

3

THE NOMENCLATRURAL REVISION AND THE TAXONOMY OF THE FOSSIL PLANTS KEPT IN THE PALAEOBOTANICAL COLLECTION OF THE BANTULUI MUSEUM TIMIȘOARA

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ABSTRACT

The Banatului Museum in Timișoara (Banat region, South-Western Romania) possesses in its Natural Sciences Department a palaeobotanical collection, consisting from 303 samples. They were list in the catalogue of HUMML (1963), however do not were described or figured, nor taxonomically ordered. The specimens are Upper Carboniferus, Permian, Lower Liassic, Middle + Upper Liassic, Dogger, Malm, Burdigalian, Sarmatian, Upper Miocene, Pliocene and Tertiary in age, and were collected during a long period, by a lot of people, from several localities in Romania and Hungary (Text - fig.1). The material will be extensively studied and redetermined, but first of all to accomplish a nomenclatural revision of the taxa, and the taxonomy of the material, is absolutely necessary. Owing to this revision, 94 taxa at rank of species or at least of genus are recognized (Table 1).

INTRODUCTION

One of the most important collections kept in the Banatului Museum Timișoara, is the palaeobotanical collection of the Natural Sciences Department. Also known as "the Humml collection" - after palaeobotanist Dr. HANS HUMML, the keeper who in the period 1920 - 1956 greatly contributed to the increase of the samples number by new collectings - this collection has been sent me for study by the actual Head of the Department, Mr. ANDREI KISS.

According to the data already published in the catalogue of HUMML (1963), the collection consists from 303 samples of various ages: Upper Carboniferous, Permian, Lower Liassic, Upper Liassic, Dogger, Malm,

Burdigalian, Sarmatian, Upper Miocene, Pliocene, and Tertiary. I note in this respect, that owing to the new biozonation of CZIER (in press a), the dating "Upper Liassic" must be considered Middle + Upper Liassic. The samples were collected by a lot of people during of a long period, however many of their names unfortunately are unknown. Part of the samples proceed from other collections, e.g. the School of Mines Timisoara, the Polytechnic School Timișoara, the Group of Coal Industries Anina, the Natural History Museum Sibiu, the Geological Committee Anina, and were donated in the years 1926 - 1955, being subject of older collectings. Another part of the samples were collected by scientists as F. SCHAFARZIK, J. TUZSON, H. HUMML, R. GIVULESCU. The sampling localities lie in Romania and Hungary (Text - fig.1).

The material will be extensively studied and redetermined. I consider however necessary first of all to accomplish a nomenclatural revision of the taxa, and the taxonomy of the material, because in Humml's catalogue the specimens were listed only in accordance with their inventory numbers and were not taxonomically ordered.

NOMENCLATRURAL REVISION AND TAXONOMY

CORMOPHYTA PTERIDOPHYTA LEPIDOPSIDA EULEPIDOPHYTALES LEPIDODENDRACEAE

Genus *Lepidodendron* Sternberg

Lepidodendron obovatum (Sternberg) Zeiller

1963 *Lepidodendron obovatum* Sternberg: Humml : 187.

Locality. Secul (Upper Carboniferous).

Lepidodendron cf. *aculeatum* Sternberg

1963 *Lepidodendron* cf. *aculeatum* Sternberg: Humml : 187.

Locality. Secul (Upper Carboniferous).

Lepidodendron sp.

1963 *Lepidodendron* sp.: Humml : 188.

1963 *Lepidodendron* sp. (*obovatum* Sternberg ?) : Humml : 188.

Locality. Secul (Upper Carboniferous).

Genus *Stigmaria* Brongniart

Stigmaria ficoides (Sernberg) Brongniart

1963 *Stigmaria ficoides* Brongniart: Humml : 188, 190.

Locality. Secul (Upper Carboniferous)

SIGILLARIACEAE

Genus *Sigillaria* Brongniart

Sigillaria sp.

1963 *Sigillaria* (*Syringodendron* gr.): Humml : 187.

1963 *Sigillaria* (gr.): Humml : 187.

Locality. Secul (Upper Carboniferous).

ARTHROPSIDA
SPHENOPHYLLALES
SPHENOPHYLLACEAE

Genus *Sphenophyllum* Koenig

Sphenophyllum oblongifolium Germar et Kaulfuss

1963 *Sphenophyllum oblongifolium* Germar et Kaulfuss: Humml: 187

Locality. Secul (Upper Carboniferous).

Sphenophyllum aff. *oblongifolium* Germar et Kaulfuss

1963 *Sphenophyllum* aff. *oblongifolium* Germar et Kaulfuss: Humml:
189.

Locality. Secul (Upper Carboniferous).

EQUISETALES
CALAMITACEAE

Genus *Calamites* Brongniart

Calamites cistii Brongniart

1963 *Calamites* (*Stylocalamites*) *cysti* Brogniart: Humml : 187.

Locality. Secul (Upper Carboniferous).

Calamites sp.

1963 *Calamites* sp.: Humml : 187, 189, 190, 191.

Localities. Secul (Upper Carboniferous); Unknown locality (? Secul) (Upper Carboniferous).

? *Calamites* sp.

1963 *Calamitidae*: Humml : 186,187,192.

Localities. Lupac (Upper Carboniferous); Secul (Upper Carboniferous); Anina (Permian).

Genus *Asterophyllites* Brongniart

Asterophyllites aff. *equisetiformis* (Schlotheim) Brongniart

1963 *Asterophyllites* aff. *equisetiformis* Schlotheim: Humml: 186

Locality. Lupac (Upper Carboniferous).

Genus *Annularia* Sternberg

Annularia longifolia Brongniart

1963 *Annularia longifolia* Brongniart: Humml : 186, 187, 188, 189, 191.

