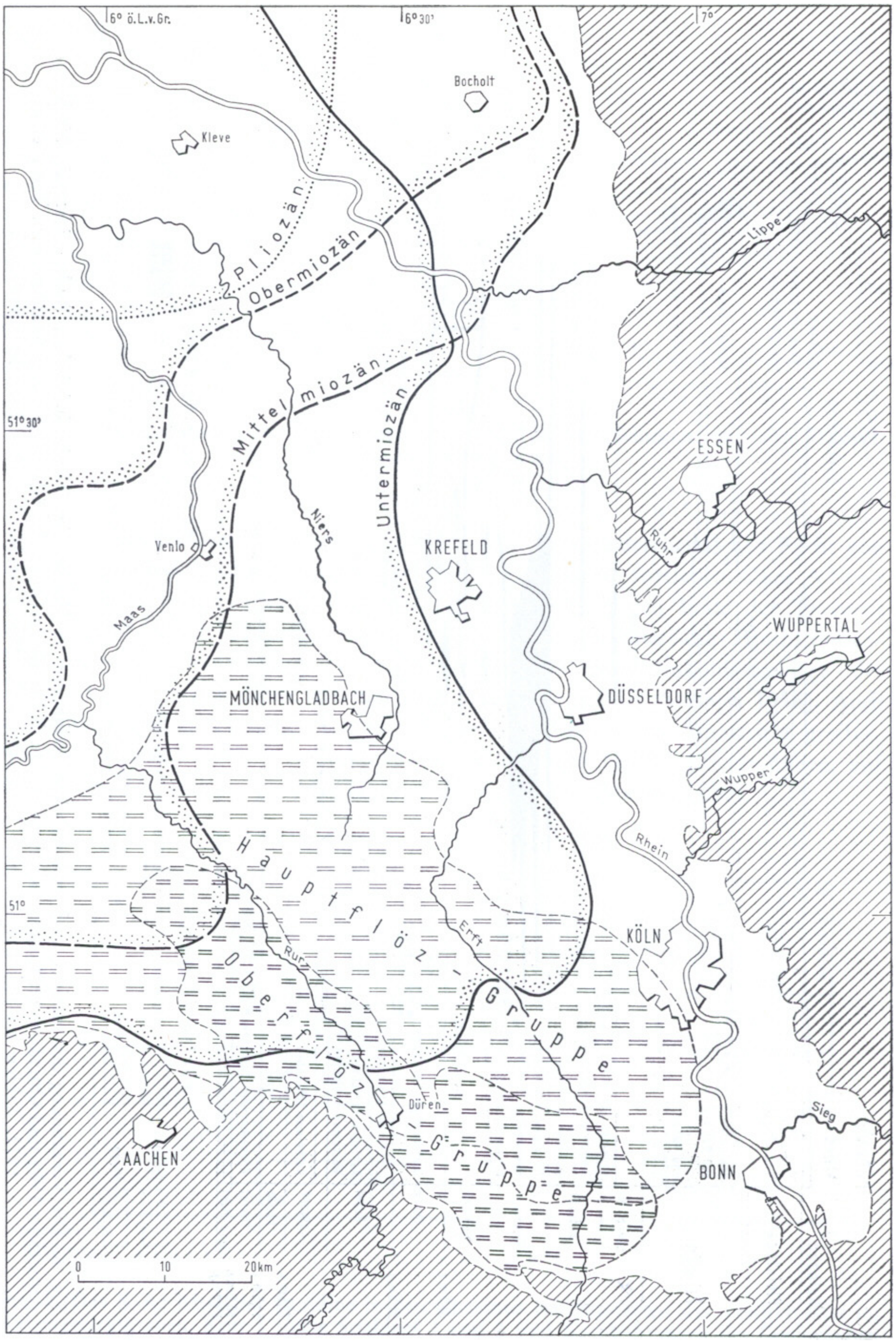


Abb. A-3: Der Rückzug der Nordsee aus der Niederrheinische Bucht und Meeresspiegelstände im Miozän und Pliozän und die Ausdehnung der Moore der Hauptflöz– und Oberflöz–Gruppe (aus TEICHMÜLLER, 1974).

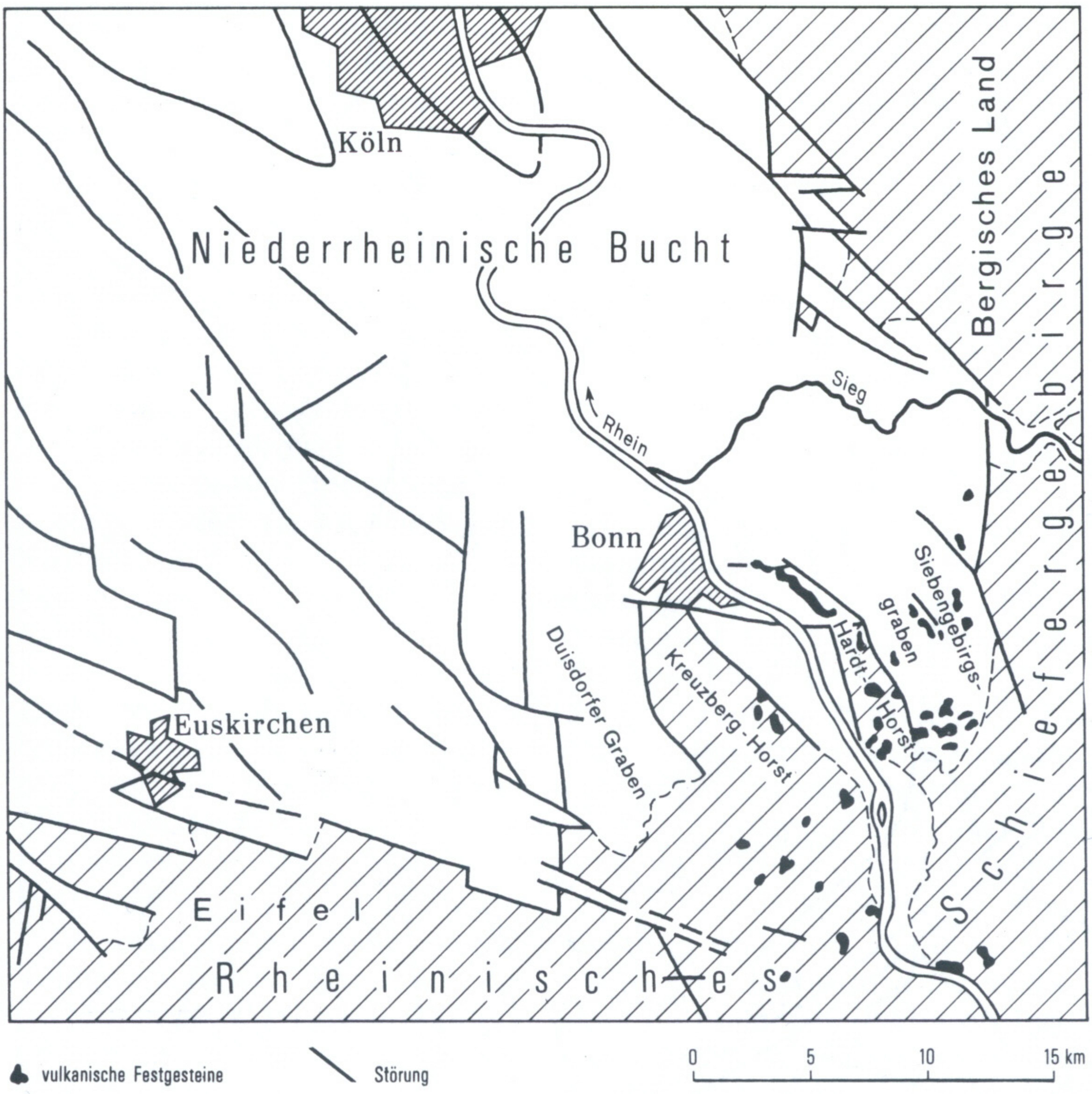


Abb. A-4: Tektonik am Südrand der Niederrheinischen Bucht (aus BURGHARDT, 1979).

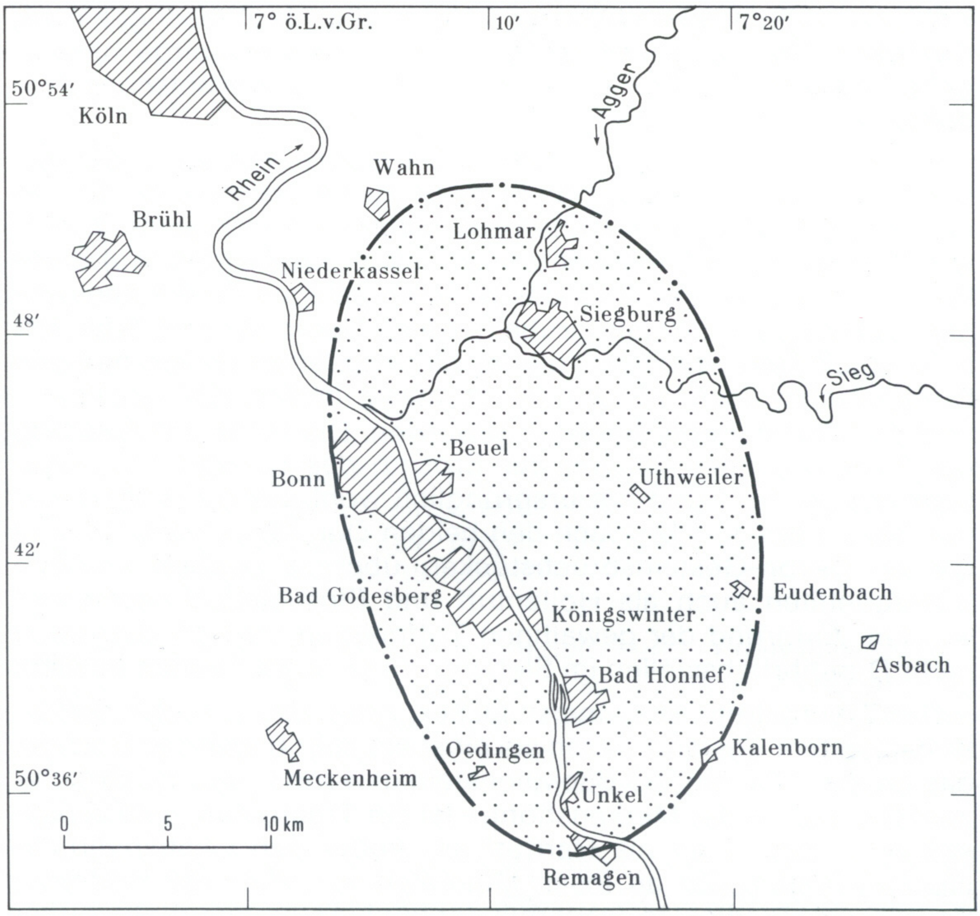


Abb. A-5: Die Verbreitung der Trachyttuffe in der Umgebung des Siebengebirges (aus BURGHARDT, 1979).

