

On a collection of Polychelidae from Papua New Guinea (Crustacea, Decapoda, Polychelida)

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ABSTRACT

The collection of deep-sea blind lobsters (Polychelidae), comprising eight species in three genera: *Pentacheles* Spence Bate, 1878, *Polycheles* Heller, 1862, and *Stereomastis* Spence Bate, 1888, is significant for although these species had been recorded in adjacent regions, prior to the BIOPAPUA expedition they have not been recorded from the Bismarck and western Solomon seas. The feasibility of seabed ore mining adds a sense of urgency to the exploration and analysis of the benthic biodiversity of a unique, barely explored region up for destructive exploitation.

KEY WORDS

Crustacea,
Decapoda,
Polychelidae,
Pacific Ocean,
Papua New Guinea,
new records.

RÉSUMÉ

Sur une récolte de Polychelidae de Papouasie Nouvelle Guinée (Crustacea, Decapoda, Polychelida).

L'expédition BIOPAPUA a permis la récolte de huit espèces de homards aveugles des grandes profondeurs (Polychelidae), appartenant à trois genres : *Pentacheles* Spence Bate, 1878, *Polycheles* Heller, 1862, et *Stereomastis* Spence Bate, 1888. Cette récolte est intéressante, car même si ces espèces ont déjà été signalées de régions proches, elles n'avaient jamais été signalées de la mer de Bismarck et de l'ouest de la mer de Salomon avant l'expédition. La possible exploitation des minerais des fonds marins rend l'exploration et l'analyse de la biodiversité benthique d'autant plus indispensable qu'il s'agit ici d'une région exceptionnelle à peine explorée qui pourrait subir une exploitation destructrice.

MOTS CLÉS

Crustacea,
Decapoda,
Polychelidae,
Océan Pacifique,
Papouasie-Nouvelle-
Guinée,
nouvelles signalisations.

INTRODUCTION

Geological explorations of the Bismarck and Solomon seas off PNG documented a diversity of habitats – hydrothermal vent fields, river sedimentary cones, seamounts, slopes and canyons, sedimentary plains and drowned atolls (Auzende *et al.* 2000) and immense mineral riches in the form of massive sulfide deposits formed around submarine volcanic arcs. In 2011 the government of PNG licensed deep water copper and gold mining in the Bismarck Sea. Production at the Solwara 1 mine, located at depth of 1600 m in the Bismarck Sea, had been scheduled for late 2013, but put on hold due to a legal dispute with the government of PNG. However, the potential seabed wealth of high-value strategic ores had already drawn intense commercial interest. PNG, Tonga, Fiji and the Solomon Islands have issued exploration licenses to assess the commercial feasibility of mineral resources development in their exclusive economic zones.

Recognized as the epicenter of global marine diversity and a priority region for conservation, the deep benthos in the Bismarck and Solomon seas has been barely explored (Pante *et al.* 2012). It is therefore with a sense of urgency that the benthic biodiversity, unique, barely explored and up for destructive exploitation, is studied. One of the aims of the BIOPAPUA expedition conducted in 2010 by the MNHN, the IRD and the University of PNG, was to examine the deep benthic biodiversity in the Bismarck Sea and in the western Solomon Sea (Pante *et al.* 2012).

Blind lobsters, Polychelidae, are emblematic components of deepwater soft bottom habitats, occupying the lower slope and abyssal depths. Galil (2000) recognized 32 species in five genera. Recent deep sea expeditions added to their number: 37 species in six genera are known (Ahyong 2012). French deep water expeditions, MUSORSTOM 10 (1998) and BORDAU 1 (1999) to Fiji and Tonga and SALOMON 1 (2001) to the Solomon Islands, have already contributed to our knowledge of the polychelids in the western Pacific (Ahyong & Galil 2006).