Localities. Lupac (Upper Carboniferous); Secul (Upper Carboniferous); Unknown locality (Upper Carboniferous).

Annularia sphenophylloides Zenker

1963 *Annularia sphenophylloides* Zenker: Humml : 188, 189, 190, 191.

Localities. Secul (Upper Carboniferous); Gârliste (Upper Carboniferous); Unknown locality (Upper Carboniferous).

Annularia stellata Schlotheim

1963 *Annularia stellata* Schlotheim: Humml : 189, 190

Locality. Secul (Upper Carboniferous).

Annularia cf. *longifolia* Brongniart

1963 *Annularia* cf. *longifolia* Brongniart ? : Humml : 188

Locality. Secul (Upper Carboniferous).

Annularia sp.

1963 *Annularia* sp: Humml : 186,189,190.

Localities. Lupac (Upper Carboniferous); Secul (Upper Carboniferous).

EQUISETACEAE

Genus *Equisetum* Linnaeus

Equisetum sp.

1963 *Equisetites* sp.: Humml :199.

Remark. According to (1961) the generic name *Equisetites* is suppressed in favour of the name *Equisetum*.

Locality. Unknown locality (Lower Lassic).

Genus *Neocalamites* Halle

Neocalamites sp.

1963 *Neocalamites* sp.: Humml : 196,197.

Locality. Anina (Lower Lassic).

FILICOPSIDA EUSPORANGIIDAE MARATTIALES

Genus *Marattia* Schwartz

Marattia intermedia (Münster) Kilpper

1963 *Marattiopsis hoerensis* (Schimper) Thomas: Humml : 195.

Remarks. According to Harris (1961) the generic name *Marratiopsis* is suppressed in favour of the name *Marattia*. The species was revised by KILPPER (1964).

Locality. Anina (Lower Lassic).

Genus *Pecopteris* Brongniart (partim)

Pecopteris arborescens (Schlotheim) Sternberg

1963 *Pecopteris arborescens* Brongniart: Humml : 186, 187, 188, 189, 190.

Localities. Clocotici (Upper Carboniferous); Secul (Upper Carboniferous); Gârliște (Upper Carboniferous); Poiana Vișanului (Upper Carboniferous).

Pecopteris cf. *arborescens* (Schlotheim) Stenberg

1963 *Pecopteris* cf. *arborescens* Brongniart: Humml : 186,188,189.

Localities. Lupac (Upper Carboniferous); Secul (Upper Carboniferous).

Pecopteris cf. *hemitelioides* Brongniart

1963 *Pecopteris* cf. *hemitelioides* Brongniart: Humml : 189.

Locality. Secul (Upper Carboniferous).

Pecopteris aff. *plumosa* (Artis) Brongniart

1963 *Pecopteris* aff. *plumosa* Brongniart: Humml : 190.

Locality. Gârliște (Upper Carboniferous).

LEPTOSPORANGIIDAE

OSMUNDALES

OSMUNDACEAE

Genus *Todites* Seward em. Harris

Todites denticulata (Brongniart) Krasser

1963 *Todites denticulatus* (Brongniart) Krasser: Humml :199.

Locality. Unknown locality (Lower Liassic).

Todites sp. .

1963 *Todites* sp.: Humml : 199.

Locality. Unknown locality (Lower Liassic).

? *Todites* sp.

1963 *Todites denticulata* (Brongniart) ?: Humml : 198.

Locality. Anina (Lower Liassic).

FILICALES

MATONIACEAE

Genus *Phlebopteris* Brongniart em. Hirmer et Hörhammer

? *Phlebopteris* sp.

1963 *Laccopteris* sp.: Humml : 196, 199

1963 *Laccopteris* sp. ?: Humml : 196.

Remark. The genus *Laccopteris* was revised by HIRMER and HÖRHAMMER (1936).

Localities. Anina (Lower Liassic); Unknown locality (Lower Liassic).

Genus *Matonia* R. Brown

Matonia braunii (Goeppert) Harris

1963 *Laccopteris goepperti* Schenk: Humml : 195, 196, 199.

Remarks. HIRMER and HÖRHAMMER (1936) revised *Laccopteris goepperti* as *Phlebopteris brauni*. However, HARRIS (1980) transferred the latter species to the genus *Matonia*

Localities. Anina (Lower Liassic); Unknown locality (Lower Liassic).

Matonia cf. *braunii* (Goeppert) Harris

1963 *Laccopteris* cf. *goepperti* Schenk: Humml : 196.

Locality. Anina (Lower Liassic).

Matonia aff. *braunii* (Goeppert) Harris

1963 *Laccopteris* aff. *goepperti* Schenk: Humml : 196.

Locality. Anina (Lower Liassic).

Genus *Nathorstia* Heer

Nathorstia sp

1963 *Laccopteris dunkeri* Schenk: Humml : 199

Remark. HIRMER and HÖRHAMMER (1936) revised *Laccopteris dunkeri* Schenk as *Nathorstia*.

Locality. Unknown locality (Lower Liassic).

GYMNOSPERMATOPHYTA PTERIDOSPERMOPSIDA PTERIDOSPERMALES MEDULLOSACEAE

Genus *Alethopteris* Sternberg

Alethopteris serli Brongniart

1963 *Alethopteris scherlii* Brongniart: Humml : 187, 188, 189.

Locality. Secul (Upper Carboniferous).

Alethopteris sp.

1963 *Alethopteris* sp.: Humml : 187.

Locality. Secul (Upper Carboniferous).

Genus *Callipteridium* Weiss

Callipteridium aff. *pteridium* Schlotheim

1963 *Callipteridium* aff. *pteridium* Schlotheim: Humml : 191.

Locality. Clocotici (Permian).

