

ON THE MAJOID GENERA *OXYPLEURODON* MIERS, 1886, AND  
*SPHENOCARCINUS* A. MILNE-EDWARDS, 1875  
(CRUSTACEA: BRACHYURA: EPIALTIDAE),  
WITH DESCRIPTIONS OF TWO NEW GENERA  
AND FIVE NEW SPECIES

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**Abstract.** – On the basis of fresh collections from various parts of the western Pacific, three species of majoid crabs previously considered as rare are redescribed and figured: *Oxypleurodon bidens* (Sakai, 1969), *O. auritum* (Rathbun, 1916) and *O. coralliophilum* (Takeda, 1980). Four new species are described: *O. boholense* from the Philippines, *O. barazeri* and *O. parallelum* from the Solomon Islands, and *O. alaini* from New Caledonia. A new genus and new species, *Stegopleurodon planirostrum*, is described from New Caledonia and Vanuatu. The two species currently assigned to the allied American genus *Sphenocarcinus* A. Milne-Edwards, 1875, are re-examined, and a new genus, *Rhinocarcinus*, is established for the Pacific species *Sphenocarcinus agassizi* Rathbun, 1893.

**Key words.** – Crustacea, Decapoda, Brachyura, Majidae, *Oxypleurodon*, new species, *Stegopleurodon*, *Rhinocarcinus*, new genera, the Philippines, Japan, Solomon, Fiji, Vanuatu, New Caledonia.

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## INTRODUCTION

The new material studied here is the result of several deep-sea cruises and expeditions in the Western Pacific over the years, including the BATHUS cruises to New Caledonia and vicinity in the 1990s (Richer de Forges & Chevillon, 1996); MUSORSTOM and BORDAU cruises to Vanuatu and Fiji in 1990s and 2000s (Richer de Forges et al., 1996, 2000a, b); SALOMON 1 cruise onboard the R.V. “ALIS” in 2001 in the southern part of the Solomon Archipelago; a sampling programme in Panglao, Central Philippines, started in 2004 (Bouchet & Ng, 2004; Bouchet et al., 2009) including samples from Balicasag Island collected by tangle nets, the PANGLAO 2005 cruise on board the R.V. “DA-BFAR” in the Bohol Sea in Central Philippines (Richer de Forges et al., 2005, 2009); and most recently the AURORA 2007 cruise along the eastern coast of Luzon, the Philippines.

With regards to the taxa studied here, there have been many papers dealing with the majoid genus *Oxypleurodon* Miers,

1886 (e.g. Griffin, 1976; Griffin & Tranter, 1986; Guinot & Richer de Forges, 1985, 1986a, 1986b; Tavares, 1991; Richer de Forges, 1992, 1995; Richer de Forges & Ng, 2009), most pertaining to new species discoveries. In the present paper, we describe four new species of *Oxypleurodon*. We also take the opportunity to discuss the affinities of the allied American genus *Sphenocarcinus* A. Milne-Edwards, 1875, formerly synonymized with *Oxypleurodon*. A new genus, *Rhinocarcinus*, is described to accommodate the eastern Pacific *Sphenocarcinus agassizi* Rathbun, 1893. A new genus and new species, *Stegopleurodon planirostrum*, allied to *Oxypleurodon*, is also described on the basis of specimens from New Caledonia and Vanuatu. The genus *Sphenocarcinus* A. Milne-Edwards, 1875, was originally described in the subfamily Acanthonychinae, and later synonymised with the Epialtinae (cf. Griffin & Tranter, 1986; see also Martin & Davis, 2001). In their reappraisal of majoid higher classification, Ng et al. (2008) redefined the family Epialtidae, recognizing four subfamilies (Epialtinae, Pisinae, Pliosomatinae and Tychinae) and placed *Sphenocarcinus*

and *Oxypleurodon* (as well as the related *Nasutocarcinus* Tavares, 1991) in the Pisinae (Table 1).

The specimens examined in this study are deposited in the Muséum national d'Histoire naturelle in Paris (MNHN), Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity Research, National University of Singapore and the Crustacean Collection of the Philippine National Museum (NMCR), Manila, the Philippines. The terminology used essentially follows that by Griffin & Tranter (1986). The abbreviations G1 and G2 refer to the male first and second gonopods, respectively; while P2–P5 are used for the first to fourth ambulatory legs, respectively. Measurements provided, in millimeters, are of the carapace length followed by carapace width. As the series of specimens in some cases is very large, we have only provided measurements for the largest specimens and/or when they are of taxonomic interest.

## SYSTEMATIC ACCOUNT

### MAJOIDEA Samouelle, 1819

### EPIALTIIDAE MacLeay, 1838

### PISINAE Dana, 1851

#### *Sphenocarcinus* A. Milne-Edwards, 1875

**Diagnosis.** – Carapace triangular. Rostrum very long, formed by 2 long, slender, prominently diverging spines. Preorbital spine absent. Dorsal surface of carapace relatively convex, with prominent raised plates on regions; lateral border divided into 2 low lobes. Cheliped shorter than P2, propodus relatively short, cylindrical.

**Remarks.** – This genus was established by A. Milne-Edwards in 1875 on the basis of a female specimen caught by research boat “Hassler” from Mexico (A. Milne-Edwards, 1875, 1878; A. Milne-Edwards & Bouvier, 1923). An English translation (slightly modified) of the original description of the genus was done by Garth (1958: 217): “Carapace subpentagonale, broadened behind, tapering gradually in front. Rostrum long formed of two pointed horns, joined one to another; no prorbital spine. Orbit incomplete below. Basal article of the external antennae narrow, and the movable flagellum inserted underneath the rostrum, entirely hidden by it. Epistome narrow and long. Third article of the external maxillipeds, or merus, dilated a little at its anteroexternal angle, and slightly notched on the inner side for the insertion of the palpus. Chelipeds slender and symmetrical; the first pair of ambulatory legs much longer than the others.”

In the original genus description of *Sphenocarcinus*, there was no mention of the very characteristic dorsal plates of the type species. However, these features are well figured and described by A. Milne-Edwards (1875, 1878) in his description of *S. corrosus*. It therefore appears that A. Milne-Edwards did not regard these plates to be of generic value. Interestingly, A. Milne-Edwards & Bouvier (1923) commented that

Table 1. Species of *Sphenocarcinus*, A. Milne-Edwards, 1875, *Nasutocarcinus* Tavares, 1991, *Oxypleurodon*, Miers, 1886, *Rhinocarcinus*, new genus, and *Stegopleurodon*, new genus

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<i>Sphenocarcinus</i> A. Milne-Edwards, 1875
<i>Sphenocarcinus corrosus</i> A. Milne-Edwards, 1875
<b><i>Rhinocarcinus</i></b> , new genus
<i>Rhinocarcinus agassizi</i> (Rathbun, 1893)
<b><i>Nasutocarcinus</i></b> Tavares, 1991
<i>Nasutocarcinus aurorae</i> (Alcock, 1899)
<i>Nasutocarcinus cuneus</i> (Wood Mason, 1891)
<i>Nasutocarcinus difficilis</i> (Guinot & Richer de Forges, 1985)
<i>Nasutocarcinus pinocchio</i> (Guinot & Richer de Forges, 1985)
<b><i>Oxypleurodon</i></b> Miers, 1886
<i>Oxypleurodon alaini</i> , new species
<i>Oxypleurodon annulatum</i> Richer de Forges & Ng, 2009
<i>Oxypleurodon auritum</i> (Rathbun, 1916)
<i>Oxypleurodon barazeri</i> , new species
<i>Oxypleurodon bidens</i> (Sakai, 1969)
<i>Oxypleurodon bipartitum</i> (Guinot & Richer de Forges, 1986)
<i>Oxypleurodon boholense</i> , new species
<i>Oxypleurodon carbunculum</i> (Rathbun, 1906)
<i>Oxypleurodon coralliophilum</i> (Takeda, 1980)
<i>Oxypleurodon karubar</i> Richer de Forges, 1995
<i>Oxypleurodon lowryi</i> (Richer de Forges, 1992)
<i>Oxypleurodon luzonicum</i> (Rathbun, 1916)
<i>Oxypleurodon mammatum</i> (Guinot & Richer de Forges, 1986)
<i>Oxypleurodon orbiculatum</i> (Guinot & Richer de Forges, 1986)
<i>Oxypleurodon parallelum</i> , new species
<i>Oxypleurodon sanctaecaclausi</i> Richer de Forges & Ng, 2009
<i>Oxypleurodon sphenocarcinoides</i> (Rathbun, 1916)
<i>Oxypleurodon stimpsoni</i> Miers, 1886
<i>Oxypleurodon stuckiae</i> (Guinot & Richer de Forges, 1986)
<i>Oxypleurodon tavaresi</i> Richer de Forges, 1995
<i>Oxypleurodon velutinum</i> (Miers, 1886)
<i>Oxypleurodon wanganella</i> Webber & Richer de Forges, 1995.
<i>Oxypleurodon wilsoni</i> Richer de Forges & Poore, 2008
<b><i>Stegopleurodon</i></b> , new genus
<i>Stegopleurodon planirostrum</i> , new species

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*Oxypleurodon* Miers, 1886, was only a “forme voisine” of *Sphenocarcinus*. Garth (1958) subsequently synonymised *Oxypleurodon* with *Sphenocarcinus*. In his redefinition of *Sphenocarcinus*, Tavares (1991) commented that the dorsal face of the carapace of *Sphenocarcinus* was covered with strong flattened plates. In our opinion, Tavares (1991) was right to regard the dorsal plates as a generic character because it is a major part of the carapace structure and not just a spine or tubercle. He also described the incomplete thoracic sternal sutures as an important generic feature. Tavares (1991) was the first author to formally resurrect *Oxypleurodon* and to restrict *Sphenocarcinus* for the two American species, *S. corrosus* A. Milne-Edwards, 1875, from the Atlantic side and *S. agassizi* Rathbun, 1893, from the Pacific side.

The publication by A. Milne-Edwards (1873–1881) is problematic because the plates and various parts were

published at different dates. For *Sphenocarcinus*, some authors tend to date it as “A. Milne-Edwards, 1875” with some listing it as “A. Milne-Edwards, 1878”, although the species *Sphenocarcinus corrosus* is usually dated as “A. Milne-Edwards, 1878” (see Ng et al., 2008: 106). Crosnier & Clark (1998) clarified the matter and fixed the dates for the various parts. In the case of *Sphenocarcinus*, the first mention of the genus name and new species, *Sphenocarcinus corrosus*, was actually on his Pl. 17. This plate was dated by Crosnier & Clark (1998) as being published in 1875. With regards to the species, the current zoological code states that for names published before 1931, an available name must not only satisfy the provisions in Article 11 but must also be accompanied by a description, definition or by an indication. Article 12.2 specifies the various ways the latter is to be defined; with one acceptable “indication” being “the proposal of a new genus-group name or of a new species-group name in association with an illustration of the taxon being named” (Article 12.2.7). With regards to the genus *Sphenocarcinus* and the species *Sphenocarcinus corrosus*, the caption for Plate 17 writes “Fig. 5 ..... *Sphenocarcinus corrosus* (nov. sp.), provenant des Barbades”. As such, *Sphenocarcinus* as well as *Sphenocarcinus corrosus* should be dated as “A. Milne-Edwards, 1875”.

In this paper, we redefine *Sphenocarcinus* A. Milne-Edwards, 1875, and restrict it for the type species, *Sphenocarcinus corrosus* A. Milne-Edwards, 1875. *Sphenocarcinus agassizi* Rathbun, 1893, is here referred to the new genus *Rhinocarcinus* (see **Discussion** under this genus).

***Sphenocarcinus corrosus* A. Milne-Edwards, 1875**  
(Figs. 1A–C, 2A)

*Sphenocarcinus corrosus* A. Milne-Edwards, 1875: Pl. 17, Fig. 5. – A. Milne-Edwards, 1878: 136. – A. Milne-Edwards, 1880: 4. – Rathbun, 1894: 66. – Rathbun, 1900: 509. – Rathbun, 1925: 187, Fig. 73, Pls. 62, 223. – A. Milne-Edwards & Bouvier, 1923: 378, Fig. 18. – Garth, 1958: 217. – Williams, 1965: 248, Figs. 227, 233c. – Guinot & Richer de Forges, 1986b: 29. – Tavares, 1991: 165, Fig. 2 B. – Richer de Forges, 1995: 44. – Webber & Richer de Forges, 1995: 514. – Ng et al., 2008: 106.

**Material examined.** – **CARIBBEAN ISLANDS:** U.S. Coast Survey, cruise of the “Blake”, coll. A. Agassiz 1878–79, Stn. 253, Grenada, 170 m: 1 male (13.8 × 10.8 mm) (MNHN-B 20508). – Gulf Stream, 30 miles South Lockout Lightship, 28 Jul. 1915: 1 broken specimen (MNHN-B 24561, ex USNM 50520 Acc 59597).

**Remarks.** – *Sphenocarcinus corrosus* is known only from the Gulf of Mexico from depths of 170 to 300 m but is not well known taxonomically. The holotype of *S. corrosus* is a female (16.0 × 10.0 mm) deposited in the Cambridge Museum in the U.S.

The male specimen examined here is larger than the one used by Tavares (1991) in his redescription of *S. corrosus*, and has very long subparallel rostral spines which are fused at the base and becoming divergent along distal half. Such a difference was already mentioned by Bouvier

in Milne-Edwards & Bouvier (1923: 379). The plates of the carapace of *Sphenocarcinus* are different in shape to those on *Oxypleurodon*, being flat and eroded. The P2 of *Sphenocarcinus* is also relatively longer than the other ambulatory legs.

The known range of this species is from North Carolina to the Antilles (Williams, 1965).

***Rhinocarcinus*, new genus**

**Diagnosis.** – Carapace triangular. Rostrum very long, formed by 2 parallel, thick, obtuse spines closely appressed to each other along entire length. Preorbital spine present. Supraocular cave expanded, forming a tooth anteriorly; postocular spine well developed, cupped, protecting eye. Dorsal surface of carapace relatively flat, with only some tubercles, no trace of plates; lateral border divided into 3 lobes, branchial one largest. Cheliped shorter than P2, propodus relatively long, cylindrical.

**Etymology.** – From the Greek for nose, in arbitrary combination with the name *Carcinus*; alluding to the long rostrum of the type species. Gender of genus masculine. Type species *Sphenocarcinus agassizi* Rathbun, 1893, by present designation.

**Remarks.** – Other than the fact that *Sphenocarcinus agassizi* Rathbun, 1893, and *S. corrosus* A. Milne-Edwards, 1875, are superficially similar, have long rostrums, elongated carapaces and a similar shape of the cardiac region of the carapace, the differences between them are so substantial that they cannot be placed in the same genus. In fact, Garth (1958: 217) had already remarked that *S. agassizi* does not fit well with the *Sphenocarcinus* as defined by A. Milne-Edwards (1878).

