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A new Oligocene record of *Szaboa* (Crustacea, Decapoda, Brachyura, Matutidae) from northern Germany

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Abstract

A new matutid crab, *Szaboa deppermanni* n. sp., is described on the basis of a single, well-preserved carapace from the so-called 'Pampauer Feinsandstein' ('Pampauer Gestein'), a local erratic rock of latest Oligocene (Neochattian C) age at Groß Pampau (Schleswig-Holstein, northern Germany). It represents the first record of a matutid from boreal northern Europe, and constitutes the third member of the genus.

Key words: Crustacea, Decapoda, Brachyura, Matutidae, Germany, Oligocene, new species

Introduction

The 'Pampauer Gestein', currently assigned to the Ratzeburg Formation (Hinsch, 1994; Rasser *et al*., 2008), is an allochthonous, siderite-rich sandstone with sporadic fine-grained limonitic sandstone concretions. At 'Kiesgrube Ohle', a gravel pit close to Groß Pampau (Schleswig-Holstein, northern Germany), such nodules have yielded comparatively rich assemblages of molluscs (mainly bivalves) and echinoids, as well as vertebrates (sharks, marine reptiles and whales; see Polkowsky, in press). These strata have been interpreted as sublittoral tempestites (Piehl, 1999). One of us (Polkowsky, in press) has recently documented a relatively poor decapod crustacean assemblage from such concretions, which comprises lobsters (*Homarus* (*Homarus*?) *neptunianus* Polkowsky, 2005) and crabs (*Coeloma credneri* Noetling, 1881; *Necronectes schafferi* Glaessner, 1928).

To date, merely four species, in three genera, constitute the fossil record of the family Matutidae MacLeay, 1838. The oldest member, *Eomatuta granosa* De Angeli & Marchiori, 2009, originates from the middle Eocene of Vicenza, northern Italy (note that Schweitzer & Feldmann, 2010: 407 referred to this as early Eocene), while the lower Oligocene (Rupelian) of Gironde, southwest France, has yielded *Szaboa lamarei* Schweitzer & Feldmann, 2010 and *Szaboa inermis* (Brocchi, 1883) has been described from the middle Miocene ('Badenian', Serravallian) of Hungary (Müller, 1984). An unnamed middle Miocene species of *Ashtoret* Galil & Clark, 1994 has been recorded from the lower middle Miocene Kurosedani Formation (Yatsuo Group) of Honshu, Japan by Karasawa (2002).

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Systematic palaeontology

Section Eubrachyura de Saint Laurent, 1980
Subsection Heterotremata Guinot, 1977
Family Matutidae MacLeay, 1838
Genus *Szaboa* Müller & Galil, 1998
Type species: *Matuta inermis* Brocchi, 1883, by original designation.

Szaboa deppermanni n. sp.

(Fig. 1)

Type: The holotype, and sole specimen known, is MAB k. 3165, a near-complete carapace in the collections of Oertijdmuseum De Groene Poort, Boxtel, the Netherlands.

Measurements: Maximum carapace length 14 mm, maximum carapace width 14 mm.

Derivation of name: Named in honour of Jan Deppermann, who collected the specimen in 2000.

Type locality: Groß Pampau gravel pit (Schleswig-Holstein, northern Germany; co-ordinates 53°31'45.70 N, 10°33'47.15 E), from the so-called 'Pampauer Gestein' of the Ratzeburg Formation. On molluscan

Fig. 1. *Szaboa deppermanni* n. sp., upper Oligocene (Neochattian C), Groß Pampau (Schleswig-Holstein, northern Germany), holotype (MAB k. 3165), coated with ammonium chloride prior to photography.

evidence, this unit has been dated as upper Oligocene (Neochattian C) by Piehl (1999).

Diagnosis: Carapace pentagonal, widest posterior of mid-length; broad and shallow orbits; triangular outer orbital spines directed outwards and forwards; antero-lateral margin with four large triangular spines.

Description: Carapace as broad as long, pentagonal, maximum width between epibranchial spines, gently convex in longitudinal and transverse cross sections. Front broad and sinuous, slightly downturned, weakly projected beyond orbits. Orbits wide and shallow, supra-orbital margin continuous, without any notches; outer orbital spines broadly triangular, directed outwards and forwards. Antero-lateral margin with four large, triangular, outwardly directed spines. Posterolateral margins nearly straight, rimmed, affected only by branchial tubercle. Posterior margin narrow, as wide as front. Epigastric and post-frontal regions covered with sinuous, inflated ridge. Mesogastric, branchial, cardiac and posterior branchial regions all inflated and with a single, cylindrical tubercle. Hepatic and intestinal regions smooth. Urogastric region depressed and enclosed by subcircular branchiocardiac grooves, extending anteriorly from just posterior of branchial tubercles, merging anteriorly into cervical groove which weakly notches carapace margin. Carapace surface smooth.

Discussion

The new species most closely resembles *Szaboa lamarei* (Fig. 2), but can be differentiated by the post-frontal sinuous swelling, having cylindrical tubercles on all regions rather than transversely oriented swellings, and being widest posterior of mid-length. *Szaboa deppermanni* n. sp. is distinguished from the middle Miocene *S.*

Fig. 2. *Szaboa lamarei,* holotype (MNHN R03779, coll. Remy), lower Oligocene (Rupelian). Monségur (Gironde, France).

inermis and *Ashtoret* sp. (*sensu* Karasawa, 2002) in having less convex anterolateral margins with much coarser, outwardly oriented spines, and being more areolated. In addition, *S. inermis* has a weakly sulcate front. The middle Eocene *Eomatuta granosa* lacks spinose anterolateral margins and carapace ornament consists of flattened granules.

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