

**Notes on the systematics, morphology and biostratigraphy
of fossil holoplanktonic Mollusca, 20¹. A new pteropod genus and species,
Hameconia edmundi gen. nov. spec. nov. (Mollusca, Gastropoda, Sphaerocinidae),
from the Late Oligocene of SW France**

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A new pteropod genus, *Hameconia*, and a new species, *H. edmundi*, are introduced from Late Oligocene (Chattian) sediments of the Saubrigues palaeo-canyon in the Aquitaine Basin, SW France.

Key words: Gastropoda, Euthecosomata, Sphaerocinidae, new genus, new species, Oligocene, France.

INTRODUCTION

A well-known group of Cenozoic outcrops in the Aquitaine Basin is situated in the so-called 'Saubrigues palaeo-canyon', in the department of Landes, SW France (Fig. 1). Here, for the most part clayey sediments of Late Oligocene (Chattian), Early (Aquitainian/Burdigalian) and Middle Miocene (Langhian) age are found, yielding predominantly deep water fossil assemblages. At one of the Late Oligocene localities in particular, near the village of St. Etienne-d'Orthe, a holoplanktonic mollusc assemblage relatively rich in species is found in several outcrops, mainly in banks and bottoms of small brooks. For further details about the geological setting in that area see Cahuzac et al. (1995). On the basis of calcareous nannoplankton these deposits are assigned to Zone NP 25 (Steurbaut, in Zorn & Janssen, 1993).

From outcrops in the area of St. Etienne-d'Orthe several pteropods were already described earlier: *Vaginella tricuspidata* Zorn & Janssen, 1993, *Spoelia torquayensis* Janssen, 1995, and *Heliconoides linneensis* Janssen, 2008. In the present paper a new pteropod genus and species are introduced, belonging to the Sphaerocinidae. Several further species from these outcrops will be included in a forthcoming paper (Cahuzac & Janssen, in prep.).

The following abbreviations are used: MNHN, Muséum national d'Histoire naturelle, Laboratoire de Biologie des Invertébrés et de Malacologie, Paris (France), informal MNHN PL numbers refer to the Pierre Lozouet et al. collection; RGM, National Natural History Museum *Naturalis*, Palaeontology Department, Leiden (The Netherlands) (formerly Rijksmuseum van Geologie en Mineralogie); SMB, Stef Mermuys collection, Bergschenhoek (The Netherlands).

¹ For nr 19 in this series see Basteria, 71: 157.

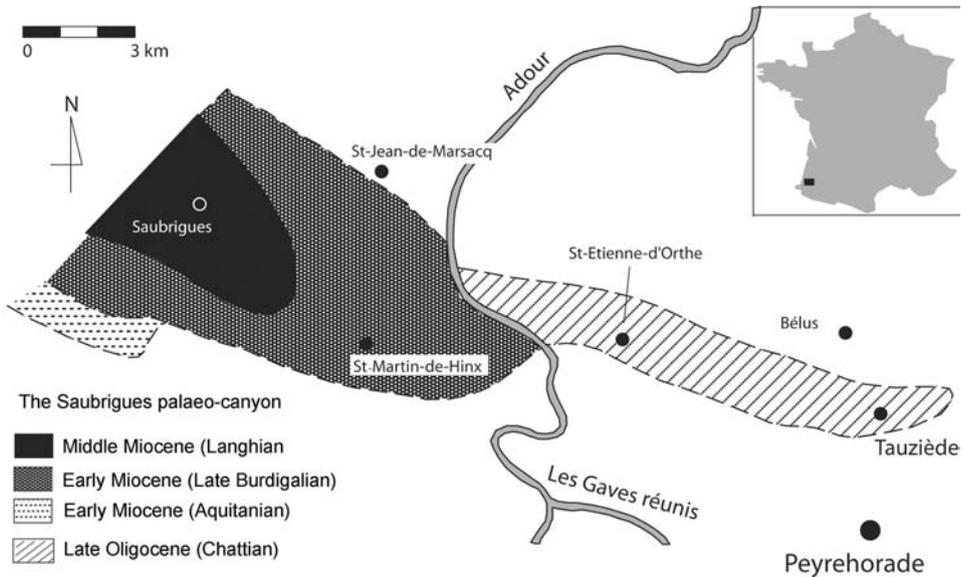


Fig. 1. Late Oligocene to Middle Miocene fill of the Saubrigues palaeo-canyon and location of the type locality St. Etienne d'Orthe (slightly changed after Lozouet, 2003).

