

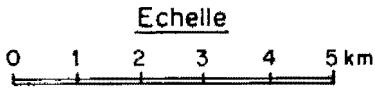
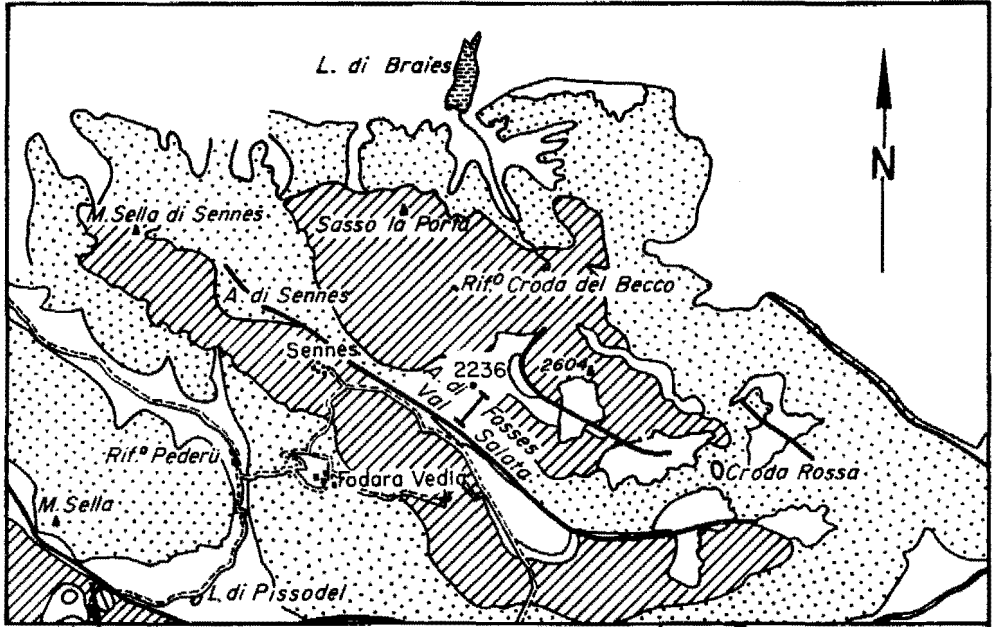
**New thalassinid anomuran (Crustacea, Decapoda) coprolites  
from infraliasic limestones of the Dolomites, Italy**







by  
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-  Dolomie principale Norienne
-  Calcaires liasiques
-  Terrains autres que le Norien et le Lias
-  Contacts anormaux
-  Limite d'étage
-  Position de la coupe



Text-fig. 1 Map showing the geographic location of the Val Salata section, Dolomites, northern Italy.

### Summary

The crustacean (Decapoda, Anomura, Thalassinidea) coprolites *Palaxius salataensis*, n. sp., with 4 longitudinal canals of crescent-like cross sections and *Favreina* sp., with 2 longitudinal canals of rounded cross sections, are described from infraliasic limestones of the Val Salata area, Dolomites, Italy.

In 65 m thick infraliasic limestones outcropping due vertically below Point 2236, at the Alpe di Fosses, Val Salata, about 15 km NNW of Cortina d'Ampezzo, Dolomites, Italy (text-fig. 1), CROS found in samples R. 17 and R. 18 anomuran coprolites which are here described and named *Palaxius salataensis*, n. sp. These infraliasic limestones overlie the Norian „Hauptdolomit“. Samples R. 17 and R. 18 are both from limestones above the last beds with *Triasina hantkeni* Majzon (CROS and NEUMANN, 1964, fig. 2). *P. salataensis*, n. sp., occurs together with *Parafavreina thoronetensis* Brönnimann, Caron and Zaninetti, 1972, described from Rhetian limestones of Provence, France, and which has a range from the Norian to the Middle Lias. A transverse section of *P. thoronetensis* is illustrated in the center of the photograph pl. 1, fig. 9. The coprolite is „dorsally“ slightly eroded so that the loop-like canal pattern is incomplete. The isosceles triangular cross sections of the longitudinal canals are visible at the right of this transverse section and in the oblique cut of *P. thoronetensis* illustrated on the lower left of pl. 1, fig. 2. A small favreine coprolite from the stratigraphically lower CROS sample L. 98 is reported as *Favreina* sp. It is associated with an apparently reworked *Triasina hantkeni* assemblage.

The calcareous sediments with these anomuran coprolites show indications of interruption of deposition, localized areas of emergence and brief euxinic phases suggesting a very shallow-water type of environment with rapid vertical and lateral changes of fine-grained and coarse-grained material. The presence in some beds of inter-supratidal „stromatolites“ may indicate large-scale tidal flats of very short duration.