Genus *Callipteris* Brongniart

Callipteris conferta Sternberg

1963 *Callipteris conferta* Brongniart: Humml : 191,194.

Locality. Clocotici (Permian); Ciclova Montană (Permian).

Callipteris sp.

1963 *Callipteris* sp.: Humml : 192

Locality. Ciclova Montană (Permian).

? *Callipteris* sp.

1963 *Callipterides*: Humml : 193

Locality. Ciclova Montană (Permian).

Genus *Odontopteris* Brongniart

Odontopteris reichiana Gutbier

1963 *Odontopteris reichiana* Gutbier: Humml : 187, 188.

Locality. Secul (Upper Carboniferous).

Odontopteris cf. *reichiana* Gutbier

1963 *Odontopteris* cf. *reichiana* Gutbier: Humml : 187.

Locality. Secul (Upper Carboniferous).

Odontopteris sp.

1963 *Odontopteris* typus: Humml :189.

Locality. Secul (Upper Carboniferous).

Genus *Neuropteris* (Brongniart) Sternberg

Neuropteris sp.

1963 *Neuropteris* sp.: Humml : 187, 190, 191.

Localities. Secul (Upper Carboniferous); Unknown locality (Upper Carboniferous).

Genus *Cyclopteris* Brongniart

Cyclopteris sp.

1963 *Cyclopteris* sp.: Humml : 187.

Locality. Secul (Upper Carboniferous).

Genus *Pachypteris* Brongniart

Pachypteris rhomboidalis (Ettingshausen) Nathorst

1963 *Thinnfeldia rhomboialis* Ettingshausen: Humml : 196.

Remark. According to BARBACKA (1994), DOLUDENKO has shown that the type specimen of *Tinnfeldia rhomboidalis* belongs to the genus *Pachypteris*.

Locality. Anina (Lower Liassic).

Genus *Trigonocarpus* Brongniart

Trigonocarpus aff. *parkinsoni* Brongniart

1963 *Trigonocarpus* aff. *parkinsoni* Brongniart: Humml : 190

Locality. Gîrliște (Upper Carboniferous).

Trigonocarpus (typus): Humml : 193

Locality. Ciclova montană (Permian).

CAYTONIALES
CAYTONIACEAE

Genus *Sagenopteris* Presl

Sagenopteris sp.

1963 *Sagenopteris* sp.: Humml : 195, 198.

Localities. Doman (Lower Liassic); Anina (Lower Liassic).

INCERTAE SEDIS

Genus *Pecopteris* Brongniart (partim)

Pecopteris sp.

1963 *Pecopteris* sp.: Humml : 186, 187, 188, 189, 190, 192.

1963 *Pecopteris* sp. (*Asterophyllites* ?): Humml : 190.

Localities. Lupac (Upper Carboniferous); Clocotici; Secul (Upper Carboniferous); Gârliște (Upper Carboniferous); Unknown locality (Upper Carboniferous); Anina (Permian).

? *Pecopteris* sp.

1963 *Pecopterides* (gr.): Humml : 186.

1963 *Pecopterides*: Humml : 186.

1963 "*Pecopteris* sp." ? : Humml : 188

Localities. Lupac (Upper Carboniferous); Secul (Upper Carboniferous).

Genus *Sphenopteris* (Brongniart) Sternberg

Sphenopteris sp.

1963 *Sphenopteris* sp.: Humml : 189, 199.

Localities. Secul (Upper Carboniferous); Unknown licality (Lower Liassic).

Genus *Cladophlebis* Brongniart

Cladophlebis haiburnensis (Lindley et Hutton) Brongniart

1963 *Cladophlebis haiburnensis* (Lindley et Hutton) Kristofovici:
Humml : 199.

Locality. Unknown locality (Lower Liassic).

Cladophlebis insignis (Lindley et Hutton) Raciborski

1963 *Cladophlebis* aff. *whybiensis* Brongniart: Humml : 195.

1963 *Cladophlebis whybiensis* Brongniart: Humml : 198.

1969 *Cladophlebis insignis* Lindley et Hutton: Humml: 390 [revision].

Locality. Anina (Liassic inferior).

Cladophlebis obtusifolia (Andrae) Ward

1963 *Sphenopteris obtusifolia* Andrae: Humml : 197.

Remark. WARD (1900) revised the species.

Locality. Anina (Lower Liassic).

Cladophlebis sp.

1963 *Cladophlebis* sp.: Humml : 194, 199.

Localities. Doman (Lower Liassic); Unknown locality (Lower Liassic).

CYCADOPSIDA
CYCADALES
NILSONIACEAE

Genus *Nilsonia* Brongniart

Nilsonia acuminata (Presl) Goeppert

1963 *Nilssonina acuminata* Presl: Humml : 196.

Locality. Anina (Lower Liassic).

Nilsonia orientalis Heer

1963 *Nilssonina orientalis* Heer: Huml : 195, 196, 197, 199.

Localities. Anina (Lower Liassic); Unknown locality (Lower Liassic).

Nilsonia schmidtii (Heer) Seward

1963 *Nilssonina schmidti* Heer: Humml : 199.

Locality. Unknown locality (Lower Liassic).

Nilsonia sp.

1963 *Nilssonina* sp.: Humml : 195, 196, 197, 198, 199.

1963 *Nilsonia* sp. (*schmidti*): Humml : 198.

Localities. Anina (Lower Liassic); Unknown locality (Lower Liassic).

? *Nilsonia* sp.

1963 *Nilssonina* sp. ?: Humml : 195.

Locality. Doman (Lower Liassic).

BENNETTITALES

Genus *Williamsonia* Carruthers

? *Williamsonia* sp. ?: Humml : 197

Localitiy. Anina (Lower Liassic).