The present collection, comprising eight species in three genera: *Pentacheles* Spence Bate, 1878, *Polycheles* Heller, 1862, and *Stereomastis* Spence Bate, 1888, is significant for although these species have been recorded in adjacent areas, prior to the BIOPAPUA

expedition, they have not been recorded from the Bismarck and western Solomon seas.

MATERIALS AND METHODS

METHODOLOGY

The BIOPAPUA research cruise aboard R/V *Alis*, took place between 21 August and 19 October 2010. 156 stations were sampled at depths between 100 and 1300 m, in the Bismarck Sea and in the western Solomon Sea. The standard French beam trawl used during this survey is 4 m wide, 0.35 m high, with conic sac of fine mesh (15, 12 mm) and double-layered cod-end. The trawl is generally deployed at 2.5–4.5 knots and towed at 1.5 knots ground speed. The material is deposited in the MNHN.

Extensive synonymies are provided by Galil (2000). Therefore, synonymies in the present study are restricted to primary works, Galil (2000), and polychelid studies published after 2000. Carapace length is measured in mm along the mid-line from the apices of the rostral spines to the posterior margin.

ABBREVIATIONS

Technical terms

cl	carapace length;
CP	chalut à perche (trawl);
ovi.	ovigerous;
Stn	station.

Institutions

IRD	Institut de Recherche pour le Développement;
MNHN	Muséum national d'Histoire naturelle, Paris;
PNG	Papua New Guinea.

SYSTEMATICS

Infraorder POLYCHELIDA Wood-Mason, 1874
 Family POLYCHELIDAE Wood-Mason, 1874
 Genus *Pentacheles* Spence Bate, 1878

Pentacheles laevis Spence Bate, 1878

Pentacheles laevis Spence Bate, 1878a: 278 (type locality: Moluccas, Indonesia, 4°33'N, 127°06'E). — Galil 2000:

291, 301, fig. 7. — Ah Yong & Brown 2002: 54, fig. 1A, B. — Ah Yong & Chan 2004: 171, figs 1A-C, 4A; 2008: 64, fig 1A. — Ah Yong & Galil 2006: 758. — Boyko 2006: 39, figs 1B, 2. — Ah Yong 2007: 47, fig 24B; 2009: 383; 2012: 1. — Poore *et al.* 2008: 91, fig. — Chan 2010: 162. — Hendrickx 2012: 359.

Pentacheles gracilis Spence Bate, 1878b: 279 (type locality: off Fiji, 19°07.50'S, 178°19.35'E).

Polycheles granulatus Faxon, 1893: 197 (type locality: off Panama, 4°03'N, 81°31'E).

Pentacheles beaumontii Alcock, 1894: 236 (type locality: off Colombo, Sri Lanka).

Polycheles dubius Bouvier, 1905a: 480 (type locality: off the Azores, 44°04'N, 9°81'W).

Polycheles eryoniformis Bouvier, 1905b: 644 (type locality: Madeira).

MATERIAL EXAMINED. — BIOPAPUA. West of New Hanover, Stn CP 3653, 02°13'S, 150°23'E, 680-700 m, 25.IX.2010, 1 ♀ cl 19.6 mm (MNHN-IU-2011-1226). — Feni Island, Stn CP 3762, 03°57'S, 153°49'W, 995-1050 m, 14.X.2010, 1 ♀ cl 42.4 mm (MNHN-IU-2011-2786).

DISTRIBUTION. — Worldwide: Indo-West Pacific, eastern Pacific, western and eastern Atlantic; 212-2505 m (Galil 2000; Ah Yong & Galil 2006); new record for PNG.

Genus *Polycheles* Heller, 1862

Polycheles baccatus Spence Bate, 1878

Polycheles baccatus Spence Bate, 1878a: 278 (type locality: off Matuku Island, Fiji); 1878b: 484; 1878c: 563. — Galil 2000: 317. — Ah Yong & Brown 2002: 60, figs 4, 6. — Ah Yong & Galil 2006: 762. — Ah Yong 2009: 383. — Chan 2010: 162.