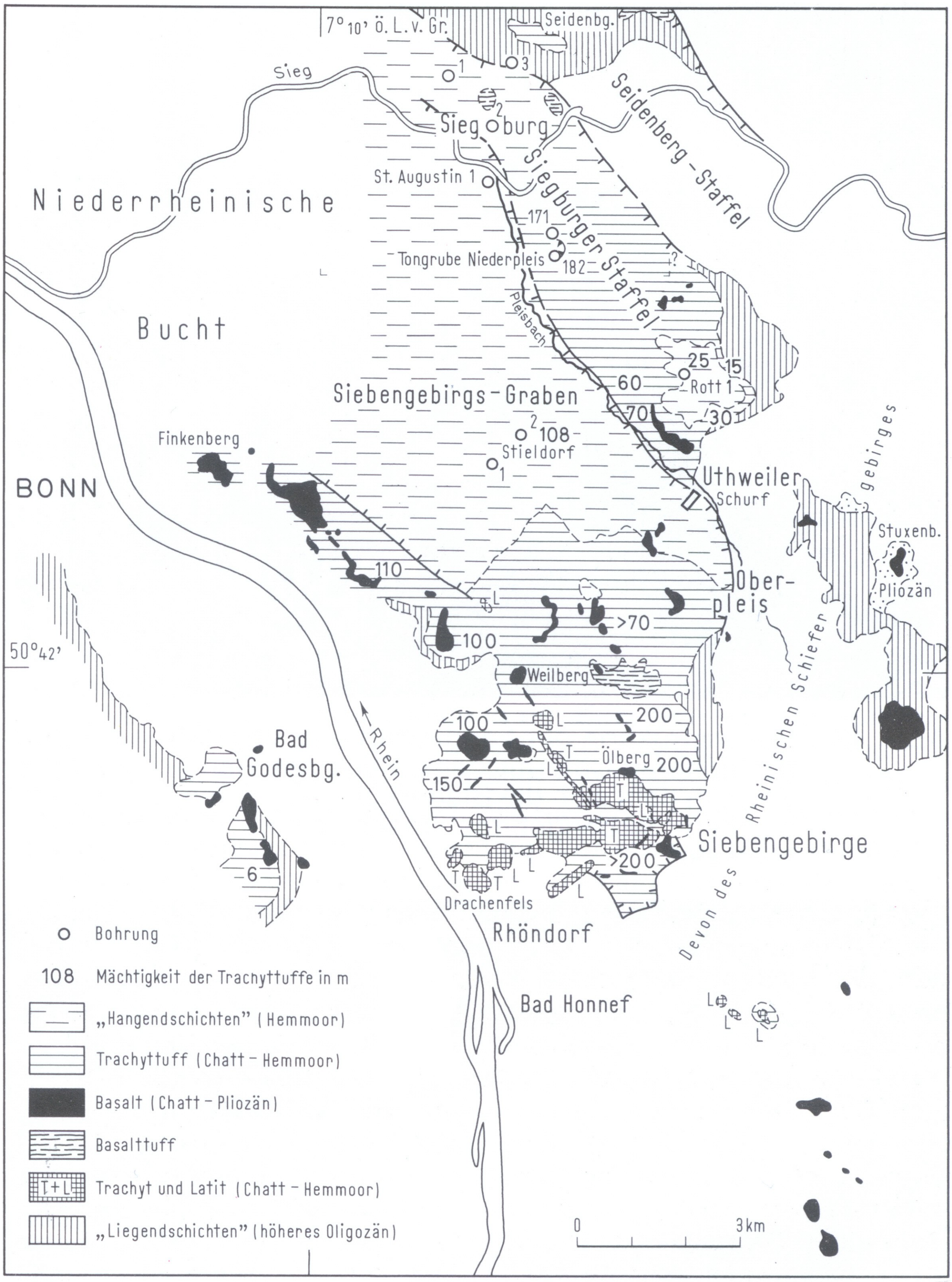


Abb. A-6: Die Verbreitung der Liegend- und Hangendschichten und der Vulkanite im Siebengebirge Graben mit Lage der Bohrungen aus Abb. A-7 (aus BURGHARDT, 1979).

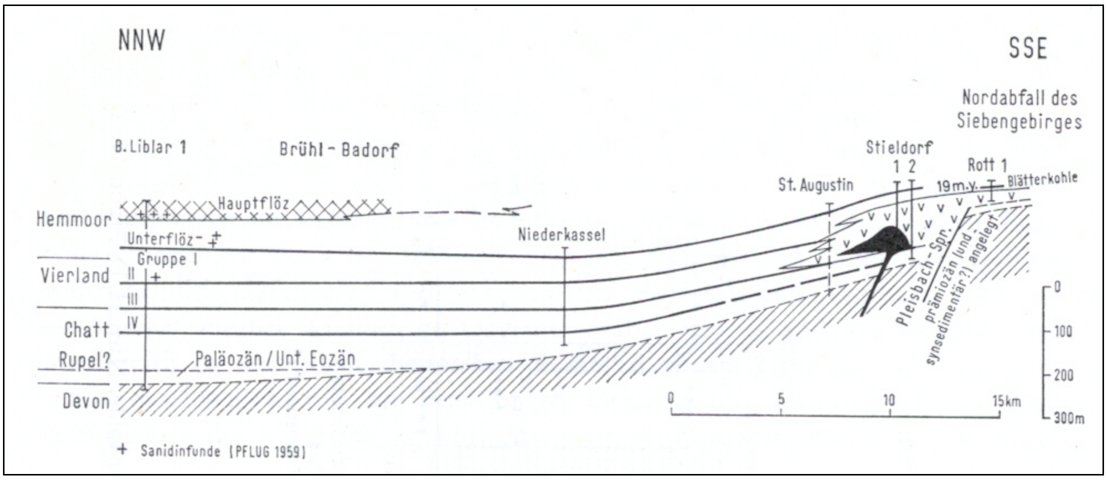


Abb. A-7: Die Fortsetzung der Unterflöz–Gruppe (Köln Formation) in den Siebengebirge Graben und deren Verzahnung mit dem Trachyttuff (aus TEICHMÜLLER, 1974).

