

## A NEW RANINID CRAB, *PSEUDOROGUEUS RANGIFERUS* (DECAPODA, CRUSTACEA), FROM THE EOCENE OF SPAIN

R.H.B. Fraaye \*

### ABSTRACT

A new genus and species of raninid crab, *Pseudorogueus rangiferus*, is described from the Lower Eocene of Catalunya, Spanish Pyrenees.

**Key words:** Crab, Eocene, Pyrenees, Spain.

### RESUMEN

Se describe un nuevo género y especie de cangrejo Raninidae, *Pseudorogueus rangiferus*, proveniente del Eoceno inferior de los Pirineos Catalanes (Cataluña, España).

**Palabras clave:** Cangrejos, Eoceno, Pirineos, España.

### Introduction

Eocene strata in northern Spain often yield decapod remains (Artal & Via, 1988; Gaemers, 1978; Via, 1959, 1969) but generally speaking raninid crabs are rare. Eight specimens of *Lophoranina marestiana* (König, 1825), four of *L. straeleni* Via, 1959, from Levante and six specimens each of *L. reussi* (Woodward, 1886) and *Notopella vareolata* (Lörenthey & Beurlen, 1929) from Navarra were recorded by Via (1959, 1969).

The new genus and species of raninid crab described herein was collected in a roadcut about 5 km east of the village of Ager during a field trip in 1994. In this roadcut alternating fossiliferous grey marly sandstones and marls of the middle Lower Eocene Ager Formation (Ei3 member of Rosell & Llompart, 1988) are exposed. The new crab comes from the top part of an irregularly cross-bedded marly sandstone, 2-3 metres thick. The numerous broken fragments of scutellid echinoids, gastropods and bryozoans within this layer and the extremely abundant occurrence of the oyster *Cubitostrea multicostata* in the overlying marls suggest very shallow marine settings for these deposits.

Gaemers (1978) mentioned decapod remains from the nearby Tremp Basin from this type of sediments in several outcrops within the Ager Formation. The allochthonous Palaeogene Tremp and Ager basins were part of the central south Pyrenean peripheral foreland basin (Luterbacher *et al.*, 1991). These basins were situated at the northern margin of the tropics (Gaemers, 1978).

Artal & Via (1989) described a decapod fauna of comparable age from outcrops near the village of Pobla de Roda situated 40 km north-west of Ager in the Tremp basin. The fauna is dominated by *Xanthilites macrodactylus pyrenaicus* Artal & Via, 1989 with rarer specimens of *Glyphityreus wetherelli* (Bell, 1858), *Dromilites alpina* Glaesner, 1929, *Eocalcinus eocenicus* Via, 1959, *Ctenocheles cultellus* Rathbun, 1935 and *Ctenocheles burlesonensis* Stenzel, 1935. In addition to these species a raninid crab was recognised by the author in these outcrops during a recent field trip. In another outcrop exposing strata of the same age near the small village of Aren (30 km north-west of Ager) a decapod fauna dominated by *Xanthopsis dufouri* (H. Milne-Edwards, 1850) with rare specimens of *Ctenocheles cultellus* Rathbun, 1935 and an unidentified portunid crab was collected.

\* Geo Centrum Brabant, St. Lambertus weg 4, 5291 NB BOXTEL, The Netherlands.

### Systematic paleontology

Order DECAPODA Latreille, 1803.  
 Infraorder BRACHYURA Latreille, 1803.  
 Section PODOTREMATA Guinot, 1978.  
 Family RANINIDAE de Haan, 1841.  
 Genus *Pseudorogueus* gen. nov.

— Type species: *Pseudorogueus rangiferus* spec. nov., the sole included species.

— Type locality:

— Etymology: The new genus is named after the superficial resemblance of the contemporary genus *Rogueus* Berglund & Feldmann, 1989.

— Diagnosis: Raninid with triangular rostrum, strongly serrated orbitofrontal margin with supra orbital, outer orbital and pronounced multibranching anterolateral spines; anterolateral spines pointing more outward than forward.

#### *Pseudorogueus rangiferus* n. sp. (figs. 1-2)

— Diagnosis: As for genus.

— Etymology: After the latin name for reindeer, alluding to the multibranching anterolateral teeth.

— Material: The holotype (MAB k1040), the only known specimen is deposited in the Geo Centrum Brabant collections and was found in october 1994 by Ir. M. Fraaye.