Polycheles baccata – Spence Bate 1888: 131, pl. 14, fig. 1.

MATERIAL EXAMINED. — BIOPAPUA, North of Rabaul, Stn CP 3669, 04°08'S, 151°56'E, 382-389 m, 24.IX.2010, 1 ♀ ovi. cl 34.5 mm (MNHN-IU-2011-2085). — Southeast of Manus Island, Stn CP 3692, 02°10'S, 147°19'E, 408-448 m, 29.IX.2010, 2 ♀♀ ovi. cl 35.4, 33.2 mm, 1 ♀ cl 36.4 mm (MNHN-IU-2011-3098). — Southeast of Manus Island, Stn CP 3692, 02°10'S, 147°19'E, 408-448 m, 29.IX.2010, 2 ♂♂ cl 33.3, 24.5 mm, 1 ♀ ovi. cl 38.4 mm (MNHN-IU-2011-2923).

DISTRIBUTION. — Solomon Islands, Wallis and Futuna Islands, Fiji, Vanuatu, New Caledonia, Australia, Philippines, Indonesia; 300-1250 m (Galil 2000; Ah Yong & Galil 2006); new record for PNG.

Polycheles coccifer Galil, 2000

(Fig. 1A)

Polycheles coccifer Galil, 2000: 320, fig. 15 (type locality: Philippines). — Ah Yong & Chan 2004: 176, figs 1G,H, 4E; 2008: 64, fig 1B. — Poore *et al.* 2008: 91, fig. — Ah Yong 2009: 383. — Chan 2010: 162.

MATERIAL EXAMINED. — BIOPAPUA, Huon Gulf, Stn CP 3630, 06°54'S, 147°03'E, 305-307 m, 22.VIII.2010, 1 ♂ cl 29.8 mm (MNHN-IU-2011-1502). — Huon Gulf, Stn CP 3635, 07°29'S, 147°33'E, 280-302 m, 23.VIII.2010, 1 ♀ cl 49.2 mm (MNHN-IU-2011-1253). — Huon Gulf, Stn CP 3645, 06°44'S, 147°50'E, 403-418 m, 24.VIII.2010, 1 ♂ cl 39.1 mm (MNHN-IU-2011-5084). — Tami Island, Huon Gulf, Stn CP 3645, 06°44'S, 147°50'E, 403-418 m, 24.VIII.2010, 1 ♂ cl 35.5 mm (MNHN-IU-2011-3609). — Southeast of Manus Island, Stn CP 3693, 02°10'S, 147°17'E, 300 m, 29.IX.2010, 1 ♀ cl 23.0 mm (MNHN-IU-2011-1810). — Astrolabe Bay, Stn CP 3710, 05°22'S, 145°48'E, 372-384 m, 5.X.2010, 1 ♂ cl 40.9 mm, 1 ♀ cl 31.5 mm (MNHN-IU-2011-1210). — Astrolabe Bay, Stn CP 3711, 05°23'S, 145°48'E, 434-447 m, 5.X.2010, 2 ♂♂ cl 37.0, 33.7 mm (MNHN-IU-2013-7000).

DISTRIBUTION. — Vanuatu, New Caledonia, Western Australia, Indonesia, Philippines, Taiwan (Galil 2000; Poore 2008); new record for PNG. Known from depths between 155-533 m (found in trawl hauled between 99-610 m) (Galil 2000); present depth record 615 m.

Polycheles typhlops Heller, 1862

(Fig. 1B)

Polycheles typhlops Heller, 1862: 392, pl. 1, figs 1-6 (type locality: off Sicily). — Galil 2000: 354, fig. 30. — Ah Yong & Chan 2004: 179, figs 1D-F, 4H, 5A, B; 2008: 64, fig 1C. — Ah Yong & Galil 2006: 765. — Boyko 2006: 44. — Poore *et al.* 2008: 91. — Ah Yong 2009: 383. — Chan 2010: 162.