SYSTEMATIC PART

Phylum Mollusca Linné, 1758
 Class Gastropoda Cuvier, 1797
 Superorder Heterobranchia Burmeister, 1837
 Order Thecosomata de Blainville, 1824
 Suborder Euthecosomata Meisenheimer, 1905
 Family Sphaerocinidae Janssen & Maxwell, in Janssen, 1995

Genus *Hameconia* gen. nov.

Type species. – *Hameconia edmundi* spec. nov.

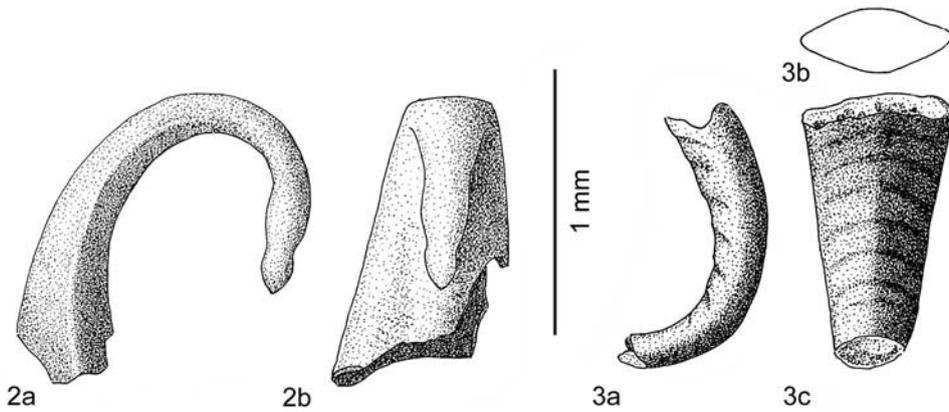
Derivatio nominis. – After 'hameçon' (from French: a fishing hook), as the type species closely resembles a small fishing hook.

Diagnosis. – Flattened tubiform, bilaterally symmetrical pteropod with a c. 180° dorso-ventral curvature, differing from related *Sphaerocina* species by a clearly separated protoconch-1 and -2, and a restricted curvature, which in *Sphaerocina* species is 360° or more.

Hameconia edmundi spec. nov. (figs 2-5)

Material. -- Holotype. – RGM 541 444 (Fig. 2a-b). Type locality. – St. Etienne-d'Orthe, outcrop in Ruisseau de l'Église, E of Lartigaou, coordinates X = 316.400, Y = 149.800 (France, Landes).

Paratypes. – Belus (Marcon, coordinates x = 320.125, y = 148.450): MNHN PL 6622/1 fragment (fig.



Figs 2-3. *Hameconia edmundi* gen. et spec. nov.; 2, holotype, RGM 541.444, a: left lateral view, b: frontal view; 3, paratype, from Belus (Marcon), MNHN PL 6622, a: right lateral view, b: shape of aperture, c: dorsal view.

3a-c); St. Etienne-d'Orthe (outcrop Église-B, coordinates $x = 316.380$ $y = 149.150$): MNHN PL 6623/3, 2 fragments; St. Etienne-d'Orthe (outcrop Église-C, coordinates $X = 316.400$, $Y = 149.200$): MNHN unnumbered/25, leg. P. Lozouet; St. Etienne-d'Orthe (E of Lartigaou, coordinates $X = 316.400$, $Y = 149.800$): RGM 541 445/1 (Fig. 5), RGM 541 446/1 (Fig. 4), RGM 541 447/32, all leg. A.W. Janssen, 1984-1990; SMB unnumbered/2, leg. S. Mermuys, July 2006.

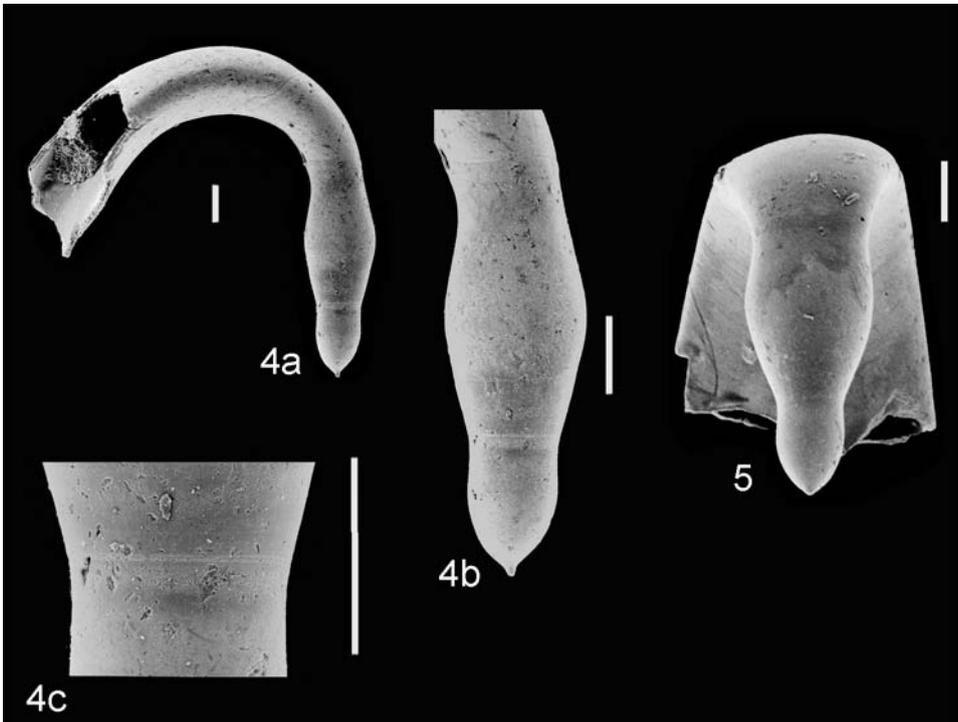
Stratum typicum. – Marnes de St. Etienne-d'Orthe (Late Oligocene, Chattian), calcareous nannoplankton zone NP 25.