The main differences are that on the carapace of *S. agassizi*, there are no plates at all but only tubercles present (versus with many prominent raised plates in *S. corrosus*), there is a distinct preorbital spine (absent in *S. corrosus*), the anterolateral border has three strong lobes under the subhepatic region (versus a straighter border with one part in *S. corrosus*), the rostral spines are relatively shorter, being parallel and closely appressed to each other (versus with two long sharp diverging rostral spines in *S. corrosus*), and the propodus of the cheliped is relatively longer. These differences suggest that *Sphenocarcinus agassizi* Rathbun, 1893, must be placed in its own genus, here named *Rhinocarcinus*, new genus. Interestingly, while *Sphenocarcinus corrosus* is known only from deeper water in the upper bathyal zone (below 170 m), *Rhinocarcinus agassizi* occurs in relatively shallow waters, at depths of less than 30 m.

***Rhinocarcinus agassizi* (Rathbun, 1893),  
new combination**  
(Fig. 2B)

*Sphenocarcinus agassizi* Rathbun, 1893: 231. – Rathbun, 1925: 188, Pl. 63, Pl. 223, Figs. 1, 2. – Garth, 1946: 379, Pl. 63: Fig. 2; 1958: 217. – Guinot & Richer de Forges, 1985: 50.

– Guinot & Richer de Forges, 1986a: 134. – Guinot & Richer de Forges, 1986b: 29. – Tavares, 1991: 165. – Richer de Forges, 1995: 44. – Webber & Richer de Forges, 1995: 514. – Ng et al., 2008: 106.

**Material examined.** – MEXICO: Gulf of California, Cap Tepoca, “Albatross”, Stn. 3019, 30°28.00'N 113°06.30'W, 25 m, 24 Mar.1889: 1 male holotype (24.0 × 24.2 mm) (rostral spines 11.4 mm) (USNM 26567).

**Remarks.** – This species is known from the Pacific coast of America along the Gulf of California and from the Galapagos Islands. It is a shallow water species from depths of less than 30 m.

### *Oxypleurodon* Miers, 1886

**Diagnosis.** – *Oxypleurodon* was characterised as follows: “Carapace subpyriform, deeply channeled above, and armed with strongly projecting lateral branchial spines. Rostrum composed of two slender, slightly divergent spines. A distinct (although small) praeocular tooth. Post-abdomen (in the female) distinctly seven-jointed. Eyes mobile. Basal antennal joint little broader at the base than at its distal extremity, which is unarmed; flagella of the antennae inserted beneath the bases of the rostral spines and scarcely visible from above. Merus-joint of the outer maxillipedes with its antero-external angle somewhat produced and rounded, its antero-internal angle slightly emarginate. Chelipedes (in the female) small, with the palm slightly compressed; fingers acute. Ambulatory legs of moderate length, with the penultimate joint not dilated; the terminal joint not denticulated on its inferior margin.” (Miers, 1886: 38).

**Remarks.** – The type species is *O. stimpsoni* Miers, 1886, from Indonesia, by monotypy. Although Miers (1886) did not specifically mention the characteristic carapace plates which are very prominent in *O. stimpsoni*, he probably alluded to them since he referred to the deep channels on the carapace.

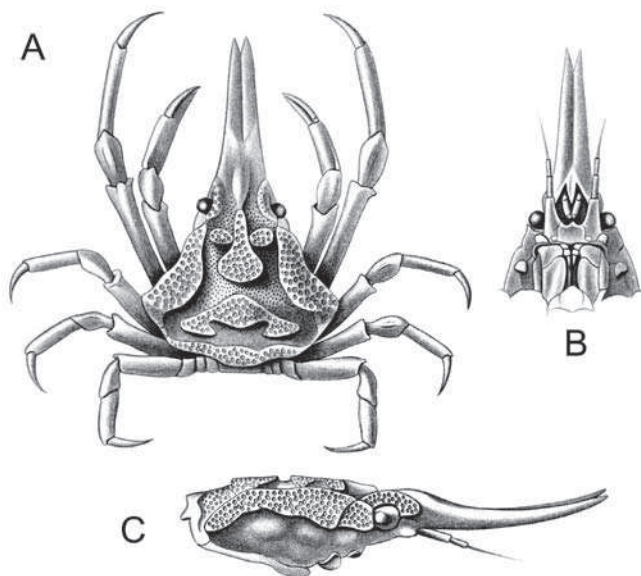


Fig. 1. *Sphenocarcinus corrosus*. Carribean Sea, Barbados Island, holotype female (16.0 × 10.0 mm): A, general view; B, anterior part of carapace, ventral view; C, left profile of carapace (after A. Milne-Edwards, 1875: Pl. 17).

It was, however, clearly diagnosed as a genus in which the rostrum has two divergent spines. On this single criterion, Tavares (1991) separated species previously referred to *Sphenocarcinus* and *Oxypleurodon* with a single rostrum to his new genus, *Nasutocarcinus* Tavares, 1991. The condition of the rostrum in species with a single rostrum is actually not that different from that in which the two rostral spines are separate. In fact, even in species of *Nasutocarcinus*, it is clear that the single rostrum is formed by two rostral spines being tightly appressed and fused along most of their length but with the “suture” still obvious and the apex still bifid. Other than this character, there are no other morphological differences with *Oxypleurodon*. A recent but preliminary molecular study (Ollivier, 2007) suggests that there is no significant genetic difference between *Oxypleurodon* and *Nasutocarcinus*. Since *Nasutocarcinus* is known only from the Indian Ocean thus far, more work will be needed to see if the two genera are indeed synonymous. The preliminary information certainly suggests that they are.

The taxonomic history of *Oxypleurodon*, however, has not been stable and it has either been ignored or synonymised with *Sphenocarcinus* A. Milne-Edwards, 1875 (see **Discussion** for *Sphenocarcinus*). Griffin & Tranter (1986) synonymised *Sphenocarcinus* with *Rochinia* A. Milne-Edwards, 1875. This action created a very broad definition for the genus *Rochinia* that it includes, for the Indo-Pacific at least, 29 species, with or without carapace spines or plates. This was challenged by Tavares (1991) who resurrected *Oxypleurodon*

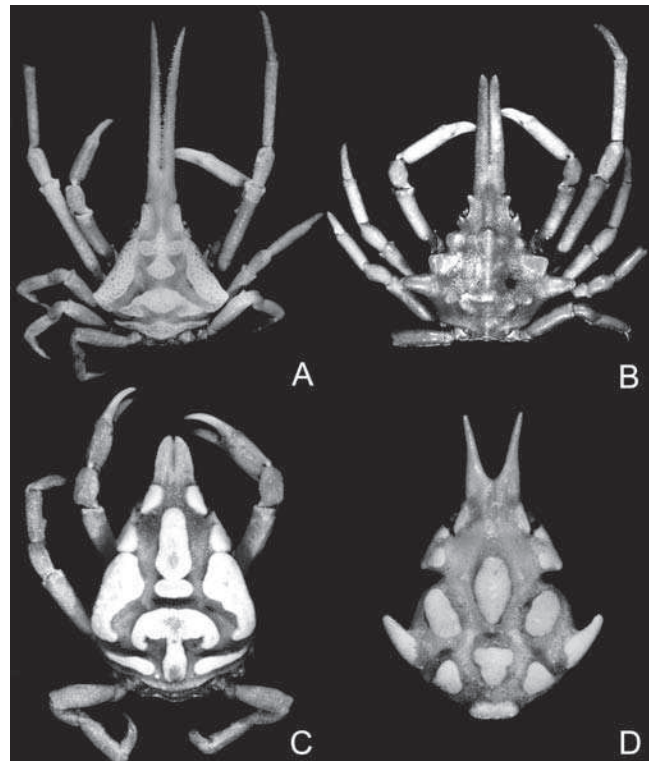


Fig. 2. Overall views: A, *Sphenocarcinus corrosus*, Carribean Sea, male (13.8 × 10.8 mm) (MNHN-B 20508); B, *Rhinocarcinus agassizi*, male holotype (24.0 × 24.2 mm) (rostral spines 11.4 mm) (USNM Acc No. 26567); C, *Oxypleurodon auritum*, 1 ovigerous female holotype (17.1 × 11.9 mm) (USNM 48211); D, *O. bidens*, 1 carapace only holotype (13.7 × 12.1 mm) (USNM 125884).

and *Sphenocarcinus* from the synonymy of *Rochinia*. Tavares (1991) noted that in *Oxypleurodon*, the proepistome is depressed without a transverse crest and the dorsal carapace face is covered with several often thick plates which may be fused but not spiniform. He also noted that these carapace plates had a prominently convex surface, quite unlike the flattened and corrugated plates in *Sphenocarcinus*. In addition, the supraocular eaves and the postocular plates of *Oxypleurodon* species are never spine-like; the cheliped is as long as the P2; all the thoracic sternal sutures are incompletes and abdomens of both male and female have six articulating somites and a free telson. Using these criteria, Tavares (1991) recognized the following species in *Oxypleurodon*: *O. stimpsoni*, *O. auritum*, *O. sphenocarcinoides*, *O. bipartitum*, *O. mammatum* and *O. orbiculatum*. Following Griffin & Tranter (1986), he transferred the other species which have been at one time or another been in *Sphenocarcinus* or *Oxypleurodon* and possessing sharp plates and a P2 longer than the P1 to *Rochinia* A. Milne-Edwards, 1875: *R. velutina*, *R. carbuncula*, *R. luzonica*, *R. nodosa*, *R. bidens*, *R. coralliophila* and *R. stuckiae*. Richer de Forges (1992, 1995) and Webber & Richer de Forges (1995) modified Tavares' (1991) conclusions (arguing that the relative length of P1 and P2 have no generic value) and effectively recognized a broader definition of *Oxypleurodon* to include most of the species Tavares (1991) had referred to *Rochinia*. These authors' definition of *Oxypleurodon* was for all species with a bifid rostrum and elevated plates on their carapace. This taxonomic history was reviewed and discussed in Ng & Richer de Forges (2007), who recognized 17 species of *Oxypleurodon* sensu stricto (see Ng et al., 2008). Recently, one Australian species was added by Richer de Forges & Poore (2008) while two Pacific species were described by Richer de Forges & Ng (2009).

Tavares (1991) also remarked that *Oxypleurodon auritum* (Rathbun, 1916) is rather different from congeners by the peculiar shape of its rostrum spines, being flattened and parallel. We agree that *O. auritum* is very unusual in this respect, and does not fit very well with the definition of the genus but as it has most of the other characters, leaving it in *Oxypleurodon* seems to be the best option for now. In this study, we describe two new species allied to *O. auritum*.

***Oxypleurodon stimpsoni* Miers, 1886**  
(Fig. 7A)

*Oxypleurodon stimpsoni* Miers, 1886: 38, Pl. 6: Fig. 1, 1a, 1b. – Ortmann, 1893: 43. – Estampador, 1937: 550. – Estampador, 1959: 110. – Tavares, 1991: 167. – Richer de Forges, 1995: 45, Fig. 1 A, Pl. 1: Fig. A. – Webber & Richer de Forges, 1995: 514. – Ho et al., 2004: 648, Fig. 3E. – Ng & Richer de Forges, 2007: 63. – Ng et al., 2008: 105.

*Sphenocarcinus stimpsoni* – Alcock, 1899: 51. – Rathbun, 1916: 450. – Balss, 1924: 28. – Sakai, 1934: 294. – Sakai, 1938: 286, Pl. 29: Fig. 3. – Sakai, 1976: 203, Pl. 72: Fig. 1, Pl. 73: Fig. 1. – Kamita, 1941: 245. – Kim, 1973: 534, 665, Pl. 103: Fig. 196. – Griffin, 1976: 215. – Takeda, 1980: 72. – Guinot & Richer de Forges, 1986a: 136, Figs. 19C, D, 21A, B, Pl. 8: Fig. G–I. – Guinot & Richer de Forges, 1986b: 29. – Richer de Forges, 1992: 4. – Ikeda, 1998: 12, 34, Pl. 34.

*Rochinia stimpsoni* – Griffin & Tranter, 1986: 175, 187, Fig. 63a, b.

**Material examined.** – PHILIPPINES: MUSORSTOM 3 cruise, Stn. CP 133, 11°58'N 121°52'E, 334–390 m, 5 Jun.1985: 1 male 14.4 × 14.1 mm (MNHN-B 27428). – Stn. CP 138, 11°54'N 122°15'E, 252–370 m, 6 Jun.1985: 3 ovigerous females (13.7 × 14.9 mm, 12.4 × 12.5 mm, 12.8 × 12.6 mm) (MNHN-B 31373). – Stn. CP 139, 11°53'N 122°14'E, 240–267 m, 6 Jun.1985: 2 males with *Sacculina* (15.1 × 15.4 mm, 12.3 × 11.5 mm), 1 ovigerous female (12.0 × 12.4 mm), 1 female (9.9 × 8.6 mm) (MNHN-B 31374). – Maribohoc Bay, coll. J. Arbasto, Nov.2003–Apr.2004: 5 males (18.0 × 17.9 mm, 14.9 × 17.0 mm, 14.0 × 14.9 mm, 16.2 × 15.1 mm, 10.8 × 11.9 mm), 7 ovigerous females (15.5 × 15.0 mm, 14.9 × 16.0 mm, 14.7 × 15.1 mm, 14.4 × 15.1 mm, 13.1 × 12.9 mm, 15.9 × 14.8 mm, 15.3 × 13.7 mm), 1 female (11.2 × 10.6 mm), 2 juveniles (8.3 × 7.7 mm, 8.7 × 8.7 mm) (ZRC 2008.0812). – North coast of Panglao, Jul.2004–May 2005, coll. J. Arbasto (L40): 2 males (16.2 × 15.7 mm, 16.0 × 15.5 mm), 2 ovigerous females (15.2 × 14.6 mm, 13.5 × 12.4 mm) (ZRC 2008.0813). – Balicasag Island, purchased from fishermen, 25–30 Jul.2003: 2 males (13.5 × 13.4 mm, 12.1 × 11.1 mm), 1 ovigerous female (11.8 × 12.0 mm), 1 male with *Sacculina* (16.4 × 17.1 mm) (NMCR). – Balicasag Island, Feb.2004: 2 ovigerous females 14.7 × 15.8 mm, 14.7 × 15.1 mm (ZRC 2008.0814). – Balicasag Island, Mar.2004: 1 male (16.9 × 16.7 mm), 1 ovigerous female (13.7 × 15.0 mm) (ZRC 2008.0817). – PANGLAO 2004 expedition, Balicasag Island, 1 Jul.2004: 1 male with *Sacculina* (15.9 × 16.0 mm, photographed) (NMCR). – PANGLAO 2005 cruise, Stn. CP 2358, 8°51.3'N 123°37.8'E, 528–583 m, 26 May 2005: 1 male (11.1 × 10.7 mm), 2 ovigerous females (11.2 × 11.2 mm, 10.7 × 11.6 mm) (ZRC 2009.0026). – AURORA 2007, Stn. CP 2657, 16°00.60'N 121°53.24'E, 342–358 m, 20 May 2007: 1 female (12.9 × 12.0 mm, photographed) (ZRC 2009.0027). – INDONESIA: Danish Kei Islands Expedition, Stn. 46, 5°47.20'S 132°13'E, 300 m, 2 May 1922: 1 male (14.0 × 15.6 mm) (AM-P. 34658) (identified as *Rochinia stimpsoni* by Griffin & Tranter, 1986). – TAIWAN: 22 May 1992: 1 ovigerous female (16.1 × 15.0 mm) (ZRC 2009.0028). – TAIWAN 2000 cruise, Stn. CP 16, 22°17.3'N 119°15.2'E, 350 m, 28 Jul.2000: 1 male (10.4 × 10.0 mm) (ZRC 2009.0029).