Genus *Pterophyllum* Brongniart em. Harris

Pterophyllum brevipenne Kurr

1963 *Pterophyllum brevipenne* Kurr: Humml : 198, 199.

Localities. Anina (Lower Liassic); Unknown locality (Lower Liassic).

Pterophyllum dubium Brongniart

1963 *Pterophyllum dubium* Brongniart: Humml : 195.

Locality. Anina (Lower Liassic).

Pterophyllum sp.

1963 *Pterophyllum* sp.: Humml : 195, 196, 197, 198, 199.

1963 *Pterophyllum* sp. (*jaegeri* ?): Humml : 197.

1963 *Pterophyllum* sp. (*jaegeri* Brongniart ?): Humml : 197.

Localities. Anina (Lower Liassic); Unknown locality (Lower Liassic).

Genus *Taeniopteris* Brongniart

Taeniopteris tenuinervis Brauns

1963 *Taeniopteris tenuinervis* Brauns: Humml : 188, 197.

Localities. Secul (Upper Carboniferous); Anina (Lower Liassic).

Taeniopteris sp.

1963 *Taeniopteris* sp.: Humml : 186, 193, 194, 195, 199.

Localities. Clocotici (Upper Carboniferous); Ciclova Montană (Permian); Doman (Lower Liassic); Anina (Lower Liassic); Unknown locality (? Caraşova) (Lower Liassic); Unknown locality (Lower Liassic).

? *Taeniopteris* sp.

1963 *Taeniopteris* sp. ? : Humml : 198.

Locality. Anina (Lower liassic).

Genus *Nilssoniopteris* Nathorst

Nilssoniopteris vittata (Brongniart) Florin

1963 *Williamsoniella vitata* (Brongniart) Thomas: Humml : 195, 199

Remark. The species was extensively studied by HARRIS (1969).

Localities. Anina (Lower Liassic); Unknown locality (? Caraşova) (Lower Liassic).

Genus *Zamites* Brongniart em. Harris

Zamites andraeanus (Semaka) Givulescu

1963 *Otozamites andraeanus* Semaka: Humml : 196.

Remark. See GIVULESCU and CZIER (1990).

Locality. Anina (Lower Liassic).

Zamites aninaensis (Semaka) Givulescu

1963 *Otozamites aninaensis* Semaka: Humml : 196.

Remark. See GIVULESCU and CZIER (1990).

Locality. Anina (Lower Liassic).

Zamites schmiedeli Presl in Sternberg

1963 *Otozamites schmiedelii* (Sternberg) Semaka: Humml : 195,
196, 197.

Remark. See GIVULESCU and CZIER (1990).

Locality. Anina (Lower Liassic).

Zamites sp.

1963 *Zamites* sp.: Humml : 194, 195, 196, 197, 198, 199.

1963 *Zamites* sp. (typus *Otozamites*): Humml : 195.

Localities. Doman (Lower Liassic); Anina (Lower Liassic); Unknown
locality (Lower Liassic).

Genus *Otozamites* F.W. Braun em. Barnard et Miller

1963 *Otozamites* sp: Humml : 195, 197.

1963 *Otozamites* sp. (typus *andraeanus* Semaka): Humml : 195

Locality. Anina (Lower Liassic).

Genus *Ptilophyllum* Morris em. Harris

Prilophyllum imbricatum (Ettingshausen) Krasser

1963 *Zamites gracilis* Kurr: Humml : 198.

Remarks. SCHENK (1867) revised *Zamites gracilis* as *Pterophyllum imbricatum*. This latter was combined by KRASSER (1921) into *Ptilophyllum imbricatum*.

Locality. Anina (Lower Liassic).

Ptilophyllum rigidum (Andrae) Krasser

1963 *Ptilophyllum rigidum* (Andrae) Krasser: Humml : 196, 197, 199.

Localities. Anina (Lower Liassic); Unknown locality (Lowr Liassic).

CORDAITOPSIDA
CORDAITALES

Genus *Cordaites* Unger

Cordaites sp.

1963 *Cordaites* sp.; Humml : 186, 187 188, 189, 190, 192, 193.

Localities. Lupac (Upper Carboniferous); Clocotici (Upper Carboniferous); Secul (Upper Carboniferous); Gîrliște (Upper Carboniferous); Anina (Permian); Ciclova Montană (Permian).

GINKGOALES

Genus *Ginkgo* Linnaeus

Ginkgo digitata (Borngniart) Heer

1963 *Ginkgoites digitata* (Borngniart) Seward: Humml : 195.

Remark. According to CZIER (in press **b**) the genus *Ginkgoites* is suppressed in favour of the name *Ginkgo*.

Locality. Anina (Lower Liassic).

Ginkgo sibirica Heer

1963 *Ginkgo sibirica* Heer: Humml : 198.

Locality. Anina (Lower Liassic).

Ginkgo sp.

1963 *Baiera* sp.: Humml : 194, 195.

1963 *Baiera* (typus): Humml : 195.

1963 *Baiera* aut *Ginkgoites*: Humml : 197.

1963 *Ginkgoites* sp.: Humml : 199.

1963 *Ginkgo* sp.: Humml : 200

1963 *Ginkgoites taeniata* (F. Braun) Harris: Humml: 195, 196, 197, 198.

Remarks. According to CZIER (in press **b**) the genus *Baiera* is suppressed in favour of the name *Ginkgo*. In the same paper I have shown that *Ginkgoites taeniata* - revised as *Ginkgo taeniata* - is a very artificial species, of which the validity cannot be recognized. So, until their redetermination, all the mentioned materials are revised as *Ginkgo* sp.

Localities. Doman (Lower Liassic); Anina (Lower Liassic); Unknown locality (Lower Liassic); Anina (Dogger).

