

## On Lower Kimmeridgian Ammonites from Iłża (NE Margin of the Holy Cross Mts)

by

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**Summary.** First identifiable ammonites are reported from Upper Jurassic localities at Iłża near Radom (NE margin of the Holy Cross Mts), known since the 1830's. *Rasenia (Eurasenia) gothica* (Schneid) and *R. (E.) engeli* Geyer. The ammonites are known from the zone *T<sub>1</sub>*, i.e. the so-called Sutneria Schichten in Swabia and Franconia, corresponding to the Sutneria platynota zone in western Europe and the Pictonia baylei zone in England. The findings show that Oxfordian strata are here overlain by the lowest Kimmeridgian in stratigraphic continuity.

Beautiful exposures of Upper Jurassic strata in the vicinities of Iłża, NE margin of the Holy Cross Mts, focused attention of geologists from the beginning of geological studies in Poland, on account of their interesting and variable lithology and wealth of fauna. The exposures have been the source of material for studies since the times of Pusch [9]. However, stratigraphic position of the strata exposed there remains the subject of discussions as the lack of ammonites precludes accurate datings and correlations. When this is the case, any findings of ammonites are of marked importance. It should be noted that Michalski found moulds of large perisphinctids with ribbing of the polygyrate type at the foot of the Góra Zamkowa hill at Iłża at the beginning of the 20th c. [10] but nothing more can be said about the specimens. In the course of my studies on the Góra Zamkowa section [2], I found an unidentifiable fragment of ammonite only. In turn, an incomplete specimen identified as *Proplamulites* cf. *mutabilis* Sowerby has been found in the course of these studies in basal part of the Kimmeridgian, cropping out somewhat further to the south (locality No. 1 in [2]). This specimen was subsequently cited as *Rasenia* cf. *mutabilis* (Sowerby) by Malinowska [7].

This paper presents an attempt to revise systematic position of the above

specimen along with description of another one, found in the same locality and kindly made available by Dr. E. Woźny. Both specimens belong to the same subgenus *Eurasenia* Geyer, 1961 of the genus *Rasenia* Salfeld, 1913. The findings make possible for the first time to draw the Oxfordian-Kimmeridgian boundary on biostratigraphic premises in areas at NE margin of the Holy Cross Mts. At the same time, they give the basis for establishing "Ilża Formation" in accordance with a general trend to formalize lithostratigraphic subdivisions. This formation, comprising Kimmeridgian strata, may be recognized at NE margin of the Holy Cross Mts as well as in areas east and north of it, in the Lublin region and adjoining parts of central Poland.

Genus *Rasenia* Salfeld, 1913

Subgenus *Eurasenia* Geyer, 1961

*Rasenia (Eurasenia) gothica* (Schneid, 1940)

(Plate I, Figs 1-3)

1940. *Pictonia (Rigstedia? Involuticeras?) devia* Schneid, p. 113, pl. 16 (12), fig. 6.

1953. *Proplanulites cf. mutabilis* Sowerby: Dąbrowska, p. 20.

1961. *Rasenia (Eurasenia) gothica* Schneid: Geyer, pl. 18, fig. 6.

1970. *Rasenia cf. mutabilis* (Sowerby): Malinowska, p. 166.

Description. The available specimen represents almost a half of whorl of an individual about 115 mm in size. Whorl 45 mm high and 28 mm thick (H/D 0.39, T/D 0.24). Umbilicus 35 mm in diameter (U/D 0.31). Primary ribs fairly strong and sharp-crested, slightly bent forward. Point of furcation low, situated below a third of whorl height; ratio of secondaries to primaries close to 3. Whorl section ovate, high, with a trend to a marked increase in height in the body chamber.

Remarks. As it was mentioned above, the specimen was initially identified as *Proplanulites cf. mutabilis* Sowerby [2]. This identification requires some comments. It was made with references to the work of R. Douvillé ([4] p. 254, pl. 9, pl. 7, fig. 1 and pl. 9, pl. 8, figs 1-2). The genus *Proplanulites* is usually found in the Callovian and Lower Oxfordian but Douvillé reported *Proplanulites mutabilis* Sowerby (= *Amm. mutabilis* Sowerby) from the Lower Kimmeridgian. The specimen, to which I compared the Polish one, was derived from the beds with *Pictonia baylei*, Lower Kimmeridgian, in the vicinities of Le Havre. Douvillé also figured [4] two smaller specimens from coeval strata in other parts of France (Chatelaillon and Colombey in Haute-Marne). According to that author, changes in suture line show that *Ammonites mutabilis* Sowerby represents a descendant of Callovian *Proplanulites koenigi* (Sowerby)\* group and that

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\*) This point of view is nowadays questioned by some authors studying the *Proplanulites* group.