**Remarks.** – *Oxypleurodon stimpsoni*, type species of the genus, was rediscovered from the Philippines by the R.V. “Coriolis” during the MUSORSTOM 3 cruise. Another set of specimens was obtained by trawls from Taiwan, tangle nets catches in Balicasag and from the PANGLAO 2004 Expedition and 2005 Cruise. One specimen was collected on the Pacific coast of Luzon during the AURORA 2007 Cruise.

The present Indonesian specimen was identified by Griffin & Tranter (1986) as a species of *Rochinia* and grouped together with Queensland specimens. In fact, only the material from Indonesia is *O. stimpsoni* sensu stricto. The other specimens from Queensland are described below as a new species, *O. parallelum*. *Oxypleurodon stimpsoni* is therefore known only from the Philippines, Indonesia, Japan and Taiwan, from depths of 221 to 580 m.

The fresh specimen figured in the book of Ikeda (1998) shows eroded pink plates. This is what was also figured in the Taiwanese material by Ho et al. (2004), and was observed in live material from the PANGLAO 2005 Cruise. On the larger male specimens from the Philippines, the rostral

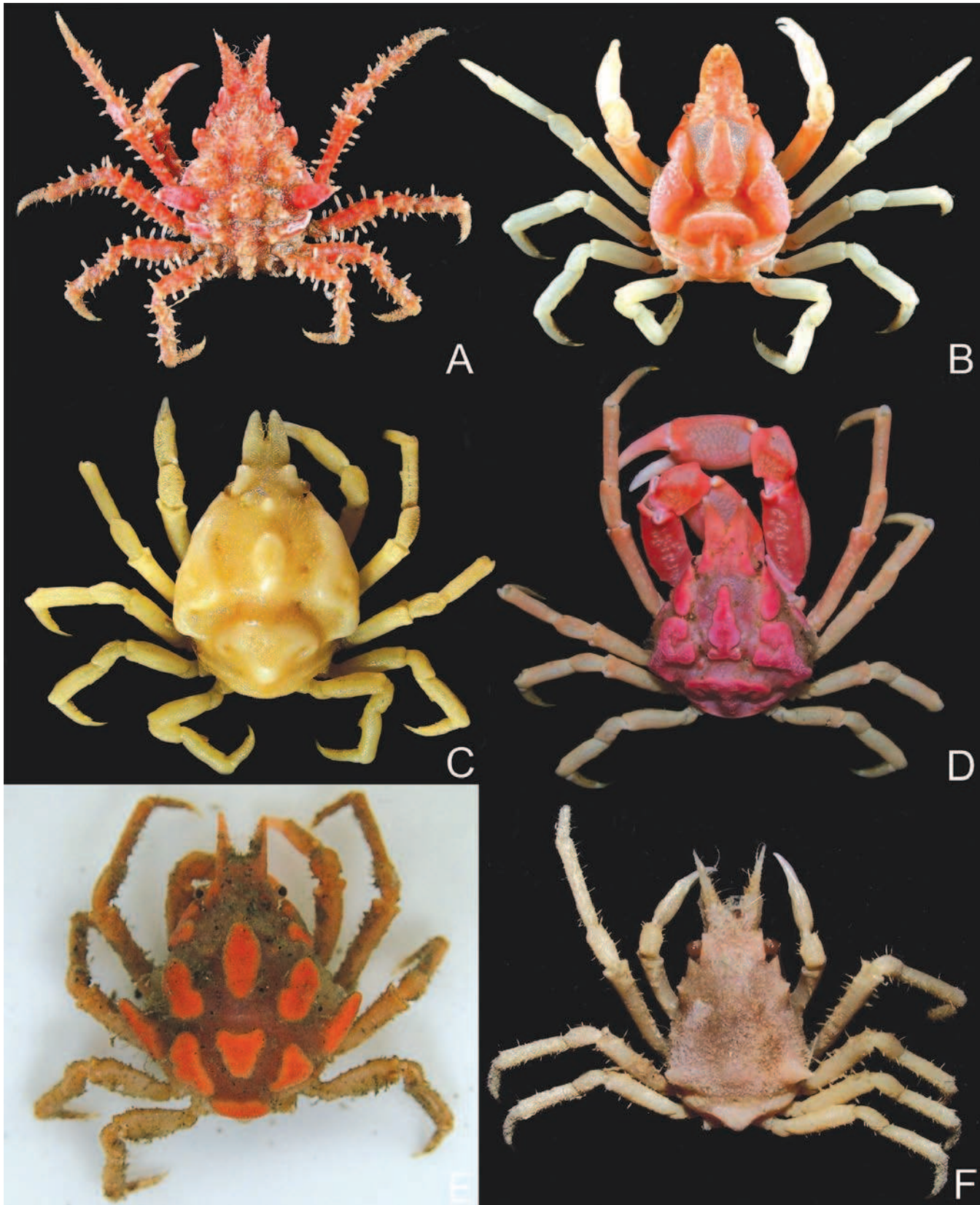


Fig. 3. Overall views: A, *Oxypleurodon bipartitum*, colour in life, the Philippines, AURORA 2007 cruise, Stn. CP 2711, ovigerous female (10.9 × 9.6 mm) (NMCR); B, *O. auritum*, colour in life, the Philippines, AURORA 2007 cruise, Stn. CP 2678, 1 ovigerous female (14.8 × 8.6 mm) (ZRC 2008.0818); C, *O. barazeri*, new species, Solomon Islands, SALOMON 1, Stn. CP 1792, male holotype (12.1 × 7.9 mm) (MNHN-B31314); D, *O. boholense*, new species, colour in life, the Philippines, south of Siquijor, PANGLAO 2005, Stn. CP 2362, male holotype (16.1 × 12 mm) (NMCR); E, *O. bidens*, colour in life, Japan, off Oshima Island, Izu Islands, TRV Shiniyo Maru, ovigerous female (11.9 × 15.4 mm) (NSMT-CrS 453); F, *O. sphenocarcinoides*, 1 female (8.8 × 6.1 mm) (NSMT-Cr 15398).

spines are relatively longer, more slender and sometimes asymmetrical.

***Oxypleurodon auritum* (Rathbun, 1916)**

(Figs. 2C, 3B, 5A, 10E, F)

*Sphenocarcinus auritus* Rathbun, 1916: 540. – Griffin, 1976: 211, Fig. 10b. – Takeda & Nagai, 1979: 18, Fig. n. n. – Sakai, 1980: 72. – Guinot & Richer de Forges, 1986a: 134. – Guinot & Richer de Forges, 1986b: 29. – Richer de Forges, 1992: 4. – Richer de Forges, 1995: 45.

*Rochinia aurita* – Griffin & Tranter, 1986: 175.

*Oxypleurodon auritus* – Tavares, 1991: 167. – Webber & Richer de Forges, 1995: 514. – Marumura & Kosaka, 2003: 33, Pl. 3: Fig. 14.

*Oxypleurodon auritum* – Ng et al., 2008: 105.

**Material examined.** – **PHILIPPINES:** east of Luzon, Atalaya Point, Batay Island, Albatross cruise, Stn. 5444, 12°43.51'N 124°58.50'E, 570 m, 3 Jun.1909: 1 ovigerous female holotype (17.1 × 11.9 mm) (USNM 48211). – AURORA 2007 cruise, Stn. CP 2678, 14°47.49'N 123°08.28'E, 507–540 m, 23 May 2007: 1 ovigerous female (14.8 × 8.6 mm, photographed), 1 male (12.9 × 7.3 mm), 1 male juvenile (8.2 × 4.4 mm) (ZRC 2008.0818). – Stn. CC 2700, 14°47.22'N 123°08.50'E, 500–524 m, 27 May 2007: 2 ovigerous females (13.2 × 8.1 mm, 13.0 × 7.8 mm) (MNHN-B31311). – Stn. CP 2734, 15°56.41'N 121°48.71'E, 453–460 m, 1 Jun.2007: 1 male (12.3 × 7.2 mm), 1 female (9.2 × 5.2 mm) (ZRC 2009.0030). – Stn. CP 2735, 15°59.024'N 121°50.25'E, 431–442 m, 1 Jun.2007: 1 ovigerous female (15.5 × 9.6 mm) (NMCR). – Stn. CP 2749, 15°56.38'N 121°49.46'E, 473 m, 2 Jun.2007: 1 male (13.6 × 8.5 mm), 1 ovigerous female (15.2 × 9.3 mm), 1 female (11.9 × 7.0 mm) (ZRC 2009.0031).

**Diagnosis.** – Small species with pyriform carapace shape. Rostrum short, rostral spines modified into 2 flattened ear-shaped “horns”, slightly overlapping each other; external border of flattened rostral spines finely serrulated; series of long hooked setae lining inner margins of rostral spines. Body covered by short scale-like setae. Carapace with large elevated plates arranged as follow: 1 semicircular supraocular plate; 1 longitudinal oblong gastric plate attached posteriorly to a small subgastric transverse plate; 1 long branchial plate with irregular surface, separated from small hepatic plate by a narrow gap; small hepatic plate directed anteriorly forming a triangular tip at postocular position; 2 elongated protuberances in subbranchial and subhepatic positions; 1 cardiac plate joining intestinal plate, with posterior border forming peculiar shape [described by Rathbun (1916: 540) as a “T with the ends of the crosspiece curved backward and inward”, and Griffin (1976: 211) as the “shape of an upside down anchor”]; a fold-like structure parallel to posterior carapace margin. Eye short, round, completely protected by anterior part of postocular plate and supraocular plate. Antennae shorter than flattened rostral spines, basal article fused to carapace. Antennules completely inserted in deep fossae with anterior triangular. Buccal frame quadrangular, completely filled by third maxilliped when closed. Thoracic sternal sutures incomplete. Cheliped not inflated in small males examined. All ambulatory legs short with cylindrical articles in cross-section; P2 longer than cheliped. Male and female abdomen with 7 articulating somites (including telson). G1 relatively slender, slightly flattened at extremity (Fig. 10E, F).

**Remarks.** – *Oxypleurodon auritum* was described by Rathbun (1916) on the basis of a single female specimen from Batag Island, along the east coast of Luzon, Philippines, and was later recorded from Tosa Bay in Japan (Takeda & Nagai, 1979). Very few specimens were known. The new material from the AURORA 2007 cruise and obtained near the type locality has proved to be invaluable in rediagnosing this species, especially for the male characters.

This species can be immediately separated from all congeners by its short and flattened rostral spines. In juveniles, however, the pseudorostral spines are relatively less flattened than in the adults, leaving a hiatus between the spines. The cardiac plate has a very characteristic mushroom-like shape. On live specimens, the plates are bright pinkish-red (Marumura & Kosaka, 2003). The recent specimens from the Philippines are similarly colored in life (Fig. 3B). One ovigerous female was bearing 73 relatively large and mature eyed eggs. This relatively small quantity of eggs suggests that the larval development may be short and dispersal may be poor.

***Oxypleurodon boholense*, new species**

(Figs. 3D, 4A, B, 5B, 11A–D)

*Oxypleurodon*, new species – Ng et al., 2008: 107, Fig. 88.

**Material examined.** – **PHILIPPINES:** south of Siquijor, PANGLAO 2005 cruise, Stn. CP 2362, 8°56.5'N 123°32.7'E, 679–684 m, 26 May 2005: male holotype (16.1 × 12.0 mm) (NMCR), 1 male paratype (17.5 × 13.3 mm) (MNHN-B31312), 2 male paratypes (14.2 × 10 mm, 12.6 × 9.0 mm) (ZRC 2008.0819); 1 ovigerous female (14.6 × 11.0 mm) (MNHN-B31313), 7 ovigerous females (4.8 × 10.6 mm, 14.6 × 10.2 mm, 13.2 × 9.8 mm, 16.4 × 12.0 mm, 13.0 × 9.3 mm, 12.3 × 8.6 mm, 13.6 × 9.5 mm) (ZRC 2008.0820).

**Diagnosis.** – Small species. Carapace triangular. Rostrum with 2 sharp flattened spines, diverging from base. Carapace with raised plates in following arrangement: 2 round supraocular plates; 1 gastric plate, long, slender at anterior part, posterior part connected with small transverse plate; 1 cardiac plate curved, with lower part resembling hook; intestinal area with 3 big swollen granules; cardiac plate curved, intestinal granules arranged close to each other, mushroom-shaped; 2 long branchial plates, larger medially, with notch on interior side; separated by a narrow gap from hepatic plate; 2 hepatic plates; hepatic plates fused with postocular plates, forming angular structure; sub-branchial and subhepatic areas with 2 long fold-like plates. Lateral border of carapace with long setae; surface of plates eroded with numerous small holes. Eyes small, with dark round cornea. Antennae shorter than rostrum, basis article stout, immobile. Antennules inserted in deep cavity. Buccal frame quadrangular. Thoracic sternal sutures incomplete. Male cheliped inflated, symmetrical, with smooth surface; merus with triangular cross-section, distal border slightly enlarged; carpus short, with a carina on external border; propodus inflated, laterally compressed, carinated along 2 borders; dactylus slender, curved, distal part of 2 fingers with smooth teeth. Ambulatory legs short; P2 shorter than cheliped in adult male; articles cylindrical in cross-section, covered with

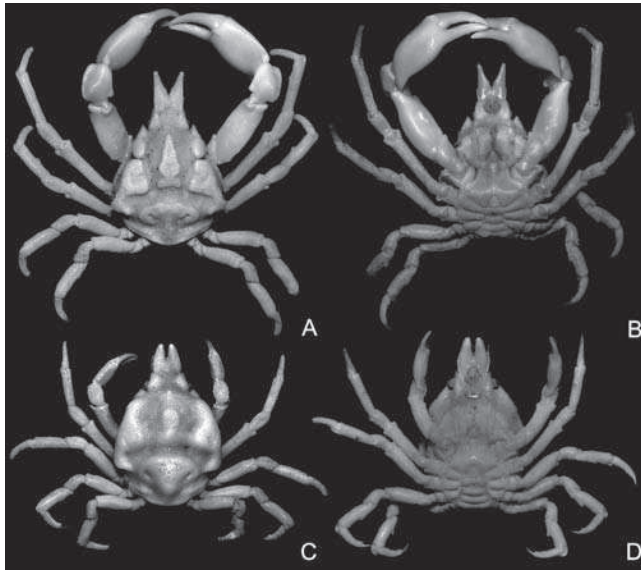


Fig. 4. A, *Oxypleurodon boholense*, new species, dorsal view, Philippines, south of Siquijor, Panglao 2005 cruise, Stn. CP 2362, male holotype (16.1 × 12 mm) (NMCR); B, *O. boholense*, new species, ventral view; C, *O. barazeri*, new species, dorsal view, Solomon Islands, SALOMON 1 cruise, Stn. CP 1792, male holotype (12.1 × 7.9 mm) (MNHN-B31314); D, *O. barazeri*, new species, ventral view.

thin tomentum; dactylus long, with sharp curved extremity. Abdomen with 7 articulating somites (including telson). G1 relatively slender, subdistal part slightly constricted, distal part subtruncate (Fig. 11A–D).