Genus *Sphenobaiera* Florin

Sphenobaiera sp.

1963 *Sphenobaiera* sp. (an. sp. n.?): Humml : 194, 195.

Locality. Doman (Lower Liassic).

Genus *Czekanowskia* Heer

Czekanowskia rigida Heer

1963 *Czekanowskia rigida* Heer: Humml : 194, 195, 198.

Localities. Doman (Lower Liassic); Anina (Lower Liassic).

Czekanowskia sp.

1963 *Czekanowskia* sp.: Humml : 197

Locality. Anina (Lower Liassic).

Genus *Phoenicopsis* Heer

Phoenicopsis latior Heer

1963 *Phoenicopsis latior* Heer: Humml : 195, 198, 199.

Localities. Doman (Lower Liassic); Anina (Lower Liassic); Unknown locality (Lower Liassic).

Phoenicopsis sp.

1963 *Phoenicopsis* sp.: Humml : 196, 198.

Locality. Anina (Lower Liassic).

CONIFEROPSIDA PROTOCONIFERALES LEBACHIACEAE

Genus *Walchia* Sternberg

Walchia piniformis (Schlotheim) Sternberg

1963 *Walchia (Lebachia) piniformis* (Schlotheim) Florin: Humml : 191, 192, 193, 194.

Localities. Gîrliște (Permian); Anina (Permian); Ciclova Montană (Permian).

Walchia aff. *piniformis* (Schlotheim) Sternberg

1963 *Walchia* (*Lebachia*) aff. *piniformis* (Schlotheim) Florin: Humml: 192, 194.

Locality. Ciclova Montană.

Walchia sp.

1963 *Walchia* sp.: Humml: 191, 192, 193, 194.

1963 *Walchia* (*Lebachia*) sp.: Humml : 192.

Localities. Clocotici (Permian); Gîrlişte (Permian); Anina (Permian); Ciclova Montană (Permian); Unknown locality (Permian).

? *Walchia* sp.

1963 *Walchia* sp. ?: Humml : 193, 193.

Locality. Ciclova Montană (Permian).

PODOZAMITACEAE

Genus *Podozamites* (Brongniart) C. F. W. Braun

Podozamites distans (Presl) Braun

1963 *Podozamites distans* Presl.: Humml : 198.

Locality. Anina (Lower Liassic).

Podozamites mucronatus Harris

1963 *Podozamites mucronatus* Harris.: Humml : 198.

Locality. Anina (Lower Liassic).

EUCONIFERALES

ARAUCARIACEAE

Genus *Pagiophyllum* Heer

Pagiophyllum sp.

1963 *Pagiophyllum* (typus): Humml : 196, 197, 199.

1963 *Pagiophyllum* (typus): Humml : 197.

1963 *Pagiophyllum* sp. : Humml : 198.

Localities. Anina (Lower Liassic); Unknown locality (Lower Liassic).

INCERTAE SEDIS

Genus *Carpolithes* Brongniart

Carpolithes liasinus Andrae

1963 *Capolithes liasinus* Andrae: Humml : 200

Locality. Anina (Middle + Upper Liassic).

ANGIOSPERMATOPHYTA

DICOTYLEDONATAE

LAURALES

LAURACEAE

Genus *Daphnogene* Unger

Daphnogene polynorpha (A. Braun) Ettinghausen

1963 *Cinnamomophyllum polymorphum* (Al. Br.) Krausel et
Weyland: Humml : 200.

Remark. According to GIVULESCU (1990) leaves described in palaeobotanical publications under the name *Cinnamomun polymorphum* were tranfered to the genus *Cinnamomophyllum*, and leter to *Daphnogene*.

Locality. Mehadia (Sarmatian).

BETULALES

BETULACEAE

Genus *Alnus* Gaertner

Alnus sp.

1963 *Alnus* aut *Betula!* (*Alnus crebrinervis* E. Kov. ?!): Humml : 200

Locality. Sinersig (Pliocene).

JUGLANDALES

JUGLANDACEAE

Genus *Juglans* Linnaeus

Juglans sp.

1963 *Juglans* sp.: Humml : 200.

Locality. Rugi (Upper Miocene).

MALVALES
STERCULIACEAE

Genus *Buettneriophyllum* Knobloch et Kvacek

Buettneriophyllum aequalifolium (Goepfert) Givulescu

1963 *Büttneria aequalifolia* (Göppert) Givulescu: Humml : 200.

Remark. According to GIVULESCU (1960), the name of this combination is *Buettneriophyllum aequalifolium*.

Locality. Sinersig (Pliocen).

UNCLASSIFIED MATERIALS

Folia

1963 Folia: Humml : 186, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200.

1963 Folia acciculata: Humml : 192, 193, 194, 195.

1963 Folia et ligna: Humml : 189 [partim].

Localities. Lupac (Upper Carboniferous); Clocotici (Upper Carboniferous); Secul (Upper Carboniferous); Unknown locality (Upper Carboniferous); Anina (Permian); Ciclova Montana (Permian); Doman (Lower Liassic); Anina (Lower Liassic); Unknown locality (Lower Liassic); Anina (Malm); Oravita (Tertiary); Valea Jiului (Tertiary); Unknown locality (? Valea Jiului) (Tertiary).

Reliquia folium

1963 Reliquia folium: Humml: 188, 189, 190, 191 192, 194, 195, 197.

Localities. Secul (Upper carboniferous); Clocotici (Permian); Gîrlişte (Permian); Ciclova Montană (Permian); Doman (Lower Liassic); Anina (Lower Liassic).

? Folia

1963 Folia ? *Reliquia dubia* : Humml : 192

1963 Folia? : Humml : 193, 197.

Localities. Ciclova Montană (Permian); Anina (Lower Liassic).