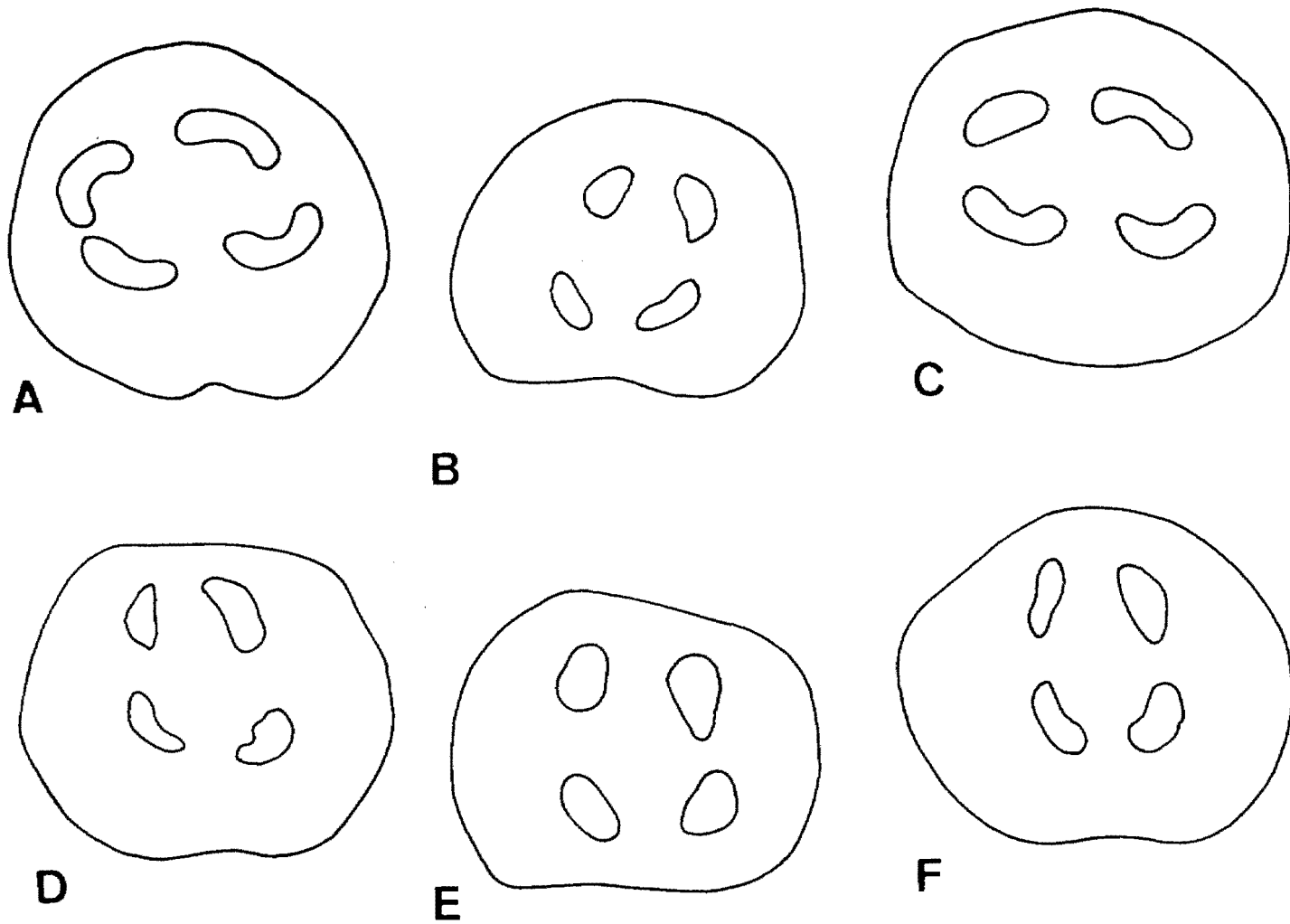
Class Crustacea  
Order Decapoda (Anomura)  
Tribe Thalassinidea

Genus *Palaxius* Brönnimann and Norton, 1960  
*Palaxius salataensis* Brönnimann, Cros and Zaninetti, n. sp.  
Pl. 1, Fig. 1–10, 12, Text-fig. 2 A–F.

#### Description of holotype:

We designate as holotype of *Palaxius salataensis*, n. sp., the transverse section of a specimen from CROS sample R. 18, which is from infraliasic limestones of the Val Salata section just above the highest beds with *Triasina hantkeni* Majzon. The holotype is illustrated by pl. 1, fig. 3 and by text-fig. 2 A. Its height along the plane of symmetry is about 200 $\mu$ , its width measured perpendicularly to the plane of symmetry about 224 $\mu$ .