Pentacheles agassizii A. Milne-Edwards, 1880: 65 (type locality: off Grenada).

Polycheles dodderleini Riggio, 1885: 103, pl. 3, figs 1-5 (type locality: Palermo).

Pentacheles hextii Alcock, 1894: 237 (type locality: Andaman Sea).

Polycheles intermedius Balss, 1914: 599 (type locality: between Iceland and the Hebrides).

MATERIAL EXAMINED. — BIOPAPUA, Huon Gulf, Stn CP 3633, 06°54'S, 147°05'E, 395-406 m, 22.VIII.2010, 1 ♂ cl 39.7 mm (MNHN-IU-2011-1486). — Huon Gulf, Stn CP 3635, 07°29'S, 147°33'E, 280-302 m, 23.VIII.2010, 2 ♂ cl 44.8, 34.8 mm, 1 ♀ cl 49.9 mm (MNHN-IU-2011-1496). — Huon Gulf, Stn CP 3637, 07°25'S, 147°30'E, 608-615 m, 23.VIII.2010, 1 ♀ cl 27.9 mm, 2 juveniles (MNHN-IU-2013-7010). — Kimbe Bay, Stn CP 3679, 05°21'S, 150°45'E, 490-715 m, 25.IX.2010, 1 ♂ cl 21.6 mm (MNHN-IU-2013-7001). — Madang, Stn CP 3707, 04°59'S, 145°50'E, 460-466 m, 2.X.2010, 1 ♂ cl 44.1 mm, 1 ♀ cl 56.4 mm (MNHN-IU-2011-2715). — Astrolabe Bay, Stn CP 3711, 05°23'S, 145°48'E, 434-447 m, 5.X.2010, 1 ♂ cl 23.0 mm, 1 ♀ cl 41.2 mm (MNHN-IU-2011-2052). — Mambare Bay, Stn CP 3729, 07°52'S, 148°03'E, 575-655 m, 8.X.2010, 1 ♀ cl 21.1 mm (MNHN-IU-2013-7008). — Jacquinot Bay, Stn CP 3774, 05°35'S, 151°35'E, 470-680 m, 16.X.2010, 1 ♂ cl 42.5 mm (MNHN-IU-2011-2803).

DISTRIBUTION. — Widespread throughout the Indo-West Pacific and both sides of the Atlantic, known from the Solomon Islands and Fiji; 77-2055 m (Galil 2000; Ah Yong & Galil 2006); new record for PNG.

REMARKS

As in specimens from Solomon Islands and Fiji (Ah Yong & Galil 2006), the present specimens of *P. typhlops* possess heavily granulated abdominal tergites.

Genus *Stereomastis* Spence Bate, 1888

Stereomastis aculeata (Galil, 2000)

Polycheles aculeatus Galil, 2000: 312, fig. 11 (type locality: New Caledonia, 22°35.6'S, 166°26.2'E). — Ah Yong & Chan 2004: 173, figs 3D, 4B. — Ah Yong & Galil 2006: 759. — Poore *et al.* 2008: 91, fig.

Stereomastis aculeata — Ah Yong 2009: 385, 383; 2012: 1. — Chan 2010: 162.

MATERIAL EXAMINED. — BIOPAPUA, Mambare Bay, Stn CP 3728, 07°52'S, 148°01'E, 498-501 m, 8.X.2010, 1 ♂ cl 28.8 mm (MNHN-IU-2011-1848). — Lancasay Island, Stn CP 3737, 08°15'S, 150°45'E, 587 m, 9.X.2010,

1 ♂ cl 20.0 mm, (MNHN-IU-2011-1937). — Jacquinot Bay, Stn CP 3774, 05°35'S, 151°35'E, 470-680 m, 16.X.2010, 2 ♂ cl 40.8 mm, 1 ♀ cl 35.3 mm (MNHN-IU-2011-1964).