**Etymology.** – Coming from the Bohol Sea.

**Remarks.** – *Oxypleurodon boholense*, new species, is closest to *O. auritum* (Rathbun, 1916) but can easily be separated by: the rostral spines are sharp and divergent (versus flattened and rounded apically in *O. auritum*); and the branchial plates have the same pattern but not the same shape. The anterior part quadrangulate link to the posterior part by a narrow isthmus, the posterior part of the branchial plate forming an angle versus large anteriorly and round posteriorly in *O. auritum*.

In life, the species is a striking pink colour (Fig. 3D) (see also Ng et al., 2008: Fig. 88).

The present specimens of *O. boholense* were collected inside the Bohol Sea from depths exceeding 600 m. This sea is isolated from the open ocean but is connected to the Sulu Sea, which is itself isolated from the South China Sea. The deep sea fauna from these interior seas has been genetically isolated from other populations during the last ice-age in the Pleistocene period (Ng & Guinot, 2001; Carpenter et al., 2005). It may explain why *O. auritum* is known only from northeastern Philippines and Japan while *O. boholense* is known only from the central Philippines.

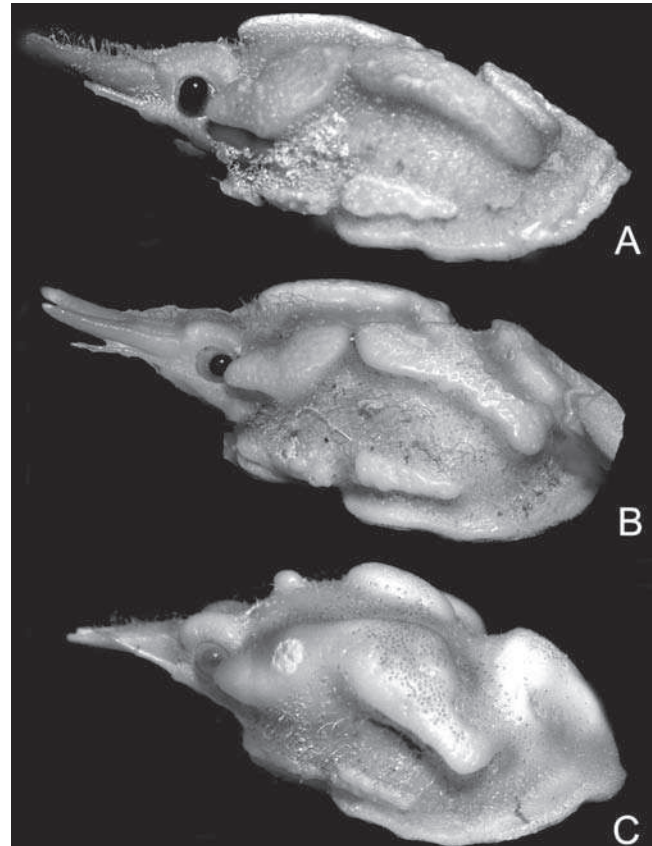


Fig. 5. A, *Oxypleurodon auritum*, left lateral view, Philippines, AURORA2007 cruise, CP 2678, ovigerous female (14.8 × 8.6 mm) (ZRC 2008.0818); B, *O. boholense*, new species, left lateral view, the Philippines, south of Siquijor, Panglao 2005 cruise, Stn. CP 2362, male holotype (16.1 × 12 mm) (NMCR); C, *O. barazeri*, new species, left lateral view, Solomon Islands, SALOMON 1 cruise, Stn. CP 1792, male holotype (12.1 × 7.9 mm) (MNHN-B31314).

***Oxypleurodon barazeri*, new species**  
(Figs. 3C, 4C, D, 5C, 10C, D)

**Material examined.** – SOLOMON ISLANDS: SALOMON 1 cruise, Stn. CP 1792, 9°13.60'S 160°08.09'E, 477–505 m, 30 Sep.2001: male holotype (12.1 × 7.9 mm) (MNHN-B31314). – SALOMONBOA cruise, Stn. CP 2799, 8°41.1'S 161°01.68'E, 430–653 m, 16 Sep.2007: 4 badly preserved specimens, 1 male (18.7 × 12.1 mm), 3 ovigerous females (17.7 × 12.7 mm, 17.6 × 12.2 mm, 14.9 × 10.5 mm) (ZRC 2008.0821).

**Diagnosis.** – Small species. Carapace pyriform, elevated medially, flatter anteriorly. Rostrum bifid, with 2 flattened spines resembling “horns”, apically rounded, fused basally, slightly separated along distal half of length, finely serrulated along borders; some long hooked setae present on internal border. Carapace with swellings and plates as follow: 2 semicircular supraocular plates; 1 small protogastric tubercle; 1 large round mesogastric tubercle; 1 cardiac plate with 2 lateral extensions curving downwards, plate with tubercle; cardiac plate with extension reaching to intestinal area; 2 large branchial plates with internal posterior border indented; anterior branchial plate fused with hepatic plate, itself fused with postocular plate; 2 poorly developed sub-branchial and subhepatic plates. Lateral border of carapace, under branchial plate, with long setae. Eyes small protected in



orbit by supraocular and postocular plates. Antennae shorter than rostrum. Antennules deeply inserted inside elongated fossae. Buccal frame quadrangular, covered by closed third maxillipeds, covered with short setae. Thoracic sternal sutures incomplete. Cheliped not inflated, with fingers having a series of smooth teeth along internal borders. Ambulatory legs short, with cylindrical articles in cross-section; P2 subequal to cheliped in male holotype. Abdomen with 7 articulating somites (including telson). G1 straight, flattened apically (Fig. 10 C, D).

**Etymology.** – Dedicated to Fishing Captain Jean-François Barazer who participated to several of our deep sea cruises in New Caledonia, Vanuatu, Solomon, French Polynesia, the Philippines and Taiwan.

**Remarks.** – *Oxypleurodon barazeri*, new species, is a relatively small species in this group, easily distinguishable from the others by its short rostrum with flattened teeth. It is in the same group of *O. auritum* and has a similar pattern of carapace plates. However, its carapace shape is more rounded than the two other species of this group. *Oxypleurodon barazeri*, new species, has a depressed rostrum with a rounded carapace, different than *O. auritum*. The shapes of the carapace plates are different between this two species: the gastric plate is well developed in *O. auritum* but reduced to a little tubercle in *O. barazeri*, new species. It is easily separated from *O. boholense*, new species, by the shape of the rostrum - rostral teeth short and flattened with the tips rounded in *O. barazeri*, new species, versus with the teeth diverging and tips sharp in *O. boholense*, new species.

***Oxypleurodon mammatum*  
(Guinot & Richer de Forges, 1986)**

*Sphenocarcinus mammatum* Guinot & Richer de Forges, 1986b: 31, Figs. 1–4, Pl. 1: Fig. A–G.

*Oxypleurodon mammatum* – Tavares, 1991: 167. – Richer de Forges, 1992: 4. – Richer de Forges, 1995: 44. – Webber & Richer de Forges, 1995: 514.

*Oxypleurodon mammatum* – Ng et al., 2008: 105.

**Material examined.** – NEW CALEDONIA: MUSORSTOM 4 cruise. – Stn. 171, 18°57.8'S 163°14.0'E, 425 m, 17 Sep.1985: 1 male 11.4 × 8 mm, 1 ovigerous female (11.1 × 7.7 mm), 2 females with *Sacculina* (9.8 × 6.9 mm, 11.3 × 7.4 mm) (MNHN-B 31375). – Stn. 172, 19°01.2'S 163°16.0'E, 275–330 m, 17 Sep.1985: 1 ovigerous female (MNHN-B 31376). – Stn. 180, 18°56.8'S 163°17.7'E, 440 m, 18 Sep.1985: 1 male, 1 ovigerous female (MNHN-B 31377). – Stn. CP 193, 18°56.3'S 163°23.2'E, 415 m, 19 Sep.1985: 1 male (12.1 × 8.6 mm), 1 ovigerous female (12.4 × 8.7 mm), 1 female with *Sacculina* (10.6 × 7.3 mm), 1 juvenile female (6.1 × 5.4 mm) (MNHN-B 31378). – Stn. 194, 18°52.8'S 163°21.7'E, 550 m, 19 Sep.1985: 2 males (MNHN-B 31379). – Stn. 195, 18°54.8'S 163°22.2'E, 465 m, 19 Sep.1985: 2 males (MNHN-B 31380). – Stn. 196, 18°55.0'S 163°23.7'E, 450 m, 20 Sep.1985: 1 ovigerous female (MNHN-B 31381). – Stn. 197, 18°51.3'S 163°21.00'E, 550 m, 20 Sep.1985: 1 juvenile female (MNHN-B 31382). – Stn. 215, 22°55.7'S 167°17'E, 485–520 m, 28 Sep.1985: 5 males, 3 females, 3 ovigerous females (MNHN-B 31383). – Stn. CP 216, 22°59.50'S 167°22.00'E, 490–515 m, 29 Sep.1985: 5 males, 2 ovigerous females (MNHN-B 31384). – Stn. 221, 22°58.6'S 167°36.8'E, 535–560 m,

29 Sep.1985: 2 juveniles (MNHN-B 31385). – Stn. 222, 22°57.6'S 167°33'E, 410–440 m, 30 Sep.1985: 1 male (MNHN-B 31386). – Stn. 223, 22°57.0'S 167°30.0'E, 545–560 m, 30 Sep.1985: 2 males (11.3 × 8 mm, 10.6 × 7.5 mm), 1 ovigerous female (10.8 × 7.9 mm) (MNHN-B 31387). – Stn. 229, 22°51.6'S 167°13.5'E, 460 m, 30 Sep.1985: 2 males, 2 juveniles (MNHN-B 31388). SMIB 2, Stn. DW 6, 22°56'S 167°16'E, 442–460 m: 12 males, 1 female (10.1 × 7.2 mm), 3 females, 2 ovigerous females (MNHN-B 31389). – Stn. DW 9, 22°54'S 167°15'E, 475–500 m, 18 Sep.1986: 4 males, 2 juveniles (MNHN-B 31390). – Stn. DW 10, 22°55'S 167°16'E, 490–495 m, 18 Sep.1986: 4 males (12.8 × 10.3 mm, 11.5 × 8.9 mm, 11.5 × 9 mm, 11.6 × 13.8 mm) (MNHN-B 31391). – Stn. DW 17, 22°55'S 167°15'E, 428–448 m, 19 Sep.1986: 1 ovigerous female (MNHN-B 31392). – SMIB 3, Stn. DW 7, 24°54.60'S 168°21.30'E, 505 m, 21 May 1987: 1 male (MNHN-B 31393). – Stn. DW 26, 22°55.1'S 167°15.5'E, 450 m, 24 May 1987: 1 ovigerous female (MNHN-B 31394). – Stn. DW 21, 22°59.2'S 167°19'E, 525 m, 24 May 1987: 2 males (14.6 × 11 mm, 10.9 × 7.8 mm), 2 ovigerous females (12.9 × 8.2 mm, 10.3 × 8.4 mm), 9 juveniles (MNHN-B 31395). – Stn. DW 22, 23°03'S 167°19.1'E, 503 m, 24 May 1987: 9 males (11.7 × 10.2 mm, 11.3 × 8.7 mm, 11.8 × 8.1 mm, 12.1 × 8.9 mm, 12.1 × 8.4 mm, 10.9 × 8 mm, 10.7 × 7.5 mm, 9.1 × 7.7 mm, 10.9 × 7.3 mm), 3 females (12.1 × 10.9 mm, 10.6 × 7.1 mm, 10.8 × 7.3 mm), 3 ovigerous females (12.2 × 10.3 mm, 12.1 × 10.3 mm, 10.5 × 8.7 mm), 1 female with *Sacculina* (12.4 × 8.8 mm), 6 juveniles (MNHN-B 31396). – SMIB 8, Stn. DW 198, 22°52'S 168°12'E, 414–430 m, 1 Feb.1993: 1 juvenile (MNHN-B 31397). – BIOCAL, Stn. DW 44, 22°47'S 167°14'E, 440–450 m, 30 Aug.1985: 1 ovigerous female (11.7 × 10.4 mm), 2 females (8.6 × 6.6 mm, 7.4 × 5.5 mm) (MNHN-B 31398). – Stn. CP 45, 22°47'S 167°15'E, 430–465 m, 30 Aug.1985: 2 males (MNHN-B 31399). – CHESTERFIELD ISLANDS: MUSORSTOM 5 cruise, Stn. DW 337, 19°53.80'S 158°38.00'E, 412–430 m, 15 Oct.1986: 1 male (7.0 × 5.0 mm) (MNHN-B 31400). – Stn. DW 338, 19°51.6'S 158°40.40'E, 540–580 m, 15 Oct.1986: 1 damaged ovigerous female (MNHN-B 31401). – VANUATU: MUSORSTOM 8 cruise, Stn. CP 973, 19°21'S 169°27'E, 460–480 m, 22 Sep.1994: 2 males (13.3 × 10.4 mm, 8.3 × 6.5 mm) (MNHN-B 31402). – Stn. 1083, 17°56'S 168°44'E, 765–780 m, 5 Oct.1994: 1 male (13.8 × 10.6 mm), 2 ovigerous females (12.2 × 9.6 mm, 12.9 × 10.6 mm) (MNHN-B 31403).

**Remarks.** – *Oxypleurodon mammatum*, originally described from the north of New Caledonia, is recorded for the first time from Chesterfield Island, 1,000 km to the west. It is also recorded from Vanuatu which is separated from New Caledonia by the deep New Hebrides Trench.

***Oxypleurodon stuckiae*  
(Guinot & Richer de Forges, 1986)**

*Sphenocarcinus stuckiae* Guinot & Richer de Forges, 1986a: 139, Fig. 20 C, D, 21 E, F, Pl. 9: Fig. A–D. – Guinot & Richer de Forges, 1986b: 29.