Derivatio nominis. – The species is named after former colleague-curator Edmund ('Edi') Gittenberger, at the occasion of his 65th birthday and retirement from the National Natural History Museum *Naturalis*, at Leiden, The Netherlands.

Diagnosis. – See diagnosis of the genus.

Description. – Elongately tubiform, dorso-ventrally slightly compressed shell, with a somewhat more than 180° lengthwise curvature. Larval shell with protoconch-1 ovoid, pointed or with a short spine, separated from protoconch-2 by a gradual constriction. Protoconch-2 wider, about two times higher than protoconch-1, separated from the teleoconch by another weak constriction. Immediately behind protoconch-2 the shell flattens and the dorso-ventral diameter becomes about half the width. The dorsal (= concave) side of the shell is faintly produced in its centre and has rather clear, adaperturally curved growth lines which in the paratype from Belus (Fig. 3) are developed slightly foldlike. The ventral side is almost completely smooth. The transition between dorsal and ventral sides is shaped as rounded carinae, faintly accentuated by very weak accompanying depressions.

Discussion. – The present material was already referred to by Janssen & Maxwell (in Janssen, 1995, p. 164), where it was compared with the type species of *Sphaerocina* (= *Limacina formai* Audenino, 1897). Although the present species has clear affinities to *Sphaerocina* it also differs considerably in several respects, sufficient to introduce a new genus and species. The main characteristic relating it to the Sphaerocinidae is the strong dorso-ventral curvature of the shell, which in *S. formai* even results in three, completely involute, coils (Janssen, 1995, p. 159, pl. 12, figs 7-10, pl. 13, figs 1-4). In the recently introduced *S. convolvula* Janssen (2007, p. 104, pl. 8, fig. 8; pl. 25, fig. 7), from the Pliocene of the



Figs 4-5. *Hameconia edmundi* gen. et spec. nov., paratypes, RGM 541 446 and 541 445, respectively; 4a: right lateral view, 4b: protoconch-1 and -2, 4c: boundary between protoconch-1 and -2; 5: frontal view. Bar lengths = 100 μ m.

Philippines, the curvature reaches 360°. The specialised apertural structures of the *Sphaerocina* type species are neither found in the latter species, nor in the present material from France. It cannot be excluded that these two are incompletely known and that in both cases we are dealing with immature specimens, but at least for the french species this does not seem to be very likely, as quite a number of specimens was found.

The present new genus and species support the hypothesis, discussed by Janssen & Maxwell (in Janssen, 1995, p. 158), that the Sphaerocinidae developed from a *Clio*-like forerunner species.

From the Early Miocene of Malta a few fragmentary specimens are available, found in the Lower Globigerina Limestone Formation of Wardija, on the island of Gozo (Janssen, 2004, p. 20, pl. 4, fig. 14), with a supposed age of Early Aquitanian. Some of these fragments resemble the new species closely, but other fragments from the same locality are of larger specimens, more strongly resembling the Langhian species *Sphaerocina formai*. Better preserved specimens are needed to interpret this occurrence more specifically.

Several other species known from the St. Etienne-d'Orthe area are equally present in the same Maltese sequence, such as *Spoelia torquayensis* and *Vaginella ? tricuspadata*, but on the other hand a number of further pteropod species recovered from the Maltese section, among which the extremely common *Gamopleura melitensis* Janssen, 1995, are absent from the french assemblages. This obviously indicates a difference in age, but it is difficult to decide which of the two is older and which is younger.

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