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S. E. MICROSCOPY OF *PLANISPIRILLINA FLAVA* (SZTEJN),
FORAM. LOWER CRETACEOUS, POLAND

Pl. I—II and 1 Fig.

Otwornica Planispirillina flava (Sztejn)
w mikroskopie elektronowym

Pl. I—II i 1 fig.

Abstract. Supplemented description of *Planispirillina flava* (Sztejn, 1957) is presented on the basis of SEM examination. *P. flava* is known from epicontinental deposits of Upper Valanginian — Lower Hauterivian age of Poland.

Spirillina flava Sztejn, 1957 was described from the Upper Valanginian epicontinental deposits in Central Poland (Fig. 1:1—4), and later it was confirmed that the species occurs in the Upper Valanginian and Lower Hauterivian in other localities of the region mentioned. (Fig. 1:5-11). (Sztejn, 1962, 1968, 1969).

It was also found in the Neocomian of the Carpathian foreland in bore holes at Basznia (NE from Przemyśl) and at Stasiówka (near Dębica) (Fig. 1:13, 12). The latter locality is undoubtedly the farthest southern remnant of the uneroded Lower Cretaceous epicontinental sediments, which is already under the margin of the Carpathian Flysch and under the Miocene deposits in the Carpathian foredeep (Geroch et al., 1972, Fig. 3). In the Lower Cretaceous of the Carpathian Flysch *S. flava* has not yet been found, and it seems that it has not been identified outside of Poland.

The former description of *Spirillina flava* (Sztejn, 1957) based on the light microscope examination was as follows: „Test calcareous, planispiral, consisting of an oval initial chamber and a second chamber in the shape of an undivided tube, forming 4—6 whorls. Younger whorls slightly broader than the older ones. Sutures depressed. Youngest whorl clearly visible on the ventral side, the remaining whorls invisible, covered by numerous tiny tubercles. Test calcareous, yellow, lustrous, finely perforated. Aperture distinct, circular, at the end of the last whorl. Indivi-

dual variability depends on more or less distinct whorls. The last whorl may be covered with smaller number of tubercles”.

Having new material at disposal and photos from the SEM, the completed description of this species is presented below. It is transferred to *Planispirillina* Bermudez, 1952; Loeblich, Tappan, 1964, p. C602, on the basis of its ventral side where whorls are obscured by pustules.

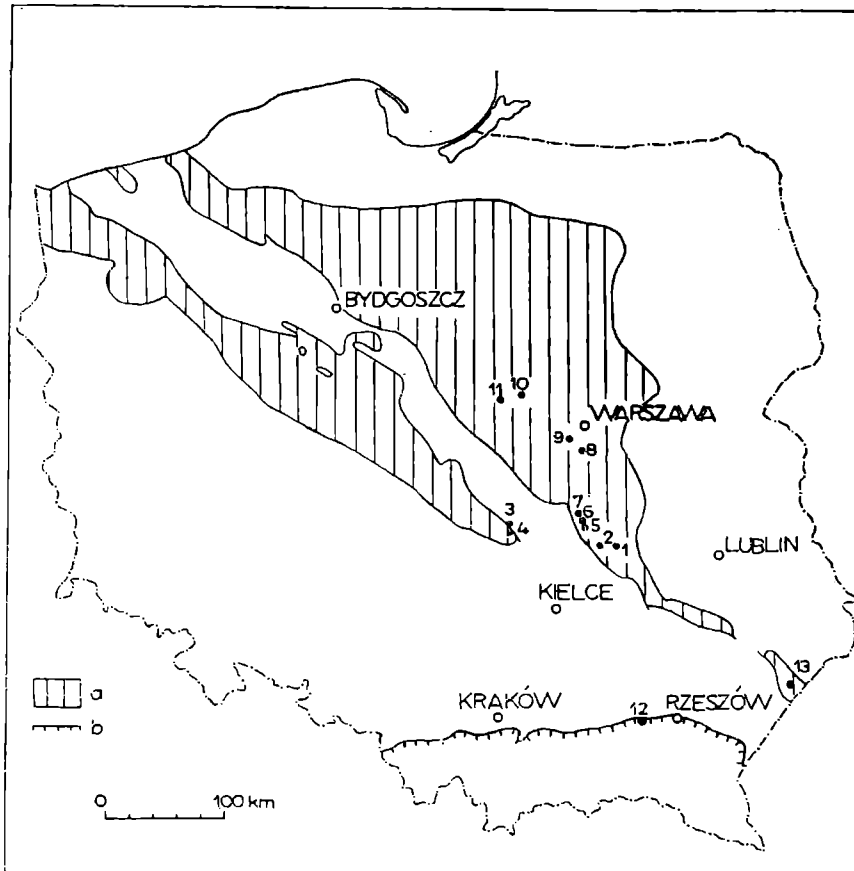


Fig. 1. Occurrence of *Planispirillina flava* (Sztejn) in epicontinental sediments of Upper Valanginian and Lower Hauterivian in Poland. a — extent of epicontinental Upper Valanginian and Lower Hauterivian (acc. to A. Raczyńska, in the press); b — margin of the Carpathian nappes