*Rochinia stuckiae* – Tavares, 1991: 161.

*Oxypleurodon stuckiae* – Richer de Forges, 1992: 4. – Richer de Forges, 1995: 44, Pl. 2: Fig. B. – Webber & Richer de Forges, 1995: 514. – Ng et al., 2008: 105.

**Material examined.** – NEW CALEDONIA: SMIB 2, Stn. DW 3, 22°56'S 167°15'E, 412–428 m, 17 Sep.1986: 1 male, 1 female, 4 ovigerous females (MNHN-B 31404). – Stn. DW 5, 22°52'S 167°12'E, 405–435 m, 20 Sep.1986: 1 male (MNHN-B 31405). – Stn. DW 14, 22°53'S 167°13'E, 405–444 m, 18 Sep.1986: 1

ovigerous female (MNHN-B 31406). – SMIB 3, Stn. DW 29, 22°46.7'S 167°11.7'E, 405 m, 25 May 1987: 1 male (MNHN - B 31407). – Stn. DW 30, 22°58.2'S 167°22.3'E, 648 m, 26 May 1987: 1 juvenile (MNHN-B 31408). – SMIB 8, Stn. CP 178, 23°45.12'S 168°17.01'E, 400 m, 30 Jan.1993: 2 ovigerous females (MNHN-B 31409). – Stn. CP 180, 23°47.72'S 168°18.09'E, 425–460 m, 30 Jan.1993: 2 males, 1 ovigerous female, 1 female (MNHN-B31410). – Stn. DW 181, 23°17.74'S 168°04.82'E, 330–311 m, 31 Jan.1993: 1 male, 1 juvenile (MNHN-B 31411). – Stn. DW 183, 23°18.27'S 168°04.95'E, 314–330 m, 31 Jan.1993: 2 males, 1 ovigerous female (MNHN-B 31412). – Stn. DW 184, 23°18.32'S 168°04.84'E, 320–367 m, 31 Jan.1993: 3 males, 2 females, 1 juvenile (MNHN-B 31413). – Stn. DW 190, 23°18.46'S 168°04.93'E, 305–310 m, 31 Jan.1993: 3 males, 3 ovigerous females, 4 juveniles (MNHN-B 31414). – Stn. DW 198, 22°51.59'S 167°12.14'E, 414–430 m, 1 Feb.1993: 2 females, 4 juveniles (MNHN-B 31415). – BIOCAL, Stn. DW 38, 23°00'S 167°15'E, 360 m, 30 Aug.1985: 3 males (MNHN-B 31416). – MUSORSTOM 4 cruise, Stn. 212, 22°47.4'S 167°10.5'E, 375–380 m, 29 Sep.1985: 1 ovigerous female (MNHN-B 31417). – Stn. 213, 22°51.3'S 167°12.0'E, 405–430 m, 28 Sep.1985: 1 male, 3 females (MNHN-B 31418). – Stn. 226, 22°47.2'S 167°21.6'E, 390 m, 30 Sep.1985: 1 juvenile female (MNHN-B 31419). – Stn. 230, 22°52.5'S 167°11.8'E, 390–420 m, 30 Sep.1986: 1 juvenile (MNHN-B31420). – CHALCAL 2, Stn. CH 8, 23°13.36'S 168°02.73'E, 300 m, 31 Oct.1986: 1 male (1.9 × 11.2 mm), 2 ovigerous females (14.9 × 13.1 mm, 15.5 × 14 mm) (MNHN-B 31421). – Stn. CP 26, 23°18.15'S 168°03.58'E, 296 m, 31 Oct.1986: 1 ovigerous female, 1 female (MNHN-B 31422). – Stn. DW 81, 23°19.6'S 168°03.4'E, 311 m, 31 Oct.1985: 1 male (MNHN-B 31423). – BATHUS 2 cruise, Stn. 729, 22°52.42'S 167°11.90'E, 400 m, 12 May 93: 1 male with *Sacculina* (13.0 × 11.4 mm), 2 males (14.5 × 13.0 mm, 12.0 × 10.6 mm), 1 juvenile male (7.0 × 6.5 mm), 2 females (11.6 × 10.6 mm, 9.0 × 7.9 mm), 1 ovigerous female (11.4 × 9.5 mm) (MNHN-B31424).

**Remarks.** – This species, originally described from New Caledonia, has not yet been found elsewhere. The depth range observed is 305 to 648 m.

*Oxypleurodon bipartitus*  
(Guinot & Richer de Forges, 1986)  
(Fig. 3A)

*Sphenocarcinus bipartitus* Guinot & Richer de Forges, 1986a: 145, Pl. 10: Fig. C–I. – Guinot & Richer de Forges, 1986b: 29.  
*Oxypleurodon bipartitus* – Tavares, 1991: 167. – Richer de Forges, 1995: 44. – Webber & Richer de Forges, 1995: 514.  
*Oxypleurodon bipartitus* – Ng et al., 2008: 104.

**Material examined.** – PHILIPPINES: MUSORSTOM 3 cruise, Stn. CP 112, 14°00'N 120°18'E, 187–199 m, 2 Jun.1985: 1 female with *Sacculina* (10.8 × 10.6 mm) (MNHN-B31425). – Stn. CP 108, 14°01'S 120°18'N, 188–195 m, 2 Jun.1985: 1 female with *Sacculina* (12.8 × 12.2 mm) (MNHN-B 31426). – Stn. CP 100, 14°00'N 120°18'E, 189–199 m, 1 Jun.1985: 1 male (12.0 × 11.4 mm), 1 ovigerous female (10.3 × 10.2 mm) (MNHN-B 31427). – Stn. CP 88, 14°01'N 120°17'E, 183–187 m, 31 May 1985: 1 male (13.5 × 12.7 mm) (MNHN-B 31428). – Stn. CP 110, 14°00'N 120°18'E, 187–193 m, 2 Jun.1985: 1 female with *Sacculina* (15.0 × 14.0 mm), 1 male (10.6 × 9.7 mm) (MNHN-B 31429). – Stn. CP 97, 14°00'N 120°18'E, 189–194 m, 1 Jun.1985: 1 male (10.8 × 10.7 mm) (MNHN-B 31430). – Bohol Sea, Panglao, Balicasag Island, purchased from fisherman, coll. P. K. L. Ng, Dec.2000, (ZRC 2001.0415): 1 ovigerous female (11.5 × 10.4 mm); 25–30

Jul.2003: 1 male (12.3 × 14.7 mm) (broken rostrum) (ZRC 2008.0822). – Balicasag Island, Nov.2003: 1 male 13.2 × 12.8 mm (ZRC 2008.0823). – Balicasag Island, Dec.2003: 1 female (7.6 × 6.8 mm) (ZRC 2008.0824). – Balicasag Island, Feb.2004: 3 males (13.0 × 11.8 mm, 13.2 × 11.8 mm, 12.6 × 11.3 mm), 3 ovigerous females (12.9 × 11.3 mm, 12.3 × 11.1 mm, 10.5 × 10.3 mm) (ZRC 2008.0825). – PANGLAO 2004 expedition, Balicasag Island: 1 male (11.8 × 10.7 mm, photographed), 1 ovigerous female (11.7 × 11.2 mm) (MNHN-B31315). – Stn. T27, between 9°33.4'N 123°51.0'E, Panglao and Pamilacan Islands, 106–137 m, fine sand and mud with echinoderms, 25 Jun.2004: 1 male (14.2 × 12.7 mm, photographed), 1 ovigerous female (10.7 × 10.2 mm), 1 juvenile female (7.1 × 6.7 mm) (MNHN-B31316). – PANGLAO 2005 cruise, Stn. 2344, 9°28.4'N 123°49.6'E, 142–211 m, 23 May 2005: 2 males (13.7 × 12.8 mm, 14.1 × 12.4 mm) (NMCR). – Stn. CP 2380, 8°40.4'N 123°18.0'E, 150–218 m, 28 May 2005: 4 males (14.3 × 13.6 mm, 13.8 × 13.6 mm, 14.1 × 13.5 mm, 11.5 × 11.5 mm), 2 ovigerous females (11.7 × 10.5 mm, 9.3 × 8.3 mm) (ZRC 2008.0826). – AURORA 2007 cruise, Stn. CP 2671, 14°52.45'N 121°46.08'E, 269–277 m, 22 May 2007: 1 male (9.8 × 8.5 mm) (ZRC 2009.0032). – Stn. CP 2711, 15°18.9'N 121°32.0'E, 184–200 m, 28 May 2007: 1 ovigerous female (10.9 × 9.6 mm, photographed), 1 male (12.4 × 11.4 mm), 1 juvenile female (9.0 × 8.2 mm) (NMCR). – Stn. CP 2712, 15°20.46'N 121°29.76'E, 139–140 m, 28 May 2007: 1 male (12.4 × 12.2 mm) (ZRC 2009.0033). – Stn. DW 2714, 14°32.5'N 121°42.1'E, 227–233 m, 29 May 2007: 1 ovigerous female (13.4 × 11.6 mm) (ZRC 2008.0827).

**Remarks.** – The material from the MUSORSTOM 3 cruise onboard the R.V. “Coriolis” comes from the same area as the type material described from the cruises of MUSORSTOM 1 and 2. The same species is recorded now from the Bohol Sea, on the steep slopes of Balicasag Island, collected by tangle nets (Ng et al., 2009) and on the more level areas around collected by trawling during the PANGLAO 2005 cruise onboard the RV “DA-BFAR” (Richer de Forges et al., 2005). It is also recorded from the east coast of Luzon from the AURORA 2007 cruise.

The depth range for this species is 180 to 233 m, which is relatively shallower than congeners.

*Oxypleurodon sphenocarcinoides*  
(Rathbun, 1916)  
(Fig. 3F)

*Chorilia sphenocarcinoides* Rathbun, 1916: 548.  
*Sphenocarcinus sphenocarcinoides* – Griffin, 1976: 213, Fig. 11b. – Takeda & Nagai, 1979: 18. – Takeda, 1980: 72. – Guinot & Richer de Forges, 1986a: 135. – Guinot & Richer de Forges, 1986b: 29. – Richer de Forges, 1992: 4.  
*Rochinia sphenocarcinoides* – Griffin & Tranter, 1986: 175.  
*Oxypleurodon sphenocarcinoides* – Tavares, 1991: 167. – Richer de Forges, 1995: 48, Fig. 1F, 4 E, F, Pl. 3: Fig. A, B. – Webber & Richer de Forges, 1995: 514. – Ng et al., 2008: 105.

**Material examined.** – PHILIPPINES: MUSORSTOM 3 cruise, Stn. CP 133, 11°58'N 121°52'E: 2 males (15.4 × 11.8 mm, 8.3 × 7.0 mm), 3 ovigerous females (15.8 × 12.7 mm, 14.3 × 10.8 mm, 12.0 × 10.5 mm) (MNHN-B 31431). – Stn. CP 139, 11°53'N 122°14'E, 240–267 m, 06 Jun.1985: 1 ovigerous female (12.5 × 10.6 mm) (MNHN-B 31432). – Balicasag Island, coll. M. Takeda & H. Komatsu: 1 female (8.8 × 6.1 mm) (NSMT-Cr 15398).

**Remarks.** – This species with only a few prominent dorsal plates is only known from the Philippines from depths of 200 to 300 m. The specimens from the MUSORSTOM 3 cruise represent the first records of this species since the “Albatross” cruise in 1909. Richer de Forges (1995: 50, Pl. 3: Fig. A, B) provided figures of the holotype of this rare species.

***Oxypleurodon bidens* (Sakai, 1969)**  
(Figs. 2D, 3E, 10A, B)

*Sphenocarcinus bidens* Sakai, 1969: 253, Fig. 4b. – Sakai, 1976: 203, Fig. 110. – Sakai, 1980: 72. – Guinot & Richer de Forges, 1986a: 134. – Guinot & Richer de Forges, 1986b: 29. – Richer de Forges, 1992: 4.

*Rochinia bidens* – Griffin & Tranter, 1986: 175. – Tavares, 1991: 161. – Webber & Richer de Forges, 1995: 514.

*Oxypleurodon bidens* – Ng et al., 2008: 104.

**Material examined.** – **JAPAN:** Honshu Island, Mie Prefecture, off Kumano bay, 150-180 m (Sakai det. *Sphenocarcinus bidens*), coll. T. Ito: 1 holotype, carapace only (13.7 × 12.1 mm) (USNM 125884). – Off Oshima Island, Izu Island, TRV “Shiniyo Maru”, 34°40.21'N 139°18.62'E, 307-289 m, coll. H. Komatsu, 24 Oct.2002: 1 ovigerous female (11.9 × 15.4 mm, photographed), 1 juvenile (7.8 × 5.1 mm) (NSMT-CrS 453). – Chiba Museum: 1 male (11.6 × 10.2 mm), 1 juvenile (6.2 × 4.9 mm) (CBM-ZC 6377). – 1 male (15.2 × 13.8 mm), 1 female (9.7 × 7.9 mm) (CBM-ZC 6664).

**Diagnosis.** – Small species. Rostrum with 2 sharp spines weakly diverging; internal margin of rostral spines lined by row of long setae; ventral face of spines concave. Carapace with large, prominent mushroom-like plates with smooth upper surfaces; dense tomentum present between plates; carapace with 13 plates, arranged as follow: 2 poorly defined supraocular plates; 1 oblong mesogastric plate; 2 protogastric bean-shaped plates with irregular contours; 2 hepatic plates fused with postocular plates forming angular structure; 1 cardiac plate, larger anteriorly; 2 long oblique branchial plates directed outwards and anteriorly, distal part spine-like; 2 small sub-branchial plates nearly triangular; 1 intestinal plate before posterior carapace border. Eyes very small, completely protected in orbit when retracted. Basal antennal article fused with carapace, immobile. Chelipeds relatively short: merus short, triangular in cross-section; carpus very short, curved; propodus smooth, slightly inflated in male specimens, laterally flattened; fingers of chelae curved with rounded teeth along interior border. Ambulatory legs with cylindrical articles in cross-section. Abdomen with 7 articulating somites (including telson). G1 relatively slender with distal part subtruncate (Fig. 10A, B).

**Remarks.** – This very rare species, known only from a broken specimen has a very peculiar morphology (Sakai, 1969). Recently, we obtain some new material from CBM and NSMT which allows us to supplement the description. The rostrum is short and bifid with sharp teeth. The fused hepatic and postocular plates are very prominent with the carapace distinctly constricted behind them; and the diverging branchial plates are directed anteriorly. In its size and the general pattern of the small rounded plates, it is perhaps closest to *O. carbunculum* (Rathbun, 1906) from Hawaii.