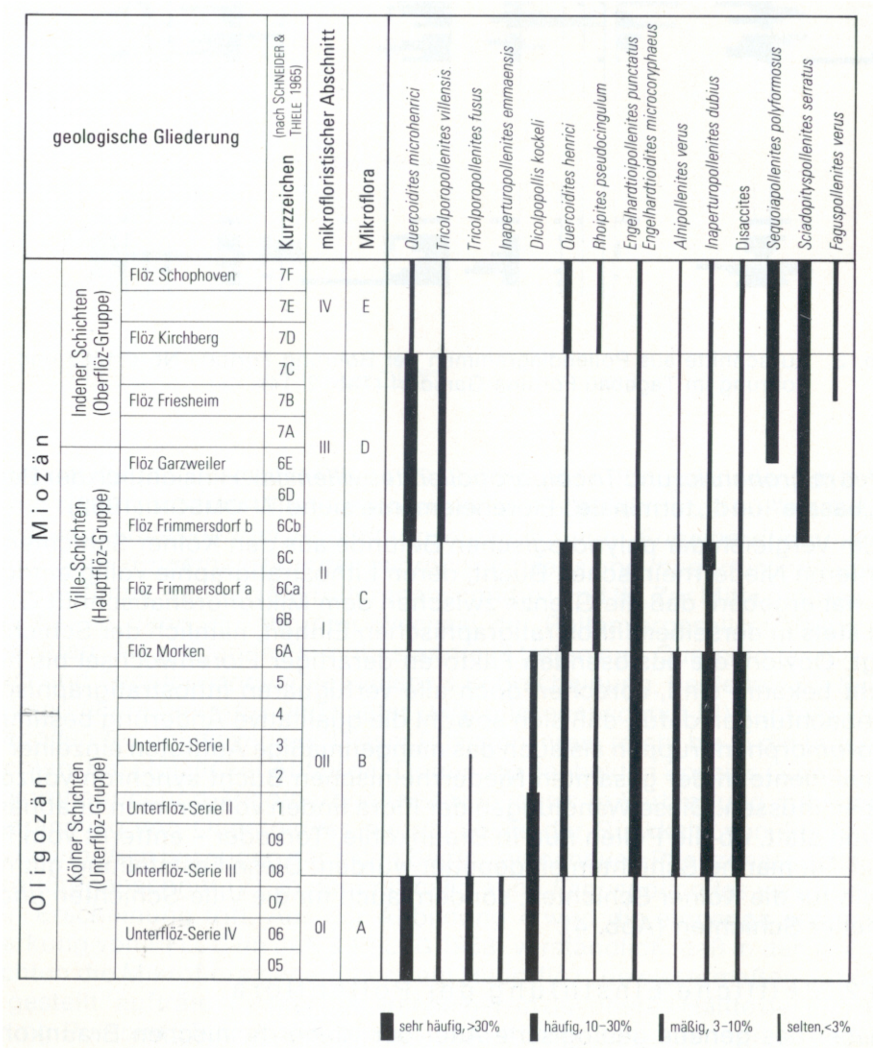
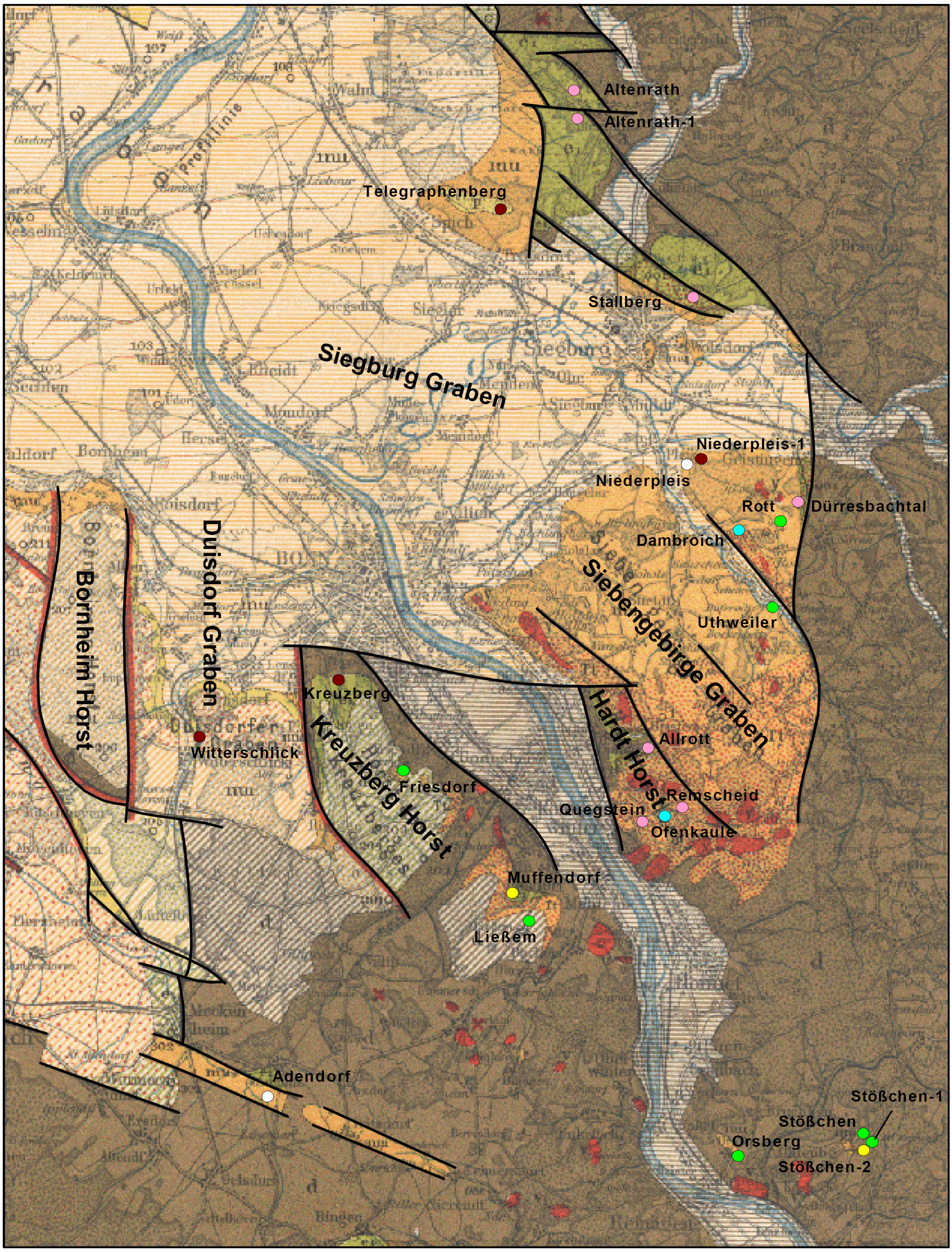


Abb. A-8: Mikrofloristische Gliederung und Kurzzeichen der Flöz–Guppen der Niederrheinischen Bucht (aus VON DER BRELIE, HAGER, WEILER (1981).



- Siliziklastika - Fazies
- Siebengebirge-Tephra
- Pelit- und Braunkohlen-Fazies
- Sapropelit- und Diatomit-Fazies
- Chert-Fazies
- Pelit- und Siliziklastika-Fazies

Abb. A-9: Lage der Fundorte. Geologische Kartengrundlage von FLIEGEL (1922).

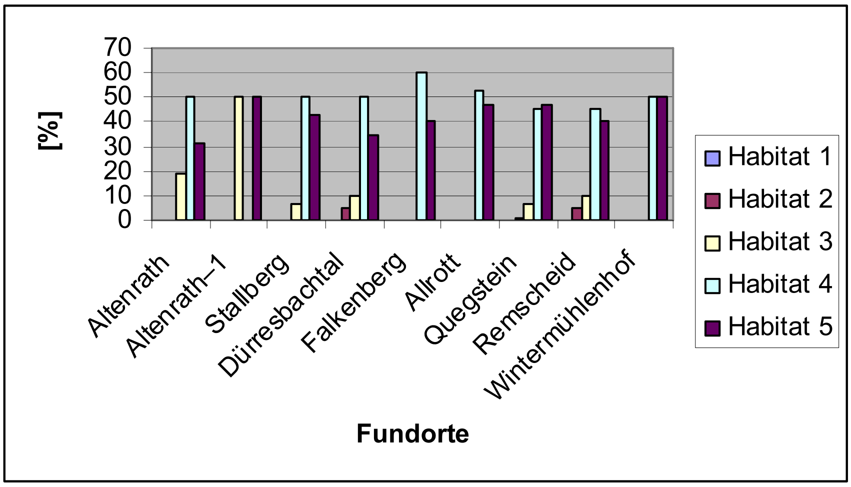


Abb. A-10: Verteilung der Habitate [in %] nach Fundorten aus der Siliziklastika-Fazies (vgl. Tab. A-48).

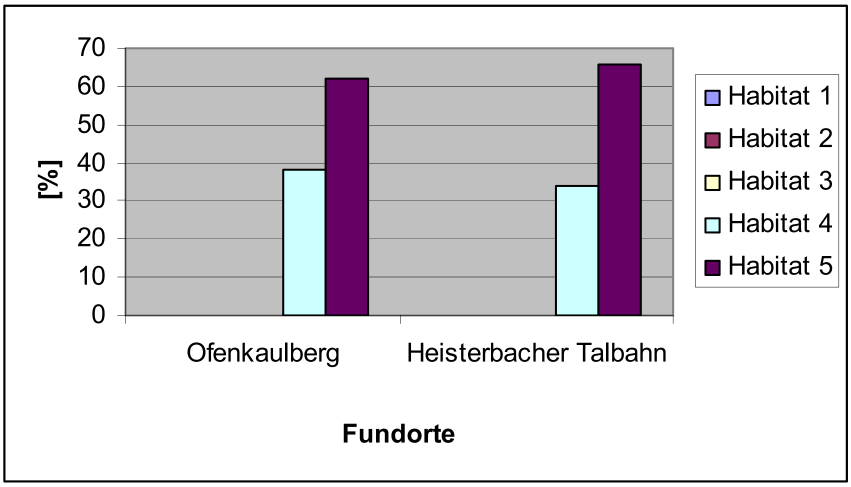


Abb. A-11: Verteilung der Habitate [in %] nach Fundorten aus der Pyroklastika-Fazies (vgl. Tab. A-48).

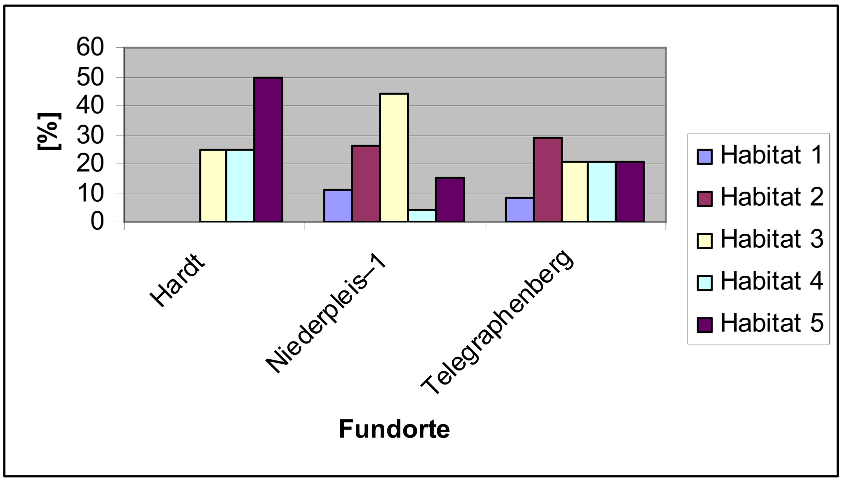


Abb. A-12: Verteilung der Habitate [in %] nach Fundorten aus der Pelit- und Braunkohlen-Fazies (vgl. Tab. A-48).