DISTRIBUTION. — Solomon Islands, Vanuatu, New Caledonia, Lifou, Indonesia, Western and Eastern Australia, East China Sea, Taiwan; 144-1053 m. (Galil 2000; Ah Yong & Galil 2006); new record for PNG.

Stereomastis auriculata (Spence Bate, 1878)

(Fig. 1C)

Pentacheles auriculatus Spence Bate, 1878a: 280 (type locality: off Kandavu Island, Fiji, 19°07.50'S, 178°19.35'E); 1878b: 484; 1878c: 563.

Stereomastis auriculata — Spence Bate 1888: 159. — Ah Yong 2009: 385; 2012: 3. — Chan 2010: 162.

Pentacheles auriculata — Spence Bate 1888: pl. 16, figs 3, 4.

Polycheles auriculatus — Galil 2000: 293, 315, fig. 12. — Ah Yong & Chan 2004: 176, figs 3A-C, 4D. — Ah Yong & Galil 2006: 762.

MATERIAL EXAMINED. — BIOPAPUA, Huon Gulf, Stn CP 3632, 06°56'S, 147°08'E, 700-740 m, 22.VIII.2010, 1 ♀ cl 31.9 mm (MNHN-IU-2011-1156). — Huon Gulf, Stn CP 3638, 07°23'S, 147°34'E, 890-895 m, 23.VIII.2010, 1 ♀ ovi. cl 54.7 mm (MNHN-IU-2011-3229). — South of New Hanover, Stn CP 3650, 02°39'S, 150°46'E, 704-720 m, 25.IX.2010, 1 ♂ cl 20.1 mm (MNHN-IU-2011-3227). — Open Bay, Stn CP 3666, 04°40'S, 151°33'E, 760-866 m, 23.IX.2010, 3 ♀ cl 25.6-49.4 mm (MNHN-IU-2013-7011). — Open Bay, Stn CP 3667, 04°40'S, 151°34'E, 670-921 m, 23.IX.2010, 1 ♂ cl 21.0 mm, 1 ♀ cl 19.9 mm (MNHN-IU-2013-7005). — North of Rabaul, Stn CP 3674, 04°02'S, 151°50'E, 788-805 m, 24.IX.2010, 1 ♀ cl 44.5 mm (MNHN-IU-2011-1845). — Kimbe Bay, Stn CP 3676, 05°21'S, 150°45'E, 490-715 m, 25.IX.2010, 1 ♀ ovi. cl 57.3 mm (MNHN-IU-2011-2981). — Seamount, South of Manus Island, CP 3686, 03°16'S, 147°18'E, 964-1025 m, 28.IX.2010, 1 ♀ ovi. cl 61.9 mm (MNHN-IU-2011-2748). — Mambare Bay, Stn CP 3730, 07°51'S, 148°01'E, 710-750 m, 8.X.2010, 1 ♂ cl 24.5 mm, 1 ♀ ovi. cl 53.2 mm (MNHN-IU-2013-7004). — Mambare Bay, Stn CP 3731, 07°50'S, 148°04'E, 895-1150 m, 8.X.2010, 1 ♀ cl 58.6 mm (MNHN-IU-2011-3270). — Lancasay Is., Stn CP 3736, 08°14'S, 150°32'E, 760-769 m, 9.X.2010, 1 ♀ ovi. cl 54.3 mm, (MNHN-IU-2013-7007). — Woodlark Island, Stn CP 3744, 09°17'S, 152°17'E, 776-856 m, 10.X.2010, 1 ♀ cl 26.0 mm (MNHN-IU-2013-7009).