Występowanie *Planispirillina flava* (Sztejn) w epikontynentalnej dolnej kredzie Polski. a — zasięg epikontynentalnych osadów górnego walańżynu i dolnego hautyrywu w Polsce (wg A. Raczyńskiej, w druku); b — brzeg nasunięcia płaszczowin karpackich. 1 — Krzyżanowice; 2 — Dąbrówka Warszawska; 3 — Tomaszów Mazowiecki; 4 — Wąwał; 5 — Krogulcza; 6 — Kowalotka; 7 — Janosławice; 8 — Magnuszew; 9 — Nadarzyn; 10 — Płońsk; 11 — Bodzanowo; 12 — Stasiówka; 13 — Basznia.

1—4 — pits, szurfy i szybiki; 5—13 — bore holes, otwory wiertnicze

Planispirillina flava (Sztejn, 1957)

Pl. I—II

1957 *Spirillina flava* n. sp. Sztejn: p. 77, 166, 146, pl. 9, fig. 87

1972 *S. flava* Sztejn; Geroch et al., pl. 53, fig. 3

Material and dimensions. About 150 specimens mostly badly preserved. Specimens from Central Poland: diameter 0,17—0,29 mm, most frequently 0,17 mm; thickness 0,02—0,05 mm, most frequently

0,02 mm. Specimens from Carpathian foredeep: diameter 0,2—0,35 mm; thickness 0,04—0,07 mm.

Description. Test calcareous, circular, slightly concave-convex, thin. Embryonal chamber oval, and the next one tubular, long, nearly planispiral. On the slightly convex dorsal side 4—7 whorls partly overlapping. The spiral suture steplike, depressed. Pores 2—6 μm in diameter arranged parallel to the spiral suture in one irregular row in the early whorls and in two-three irregular rows in whorls of the adult stage. Ventral side thickly covered with nodules, the spiral arrangement of which marks at least the two-three last whorls. Nodules roundish 3—17 μm in diameter, and on the last whorl elongated to 25 μm long, radially arranged and disappearing toward the periphery. The ventral surface devoid of pores. Aperture at the end of tubular chamber, asymmetric.

Remarks. Specimens from Central Poland are mostly smaller than those from the Carpathian foredeep. *P. flava* shows similarity to the Alpine *Planispirillina ranzenbergensis* Fuchs (1971) from the Middle Barremian. It differs, however, in the spiral arrangement of nodules on the ventral side and the slightly convex dorsal side and in having the pores arranged in rows parallel to the spiral suture. *P. flava* resembles also *Trochospirillina granulosa* Mitianina (1957) from the Oxfordian of Belorussia. Nevertheless comparative material would be needed.

Stratigraphy and geographical distribution. Epicontinental Upper Valanginian — Lower Hauterivian of the Central Poland and of the Carpathian foredeep.

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STRESZCZENIE

Planispirillina flava (Sztejn, 1957) zyskała uzupełnienie opisu dzięki wykorzystaniu fotografii z mikroskopu elektronowego refleksyjnego. *P. flava* występuje w epikontynentalnych osadach górnego walanżynu — dolnego hoterywu w Polsce środkowej i w zapadlisku przedkarpaccim.

EXPLANATION OF PLATES — OBJAŚNIENIE PLANSZ

Plate — Plansza 1

Fig. 1—6. *Planispirillina flava* Sztejn

Fig. 1. Ventral view. Strona brzuszna

Fig. 2, 3, 6. Dorsal view. Strona grzbietowa

Fig. 4. Ventral side, fragments of nodules.

Strona brzuszna, fragmenty guzków.

Fig. 5. Dorsal side, a fragment of a whorl with pores. Strona brzuszna, fragment zwoju z porami

Fig. 1—5. Specimens from a pit at Krzyżanowice, Upper Valanginian, Central Poland. Okazy z górnego walanżynu, szurf w Krzyżanowicach, Polska środkowa.

Fig. 6. Specimen from Upper Valanginian, bore hole at Stasiówka near Dębica, depth 2328,3—2334,5 m, Carpathian foredeep. Okaz z górnego walanżynu, otwór wiertniczy Stasiówka 1, koło Dębicy, głęb. 2328,3—2334,5 m.

Plate — Plansza II

Fig. 1—5. *Planispirillina flava* (Sztejn), Upper Valanginian, bore hole at Stasiówka near Dębica, depth 2328,3—2334,5 m, Carpathian foredeep. Górny walanżyn, otwór wiertniczy Stasiówka 1, koło Dębicy, głęb. 2328,3—2334,5 m.

Fig. 1. Ventral view. Strona brzuszna.

Fig. 2. Oblique view. Skośnie.

Fig. 3. Side view. Z boku.

Fig. 4. Dorsal view. Strona grzbietowa.

Fig. 5. Fragment of a whorl with pores.

