

PALYNOLOGICAL INVESTIGATIONS ON THE EOCENE LAYERS OF BORING 39 IN EPLÉNY

By

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Introduction

One part of our investigations, the aim of which is to acquire the maximum possible information about the Eocene sediments of Hungary, is the work we are doing on the Eocene layers in the environment of Eplény. The habitat being situated right among Várpalota, Dudar and Halimba, the results of the investigations in the Eplény section are of capital importance for the earlier statements about the regional distribution of dominant pollenforms (3, 4, 5, 6, 7); viz. the pollencomplex-type of Dorog has not been found up to now in the Eocene sediments of the surrounding country of Dudar, Halimba and Várpalota, in which the pollen of dicotyledonous plants, especially *Fagaceae*, are dominant, while for coal layers of the type of Dorog rich *Palmae* pollen combinations are characteristic.

Material and Method

The samples of the boring have been collected and given to us for investigation by Dr. G. КОРЕК. We especially want here to express our thanks for his kind services. Altogether 18 samples have been investigated; the preparations have been made after ZÓLYOMI's method (16).

Results

The investigated samples show in general only few spores and pollen. A considerable quantity of pollen has been found in only one sample (75, 60–81,00 m). The results are given in tabular form; spores and pollen are enumerated in taxonomical order; the occurrence of spores and pollen in the samples, coming from the different depths, is shown (Tab. 1).

6 samples are completely barren, while 11 show some scattered spores and pollen. Botanically, the Eocene sediments of this boring yielded *Dinoflagellatae*, *Mycophyta*, of the *Pteridophyta Polypodiaceae*, of the *Gymnospermae Ginkgoinae* or *Spadiciflorae*, *Taxodiaceae*, and one uncertain *Coniferae* pollentype. *Angiospermae* pollen represent, comparatively, many families: *Anacardiaceae*, *Caprifoliaceae*, *Ericaceae*, *Sapotaceae*, *Fagaceae*, *Juglandaceae*, *Myricaceae*. *Monocotyledones* are represented by *Palmae* pollen. In some of the samples a few remnants of chitinous *Foraminiferae* are to be seen. In the only sample (75, 60—81,00) that could be evaluated quantitative, *Tricolporopollenites cingulum* (R. POT. 1931 a/ TH. & PF. 1953) subfsp. *oviformis* (R. POT. 1931 a/ TH. & PF. 1953) occurred in the highest percentage (27,3); different types of *Myricaceae* pollen make 35,9%, all the *Fagaceae* together 32,7%. The other forms are quantitative not significant. The above mentioned data show that in the Eocene vegetation of the surrounding country of Eplény a *Myricaceae* copse may have been succeeded by a semiterrestrial moorwood. It is to be mentioned that the *Myricaceae* plants were represented in a relatively higher number by the more ancient types; this is corroborated by the presence of *Triatriopollenites excelsus* (R. POT. 1934 b) TH. & PF. 1953, respectively by the considerable quantity of this type.

Conclusions

Although the samples of the boring show very few spores and pollen, our results make it possible to draw the following conclusions: 1. As the pollen of *Dicotyledones* are dominant in the Eocene sediments of the boring, and on the other hand, the occurrence of *Palmae* is neither quantitative nor qualitative significant, the layers of Eplény, boring 39, can by no means be brought into relation with layers, showing the type of Dorog. So our recent results also show that the great area of *Dicotyledones* pollen is characteristic for the palynological complex of the Eocene layers.

2. The Eplény complex is qualitative as well as quantitative very similar to the combination of the microflora of the layers of Dudar, Iszka-szentgyörgy and Várpalota, and of the upper layers of the shafts Oroszlány III and Tatabánya XV/b. But as our data are scanty, we do not try to establish their identity.

Summary

1. 18 samples of the Eocene Layers of Eplény, boring 39, have been investigated. The samples generally contained only small quantities of spores and pollen.

2. The Eocene layers of Eplény cannot be brought into relation with layers of the type of Dorog, they are similar to the spores and pollen complexes of Dudar, Iszka-szentgyörgy and Várpalota, and to the upper layers of Oroszlány III and Tatabánya XV/b.

References

1. KEDVES, M.: Études palynologiques dans le bassin de Dorog — II —. *Pollen et Spores* 3, 101—153 (1961 a).
2. KEDVES, M.: Zur palynologischen Kenntnis des unteren Eozäns von Halimba. *Acta Biol. Szeged* 7, 25—41 (1961 c).
3. KEDVES, M.: Études palynologiques de quelques échantillons du bassin de Tatabánya. *Pollen et Spores* 4, 155—168 (1962 a).
4. KEDVES, M.: Palynologic Investigations on the Freshwater Limestone Layer of Lábatlan and an Attempt to Divide the Hungarian Lower Eocene Floras on Palynologic Basis. *Acta Biol. Szeged* 8, 63—69 (1962 c).
5. KEDVES, M.: Palynologic Investigations on the Lower Eocene Layers in the surrounding country of Iszkaszentgyörgy I. *Acta Biol. Szeged* 8, 71—75 (1962 d).
6. KEDVES, M.: Complexes sporo-polliniques des couches tertiaires inférieures du sondage V. No. 133 de Várpalota. *Acta Bot.* 9, 25—30 (1963 a).
7. KEDVES, M.: Contribution à la flore éocène inférieure de la Hongrie sur la base des examens palynologiques des couches houillères du puits III. d'Oroszlány et du puits XV/b de Tatabánya. *Acta Bot.* 9, 31—66 (1963 b).
8. KEDVES, M.: Stratigraphie palynologique des couches éocènes de Hongrie. *Pollen et Spores* 5, 149—159 (1963 c).
9. KOPEK, G.—KECSKEMÉTI, T.: Gliederung des Bakonyer Eozäns auf Grund von Grossforaminiferen. *Földt. Közl.* 90, 442—445 (1960).
10. KOPEK, G.: Sédiments de l'Éocène inférieur dans les environs de Zirc—Dudar—Eplény, M. Áll. Földt. Int. Évi Jelentése az 1959. évről, 9—19 (1961).
11. KRUTZSCH, W.: Mikropaläontologische (sporenpaläontologische) Untersuchungen in der Braunkohle des Geiseltales. *Geologie* 8, 1—425 (1959 b).
12. KRUTZSCH, W.: Beitrag zur Sporenpaläontologie der präoberligozän kontinentalen und marinen Tertiärablagerungen Brandenburgs. *Berichte der Geologischen Gesellschaft* 4, 290—343 (1961 d).
13. KRUTZSCH, W.: Stratigraphisch bzw. botanisch wichtige neue Sporen- und Pollenformen aus dem deutschen Tertiär. *Geologie* 11, 265—308 (1962 a).
14. KRUTZSCH, W.: Mikropaläontologische (sporenpaläontologische) untersuchungen in der Braunkohle des Geiseltales II. Die Formspezies der Pollengattung *Pentapollentites* Krutzsch 1958. *Paläont. Abh.* 1, 75—102 (1962 c).
15. THOMSON, P., W.—PFLUG, H., D.: Pollen und Sporen des mitteleuropäischen Tertiärs, *Palaentographica*, B, 94, 1—138 (1953).
16. ZÓLYOMI, B.: Histoire de l'évolution du tapis végétal de la Hongrie depuis la dernière époque glaciaire. *M. T. A. Biol. Oszt. Közl.* 1, 491—530 (1952).