PLATE 1

*Rasenia (Eurasenia) gothica* Schneid. Sutneria platynota zone. Lower Kimmeridgian. Ilza, locality No. 1 (in [2]). nat. size, lateral and ventral views



**PLATE II**

*Rasenia (Eurasenia) engeli* Geyer, Sutneria platynota zone, Lower Kimmeridgian, Ilza, locality No. 1 (in [2]), nat. size, lateral and ventral views. coll. by E. Wozny

*Ammonites orbigny* Tornquist (= *Amm. cymodoce* d'Orbigny) is very closely related to the genus *Pictonia*.

My specimen is also somewhat similar to that figured as *Pictonia* (*Ringsteadia?* *Involuticeras?*) *devia* Schneid, 1940 by Schneid ([11] pl. 16 (12), fig. 6). It should be noted that Schneid ([11], p. 113) gave the subgeneric name *Ringsteadia?* in description of the latter and the name *Involuticeras?* in explanations to figures.

It should also be noted that my specimen somewhat resembles *Pictonia* (*Ringsteadia?*) *ascita* Schneid, 1940 ([11] pl. 16 (12), fig. 3), differing in quicker growth of the body chamber in height.

A representative of the genus *Pictonia* has been described from the Kedrań locality in the Holy Cross Mts region by Kutek [6]. That specimen, identified as *P. (Pictonia) constricta* Schneid, 1940, differs from the Iłża specimen in better marked ribbing and almost two times longer primary ribs. According to Schneid [11], both *Pictonia (Ringsteadia? Involuticeras?) devia* and *P. (Ringsteadia?) constricta* occur throughout the zone.

The group of *Rasenia*-like *Pictonia* was identified with *Rasenia* and assigned to that genus by Geyer [5] (see full synonymy in [5], p. 97). This point of view is accepted here and the Iłża specimen is allocated in the species *Rasenia (Eurasenia) gothica* (Schneid).

Occurrence. According to Geyer [5], this species is common in lower, middle and possibly upper part of the zone in Franconia and Swabia. In Poland, it was found in the Lower Kimmeridgian at Iłża (locality No. 1 in [2]).

*Rasenia (Eurasenia) engeli* Geyer, 1961  
(Plate II, Figs 1-3)

1961. *Rasenia (Eurasenia) engeli* Geyer, p. 101, pl. 21, figs 1, 1a.

Description. A fragment (85 mm in size) of large form. Whorl 30 mm high (H/D = 0.37), ovate in cross-section, with steep umbilical wall. Ribbing typical *Rasenia*-like: ribs bundled, passing into ridge-like, usually poorly marked but not broken at the venter. Outer ribs rather innumerable but the available material is insufficient for calculating their number in a half of the whorl.

Remarks. The specimen from Iłża appears very close to those described as *Rasenia (Eurasenia) engeli* Geyer, 1961, by Geyer [5] in dimensions and ornamentation. It is also somewhat similar to those described as *R. (E.) rolandi* by that author [5], differing in less strong outer ribs. The latter species was reported from SW margin of the Holy Cross Mts by Kutek [6] but his specimens were much larger and coarser than that described above.

According to Geyer [5], *R. (E.) rolandi* is most common in the "mittel-"; being rarer in "unter-" and "ober-" whereas *R. (E.) engeli* in "unter-" and "mittel-".

Occurrence. As it was noted above, this species is known from lower and middle parts of the  $\gamma$  zone in FRG. In Poland, it has been found in the Lower Kimmeridgian at Ilża (locality No. 1 in [1]).

Summing up it may be stated that the above specimens from Ilża belong to the subgenus *Eurasenia* Geyer, 1961 of the genus *Rasenia* Salfeld, 1913. They are known from the  $\gamma$  zone (most possibly lower  $\gamma$ ), i.e. the so-called *Sutneria* Schichten [5] in Swabia and Franconia, which correspond to the *Sutneria platynota* zone in western Europe [12] and the *Pictonia baylei* zone in England [1].

In the stratigraphic subdivision accepted in Poland [8], the *Sutneria platynota* zone is the basal zone of the Kimmeridgian. In this way it is shown that Kimmeridgian rocks rest in continuity on the Oxfordian as they begin with layers referable to the *Sutneria platynota* zone, exposed at Ilża (locality No. 1 in [2]).

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#### 3. Домбровска, Об аммонитах нижнего киммериджа из Илжи (СВ окраине Свентокшиских Гор)

Впервые, в известных от времени Пуша (1833) обнажениях верхнего отдела юрской системы в Илжи ок. Радома найдены аммониты пригодные к определению, это: *Rasenia (Eurasenia) gothica* Schneid, *Rasenia (Eurasenia) engli* Geyer, выступающие в горизонте  $\gamma$ , т.е. в т. наз. *Sutneria* Schichten на территории Швабии и Франконии, что отвечает в западной Европе уровню *Sutneria platynota*, а в Англии уровню *Pictonia baylei*. Доказано, что СВ окраине Свентокшиских Гор в Илжи отложения киммериджа, лежащие дружно на оксфорде, являются самыми низкими слоями нижнего киммериджа.