Strobilus

1963 Strobilus: Humml : 195

Locality. Doman (Lower Liassic)

Semina

1963 Semina: Humml : 188, 191, 192, 193, 194.

Localities. Secul (Upper Carboniferous); Clocotici (Permian);
Gîrlişte (Permian); Anina (Permian); Ciclova Montană (Permian).

Ligna

1963 Ligna: Humml : 186, 188, 190, 192, 193, 194, 197, 198.

1963 Folia et ligna: Humml : 189 [partim].

1963 Ligna (Angiosperm mineralizat): Humml : 200.

1963 Ligna (Mineralizat): Humml : 200.

Localities. Lupac (Upper Carboniferous); Secul (Upper Carboni-
ferous); Anina (Permian); Ciclova Montană (Permian);
Anina (Lower Liassic); Budafok (Burdigalian); Lörinc-Pusztá
(Pliocen); Weizenried (Tertiár). •

? Ligna

1963 Ligna ?: Humml : 186.

Locality. Lupac (Upper Carboniferous).

Ludus naturae

1963 Ludus naturae: Humml : 193.

Locality. Ciclova Montană (Permian).

DISCUSSION

Owing to the nomenclatural revision of the taxa from the catalogue of HUMML (1963), 94 taxa at rank of species or at least of genus are reconized (Table 1). The taxonomy of the material shows that 31 taxa (32,98 %) belong to the Pteridophyta, 51 taxa (54,25 %) to the Gymnospermatophyta, 4 taxa (4,26 %) to the Angiospermatophyta, and 8 taxa (8,51 %) are Incertae sedis

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Figure 1

The provenance of the fossil plants kept in the palaeobotanical collection of the Banatului Museum Timișoara. 1- Lupac (Upper Carboniferous); 2- Clocotici (Upper Carboniferous; Permian); 3- Secul (Upper Carboniferous); 4- Gîrliște (Upper Carboniferous; Permian); 5- Poiana Vișanului (Upper Carboniferous); 6- Anina (Permian, Lower Liassic; Middle + Upper Liassic; Dogger; Malm); 7- Ciclova Montană (Permian); 8- Doman (Lower Liassic); 9- Mehadia (Sarmatian); 10- Rugi (Upper Miocene); 11- Sinersig (Pliocene); 12- Weizenried (Tertiary); 13- Oravița (Tertiary); 14- Valea Jiului (Tertiary); 15- Budafok (Burdigalian); 16- Lőrinci-Puszta (Pliocene). Some sample were collected from unknown localities.

Figura 1

Proveniența plantelor fosile păstrate în colecția paleobotanică a Muzeului Banatului Timișoara. 1- Lupac (Carbonifer superior); 2- Clocotici (Carbonifer superior; Permian); 3- Secul (Carbonifer superior); 4- Gîrliște (Carbonifer superior; Permian); 5- Poiana Vișanului (Carbonifer superior); 6- Anina (Permian; Liasic inferior; Liasic mediu + superior; Dogger; Malm); 7- Civlova Montană (Permian); 8- Doman (Liasic inferior); 9- Mehadia (Sarmațian); 10- Rugi (Miocen superior); 11- Sinersig (Pliocen); 12- Weizenried (Terțiar); 13- Oravița (Terțiar); 14- Valea Jiului (Terțiar); 15- Budafok (Burdigalian); 16- Lőrinci-Puszta (Pliocen). Unele eșantioane au fost colectate din localități necunoscute.