The transverse section of the rod-shaped coprolite is subcircular in outline, „ventrally“ flattened with a faint median groove, and „dorsally“ convex. It is perforated by 4



Text-Fig. 2 *Palaxius salataensis* Brönnimann, Cros and Zaninetti, n. sp. All  
appr. 240 x. All from CROS samples R. 17 and R. 18.

longitudinal canals of roughly crescent-shaped cross sections similar in appearance to those found in *Palaxius sirticus* Brönnimann and Norton, 1960, from Miocene limestones of the province Cyrenaica, Libya, and in *Palaxius ? triasicus* (Elliott), 1962, from Middle Triassic limestones of the Upper Geli Khana formation, Iraq. The 4 canals are arranged in 2 bilaterally symmetric groups of 2 crescent-shaped canals each. The concave sides of the canals are directed toward the interior of the coprolite. The cross sections of the canals do not possess enlarged tips. They measure about  $45\mu$  in length and  $15\mu$  in breadth. The maximum diameter of a group of canals is about  $55\mu$ .

**Remarks:**

Most of the cross sections of *P. salataensis*, n. sp., illustrated in pl. 1, fig. 1–10, 12, are „dorso-ventrally“ somewhat compressed and some are „ventrally“ slightly grooved as shown in text-fig. 2 A, B, D, E, F. The transverse sections exhibit normally additional large dolomite crystals or clear patches of dolomite crystals which at first glance could be interpreted as cross sections of longitudinal canals (pl. 1, fig. 4, 5, 6, 7, 10). As already mentioned, the broadly crescent-shaped canals of *P. salataensis*, n. sp., resemble those of *P. sirticus* and *P. ? triasicus*. The new species however differs from both by the number of canals per group which is 8 in *P. sirticus* and 4 in *P. ? triasicus*. In all of these palaxine coprolites, the cross sections of the longitudinal canals show variable outlines from elongate-oval, very slightly curved, to truly crescent-shaped. These variations seem to be the result of recrystallization. Another palaxine coprolite resembling in the outlines of the cross sections of the longitudinal canals and also in their number *P. salataensis*, n. sp., has been described by PALIK (1965, p. 99–100, pl. 1, fig. 1, 2, 5, 9, pl. 2, fig. 7) as *P. tetraochetarius* from the Lower Cretaceous of Hungary. The cross sections of these coprolites are subcircular to „dorso-ventrally“ compressed and may possess a faint median groove. The 4 longitudinal canals are arranged as in *P. salataensis*, n. sp., but their cross sections are much longer, with a thin central portion and enlarged tips and therefore can be easily distinguished from those of *P. salataensis*, n. sp.

**Stratigraphic occurrence:**

Infraliasic, probably Rhetian.

*Favreina* sp.

Pl. 1, Fig. 11

In the same infraliasic limestones which yielded *Palaxius salataensis*, n. sp., and *P. thoronetensis*, but stratigraphically deeper, about 25 m above the „Hauptdolomit“, occurs in CROS sample L. 98 (CROS and NEUMANN, 1964, fig. 2) a single cross section of a very small favreine coprolite with 2 large dimensioned longitudinal canals one on each side of the plane of bilateral symmetry. Its maximum height is  $89\mu$ , its maximum width  $130\mu$ . The maximum diameter of the longitudinal canals is about  $25\mu$ . This coprolite is illustrated by pl. 1, fig. 11. It seems to belong to a new species of *Favreina*. As numerous individuals are needed before a new coprolite „species“ can be described we prefer to report this form using open nomenclature. *Favreina* sp. is associated with numerous nondescript fecal pellets, *Glomospirella* sp., *Nodosaria* sp. and an apparently

reworked assemblage of *Triasina hantkeni* Majzon, *Involutina sinuosa sinuosa* (Weynschenk), *Involutina sinuosa pragsoides* (Oberhauser), *Involutina* aff. *parva* Brönnimann, Poisson and Zaninetti, *Glomospirella friedli* Kristan-Tollmann, *Glomospirella* sp. and algal fragments.

**Stratigraphic occurrence:**

Infraliasic, probably Rhetian.

**Bibliography**

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- BRÖNNIMANN, P., 1972 – Remarks on the classification of fossil anomuran coprolites. Pal. Zeitschr., vol. 46, pp. 99–103.
- BRÖNNIMANN, P., CARON, J.-P. and ZANINETTI, L., 1972 – *Parafavreina*, n. gen., a new thalassinid anomuran (Crustacea, Decapoda) coprolite from Triassic and Liasic strata of Europe and North Africa.

**Explanation to Plate 1**

- Fig. 1-10, 12 *Palaxius salataensis* Brönnimann, Cros and Zaninetti, n. sp.  
Fig. 1, 10 : 130 x.  
Fig. 2, 8 : 45 x. (Fig. 2 with *P. thoronetensis* Brönnimann, Caron und Zaninetti).  
Fig. 3, 4, 5, 12 : 120 x.  
Fig. 6, 7 : 160 x.  
Fig. 9 : 60 x. (with *P. thoronetensis* Brönnimann, Caron and Zaninetti).  
All from CROS samples R. 17 and R. 18.
- Fig. 11 *Favreina* sp.  
From CROS sample L. 98. 170 x.

Plate 1