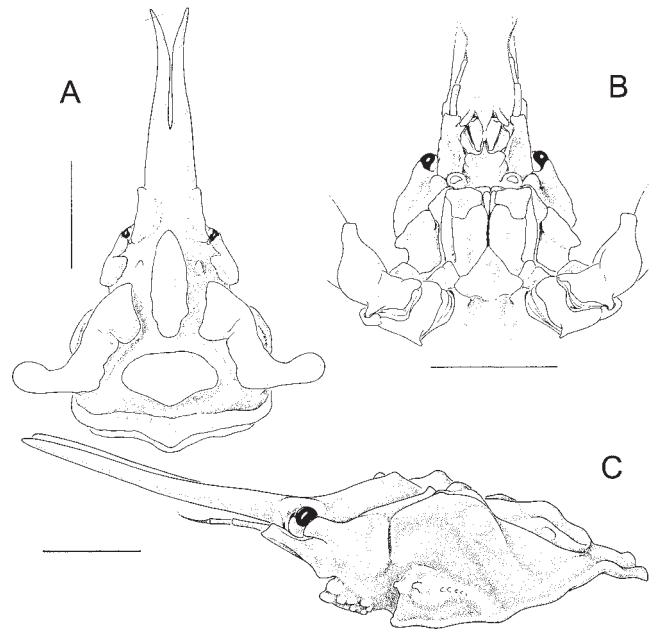


Fig. 6. *Oxypleurodon parallelum*, new species, SALOMONBOA, Stn. CP 2831, male holotype (20.9 × 14.8 mm) (MNHN): A, dorsal view; B, ventral anterior view; C, left lateral view.

In juvenile specimens, the carapace plates are still prominent and well developed. The tomentum, however, is relatively more pronounced than on adult specimens. In live specimens, the plates of the carapace are pinkish-orange (Fig. 3E).

***Oxypleurodon coralliophilum***  
(Takeda, 1980)  
(Fig. 7B)

*Sphenocarcinus coralliophilum* Takeda, 1980: 72, Figs. 1B, 2A, B. – Richer de Forges, 1995: 44.

*Rochinia coralliophila* – Griffin & Tranter, 1986: 175.

*Rochinia coralliophila* – Tavares, 1991: 161.

*Oxypleurodon coralliophilum* – Ng et al., 2008: 104.

**Material examined.** – **MIDWAY ISLAND:** Male holotype (9.0 × 9.8 mm) (NSMT-Cr 6349).

**Remarks.** – *Oxypleurodon coralliophilum* was described by Takeda (1980) from the Midway Islands near Hawaii and is known only by from the holotype. This species is closest to *O. bidens* in the general pattern of the plates on the carapace and the similarly positioned spine-like branchial plates. On *O. coralliophilum*, however, the branchial plates are sharp and spiniform (versus just sharp at their distal points in *O. bidens*), and the hepatic plates are directed upwards and spiniform (versus short and rounded in *O. bidens*).

Takeda (1980) reported *O. coralliophilum* as living on deep sea corals. This is also the case for several other species such as *O. orbiculatum*, *O. stuckiae* and *O. mammatum* which are frequently found on stylasterid corals (see Guinot & Richer de Forges, 1986a, b).



Fig. 7. A, *Oxypleurodon stimpsoni*, colour in life, the Philippines, PANGLAO 2004 expedition, P4, 1 Jul.2004, 1 male with *Sacculina* (15.9 × 16.0 mm) (NMCR); B, *O. coralliophilum*, Midway Island: male holotype (9.0 × 9.8 mm) (NSMT-Cr 6349); C, *O. parallelum*, new species, colour in life, Solomon Islands, SALOMONBOA cruise, Stn. CP 2831, male holotype (20.9 × 14.8 mm) (MNHN); D, *O. alaini*, new species, MUSORSTOM 5 cruise, Stn. DC 361, ovigerous female holotype (16.2 × 16.8 mm) (MNHN-B 27409); E, *O. orbiculatum*, New Caledonia, muddy slope form: Stn. CP 698, male (10.0 × 8.9 mm) (MNHN-B 27418); F, *Stegopleurodon planirostrum*, new genus, new species, colour in life, Vanuatu: MUSORSTOM 8 cruise, Stn. CP 975, 1 male (13.6 × 11.2 mm) (MNHN-B 27427).

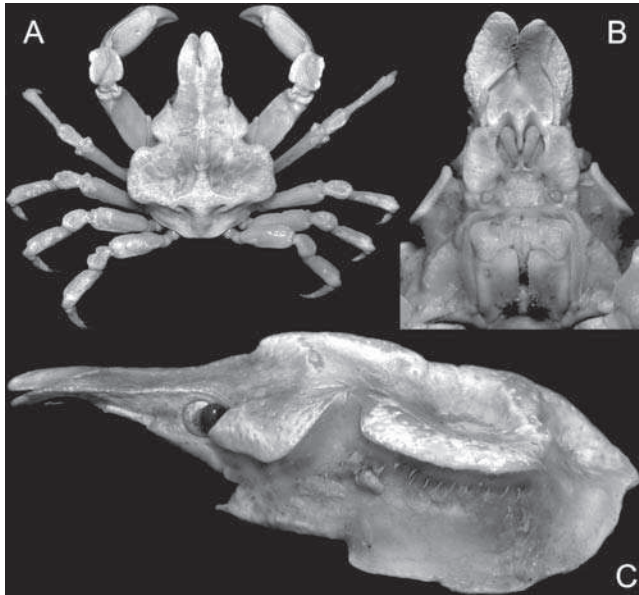


Fig. 8. *Stegopleurodon planirostrum*, new genus, new species, BOA 0, Stn. CP 2329, male (19.0 × 13.8 mm) (ZRC 2008.0831): A, dorsal view; B, ventral anterior view; C, lateral view.

***Oxypleurodon orbiculatum***  
(Guinot & Richer de Forges, 1986)  
(Fig. 7E)

*Sphenocarcinus orbiculatus* Guinot & Richer de Forges, 1986a: 142, Figs. 20A, B, 21G, H, Pl. 9, Fig. E–G. – Guinot & Richer de Forges, 1986b: 27, Pl. 1: Fig. F.

*Oxypleurodon orbiculatus* – Tavares, 1991: 167. – Webber & Richer de Forges, 1995: 514. – Richer de Forges, 1992: 1. – Richer de Forges, 1995: 54, Fig. 1C, Pl. 1: Fig. C.

*Oxypleurodon orbiculatum* – Ng et al., 2008: 105.

**Material examined.** – NEW CALEDONIA: VAUBAN, Stn. DW 10, 22°54'S 167°12'E, 395–410 m: 1 male (MNHN-B 31433). – MUSORSTOM 4 cruise, Stn. CP 172, 19°01.2'S 163°16'E, 275–330 m, 17 Sep.1985: 1 female (MNHN-B 27366). – Stn. CP 179, 18°56.6'S 163°13.7'E, 475 m, 18 Sep.1985: 1 ovigerous female (MNHN-B 27367). – Stn. DW 181, 18°57.2'S 163°22.4'E, 350 m, 18 Sep.1985: 1 male, 4 females, 1 juvenile (MNHN-B 27368). – Stn. CP 194, 18°52.8'S 163°21.7'E, 545 m, 19 Sep.1985: 1 male (20.9 × 20.9 mm) (MNHN-B 27369). – Stn. CP 195, 18°54.8'S 163°22.2'E, 465 m, 19 Sep.1985: 1 ovigerous female, 2 females (MNHN-B 27370). – Stn. CP 198, 18°49.4'S 163°18.8'E, 585 m, 20 Sep.1985: 1 ovigerous female (MNHN-B 27371). – Stn. DW 210, 22°43.7'S 167°09.3'E, 340–345 m, 28 Sep.1985: 2 juveniles (MNHN-B 27372). – Stn. DW 211, 22°46'S 167°09.8'E, 370 m, 28 Sep.1985: 1 male (MNHN-B 27373). – Stn. DW 212, 22°47.4'S 167°10.5'E, 375–380 m, 29 Sep.1985: 1 ovigerous female (MNHN-B 27374). – Stn. CP 213, 22°51.3'S 167°12'E, 405–430 m, 28 Sep.1985: 1 ovigerous female (MNHN-B 27375). – Stn. CP 215, 22°55.7'S 167°17.0'E, 485–520 m, 28 Sep.1985: 14 males, 2 females, 10 ovigerous females, 1 juvenile. (MNHN-B 27376). – Stn. DW 222, 22°57.6'S 167°33'E, 410–440 m, 30 Sep.1985: 1 male with bopyrid, 2 juveniles (MNHN-B 27377). – Stn. DW 226, 22°47.2'S 167°21.6'E, 390 m, 30 Sep.1985: 2 juveniles (MNHN-B 27492). – Stn. DW 229, 22°51.5'S 167°13.5'E, 445–460 m, 30 Sep.1985: 1 ovigerous female, 1 juvenile (MNHN-B 27378). – Stn. DW 230, 22°52.5'S 167°11.8'E, 390–420 m, 30 Sep.1985: 1 male (22.9 × 23.9 mm), 1 ovigerous female (18.2 × 17.4 mm), 1 juvenile (MNHN-B 27379). – Stn. CP 236, 22°11.3'S 167°15'E, 495–550 m, 2 Oct.1985: 1 male

(MNHN-B 27380). – BIOCAL, Stn. CP 42, 23°46'S 167°13'E, 380 m, 30 Aug.1985: 1 male (MNHN-B27381). – Stn. CP 45, 22°47'S 167°15'E, 430–465 m, 30 Aug.1985: 1 male, 5 ovigerous females, 2 juveniles (MNHN-B 27382). – Stn. DW 82, 20°31'S 166°50'E, 440–460 m, 06 Sep.1985: 2 males, 1 ovigerous female (MNHN-B 27383). – Stn. DW 83, 20°35'S 166°54'E, 460 m, 6 Sep.1985: 1 male (MNHN-B 27384). – BIOGEOCAL, Stn. DW 307, 20°35.4'S 166°55.2'E, 470–480 m, 01 May 1987: 1 male (MNHN-B 27385). – SMIB 1, Stn. DW 7, 22°55'S 167°15.9'E, 500 m, 6 Feb.1986: 1 ovigerous female (MNHN-B 27386). – DW 9, 22°55'S 167°14.7'E, 450 m, 6 Feb.1986: 1 male (MNHN-B 27387). – SMIB 2, Stn. DW 2, 22°54.9'S 167°14.2'E, 448 m, 17 Sep.1986: 1 ovigerous female (MNHN-B 27388). – Stn. DW 3, 22°56'S 167°15'E, 412–428 m, 17 Sep.1986: 2 males, 2 females, 1 ovigerous female, 1 juvenile (MNHN-B 27389). – Stn. DW 4, 22°53'S 167°13', 410–417 m, 17 Sep.1986: 1 male, 1 ovigerous female (MNHN-B 27390). – Stn. DW 6, 22°56'S 167°16'E, 442–460 m, 17 Sep.1986: 3 males, 1 female, 4 ovigerous females (MNHN). – Stn. DW 9, 18 Sep.1986: 1 juvenile (MNHN-B 27391). – Stn. DW 10, 22°55'S 167°16'E, 490–495 m, 18 Sep.1986: 2 males (14.4 × 14.8 mm, 13.1 × 12.5 mm), 1 ovigerous female (14.0 × 14.4 mm) (MNHN). – Stn. DW 17, 22°55'S 167°15'E, 428–448 m, 19 Sep.1986: 1 male (MNHN-B 27392). – Stn. DW 19, 22°52'S 167°12'E, 405–435 m, 20 Sep.1986: 1 male (MNHN-B 27393). – SMIB 3, Stn. DW 25, 22°56.1'S 167°16.2'E, 437 m, 24 May 1987: 1 female (MNHN-B 27394). – Stn. DW 28, 22°47'S 167°11.8'E, 394 m, 25 May 1987: 2 males (larger 21.1 × 21.6 mm), 2 ovigerous females (MNHN-B 27395). – Stn. DW 26, 22°55.1'S 167°15.5'E, 450 m, 24 May 1987: 1 male, 1 ovigerous female (MNHN-B 27396). – SMIB 8, Stn. DW CP 180, 23°47.7'S 168°18.1'E, 460–525 m, 30 Jan.1993: 4 males, 2 ovigerous females (MNHN-B 27397). – Stn. DW 181, 23°17.7'S 168°04.8'E, 330–311 m, 31 Jan.1993: 1 male (MNHN-B 27398). – Stn. DW 183, 23°18.3'S 168°04.9'E, 314–330 m, 31 Jan.1993: 1 male, 2 ovigerous females (MNHN-B 27399). – Stn. DW 190, 23°18.5'S 168°04.9'E, 310–305 m, 31 Jan.1993: 1 male (MNHN-B 27400). – Stn. DW 194, 22°59.6'S 168°22.5'E, 491–500 m, 1 Feb.1993: 2 females (MNHN-B 27401). – Stn. DW 198, 22°51.6'S 167°12.4'E, 414–430 m, 1 Feb.1993: 1 female, 1 ovigerous female (MNHN-B 27402). – LAGON, Stn. DW 444, Atoll of Surprise, 18°15'S 162°59'E, 300–350 m, 28 Feb.1985: 2 ovigerous females, 1 female (MNHN-B 27403). – CHALCAL 2, Stn. CP 26, 23°18.2'S 168°03.6'E, 296 m, 31 Oct.1986: 1 male (MNHN-B 27404). – Stn. DW 81, 23°19.6'S 168°03.4'E, 311 m, 31 Oct.1986: 1 male, 1 female (MNHN-B 27405). – NORFOLK2, Stn. CP 2050, 23°42.17'S 168°15.72'E, 377 m, 24 Oct.2003: 1 male (20.4 × 20.4 mm) (ZRC 2008.0830). – VANUATU: MUSORSTOM 8 cruise, Stn. CP 973, 19°21'S 169°27'E, 460–480 m, 22 Sep.1994: 1 male (14.2 × 14.5 mm), 1 female (14.4 × 13.9 mm), 2 ovigerous females (14.1 × 13.3 mm, 14.6 × 14.3 mm), 2 females with *Sacculina* (14.1 × 13.3 mm, 16.1 × 15.3 mm) (MNHN-B 27406). – FIJI: BORDAU 1 cruise, Stn. CP 1444, 17°11'S 178°41'W, 398–409 m, 3 Mar.1999: 1 juvenile female (5.3 × 4.9 mm) (MNHN-B 27407). – Stn. CP 1467, 18°12'S 178°36'W, 417–427 m, 6 Mar.1999: 1 male (13.5 × 12.9 mm), 2 ovigerous females (13.4 × 13.0 mm, 14.9 × 14.8 mm) (MNHN-B 27408).

**NEW CALEDONIA (atypical specimens from muddy slopes):** BATHUS 1 cruise, Stn. CP 695, 20°34.6'S 164°57.9'E, 410–430 m, 17 Mar.1993: 1 female (10.7 × 10.6 mm), 1 male (8.1 × 6.2 mm) (MNHN-B 27417). – Stn. CP 698, 20°34.2'S 164°57.3'E, 491–533 m, 17 Mar.93: 1 male (10.0 × 8.9 mm) (MNHN-B 27418). – BATHUS 2 cruise, Stn. CP 770, 22°09.6'S 166°04.1'E, 400–402 m, 18 May 1993: 1 male (10.6 × 10.7 mm) (MNHN-B 27419).