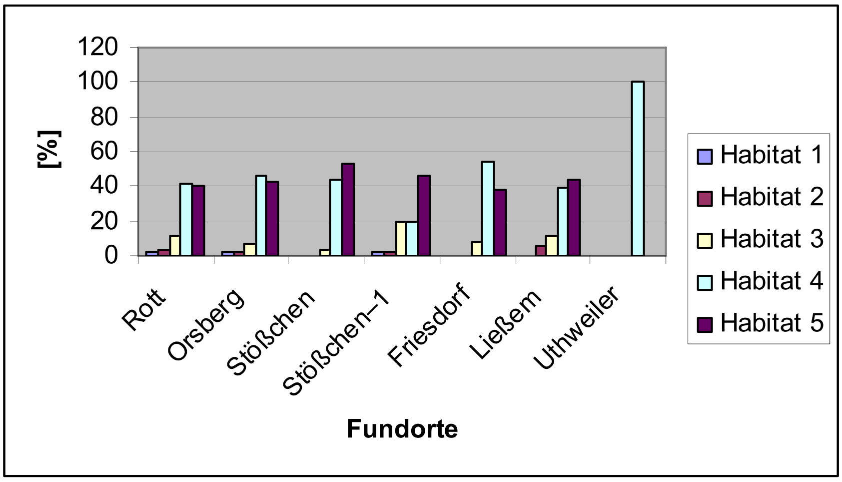


Abb. A-13: Verteilung der Habitate [in %] nach Fundorten aus der Sapropelit- und Diatomit-Fazies (vgl. Tab. A-48).

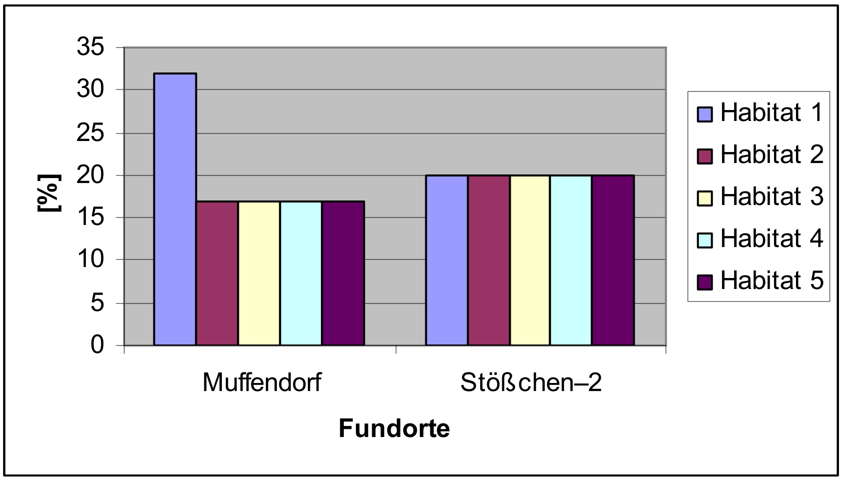


Abb. A-14: Verteilung der Habitate [in %] nach Fundorten aus der Chert-Fazies (vgl. Tab. A-48).

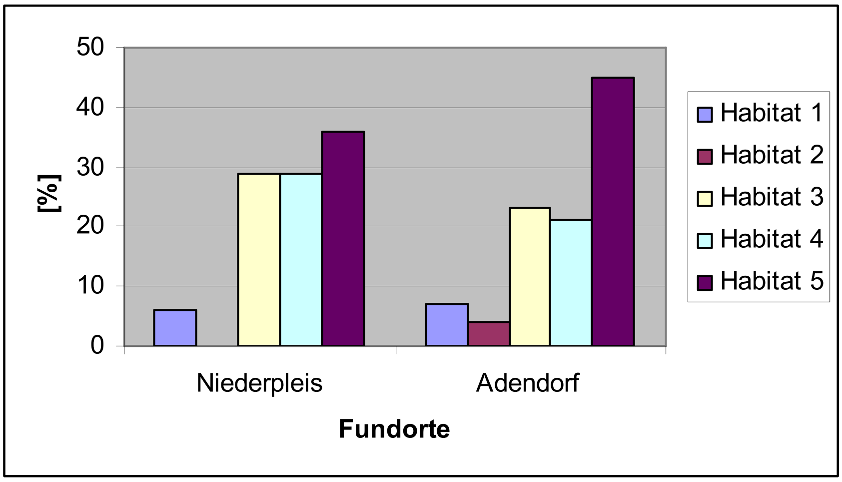


Abb. A-15: Verteilung der Habitate [in %] nach Fundorten aus der Pelit- und Siliziklastika-Fazies (vgl. Tab. A-48).

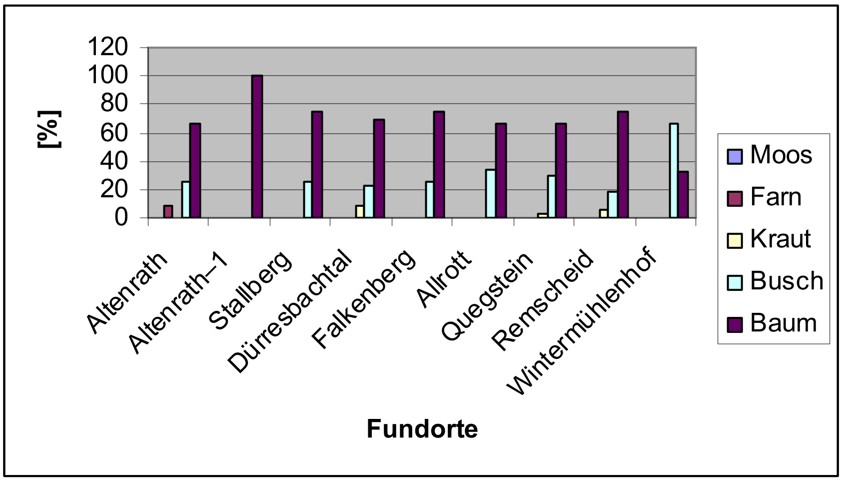


Abb. A-16: Verteilung der Habitus [in %] nach Fundorten aus der Siliziklastika-Fazies (vgl. Tab. A-49).

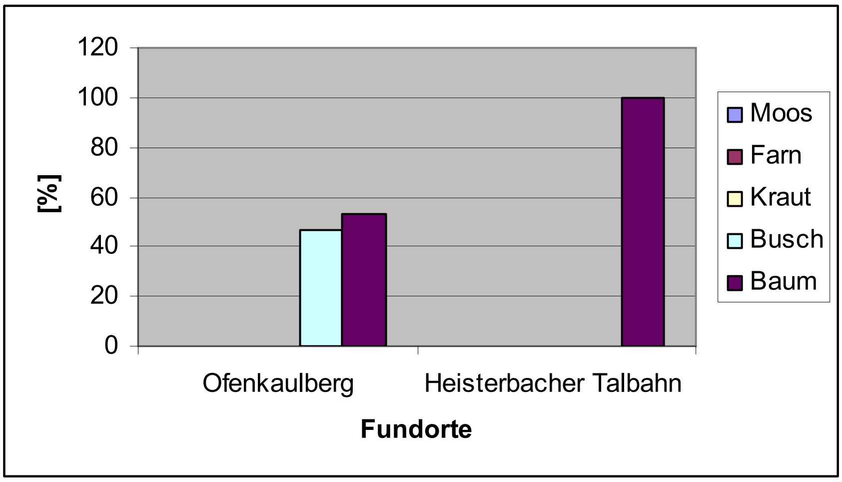


Abb. A-17: Verteilung der Habitus [in %] nach Fundorten aus der Pyroklastika-Fazies (vgl. Tab. A-49).

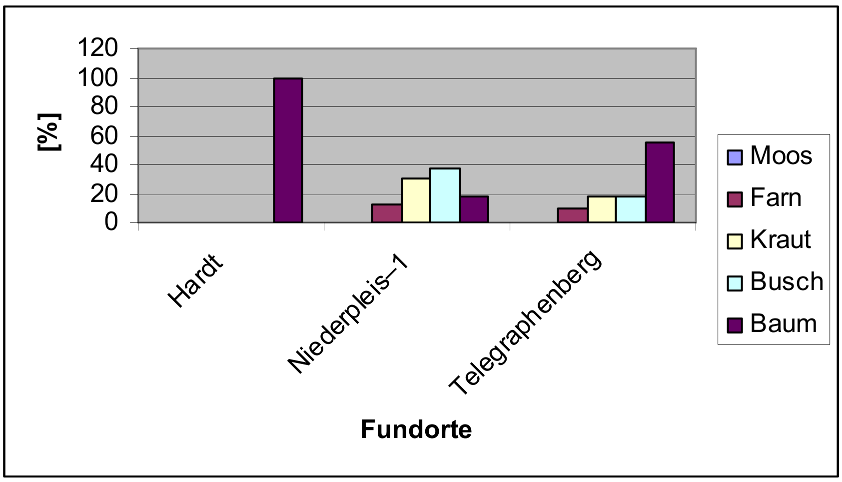


Abb. A-18: Verteilung der Habitus [in %] nach Fundorten aus der Pelit- und Braunkohlen-Fazies (vgl. Tab. A-49).

