

MONESTIERINAE SUBFAM. NOV. TOARCIAN AMMONITES

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I. INTRODUCTION

According to contemporary taxonomy of the Toarcian ammonites, the genera *Monestieria* Cossmann, 1922 and *Praehaploceras* Monestier, 1931 under a question-mark, are included in the subfamily Harpoceratinae Neumayr, 1875, family Hildoceratidae Hyatt, 1867 (see Arkell, 1957, p. L259). However, with the exception of the above two genera, all representatives of this subfamily possess a keel with or without sulci. *Monestieria* and *Praehaploceras* have no such character, but have a smooth, rounded venter, and are peculiar not only to the remaining keeled planulates and oxycones of the subfamily Harpoceratinae, but also to the representatives of the other subfamilies of the family Hildoceratidae. Therefore these two genera must be transferred in a new taxonomic unit with the rang of subfamily belonging to the family Hildoceratidae.

In the course of investigation and writing of this paper my colleague J. Stephanov gave valuable advice. Dr. M. K. Howarth, British Museum (Natural History), London, made important suggestions concerning the taxonomic position and phylogenetical relationships of the new subfamily. Mr. H. S. Torrens, the University, Leicester, was kind to read the manuscript of this paper and correct my imperfect English. To all of them I here express my most cordial thanks.

II. PALEONTOLOGICAL PART

Family **HILDOCERATIDAE** HYATT, 1867

Subfamily **MONESTIERINAE** SUBFAM. NOV.

Type. The type genus of Monestierinae subfam. nov. is *Monestieria* Cossmann, 1922. Arkell (1957, p. L259) noted that the generic name *Monestieria* was introduced by Cossmann (1922) in order to replace *Lapparentia* Monestier, 1921, which is a junior synonym of *Lapparentia* Berthelin, 1885. The type species by subsequent designation (Arkell, 1957, p. L259) is *Lapparentia ressouchei* Monestier, 1921. The lectotype, here designated, is the original specimen of Monestier (1921, pl. 8, fig. 21). It was found at Saint-Beaulize, Aveyron, France and following the original information, its stratigraphical position is "couches de passage de la zone à *Polyplectus discoides* à la zone à *Pseudogrammoceras reynesi*".

In accordance with the modern ammonite zonal nomenclature for North-western Europe, these two zones of Monestier approximately correspond to the Struckmanni Subzone, Thouarsense Zone and Dispersum Subzone, Levesquei Zone of Dean, Donovan & Howarth's (1961) standard. The lectotype here designated shows considerable differences from the specimen of Monestier (1921, pl. 8, fig. 19; pl. 10, fig. 39) which was refigured by Arkell (1957, p. L257, figs. 289, no. 2a, b) as *Monestieria ressoucheti*. This specimen has only simple and more widely spaced ribbing, while the lectotype is characterized by bundled grouping of the more numerous and more densely situated ribs. Monestier's (1921, pl. 8, fig. 20) third specimen has intermediate features, but as much as this figure allows interpretation, it stands closer to the lectotype and ought to belong to *Monestieria ressoucheti* (Monestier). The specimen of Monestier (1921, pl. 8, fig. 19; pl. 10, fig. 39) is now made the holotype of the new species *Monestieria aveyronensis* sp. nov. Its locality is Boyne près Rivière, Aveyron, France. Undoubtedly it was found in the Upper Toarcian, but the exact stratigraphical position in the section is unknown.

Description. The representatives of Monestierinae subfam. nov. are small planulates with narrow to moderately wide umbilicus, moderately high whorls with a rounded venter but without a keel. Sinuous to biconcave ribbing, of differing density sometimes fasciculate. By way of the genus *Monestieria* the new subfamily shows some morphological similarities with the family Dactyloceratidae and especially with the Upper Pliensbachian genus *Reynessoceras* Spath, 1936.