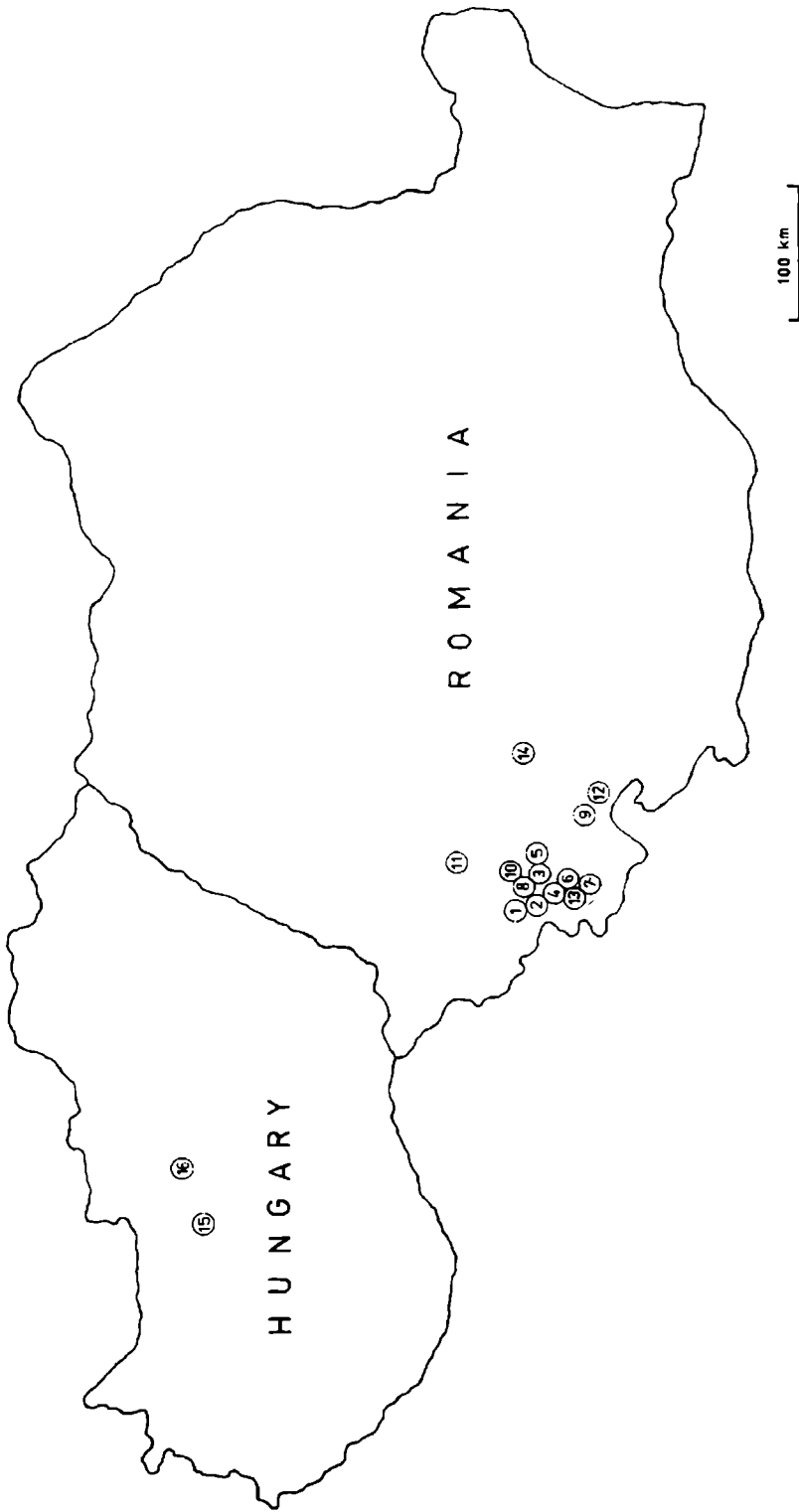


Figura 1

TABLE 1.

The taxa recognized in the palaeobotanical collection of the Banatului Museum Timișoara, after the nomenclatural revision.

- (1). *Lepidodendron obovatum* (Sternberg) Zeiller
- (2). *Lepidodendron* cf. *aculeatum* Sternberg
- (3). *Lepidodendron* sp.
- (4). *Stigmaria ficoides* (Sternberg) Bongniart
- (5). *Sigillaria* sp.
- (6). *Sphenophyllum oblongifolium* Germar et Kaulfuss
- (7). *Sphenophyllum* aff. *oblongifolium* Germar et Kaulfuss
- (8). *Calamites cistii* Brongniart
- (9). *Calamites* sp.
- (10). ? *Calamites* sp.
- (11). *Asterophyllites* aff. *equisetiformis* (Schlotheim) Brongniart
- (12). *Annularia longifolia* Brongniart
- (13). *Annularia sphenophylloides* Zenker
- (14). *Annularia stelata* Schlotheim
- (15). *Annularia* cf. *longifolia* Brongniart
- (16). *Annularia* sp.
- (17). *Equisetum* sp.
- (18). *Neocalamites* sp.
- (19). *Marattia intermedia* (Münster) Kilpper
- (20). *Pecopteris arborescens* (Schlotheim) Sternberg
- (21). *Pecopteris* cf. *arborescens* (Schlotheim) Sternberg
- (22). *Pecopteris* cf. *hemiteloides* Brongniart
- (23). *Pecopteris* aff. *plumosa* (Artis) Brongniart
- (24). *Todites denticulata* (Brongniart) Krasser
- (25). *Todites* sp.
- (26). ? *Todites* sp.
- (27). ? *Phlebopteris* sp.
- (28). *Matonia braunii* (Goeppert) Harris
- (29). *Matonia* cf. *braunii* (Goeppert) Harris
- (30). *Matonia* aff. *braunii* (Goeppert) Harris
- (31). *Nathorstia* sp.
- (32). *Alethopteris serli* Brongniart
- (33). *Alethopteris* sp.
- (34). *Callipteridium* aff. *pteridium* Schlotheim
- (35). *Callipteris conferta* Sternberg

- (36). *Callipteris* sp.
- (37). ? *Callipteris* sp.
- (38). *Odontopteris reichiana* Gutbier
- (39). *Odontopteris* cf. *reichiana* Gutbier
- (40). *Odontopteris* sp.
- (41). *Neuropteris* sp.
- (42). *Cylopteris* sp.
- (43). *Pachypteris rhomboidalis* (Ettingshausen) Nathorst
- (44). *Trigonocarpus* aff. *parkinsoni* Brongniart
- (45). *Trigonocarpus* sp.
- (46). *Sagenopteris* sp.
- (47). *Pecopteris* sp.
- (48). ? *Pecopteris* sp.
- (49). *Sphenopteris* sp.
- (50). *Cladophlebis haiburnensis* (Lindley et Hutton) Brongniart
- (51). *Cladophlebis insignis* (Lindley et Hutton) Raciborski
- (52). *Cladophlebis obtusifolia* (Andrae) Ward
- (53). *Cladophlebis* sp.
- (54). *Nilsonia acuminata* (Presl) Goeppert
- (55). *Nilsonia orientalis* Heer
- (56). *Nilsonia shmidtii* (Heer) Seward
- (57). *Nilsonia* sp.
- (58). ? *Nilsonia* sp.
- (59). ? *Williamsonia* sp.
- (60) *Pterophyllum brevipenne* Kurr
- (61). *Pterophyllum dubium* Brongniart
- (62). *Pterophyllum* sp.
- (63). *Taeniopteris tenuinervis* Brauns
- (64). *Taeniopteris* sp.
- (65). ? *Taeniopteris* sp.
- (66). *Nilssoniopteris vittata* (Brongniart) Florin
- (67). *Zamites adraeanus* (Semaka) Givulescu
- (68). *Zamites aninaensis* (Semaka) Givulescu
- (69). *Zamites schmiedeli* Presl in Sternberg
- (70). *Zamites* sp.
- (71). *Otozamites* sp.
- (72). *Ptilophyllum imbricatum* (Ettingshausen) Krasser
- (73). *Ptilophyllum rigidum* (Andrae) Krasser
- (74). *Cordaites* sp.
- (75). *Gingko digitata* (Brongniart) Heer