**Remarks.** – *Oxypleurodon orbiculatum* was described from New Caledonia where it is abundant. Living on rocky

bottoms between 250 and 600 m, it is frequently associated with stylasterid corals (Guinot & Richer de Forges, 1986a, b). It is reported here for the first time from Vanuatu and Fiji (see also Richer de Forges, 1995; Richer de Forges et al., 1996, 2000b).

Specimens of *O. orbiculatum* from Vanuatu and Fiji show some differences from the topotypic material from Pines Island in New Caledonia. The specimens from Vanuatu are darker in colour, being a deep red when alive. In the New Caledonian specimens, the hepatic plate is composed of two pieces but there is only one evident in the Vanuatu and Fiji material. Even in the very small specimen from Fiji (5.3 × 4.9 mm) (MNHN-B 27407), the plates have the same shape and pattern as the adults. However, the branchial plates of the young specimen appear to be sharper and more spiniform than those on the adults. These differences suggest that the Vanuatu and Fiji specimens may represent a separate species, but as there is not much material available, it seems better to identify them with *O. orbiculatum* for the time being.

The specimens of *O. orbiculatum* from the slopes of the main island of New Caledonia on the east and west coasts (CP 695, CP 698, CP 770) are unusual in that they are relatively smaller, more slender and the carapace plates are relatively less inflated than those from Pines Island (type locality) or the seamounts (Fig. 7 E). They also differ in having proportionately shorter rostral spines, the carapace has dense tomentum between the plates, and the two plates hepatic and postocular are well separated. Whether these differences are associated with their smaller size or represent specific characters cannot be ascertained at this time. All these specimens were from the muddy slopes of the main island occurring at depths of 400 to 430 m.

*Oxypleurodon orbiculatum* as defined here has a wide distribution in the southwest Pacific but is apparently limited by 25°S. To the south, near 32°S, another species of the same group was described as *O. wanganella* Webber & Richer de Forges, 1995. To the east, *O. orbiculatum* was observed in Fiji as far as on the Lau Ridge (175°E). North of Fiji, in Wallis Islands, another species, *O. tavaresi* Richer de Forges, 1995, occurs.

***Oxypleurodon alaini*, new species**

(Fig. 7D)

**Material examined.** – CHESTERFIELD ISLANDS: MUSORSTOM 5 cruise, Stn. DC 361, 19°52.5'S 158°38.1'E, 400 m, 19 Oct. 1986: 1 ovigerous female holotype (16.2 × 16.8 mm) (MNHN-B 27409), 2 males (20.1 × 20.2 mm, 17.6 × 18.1 mm), 1 female (8.4 × 8.2 mm) (MNHN-B 27410). – Stn. 315, 22°25.3'S 159°27.4'E, 330–335 m, 13 Oct. 1986: 1 female 15.3 × 15.5 mm (MNHN-B 27411). – Stn. 300, 22°48.3'S 159°23.9'E, 450 m, 11 Oct. 1986: 1 damaged female 10 × 10.8 mm (MNHN-B 27412). – Stn. 301, 22°06.9'S 159°24.6'E, 487–610 m, 12 Oct. 1986: 1 female (10.1 × 10.8 mm), 1 male (8.7 × 8.2 mm) (MNHN-B 27413). – Stn. 339, 19°53.4'S 158°37.9'E, 380–395 m, 16 Oct. 1986: 1 female (10.2 × 9.9 mm) (MNHN-B 27414). – Stn. 371, 19°54.8'S 158°38.2'E, 350 m, 20 Oct. 1986: 1 female 10.1 × 10.1 mm (MNHN-B 27415). – CHALCAL 1 cruise,

Stn. CP 8, 19°43.8'S 158°35.5'E, 348 m, 19 Jul. 1984: 1 male (16.0 × 15.4 mm) (MNHN-B 27416).

**Diagnosis.** – Small species, triangular carapace bearing prominent plates. Rostrum with 2 short diverging spines, slightly curving outwards; length of pseudorostral spines shorter than half postrostral length of carapace; internal margin of pseudorostral spine with a row of hooked setae. Dorsal face of carapace with smooth and rounded plates arranged as follow: 1 oblong mesogastric plate; 2 hepatic plates fused with the postocular plates; 2 small supraocular plates; 2 large branchial plates which form curved lateral extensions, internal border of plates with fissure; 1 transversely elongated cardiac plate; posterior border of carapace lined by a wide fold-like swelling; lateral border of carapace with 3 plates: 1 hepatic, 1 thin subhepatic and 1 small sub-branchial; regions between smooth plates covered by short setae, pink in color. Proepistome as long as wide, separated from buccal frame by a strong crest. Chelipeds slender in females, inflated in males; margin of propodus carinate; carpus with 2 carinae on external border; merus trigonal in cross-section. Sternal plastron depressed. Ambulatory legs shorter than cheliped; P2 longest; with strong claw-like dactylus. G1 relatively slender, distal part subtruncate.

**Etymology.** – This species is dedicated to Alain Crosnier, who was on board the RV “Coriolis” during the MUSORSTOM 5 cruise in the Coral Sea. It is in recognition of his pioneering role in the census of marine life of the Indo-Pacific and his outstanding efforts in studying the decapod Crustacea of this region.

**Remarks.** – The specimens of *Oxypleurodon* from Chesterfield Islands (Fig. 6D) are consistently different from *O. orbiculatum* from New Caledonia, and are here described as a new species, *O. alaini*, new species. The main differences between *O. alaini* and *O. orbiculatum* are: the branchial plate is indented on its inferior border (versus rounded in *O. orbiculatum*), the hepatic plate is fused with the postocular plate (versus separated in *O. orbiculatum*), and the hepatic plate is relatively less inflated. The indented branchial plates observed in *O. alaini*, new species, have also been reported in *O. wanganella* described from the south of Norfolk Island, in which this indentation is like a fissure (Webber & Richer de Forges, 1995: 507, Fig. 4E). In *O. wanganella*, however, the rostral spines are far shorter and less divergent than in *O. alaini*, new species. In *O. wanganella*, the postocular and hepatic plates are also separate but are fused in *O. alaini*, new species. The general appearance of *O. alaini*, new species, resembles *O. tavaresi* Richer de Forges, 1995, described from Wallis Island, in which there are also the indented branchial plates and also a fused hepatic and postocular plates. However *O. alaini*, new species, is easily separated from *O. tavaresi* by the absence of two pseudogastric tubercles and by the different shape of the fused hepatic-postocular plate (see Richer de Forges, 1995: 53, Pl. 4: Fig. A, B).

While the external morphology clearly suggests that *O. alaini*, new species, is a distinct species, some recent preliminary molecular work (using the CO1 gene) by Ollivier (2007)

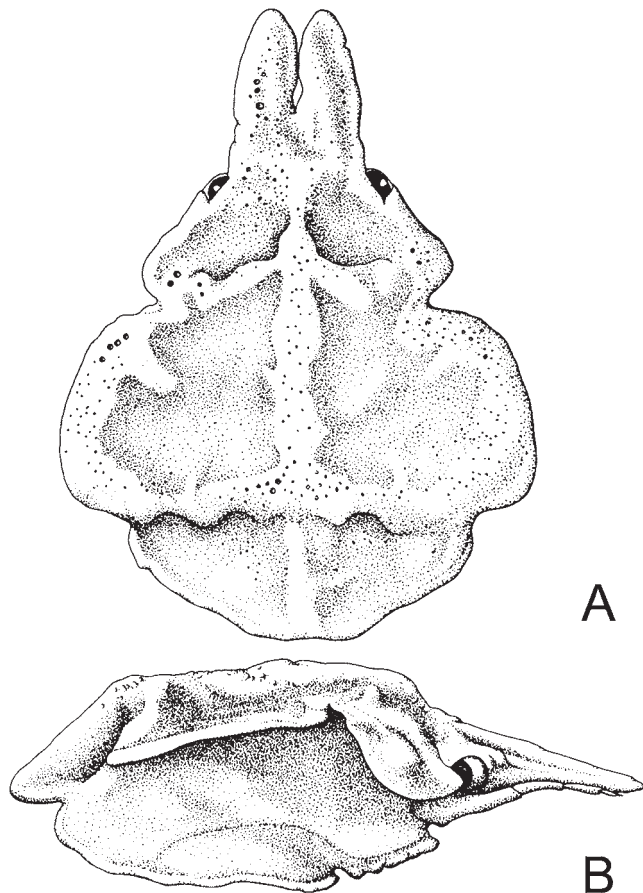


Fig. 9. *Stegopleurodon planirostrum*, new genus, new species, New Caledonia: west coast, BATHUS 2, Stn. CP 735, male holotype (16.3 × 12.4 mm) (MNHN-B 27422): A, dorsal view of the carapace; B, lateral view of the carapace.

based on these specimens suggest that all the specimens from New Caledonia and from Chesterfield Islands are genetically very close are likely to be conspecific. The morphological differences, however, argue against them being conspecific, and close similarities in the CO1 gene alone cannot argue for them being the same species (see also Meier et al., 2006; Schubart & Ng, 2008). Clearly, more work will need to be done on this genus, possibly using other genes, to ascertain the affinities of the many species now referred to *Oxpleurodon*.

***Oxpleurodon parallelum*, new species**

(Figs. 6A–C, 7C, 11E–H)

*Rochinia stimpsoni* – Griffin & Tranter, 1986: 175; 187, Fig. 63a, b (part, Queensland specimens only).

**Material examined.** – SOLOMON ISLANDS: SALOMONBOA cruise, Stn. CP 2831, 10°43.57'S 162°18.30'E, 280–345 m, 21 Sep.2007: 1 male holotype (20.9 × 14.8 mm) (MNHN), 1 ovigerous paratype female (15.1 × 11.3 mm) (MNHN). – Stn. CP 2845, 10°26.05'S 161°24.79'E, 350–362 m, 23 Sep.2007: 1 male (12.8 × 8.5 mm) (ZRC 2009.0034). – Stn. CP 2854, 9°46.95'S 160°53.17'E, 261–278 m, 25 Sep.2007: 1 ovigerous female (25.2 × 18.8 mm) (ZRC 2009.0035). – AUSTRALIA: Queensland, 1.6–3.2 km WNW of Raine Island, 250 m, 12 Feb.1979, coll. J. Paxton (QM FNQ 79-30): 1 male (15.5 × 14.2 mm), 1 male with *Sacculina* (14.4 × 14.0 mm), 1 juvenile female (10.0 × 9.6 mm), 2 ovigerous females (13.7 × 13.6 mm, 13.3 × 11.7 mm) (ex AM-P 29928, identified as *Rochinia stimpsoni*).

**Diagnosis.** – Triangular carapace. Rostrum with 2 sharp spines, subparallel, longer than half carapace length, covered

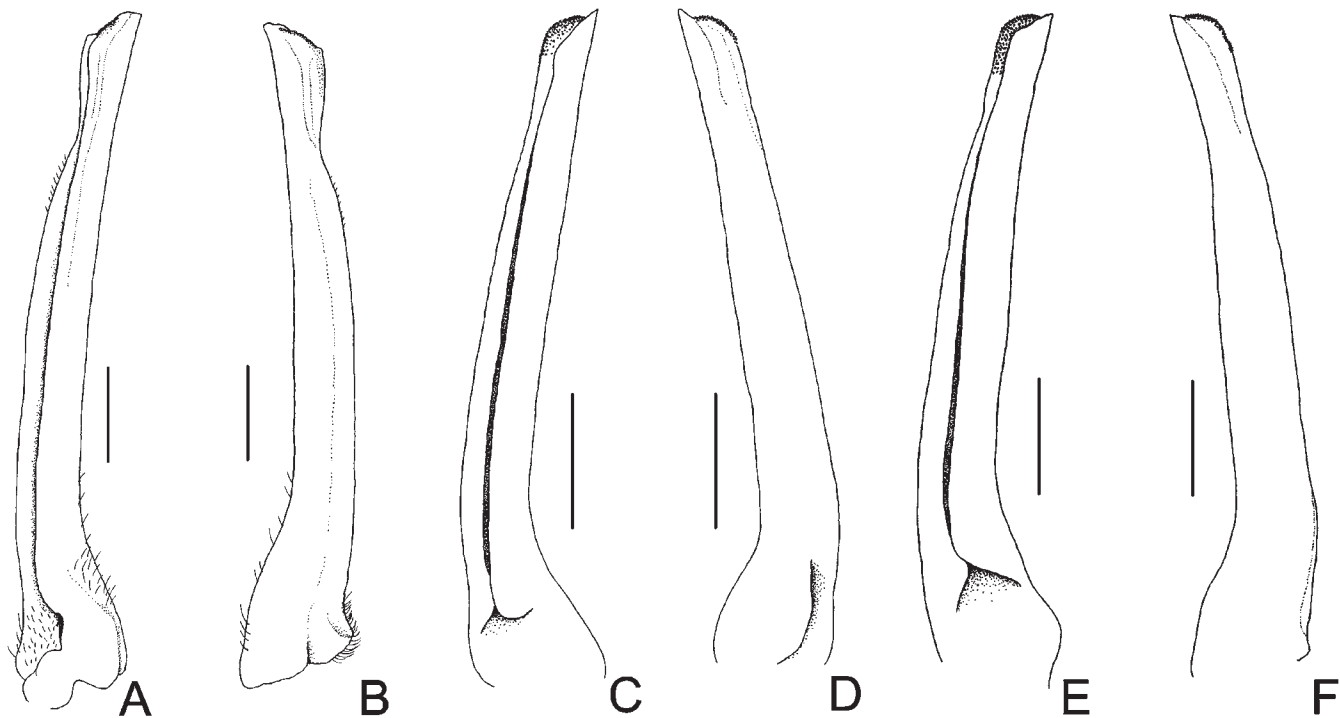


Fig. 10. G1s. A, B, *Oxpleurodon bidens*, Japan, Chiba Museum: 1 male (11.6 × 10.2 mm) (CBM-ZC 6377); C, D, *O. barazeri*, new species, Solomon Islands: SALOMON 1, Stn. CP 1792, male holotype (12.1 × 7.9 mm) (MNHN-B31314); E, F, *O. auritum*, AURORA 2007, Stn. CP 2678, male (12.9 × 7.3 mm) (ZRC 2008.0818). Scale bars = 1.0 mm.