Distribution. Representatives of Monestierinae subfam. nov. are known from Aveyron, France; Lower Saxony, North-western Germany; Whitby, Yorkshire, England and in the vicinity of the village Neshkovtsi, district of Troyan, Central Balkan Range, Bulgaria. They are mainly distributed in the Lower Toarcian and only some species of the genus *Monestieria* are reported to be found in the Upper Toarcian.

Genus *Monestieria* Cossmann, 1922

Type. Information about the type species see above.

Description. Small planulates with a moderately wide to narrow umbilicus. Simple or fasciculate, sinuous to biconcave ribbing. The ribs cross the rounded venter without any interruption.

Distribution. Aveyron, France; Whitby, Yorkshire, England; around Hannover, North-western Germany. In Bulgaria this very rare genus is established only on one specimen from the Ferruginized Limestones near Neshkovtsi, district of Troyan, Central Balkan Range; Lower Toarcian.

Monestieria goslariensis (Schloenbach, 1865)

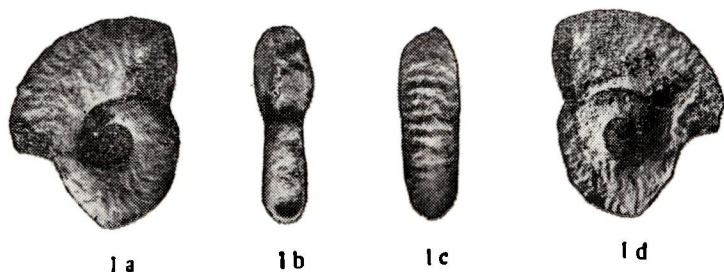
Text-fig. A

1865. *Ammonites Goslariensis* Schloenbach, p. 166, pl. 26, figs. 7a, band 8.

1887. *Ammonites (Harpoceras?) Goslariensis* U. Schloenbach; Denckmann, p. 57 [171], pl. 1, figs. 3, 3a.

Type. Schloenbach has not designated a holotype. According to the original information (Schloenbach, 1865, p. 168) the syntype collec-

tion consists of two specimens. The first one (Schloenbach, 1865, pl. 28, figs. 7 a, b) was collected from "Osterfelde bei Goslar (Hannover)", Germany, from the "Zone der *Posidonomya bronni* und des *Ammonites serpentinus*" which is the exact equivalent of the sum of the modern *Tenuicostatum* +



Text-fig. A. *Monestieria goslariensis* (Schloenbach). Specimen from the Ferruginized Limestones by the village Neskhovtsi, district of Troyan, Central Balkan Range. Probably *Falciferum* Zone

1a — lateral view; 1b — apertural view; 1c — ventral view; 1d — lateral view. Coll. BAN J857. $\times 1.0$

Falciferum) + *Bifrons* Zones, according to Dean, Donovan & Howarth (1961). The other syntype is not figured and only its suture line is shown (Schloenbach, 1865, pl. 26, fig. 8)¹. The same is known to have been found in the "Toarcien von Milhau (Aveyron)" and at that time to have belonged to the collection of L. Saemann in Paris. The exact stratigraphical position of this ammonite has not been specified. For this reason and because it has not been figured in the literature, and also because there is no information regarding its present availability, it is not suitable for a lectotype designation. As the lectotype I am designating here the original specimen figured by Schloenbach (1865, pl. 26, figs. 7 a, b).

Description. Small planulates with moderately wide umbilicus and a subrectangular whorl section. Umbilical walls smooth, almost vertical with a slightly rounded umbilical edge. The lateral walls are almost parallel, very slightly convex. Venter rounded without a keel. Inner whorls almost without ornament, but with gradual increase in size ribbing appears on the lateral walls. Ribs are radial and biconcave. From the umbilicus towards the venter the relief of the ribs gets stronger. In the base of the umbilical walls the ribs have already entirely disappeared. Usually they are grouped by pairs or by three from the base of the whorl. They all cross without interruption over the rounded venter.

Dimensions.