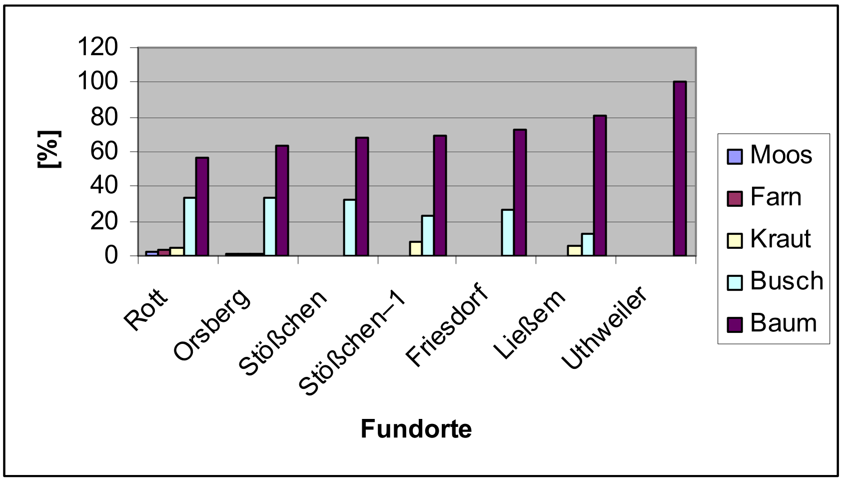


Abb. A-19: Verteilung der Habitus [in %] nach Fundorten aus der Sapropelit- und Diatomit-Fazies (vgl. Tab. A-49).

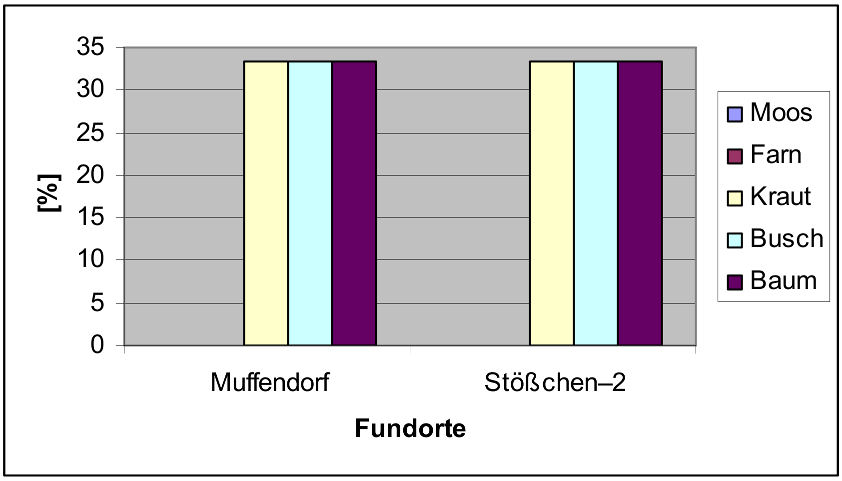


Abb. A-20: Verteilung der Habitus [in %] nach Fundorten aus der Chert-Fazies (vgl. Tab. A-49).

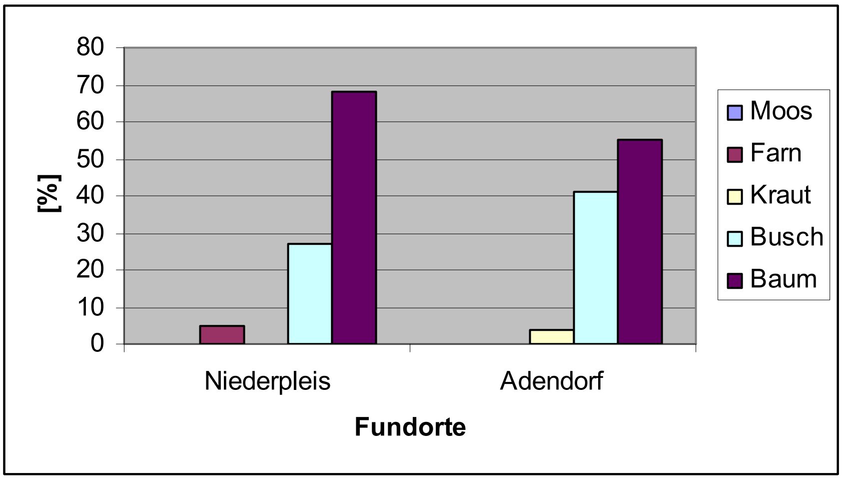


Abb. A-21: Verteilung der Habitus [in %] nach Fundorten aus der Pelit- und Siliziklastika-Fazies (vgl. Tab. A-49).

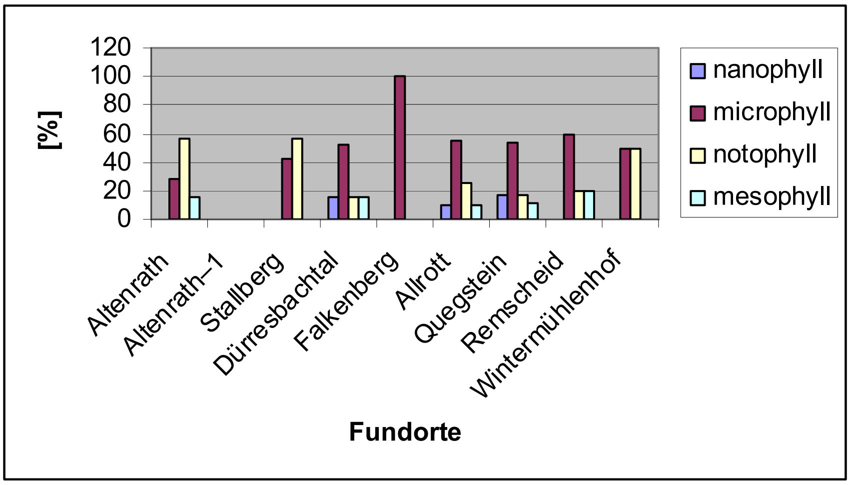


Abb. A-22: Verteilung der Blattgrößenklassen [in %] nach Fundorten aus der Siliziklastika-Fazies (vgl. Tab. A-50).

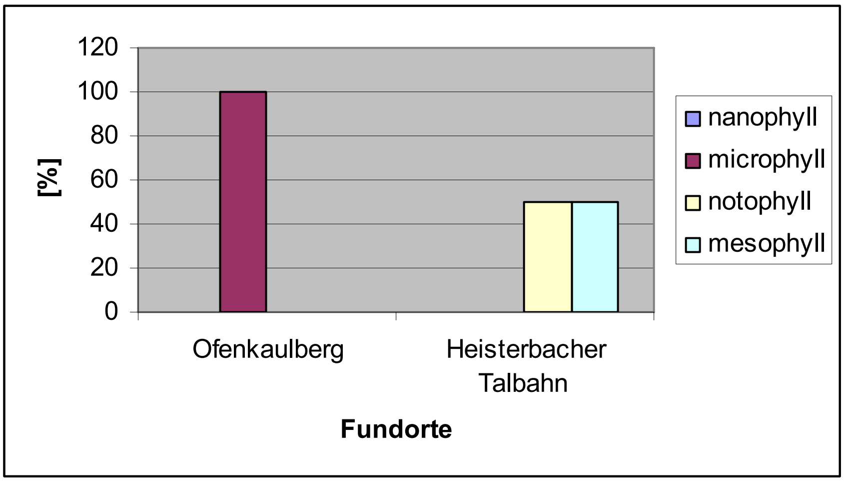


Abb. A-23: Verteilung der Blattgrößenklassen [in %] nach Fundorten aus der Pyroklastika-Fazies (vgl. Tab. A-50).

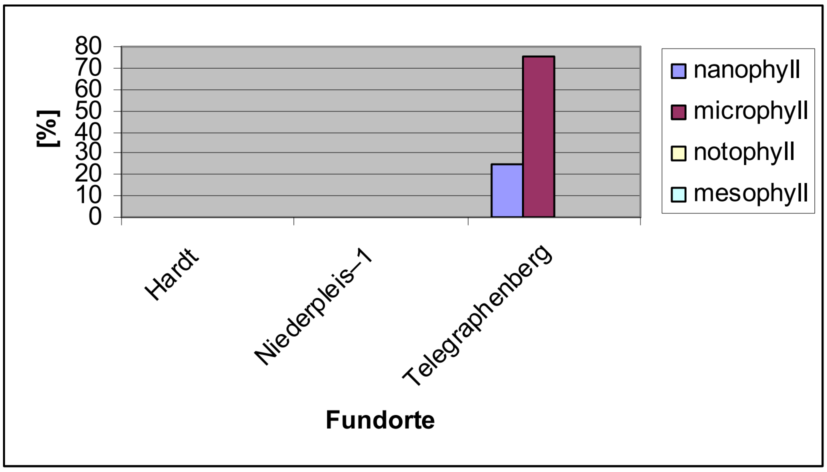


Abb. A-24: Verteilung der Blattgrößenklassen [in %] nach Fundorten aus der Pelit- und Braunkohlen-Fazies (vgl. Tab. A-50).

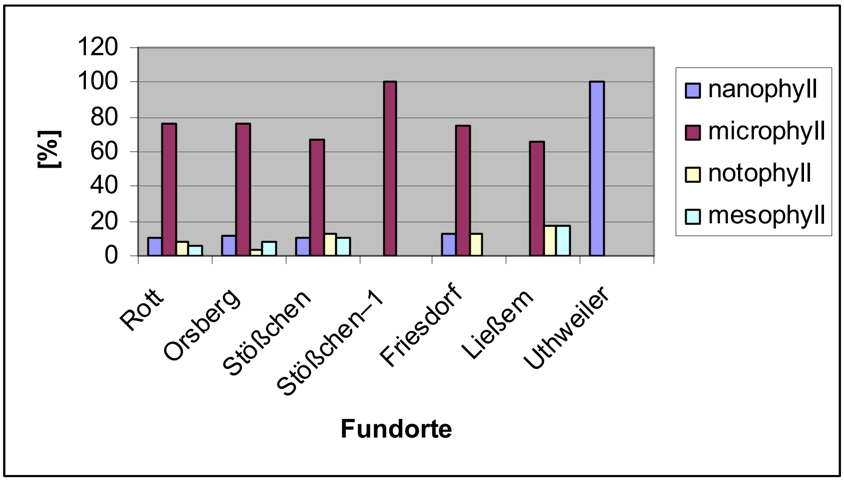


Abb. A-25: Verteilung der Blattgrößenklassen [in %] nach Fundorten aus der Sapropelit- und Diatomit-Fazies (vgl. Tab. A-50).

