

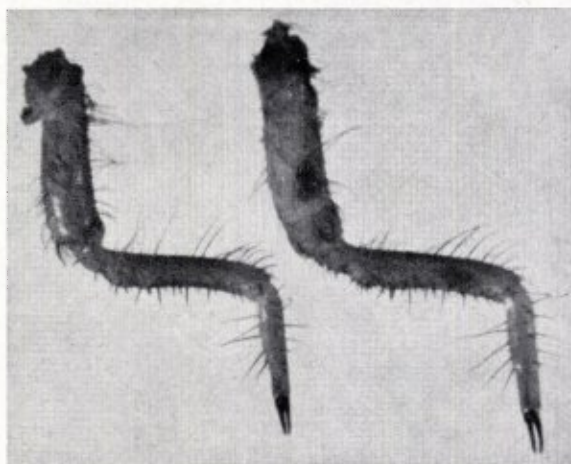


Fig. 5. Derde thoracale poot van larve in het derde stadium. (links) *Euroleon nostras* Fourc. (rechts) *Myrmeleon formicarius* L.

Vleugels ongevlekt en geheel hyalien behalve het pterostigma.

Cu_{1b} en Cu_2 verlopen niet parallel. Zie fig. 2.

Larve: De kop is vierkantig van vorm, vooral sterk uitgesproken in het derde stadium. Zie fig. 4.

Gevlekte femur bij het derde paar poten. Zie fig. 5.

Kokon: Doorsnede circa 1,5 tot 1,7 cm. Zie fig. 6.

Vangkuilen: Niet beschut maar aangelegd op vlak terrein.

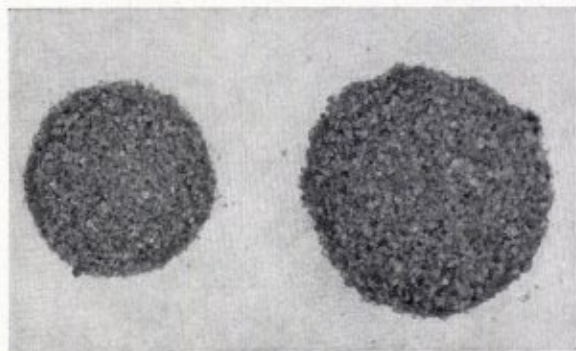


Fig. 6. Kokon. (Links) *Euroleon nostras* Fourc. (Rechts) *Myrmeleon formicarius* L. (voor beide dezelfde vergroting)

RÉSUMÉ

Pour les deux espèces de fourmilions, *Euroleon nostras* Fourc. et *Myrmeleon formicarius* L., que l'on trouve certainement dans les Pays-Bas et la Belgique, nous donnons à l'aide de quelques fotos les caractéristiques dichotomiques, qui peuvent faciliter une détermination rapide.

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FORAMINIFERA FROM THE CRETACEOUS OF SOUTH-LIMBURG, NETHERLANDS. LXVI

Once again *Pararotalia tuberculifera* (Reuss).

by J. HOFKER

Since Smout (1955) emphasized that *Pararotalia* (*Neorotalia*) might be the ancestral genus as well of his Rotaliidae as of the Miscellaneidae, the oldest species known of *Pararotalia*, *P. tuberculifera* (Reuss), known from Conacian up into the Montian, is of special interest and should be studied exhaustively.

In this series already two reports on this interesting species have been published (XXIV,