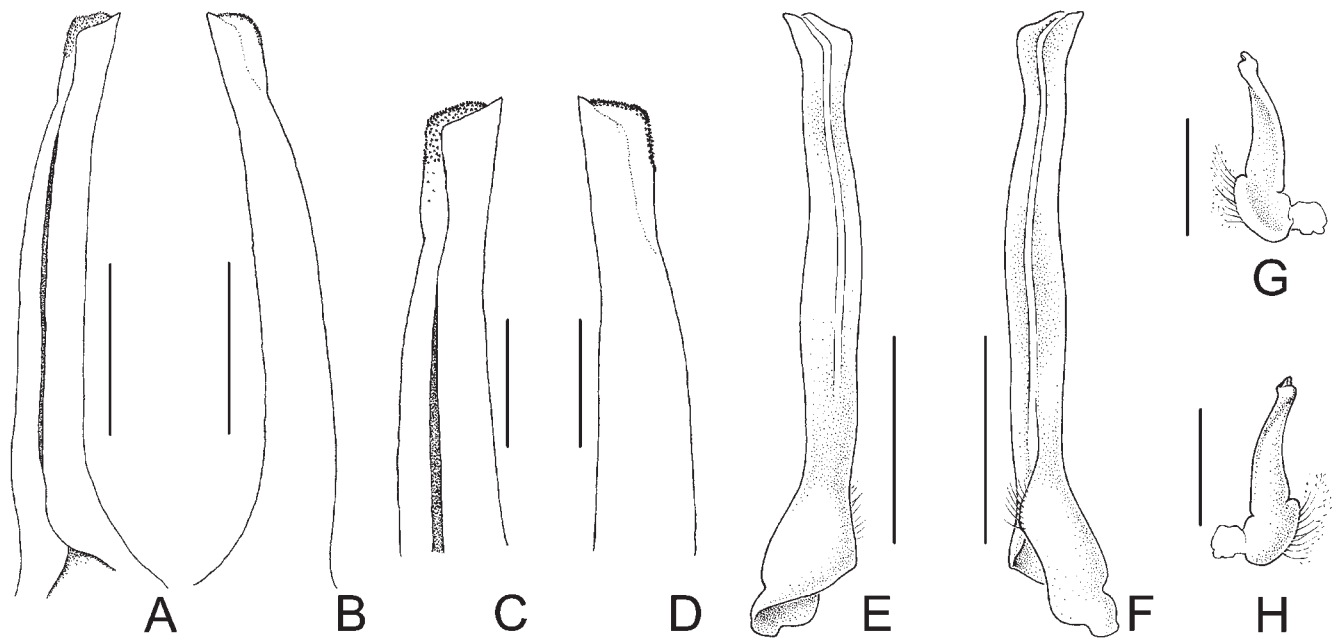


Fig. 11. A–F, G1; G, H, G2. A, B, *Oxypleurodon boholense*, new species, the Philippines: south of Siquijor, PANGLAO 2005, Stn. CP 2362, male holotype (16.1 × 12.0 mm) (NMCR); C–F, *O. parallelum*, G, H, *O. parallelum* G2. Scale bars = 1.0 mm.

by hooked setae. Dorsal carapace surface with several raised plates with rounded margins and smooth surfaces; dense tomentum composed of short setae between plates; hooked setae present on protogastric area and sides of carapace. Arrangement of plates as follow: 2 small supraocular plates; 2 postocular plates touching elongated hepatic plates; 1 elongated longitudinal gastric plate; 1 laterally elongated oval cardiac plate; 2 large branchial plates pointing outwards, curved, with inferior border deeply indented; posterior carapace border with fold-like swelling, medially swollen; 2 small plates on each side of carapace under branchial area. Eyes short. Thoracic sternal sutures incomplete. Chelipeds inflated in adult male; carpus with 2 carinae on external side; propodus slightly carinated; internal border of fingers serrulated. Ambulatory legs short, smooth on upper border, with short setae on inferior border; more abundant setae on propodus and dactylus. Abdomen with 7 articulating somites (including telson). G1 relatively slender, appears gently sinuous, distal part subtruncate but appearing slightly dilated (Fig. 11E, F).

**Etymology.** – From the Latin *parallelum*, alluding to the two long rostral spines which are straight and subparallel.

**Remarks.** – *Oxypleurodon parallelum*, new species, belongs to the group of species bearing large branchial rounded plates, together with *O. stimpsoni* Miers, 1886, *O. orbiculatum* (Guinot & Richer de Forges, 1986), *O. alaini*, new species, *O. wanganella* Webber & Richer de Forges, 1995, and *O. tavaresi* Richer de Forges, 1995. This species is different from *O. stimpsoni* by: the proportions of the carapace (shorter and larger in *O. stimpsoni*), shape of the branchial plates (proportionately much larger in *O. stimpsoni*) and without an indented border, and the presence of carapace tomentum (absent in *O. stimpsoni*). The rostrums of the two species are very different. In *O. stimpsoni*, the spines are

short and diverging but are long and distinctly parallel in *O. parallelum*, new species. Griffin & Tranter (1986) identified the material from Queensland as *Rochinia stimpsoni* but part of this material is here referred to a new species, *O. parallelum*, new species. *Oxypleurodon parallelum*, new species, is easily differentiated from *O. wanganella* and *O. tavaresi* by the shape of their rostral spines, with both of them having short and divergent ones (versus straight and parallel in *O. parallelum*).

The closest species with *O. parallelum*, new species is *O. orbiculatum*. In *O. orbiculatum*, new species, the supraocular plates are very developed (weakly marked in *O. parallelum*); the shape of the branchial plates are different (very large with rounded contours in *O. orbiculatum* versus narrow with indented border in *O. parallelum*); the pilosity is relatively stronger in *O. parallelum*; the carpus of the cheliped is inflated and smooth in *O. orbiculatum* (with two carinae in *O. parallelum*); and there are two short diverging rostral spines in *O. orbiculatum* (versus two long parallel spines in *O. parallelum*).

*Oxypleurodon parallelum*, new species, was found along the north-east coast of Australia at depths of about 250 m and more recently, during the SALOMONBOA cruise on the east coast of Malaita island in the Solomon Islands.

#### *Stegopleurodon*, new genus

**Diagnosis.** – Carapace pyriform. Rostrum bifid, short, dorsoventrally flattened, apically round; 2 rostral teeth separated by very narrow fissure. Antennae shorter than rostrum. Antennule totally hidden in deep fossae. Epistome large, flat. Small eye with globulous cornea, protected in orbit formed anteriorly by prolongation of rostrum and posteriorly by postocular eave. Dorsal carapace with single



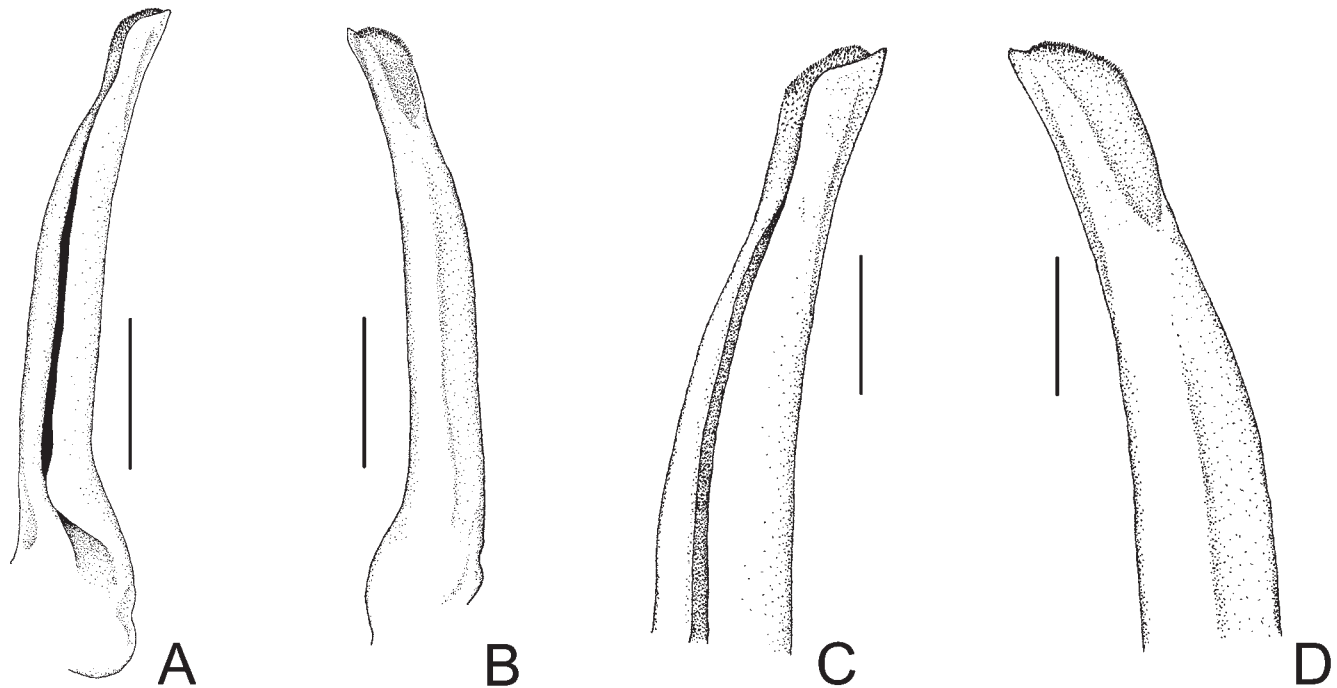


Fig. 12. *Stegopleurodon planirostrum* new genus and new species, BOA 0, Stn. CP 2329, male (19.0 × 13.8 mm) (ZRC 2008.0831): A–D, G1 and details.

large plate which arches beyond lateral side of carapace, roof-like, surface of plate gently corrugated; strong median ridge present extending from posterior carapace border to base of rostrum, ridge interrupted by 2 transverse ridges, 1 on gastric level, the other on cardiac level; intersection of ridges forming cross-like feature on carapace; areas between ridges depressed; border deeply indented at gastric level, forming small postocular lobe, expanded to form large lobe along branchial area. Thoracic sternal sutures complete. Chelipeds male inflated, smooth surface, carinated on each border. Ambulatory legs short, articles carinated; P2 longest; dactylus curved, sharp. G1 relatively slender with subtruncate distal part.

**Etymology.** – From the Greek *stegos* = roof and *pleuro* = side. Gender neuter. Type species *Stegopleurodon planirostrum*, new species, by present designation.

**Remarks.** – The closest genera to *Stegopleurodon*, new genus, are *Sphenocarcinus* A. Milne-Edwards, 1875, and *Oxypleurodon* Miers, 1886. The animals are similar in size with their carapace having plates but their form and composition are different. In *Sphenocarcinus* and *Oxypleurodon*, there are several carapace plates present. In *Stegopleurodon*, there is only one large roof-like plate on the carapace. The closest species appears to be *Oxypleurodon auritum* (Rathbun, 1916) in which the same flattened rostrum occurs. However, *O. auritum* has several plates on the carapace and the articles of the ambulatory legs are cylindrical (carinated in *Stegopleurodon*).

***Stegopleurodon planirostrum*, new species**

(Figs. 7F, 8A–C, 9A, B, 12A–D)

**Material examined.** – **NEW CALEDONIA:** west coast, BATHUS 2 cruise, Stn. CP 735, 23°01.77'S 166°56.10'E, 530–570 m, 13 May 1993: 1 male holotype (16.3 × 12.4 mm) (MNHN-B 27422). – Southwest coast, BATHUS 3 cruise, Stn. CP 832, 23°03'S 166°53'E, 650–669, 30 Nov.1993: 1 ovigerous female paratype (15.5 × 12.3 mm) (MNHN-B 27423). – BATHUS 3 cruise, Stn. CP 831, 23°04'S 166°55'E, 650–658 m, 30 Nov.1993: 1 male paratype (16.8 × 13.1 mm) (MNHN-B 27424). – Northern coast, BATHUS 4 cruise, Stn. CP 892, 21°01'S 164°27'E, 580–600 m, 2 Aug.1994: 1 ovigerous female paratype (16.2 × 13.6 mm) (MNHN-B 27425). – Stn. CP 910, 18°59.32'S 163°08.47'E, 560–608 m, 5 Aug.1994: 1 ovigerous paratype female (18.6 × 14.7 mm) (MNHN-B27426). – **VANUATU:** MUSORSTOM 8 cruise, Stn. CP 975, 19°23'S 169°29'E, 536–566 m, 22 Sep.1994: 1 ovigerous female (16.3 × 13.5 mm), 1 male (13.6 × 11.2 mm) (MNHN-B 27427). – BOA 0 cruise, Stn. CP 2329, 15°41.1'S 167°02.7'E, 260–313 m, 18 Nov.2004: 1 male (19.0 × 13.8 mm) (ZRC 2008.0831). – BOA 1 cruise, Stn. CP 2436, 14°55.04'S 166°57.56'E, 400–560 m, 9 Sep.2005: 1 ovigerous female (19.4 × 14.0 mm) (ZRC 2008.0832).

**Diagnosis.** – Small size species. Pyriforme carapace. Rostrum composed of 2 dorsoventrally flattened parallel teeth, apically rounded; ventral surface concave; rostral teeth overlapping in some specimens. Carapace surface generally finely punctate, formed by a single plate divided into several lobes, extends beyond lateral side of carapace forming roof-like structure (Figs. 9 A, B, 10 C); dorsal surface with elevated ridges: a longitudinal ridge from base of rostrum to posterior border; 2 transverse ridges, 1 at gastric level, other less marked one at cardiac level; intersection of ridges forming very characteristic cross-like pattern on carapace (Figs. 6 F); areas between ridges depressed, particularly at epibranchial and anterior hepatic areas; border of carapace deeply indented

at gastric level, forming 2 parts: a small postocular lobe and a large branchial lobe; on lateral view (Fig. 9 B, 10 C) these 2 lobes clearly forming “roof” above pterygostomial area; postocular lobe slightly curved downwards, protecting orbit. Buccal frame quadrangular with operculiform third maxillipeds. Chelipeds slightly longer than P2; merus triangular in cross-section, sharply carinated on each angle; carpus very short with 2 carinae on upper face delimiting concave areas; propodus inflated on male, carinated at upper and lower borders; dactylus slender, sharp, not serrulated. Ambulatory legs carinated: 3 carinae on merus, 2 on carpus, 2 on propodus; dactylus long, curved, sharp. G1 relatively slender, subdistal part slightly constricted, distal part subtruncate (Fig. 12 A–D).

**Etymology.** – “*Planirostrum*” means with a flat rostrum (*planus* = flat)

**Remarks.** – This new species was first collected in the upper bathyal zone of New Caledonia, on the reef slopes of the Grande Terre, and was later also found in Vanuatu. It lives on sandy-muddy bottoms between 260 to 669 m. Some specimens of this species were collected with *Oxypleurodon orbiculatum* or *O. stuckiae*.

In live specimens the color is pinkish-orange, with that on the ridges more pronounced (Fig. 7F).

On the basis of the rostrum, there are some superficial similarities with *Oxypleurodon auritum* (Rathbun, 1916). However, there are numerous differences in the form of the carapace, thoracic sternum and pereopods.

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