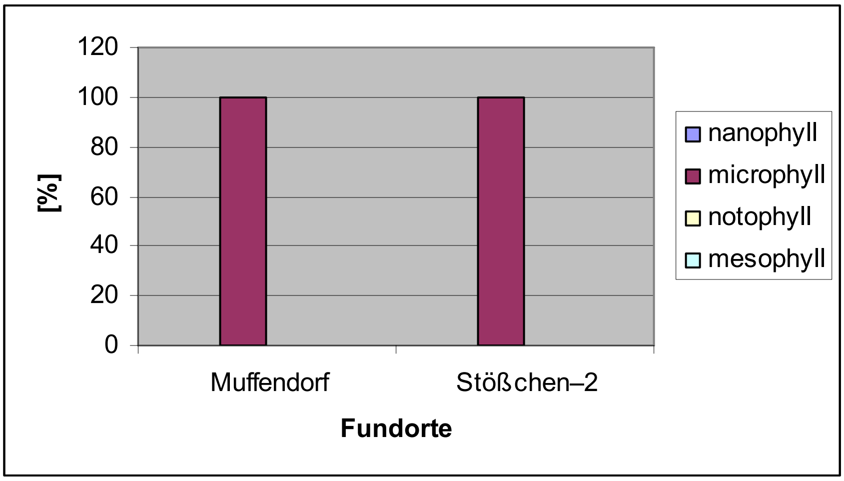


Abb. A-26: Verteilung der Blattgrößenklassen [in %] nach Fundorten aus der Chert-Fazies (vgl. Tab. A-50).

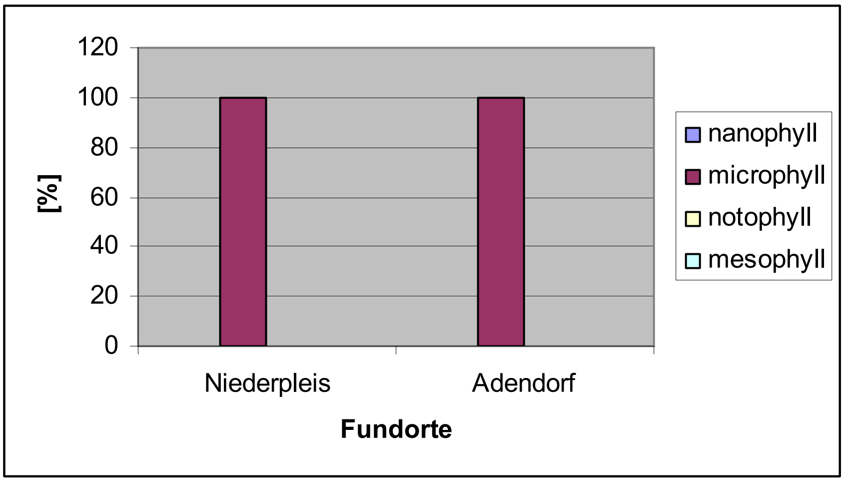


Abb. A-27: Verteilung der Blattgrößenklassen [in %] nach Fundorten aus der Pelit- und Siliziklastika-Fazies (vgl. Tab. A-50).

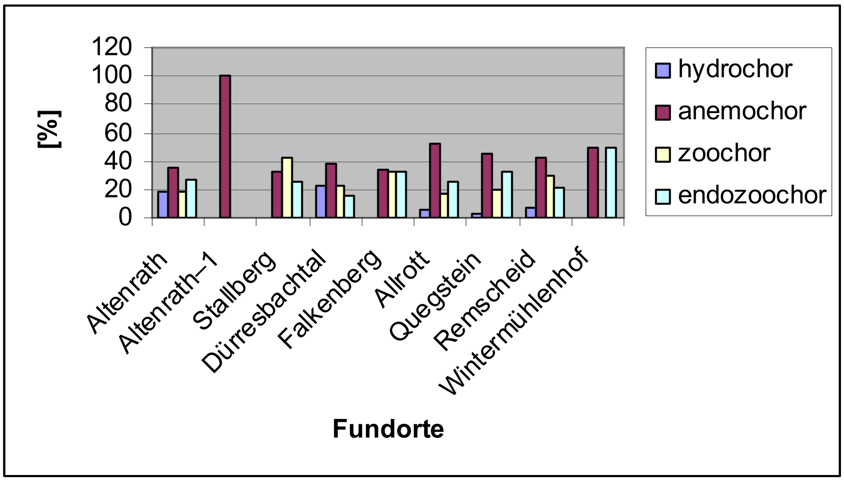


Abb. A-28: Verteilung der Chorien [in %] nach Fundorten aus der Siliziklastika-Fazies (vgl. Tab. A-51).

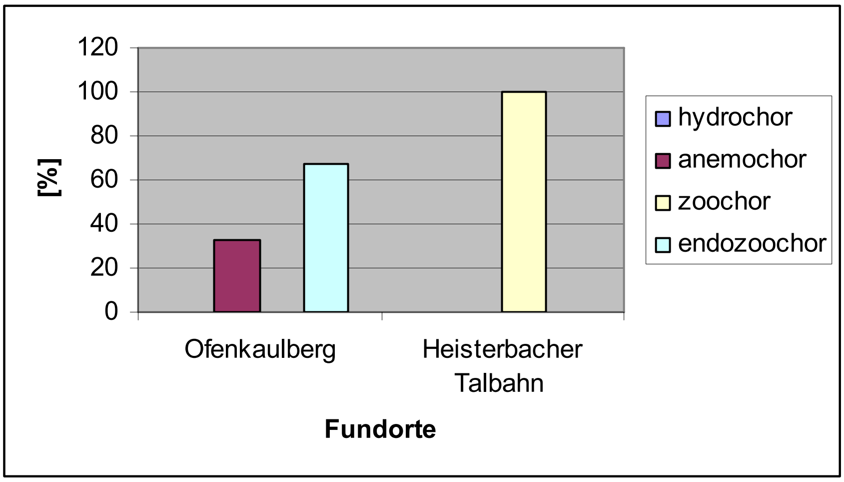


Abb. A-29: Verteilung der Chorien [in %] nach Fundorten aus der Pyroklastika-Fazies (vgl. Tab. A-51).

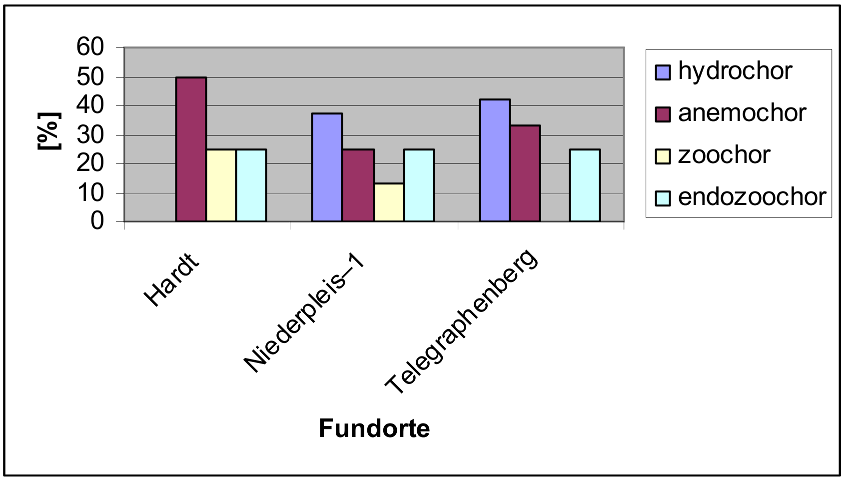


Abb. A-30: Verteilung der Chorien [in %] nach Fundorten aus der Pelit- und Braunkohlen-Fazies (vgl. Tab. A-51).

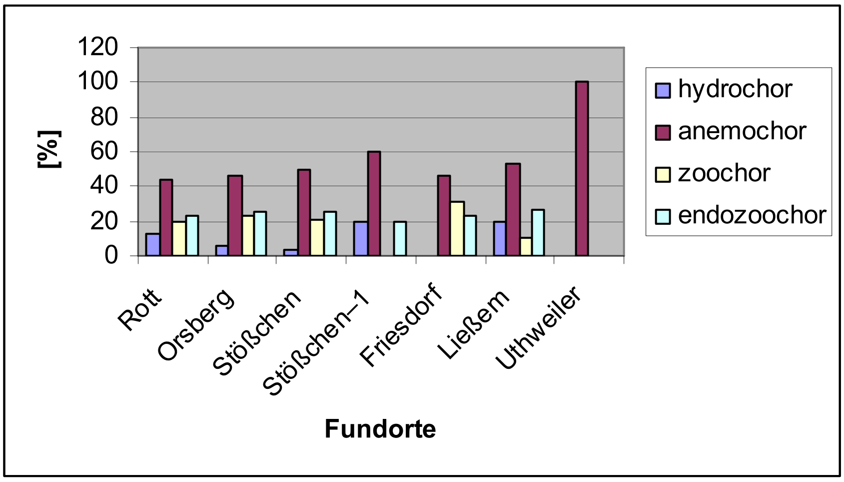


Abb. A-31: Verteilung der Chorien [in %] nach Fundorten aus der Sapropelit- und Diatomit-Fazies (vgl. Tab. A-51).