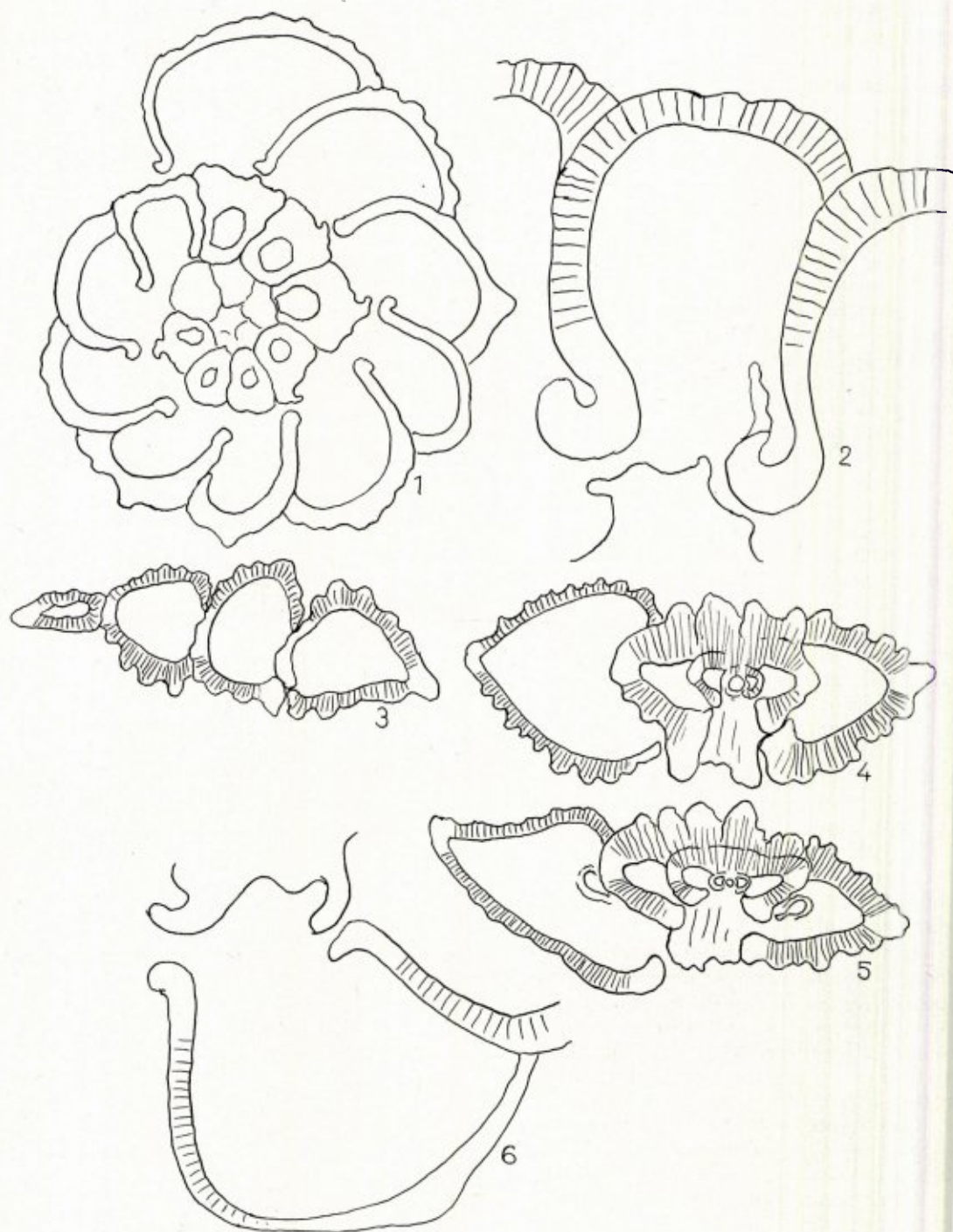
Fig. 1. Horizontal section through *Pararotalia tuberculifera*, cut through the middle of the septa of the chambers of the last formed whorl. $\times 70$.

Fig. 2. Part of horizontal section of another specimen, showing the simple septa, curled at the aperture, and a toothplate. $\times 350$.

Fig. 3. Transverse median section through a megalospheric specimen. $\times 70$.

Fig. 5. Transverse median section through a microspheric specimen. $\times 70$.

Fig. 6. Horizontal section of a chamber of *Pararotalia inermis* (Terquem), the genotype of *Pararotalia*, similar to fig. 2 which was taken from *P. tuberculifera*. $\times 265$.



