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**Two cases of epizoic association of a species of Cancellariidae
(Neogastropoda: Cancellarioidea)
with another mollusc or an isopod species.**

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Abstract: Two cases of species of **Cancellariidae** collected in close contact with another mollusc or an isopod species are reported: *Scalptia contabulata* (Sowerby, 1832) in the aperture of *Lambis* sp. shells, and *Gerdiella santa* Olsson & Bayer, 1972, on *Bathynomus giganteus* Milne-Edwards, 1879. Since the exact nature of this association is unknown, these cancellariids are here referred to as epizoic organisms.

Case 1: Association between *Scalptia contabulata* and *Lambis* sp. (Gastropoda: **Strombidae**)

At Saipan, North Mariana islands, scuba-divers found live specimens of *Scalptia contabulata* in the aperture of live *Lambis chiragra* (Linnaeus, 1758) and *Lambis truncata* (Lightfoot, 1786). The first observation was made on sandfields between large coral masses at depths ranging from 3 to 30 metres at Laolao Bay, Saipan, in January 2008. Sometimes there were up to three *S. contabulata* in a single *Lambis truncata*. Throughout the year 2008, *L. chiragra* and *L. truncata* were randomly checked. After March, no more *S. contabulata* were seen; but they were sighted again in January and February 2009, after which they vanished again. During the cited period, the water temperature is slightly lower than during the rest of the year (Brennan, 2009). All sightings were made during the day. The specimens of *S. contabulata* are usually between 14-22mm high. They are in the aperture of the *Lambis*; but not deep inside, usually at the side of the anterior siphonal canal (Brennan, *in litt.*)

Figs 1-6 show several examples of *S. contabulata* in the aperture of *Lambis* sp. In Figs 1-2, *S. contabulata* appears to be crawling with foot and tentacles extended in the direction of the soft parts of the *Lambis*. In these photos the cancellariids are always in the adapical part of the *Lambis* aperture.

Several similar cases of an association of a cancellariid with another mollusc have been reported (see table), but the exact nature of their relation is unknown. *Scalptia contabulata* is the species most frequently found in these epizoic associations in the Pacific; and the genus *Nipponaphera* is represented by two species from the western Indian Ocean.

Epizoic species	On mollusc species	locality	reference
<i>Nipponaphera paucicostata</i> (Sowerby, 1894)	<i>Rapana bulbosa</i> (Solander, 1817)	Gulf of Oman	Mellivill & Standen, 1901: 451
<i>Nipponaphera wallacei</i> Petit & Harasewych, 2000	<i>Bolma andersoni</i> (E. A. Smith, 1902)	South Africa, Natal	Petit & Harasewych, 2000: 150
<i>Scalptia contabulata</i> * (Sowerby, 1832)	<i>Mitra mitra</i> (Linnaeus, 1758)	Fiji islands	Cernohorsky, 1972: 180
<i>Scalptia contabulata</i> * (Sowerby, 1832)	<i>Conus eburneus</i> Hwass, 1791	Fiji islands	Cernohorsky, 1972: 180
<i>Scalptia contabulata</i> * (Sowerby, 1832)	<i>Terebra areolata</i> (Link., 1807)	Fiji islands	Cernohorsky, 1972: 180
<i>Scalptia contabulata</i> (Sowerby, 1832)	<i>Turris crispa</i> (Lamarck, 1816)	New Caledonia	Salvat et al., 1988: 63
<i>Scalptia contabulata</i> *** (Sowerby, 1832)	<i>Mitra mitra</i> (Linnaeus, 1758)	Philippines, Mactan	Poppe, 2008: 822
<i>Scalptia mercadoi</i> Old, 1968	<i>Murex troscheli</i> Lischke, 1868	Philippines, Mactan	Specimen in RBINS
<i>Trigonostoma scalariformis</i> ** (Lamarck, 1822)	<i>Eucrassatella cumingi</i> A. Adams, 1854	Australia, Queensland	Garrard, 1975: 29

*: juveniles, cited as *Trigonostoma scalata*

** : half-grown specimens, cited as *Trigonostoma scalariformis*

***: erroneously identified as *Scalptia obliquata* Lamarck, 1822

Case 2: Association between *Gardiella santa* Olsson & Bayer, 1972, and the isopod *Bathynomus giganteus*.

Three juveniles and two larger specimens of a *Gardiella* species were collected on a “giant isopod” *Bathynomus giganteus* Milne-Edwards, 1879 (Flabellifera: Cirolanidae; see Briones-Fourzán & Lozano-Alvarez, 1991) (Figs 10a-b) captured in the Caribbean Sea, east coast of Honduras, off Coxon’s Hole, Roatan Island (16°23’N, 86°23’W), at a depth of 548m, in November 1997. The juveniles are in the author’s collection, AV1353, dimensions 5.9 x 3.5 mm (Figs 7a-b); 4.6 x 2.7; and 4.5 x 2.6 mm, whereas the two larger *Gardiella* specimens are in the collections of the USNM (Lot n°. 1.145.566): the shells are 15.7 and 17.7 mm high (Figs 8a-b, 9a-b). The latter specimens were studied by M. G. Harasewych (USNM), who identified them as *Gardiella santa* Olsson & Bayer, 1972.

All these *Gardiella santa* specimens were collected on the ventral side of the isopod. The three smaller specimens were found near the articulations (but not on the gills), while the two larger specimens were found on the gills.

This is the first record of a cancellariid species taken on an isopod species. Yet, other

epizoic molluscs have been recorded on *B. giganteus*: *Mitrella amphisella* var. *rushi* (Dall, 1889); **Columbellidae**). In one cruise, this carnivorous species was found in 29% of *B. giganteus* specimens, particularly in the brood pouches of females; in males the snails live between the pleopods and the pleon. Yet, the nature of this association is unclear (Briones-Fourzan & Lozano-Alvarez 1991: 380, 383). It is possible that the molluscs encountered the isopod while scavenging on the same bait, and accidentally got entangled between the pleopods (F. Fiers, pers. comm.)

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Plate 1

1-6: Living specimens of *Scalptia contabulata* photographed in the aperture of living specimens of *Lambis* sp., Mariana Islands (photos: Harry Blalock).

Plate 2

7-9: Specimens of *Gardiella santa* Olsson & Bayer, 1972, taken on the ventral side of *Bathynomus giganteus* off Roatan Island, E. Honduras.

7a-b: very juvenile specimen, 5.9 mm high (AV1353).

8-9: larger specimens (USNM 1,145,566).

8a-b: 15.7 mm high;

9a-b: 17.7 mm high.

(photos 8-9: M. G. Harasewych, USNM).

10a-b: *Bathynomus giganteus* A. Milne Edwards, 1879 (Cirolanidae, Cymothoidea, Isopoda), Female, length 33 cm. Continental slope of the Yuacatan Peninsula, Mexico, at ca. 450m, baited traps. leg. Briones-Fourzan, P. & E. Lozano-Alvarez, Jan. 1990. RBINSc INV 81.456 (photo supplied by F. Fiers, RBINSc). This is not the specimen on which the *Gardiella* specimens were taken.



8a



8b



9a



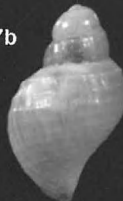
9b



7a



7b



10a



10b