- a) of the lectotype (Schloenbach, 1865, pl. 26, figs. 7 a, b) (measurements were made from photo); at diam. 42 mm.: 0.38, 0.33, 0.26;
- b) of Denckmann's (1887, pl. 1, figs. 3.3a) specimen (measurements were made from photo); at diam. 28 mm.: 0.36, 0.28, 0.32;
- c) of the specimen on text-fig. A (coll. BAN J857) (by direct measurement of the original); at diam. 29 mm.: 0.41, 0.29, 0.30.

¹ Schloenbach (1865, p. 167) gives a wrong numbering for the figures of "*Ammonites Goslariensis* sp. nov." on pl. 26. That designated by him as figs. 8 a, b ought in fact to be 7 a, b; and fig. 9 ought to be fig. 8.

Comparisons and remarks. *Monestieria goslariensis* (Schloenbach) differs from *Monestieria ressouchei* (Monestier) by being more evolute and by its more widely spaced ribbing. *Monestieria aveyronensis* sp. nov., by the character of its ribbing, is closer to *Monestieria goslariensis* but the first has a narrower umbilicus. *Monestieria errata* (Simpson) [the holotype is figured by S. Buckman (1920, pl. 188) and according to Howarth's (1962, p. 122) recent information, is kept in Whitby Museum, Whitby, Yorkshire, England, under number 90] differs from all remaining representatives of the genus with its compressed whorls and most narrow umbilicus (0.23).

The name *Monestieria goslarensis* (Schloenbach) as used by Dean, Donovan & Howarth (1961, p. 479) is a junior homonym of the correct name *Monestieria goslariensis* (Schloenbach) [see Art. 58(11)].

Distribution. *Monestieria goslariensis* is known to be found in Lower Saxony in the local "Horizon of *Hildaites borealis* (Seebach)" which has a stratigraphical position in the upper part of the Exaratum Subzone close below the boundary with the Falciferum Subzone. In Bulgaria one specimen belonging to this species has been found in the Ferruginized Limestones near Neshkovtsi, district of Troyan, Central Balkan Range. Its exact position in the section is unknown. It is probable that it is found in the Falciferum Zone there.

Genus *Praehaploceras* Monestier, 1931

Type. The type species by monotypy is *Praehaploceras zwieselei* Monestier, 1931. The lectotype, here designated, is the original specimen of Monestier, (1931, pl. 7, fig. 14; pl. 9, fig. 23). Its locality is Guilhomard, Aveyron, France, "couches à *Dactylioceras braunianum* d'Orb.". This subdivision of Monestier does not correspond to the standard Braunianus Subzone but to the whole Bifrons Zone according to Dean, Donovan & Howarth (1961, p. 483). The lectotype is refigured by Arkell (1957, p. L257, figs. 289/6 a, b).

Remarks. The interpretation of the figures of the eight ammonites all originally placed by Monestier (1931, pl. 7, figs. 14–21) in *Praehaploceras zwieselei* Monestier gives grounds for considering that one part of them ought to be put in a new species because of the essential differences in the ribbing. While *Praehaploceras zwieselei*, interpreted after the lectotype (fig. 14) and the paralectotypes on figs. 15, 17, 18, and 21, is characterized mainly by slightly sinuous simple ribs, the specimens on figs. 16, 19 and 20 possess mainly bifurcated ribs. I place the latter in the new species *Praehaploceras bifurcatum* sp. nov. The holotype of the new species is the original specimen figured by Monestier (1931, pl. 7, fig. 16). Its locality is Guilhomard, Aveyron, France, "couches à *Dactylioceras braunianum* d'Orb." (= Bifrons Zone).

Comparisons. The genus *Praehaploceras* is characterized by rare, wide, simple or bifurcate ribs with a rounded relief, which quickly diminish and disappear towards both the umbilical edge and the venter. The basic difference from the genus *Monestieria* is that, while in *Praehaploceras*, the ribs are wider, more widely spaced and do not cross over the venter, in

Monestieria they are much more densely situated, some times fasciculate and with a stronger relief. They always cross the venter.

Distribution. Up to the present the genus *Praehaploceras* is known only from Aveyron, France, in the Bifrons Zone.

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(Одобрена от НС на Геол. и-т на 3. 1964 г.)