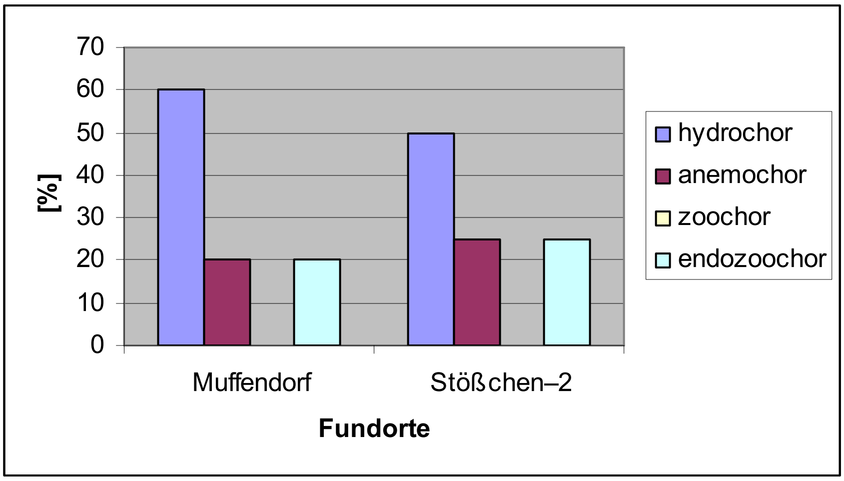


Abb. A-32: Verteilung der Chorien [in %] nach Fundorten aus der Chert-Fazies (vgl. Tab. A-51).

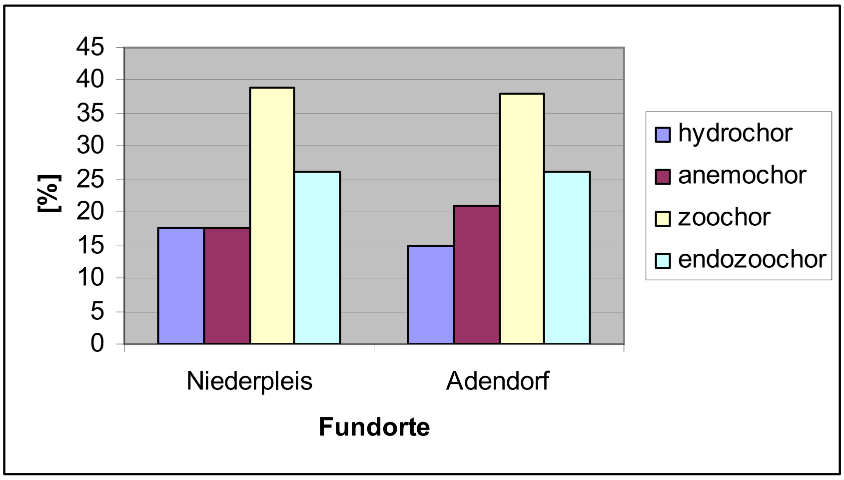


Abb. A-33: Verteilung der Chorien [in %] nach Fundorten aus der Pelit- und Siliziklastika-Fazies (vgl. Tab. A-51).

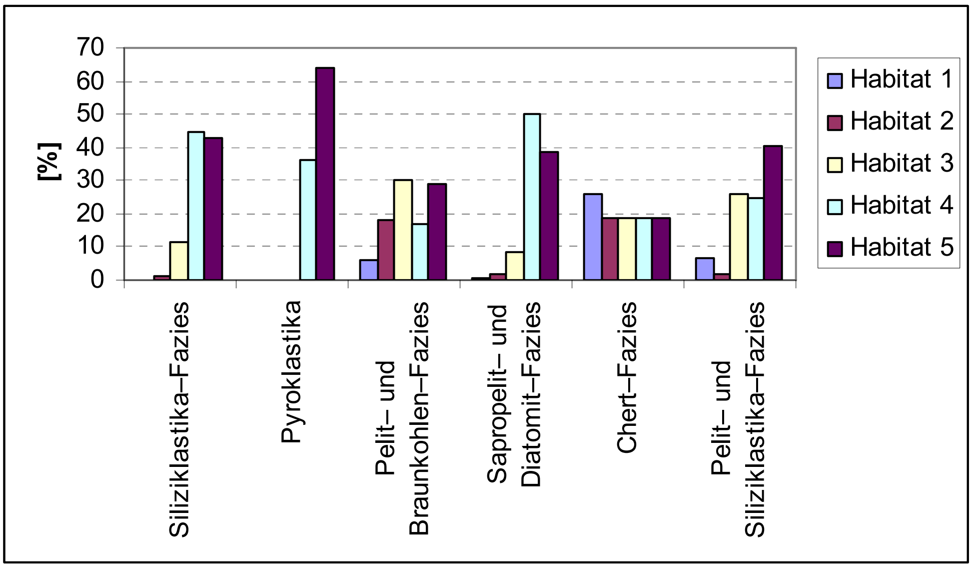


Abb. A-34: Verteilung der Habitate [in %] nach Faziesbereichen.

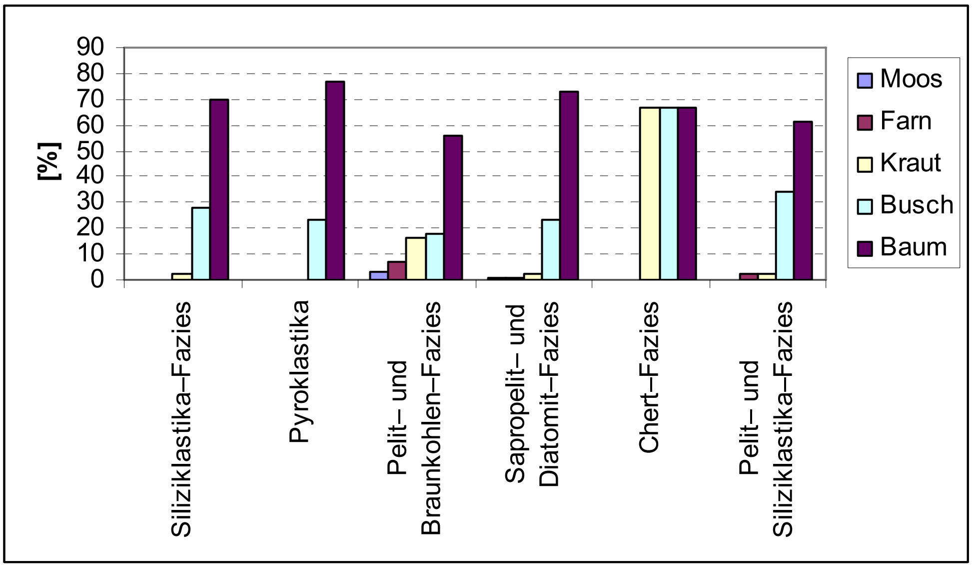


Abb. A-35: Verteilung der Habitus [in %] nach Faziesbereichen.

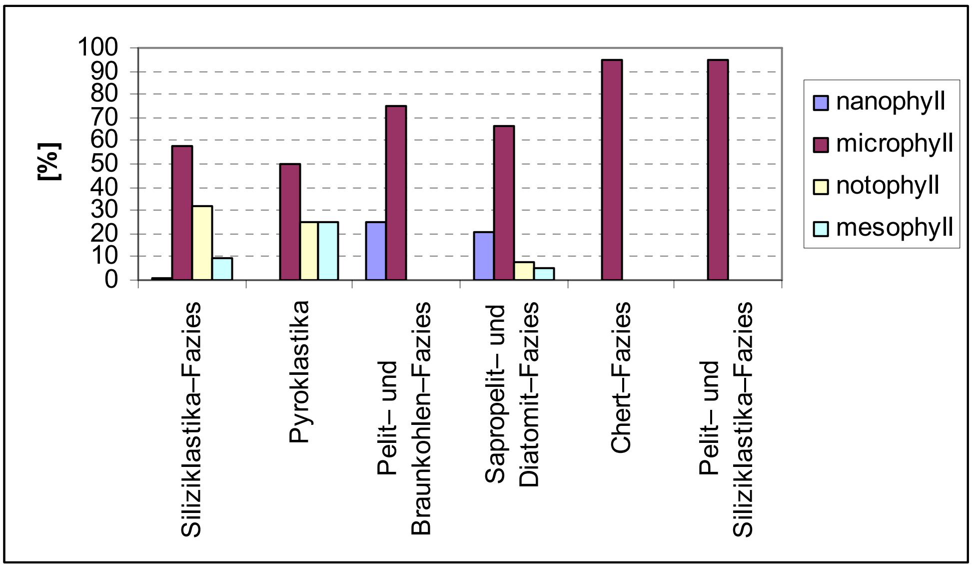


Abb. A-36: Verteilung der Blattgrößenklassen [in %] nach Faziesbereichen.