— Measurements: Following Berglund & Feldmann (1989) the measurements in mm are as follows:

L1	L2	L3	W1	W2	W3	W4
—	6.5	12.0	18.5	13.5	18.0	—

Description: Carapace oval, about 1.5 times longer than wide, widest at approximately two-fifths distant from front, slightly convex longitudinally and moderately transverseley. Posterolateral margins sinuous. Triangular rostrum; two relatively long supra-orbital fissures; two blunt supra-orbital spines, not extending beyond the rostrum; the prominent outer-orbital spines are straight in their inner half; relatively long outward pointing anterolateral spines with three forwardly directed spinules on the outer half of the anterior margin dividing the total length in approximately equal parts, spines, or main trunk, do not extend beyond the outer-orbital spines. Carapace surface poorly preserved due to weathering but remaining parts are smooth with very fine punctae. No sternal elements or chelae are preserved.



Fig. 1.—*Pseudorogueus rangiferus* gen. nov., spec. nov., taken x 2.

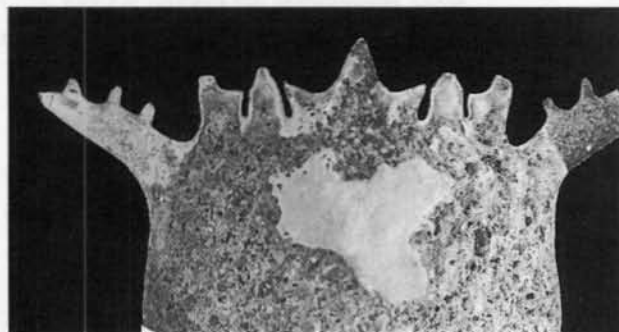


Fig. 2.—*Pseudorogueus rangiferus* gen. nov., spec. nov., taken x 5, showing details of the front.

### Discussion

The forward pointing extraorbital spines and the pronounced multibranching anterolateral spines of *Pseudorogueus* gen. nov. are characters in common with *Rogueus orri* Berglund & Feldmann, 1989. As already pointed out by Berglund & Feldmann (1989), *Rogueus* has some similarities with other Raninidae but the unusual branched anterolateral teeth serve as an obvious point of distinction. Although a superficial resemblance of *Pseudorogueus* gen. nov. with *Rogueus* is present, the differences are significant. *Pseudorogueus* gen. nov. differs considerably from *Rogueus* in having a triangular, non-bifid rostrum and an additional prominent supraorbital fissure and spine.

More findings are needed to solve the question whether the characters in common evolved from a common ancestor or developed as coincidental events in different lineages.

## ACKNOWLEDGEMENTS

I wish to extend my best thanks to J.S.H. Collins for stimulating discussions and encouragement to undertake this study and to my brothers B.A. and M.W. Fraaye for assistance in the field. Thanks also to Professors J. Meulenkamp and G. van der Zwaan, Utrecht University and F. Schram, University of Amsterdam for their support and W. den Hartog for taking the photographs.

## References

- Artal, P. y Via, L. (1988). *Xanthilites macrodactylus pyrenaicus* (Crustacea, Decapoda) nueva subespecie del Ilerdiense medio del Pirineo de Huesca. *Batalleria*, 2, 57-61.
- Berglund, R.E. y Feldmann, R.M. (1989). A new crab, *Rogueus orri* n. gen. and n.sp. (Decapoda: Brachyura), from the Looking glass Formation (Ulatisian Stage: lower Middle Eocene) of southwestern Oregon. *J. Paleont.*, 63, 69-73.
- Gaemers, P.A.M (1978). Biostratigraphy, palaeoecology and palaeogeography of the mainly marine Ager Formation (Upper Paleocene - Lower Eocene) in the Tremp Basin (Central-South Pyrenees), Spain. *Leidse Geol. Meded.*, 51, 151-231.
- Luterbacher, H.P.; Eichenseer, H.; Betzler, C.H. y Hurk, A.M. van den (1991). Carbonate-siliciclastic depositional systems in the Paleogene of the South Pyrenean foreland basin: a sequence-stratigraphic approach. *Special Publications international Association of Sedimentologists*, 12, 391-407.
- Rosell, J. y Llombart, C. (1988). *Guía geológica del Montsec i de la Vall d'Ager*. Montblanc-Martin, Barcelona. 168 págs.
- Via, L. (1959). Decapodos fósiles del Eoceno español. *Bol. Inst. Geol. Min. Esp.*, 70, 331-402.
- Via, L. (1969). Crustáceos decapodos del Eoceno español. *Pirineos*, 91-94, 1-479.

Recibido el 30 de enero de 1995  
Aceptado el 15 de marzo de 1995