1957 and L., 1960). These reports show, that the species belongs without doubt to *Pararotalia*, occurs in different generations in the Tuff Chalk of Maestricht, and that in the Paleocene especially the microspheric generation becomes large and in the last formed whorls nearly planospiral. Moreover it was shown that the somewhat loop-shaped, areally placed aperture forms an outer lip at its border which can be taken as a real toothplate.

In the mean time, Reiss (1958, p. 15, pl. 2, fig. 4—24) published the results of a study, in which he also included sections of *Pararotalia tuberculifera*, stating that this genus has double septal walls (p. 9), and thus could be included in the family of the Miscellaneidae. The study of very thin sections through air-filled specimens as well from the genotype, *P. inermis* (Terquem) as from *P. tuberculifera*, revealed that in reality the genus cannot belong to the Rotaliidae s.s.

A close study reveals that in both species the chamber walls at the septa dorsally and ventrally bend inward, so that horizontal sections not going just through the middle of a septum, show two walls (fig. 3); in all cases in which the septum is cut in horizontal section just through the aperture, the septum appears to be a single wall (fig. 1, 2, 6), with at the aperture a curled part, forming the border of the aperture, with the toothplate (fig. 2); when the aperture is cut in such a way, that the basal border is shown in the areal part of it, also at the axial wall a short dent is found, protruding at its distal side. At the dorsal side, especially in *P. tuberculifera*, a strong secondary thickening of the walls of the inner whorls can be seen on transverse section.

The septa between the chambers in *Pararotalia* are simple, and a complicated toothplate, as it is found in *Rotalia trochidiformis* Lamarck and in *Streblus beccarii* (Linné) does not occur in *Pararotalia*. Moreover, a real umbilical canal system, formed by an extension of the toothplate in *Rotalia*, *Streblus* and in *Elphidium*, is not found in both species of *Pararotalia* mentioned above. So it must be quite uncertain that *Pararotalia* has anything to do with the Rotaliidae. On the other hand, *Siderolithes vidali* Douvillé (see Hofker, 1959, fig. 139—157) as well as the genotype *Siderolites calcitrapoides*, have

simple septa and no distinct toothplates; also, their pores are of the type of those found in *Pararotalia*; so it may be, that these species, belonging to the Miscellaneidae, are allied to *Pararotalia*, as both Smout and Reiss suggested.

In the Tuff Chalk of Maestricht, two types of *Pararotalia tuberculifera* exist; the one is a flat form, the second is more robust (compare the figures 7 and 5 on p. 36, 1957, XXIV); it turned out, that the flat form (fig. 5) has a much smaller proloculus than the robust form (fig. 4), so that the flat form may be the microspheric generation; the robust form is the commoner form.

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BOEKBESPREKING

Natuurbescherming, enige belangrijke aspecten, Amsterdam 1961, Nederlandse Jeugdbond voor Natuurstudie. Te bestellen per briefkaart: Meidoornlaan 22 Amstelveen, of per giro 233040 t.n.v. Uitgever der NJN, Utrecht. Prijs f 1,75 + f 0,25 kosten per bestelling.

Een uitgave dus van de NJN, en dus fris en enthousiast geschreven. Ik heb alle respect voor deze jongelui, die wel haast bezeten zijn van hun liefde voor de natuur. Mr. Gorter, directeur van Natuurmonumenten, schreef in de inleiding o.m. het volgende: „Wie zal de voortschrijdende natuurvernietiging stuiten? Wie zal het pleit voeren voor plant en dier, begrip bijbrengen, kennis verspreiden? Dat is ieder, voor wie de natuur wat betekent, dat ben ook jij!”

En zie nu eens, hoe enthousiast de activiteiten worden beschreven, die in de jeugdbond worden gevoerd om mede te helpen aan de opvoeding van ons, volwassenen!: Bij de Wierschuur, „om oost” op Terschelling, wachten enkele NJN-ers, ekskursie-leiders uit het zomerkamp, totdat zich rondom hen een groep van tegen de veertig badgasten verzameld heeft. Dan wandelen we weg langs het wad, door de duinen, over de kwelder, overal antwoordend op mogelijke en onmogelijke vragen, en wijzend op mooie details en op het