- (76). *Gingko sibirica* Heer
 - (77). *Gingko* sp.
 - (78). *Sphenobaiera* sp.
 - (79). *Czekanowskia rigida* Heer
 - (80). *Czekanowskia* sp.
 - (81). *Phoenicopsis latior* Heer
 - (82). *Phoenicopsis* sp.
 - (83). *Walchia piniformis* (Schlotheim) Sternberg
 - (84). *Walchia* aff. *piniformis* (Schlotheim) Sternberg
 - (85). *Walchia* sp.
 - (86). ? *Walchia* sp.
 - (87). *Podozamites distans* (Presl) Braun
 - (88). *Podozamites mucronatus* Harris
 - (89). *Pagiophyllum* sp.
 - (90). *Carpolithes liasinus* Andrae
 - (91). *Daphnogene polymorpha* (A. Braun) Ettingshausen
 - (92). *Alnus* sp.
 - (93). *Juglans* sp.
 - (94). *Buettneriophyllum aequalifolium* (Goeppert) Givulescu
-

Unclassified materials: Folia; Reliquia folium; ? Folia; Strobis;
Semina; Ligna; ? Ligna; Ludus naturae

REVIZUIREA NOMENCLATORICĂ ȘI TAXONOMIA PLANTELOR FOSILE PĂSTRATE ÎN COLECȚIA PALEOBOTANICĂ A MUZEULUI BANATULUI TIMIȘOARA

(Rezumat)

Colecția paleobotanică a Muzeului Banatului Timișoara, conține 303 eșantioane cu plante fosile. Ele au fost cuprinse în catalogul publicat de HUMML (1963), fără a fi descrise sau figurate și nu au fost aranjate în ordine sistematică. Exemplarele provin din mai multe puncte fosilifere din România și Ungaria, de vârste diferite (Carbonifer superior; Permian; Liasic inferior; Liasic mediu + superior; Dogger, Malm; Burdigalian; Sarmatian; Miocen superior; Pliocen; Terțiar) fiind colectate de mai multe persoane, de-a lungul unui interval de timp lung. Materialul urmează să fie studiat în mod aprofundat și va fi redeterminat, dar înainte de toate, întreprinderea unei revizuirii nomenclatorice a taxonilor și a ordonării taxonomice a materialului, sunt absolut necesare. Urmare a acestei revizuirii, sunt recunoscute 94 taxoni la rang de specie sau cel puțin de gen.

REFERENCES

- BARBACKA, M., 1994, *Komlopteris* Barbacka, gen. nov., a segregate from *Pachypteris* Brongniart. - Review of Palaeobotany and Polynology 83: 339-349, Amsterdam.
- CZIER, Z. in press a., Palaeobotanical Biostratigraphy of the Terrestrial Liassic of Western Romania. - Studia Universitatis Babeș-Bolyai, Cluj-Napoca.
- CZIER, Z. in press b., The Mezophytic *Ginkgo* foliage from the Carpathian Basin. - Palaeontology, London.
- GIVULESCU, R., 1960, Palaeobotanische Notizen über *Buettneriophyllum aequalifolium* (Goepf) Giv. - Flora 149: 426-434, Jena.
- GIVULESCU, R., 1990, Flora fosilă a Miocenului superior de la Chiuzbaia (Județul Maramureș). - 236 p., București (Ed. Acad. Române).
- GIVULESCU, R. and CZIER, Z, 1990, Neue Untersuchungen über die Floren des Unteren Lias (Rumänien). - Documenta naturae 59: 8-19, München.

- HARRIS, T.M., 1961, The Yorkshire Jurassic Flora. I. Thallophyta - Pteridophyta. - 212., London (British Museum).
- HARRIS, T.M., 1969, The Yorkshire Jurassic Flora III. Bennettitales. - 186 p., London (British Museum).
- HARRIS, T.M., 1980, The Yorkshire Jurassic fern *Phlebopteris braunii* (Goeppert) and its reference to *Matonia* R. Br. - Bulletin of the British Museum, Natural History, Geol. Ser. 33, 5: 295-311, London.
- HIRMER, M. and HÖRHAMMER, L., 1936, Morphologie, Systematik und geographische Verbreitung der fossilen und rezenten Motaniaceen. Palaeontographica B, 81, 1-2: 1-70, Stuttgart
- HUMML, H., 1963, Catalogul florei fosile păstrate în Muzeul Regional al Banatului, Timișoara. - Studii și Cercetări Științifice, Seria Științe Agricole 10, 1: 185-201, Timișoara.
- HUMML, H., 1969, Contribuții la flora fosilă a Liasicului inferior de la Steierdorf-Anina. - Studii și Cercetări de Geologie, Geogizică, Geografie, Seria Geologie 14, 2: 385-404, București.
- KILPPER, K., 1964, Über eine Rät / Lias-Flora aus dem nördlichen Abfall des Alburs-Gebirges in Nordiran. 1. Bryophyta und Pteridophyta. - Palaeontographica B., 114, 1-3: 1-78, Stuttgart.
- KRASSER, F., 1921, Zur Kenntnis einiger fossiler Floren des unteren Lias der Sukzessionsstaaten von Österreich-Ungarn. - Sitzungsberichte Akademie der Wissenschaften in Wien, Math.-naturwiss. Kl. I, 130, 8-9: 345-373, Wien.
- SCHENK, A., 1867, Die fossile Flora der Grenzschichte des Keupers und Lias Frankens. - 231 p., Wiesbaden (C.U. Kreidel).

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