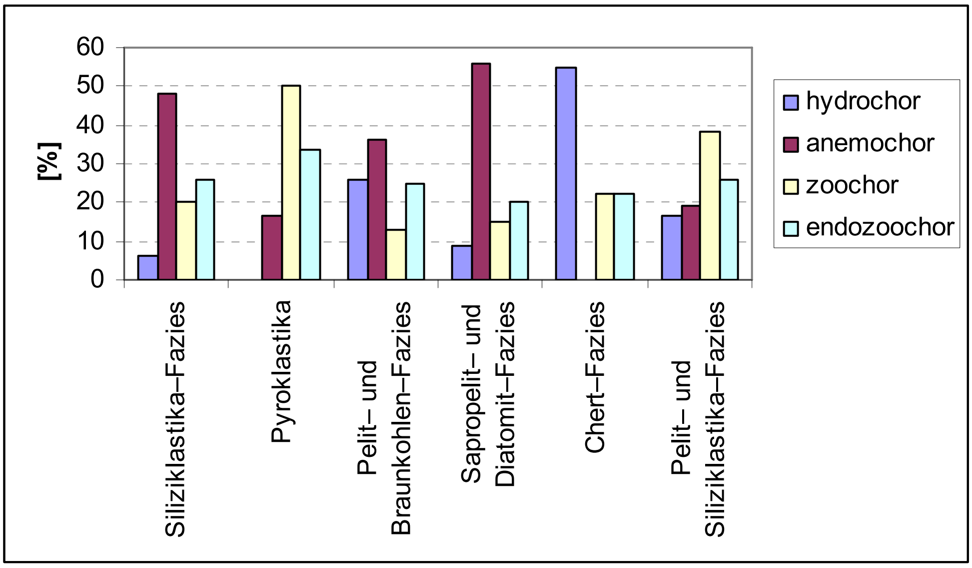
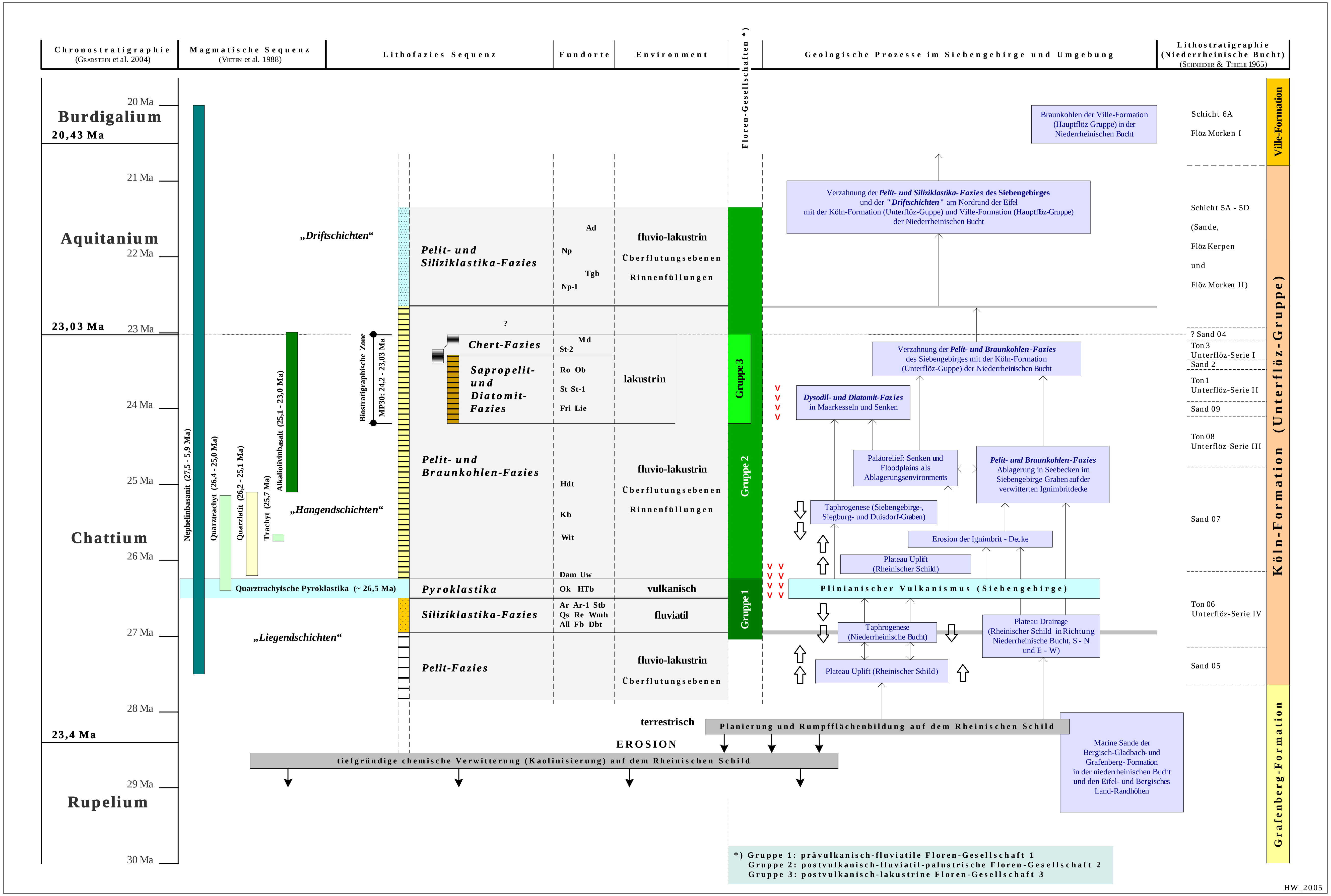


Abb. A-37: Verteilung der Chorien [in %] nach Faziesbereichen.

Abb. A-38 (gegenüber liegende Abbildung)**:** Übersicht: Chronostratigraphie, Magmatisch Sequenz, Lithofazies-Sequenz, Floren-Fundorte und Environment-Entwicklung im Siebengebirge (südlichster Bereich der Niederrheinischen Bucht).


Chronostratigraphie (Gradstein et al. 2004)
Magmatische Sequenz (Vieten et al. 1988)
Lithofazies Sequenz
Fundorte
Environment
Floren-Gesellschaften *)
Geologische Prozesse im Siebengebirge und Umgebung
Lithostratigraphie (Niederrheinische Bucht) (Schneider & Thiele 1965)
20 Ma
Burdigalium
20,43 Ma
21 Ma
Aquitanium
22 Ma
23,03 Ma
23 Ma
24 Ma
25 Ma
Chattium
26 Ma
27 Ma
28 Ma
23,4 Ma
29 Ma
Rupelium
30 Ma
Nephelinbasanit (27,5 - 5,9 Ma)
Quarztrachyt (26,4 - 25,0 Ma)
Quarzlatit (26,2 - 25,1 Ma)
Trachyt (25,7 Ma)
Alkaliolivinbasalt (25,1 - 23,0 Ma)
„Driftschichten“
„Hangendschichten“
„Liegendschichten“
Biostratigraphische Zone
MP30: 24,2 - 23,03 Ma
Quarztrachytische Pyroklastika (~ 26,5 Ma)
Pelit- und Siliziklastika-Fazies
?
Chert-Fazies
Sapropelit- und Diatomit-Fazies
Pelit- und Braunkohlen-Fazies
Pyroklastika
Siliziklastika-Fazies
Pelit-Fazies
Ad
Np
Tgb
Np-1
Md
St-2
Ro Ob
St St-1
Fri Lie
Hdt
Kb
Wit
Dam Uw
Ok HTb
Ar Ar-1 Stb
Qs Re Wmh
All Fb Dbt
fluvio-lakustrin
Überflutungsebenen
Rinnenfüllungen
lakustrin
fluvio-lakustrin
Überflutungsebenen
Rinnenfüllungen
vulkanisch
fluviatil
fluvio-lakustrin
Überflutungsebenen
terrestrisch
EROSION
Gruppe 3
Gruppe 2
Gruppe 1
Braunkohlen der Ville-Formation (Hauptflöz Gruppe) in der Niederrheinischen Bucht
Verzahnung der *Pelit- und Siliziklastika-Fazies* des Siebengebirges und der "*Driftschichten*" am Nordrand der Eifel mit der Köln-Formation (Unterflöz-Gruppe) und Ville-Formation (Hauptflöz-Gruppe) der Niederrheinischen Bucht
Verzahnung der *Pelit- und Braunkohlen-Fazies* des Siebengebirges mit der Köln-Formation (Unterflöz-Gupe) der Niederrheinischen Bucht
Dysodil- und Diatomit-Fazies in Maarkesseln und Senken
Paläorelief: Senken und Floodplains als Ablagerungsenvironments
Pelit- und Braunkohlen-Fazies Ablagerung in Seebecken im Siebengebirge Graben auf der verwitterten Ignimbritdecke
Taphrogenese (Siebengebirge-, Siegburg- und Duisdorf-Graben)
Erosion der Ignimbrit - Decke
Plateau Uplift (Rheinischer Schild)
Plinianischer Vulkanismus (Siebengebirge)
Taphrogenese (Niederrheinische Bucht)
Plateau Drainage (Rheinischer Schild in Richtung Niederrheinische Bucht, S - N und E - W)
Plateau Uplift (Rheinischer Schild)
Planierung und Rumpfflächenbildung auf dem Rheinischen Schild
tiefgründige chemische Verwitterung (Kaolinisierung) auf dem Rheinischen Schild
Marine Sande der Bergisch-Gladbach- und Grafenberg- Formation in der niederrheinischen Bucht und den Eifel- und Bergisches Land-Randhöhen
Schicht 6A
Flöz Morken I
Schicht 5A - 5D
(Sande,
Flöz Kerpen
und
Flöz Morken II)
? Sand 04
Ton 3
Unterflöz-Serie I
Sand 2
Ton 1
Unterflöz-Serie II
Sand 09
Ton 08
Unterflöz-Serie III
Sand 07
Ton 06
Unterflöz-Serie IV
Sand 05
Ville-Formation
Köln-Formation (Unterflöz-Gruppe)
Grafenberg-Formation
*) Gruppe 1: prävulkanisch-fluviatile Floren-Gesellschaft 1
Gruppe 2: postvulkanisch-fluviatil-palustrische Floren-Gesellschaft 2
Gruppe 3: postvulkanisch-lakustrine Floren-Gesellschaft 3
HW_2005