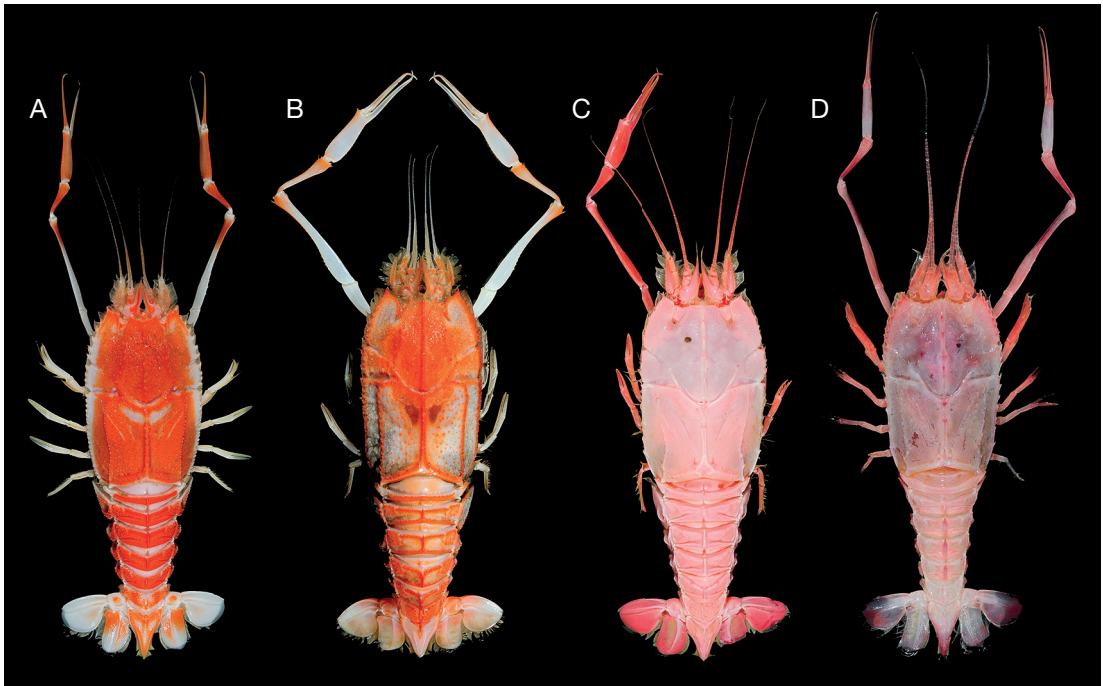


FIG. 1. — **A**, *Polycheles coccifer* Galil, 2000, Stn CP 3645, male, cl 39.1 mm, MNHN-IU-2011-5084; **B**, *Polycheles typhlops* Heller, 1862, Stn CP 3774, male, cl 42.5 mm, MNHN-IU-2011-2803; **C**, *Stereomastis auriculata* (Spence Bate, 1878), Stn CP 3638, female ovi., cl 54.7 mm, MNHN-IU-2011-3229; **D**, *Stereomastis galil* (Ahyong & Brown, 2002), Stn CP 3650, male, cl 23.5 mm, MNHN-IU-2011-2807. Photographs by Tin-Yam Chan and Ruei Yi Lee, edited for publication by Oz Rittner.

DISTRIBUTION. — Marquesas archipelago, Solomon Islands, Fiji, Vanuatu, New Caledonia, Australia, Philippines, Taiwan; 435–1598 m (Galil 2000; Ahyong & Galil 2006); new record for PNG.

Stereomastis galil (Ahyong & Brown, 2002)
(Fig. 1D)

Polycheles galil Ahyong & Brown, 2002: 56, 75, figs 2, 3A, B (type locality: 258 km NW of Port Hedland, Western Australia, 18°42'S, 116°21'E). — Ahyong & Chan 2004: 176, figs 3J, K, 4F. — Ahyong & Galil 2006: 764.

Polycheles phosphorus – Galil 2000: 336, fig. 22 (part).

Stereomastis galil – Ahyong 2009: 384. — Chan 2010: 162.

MATERIAL EXAMINED. — BIOPAPUA, Huon Gulf, Stn CP 3637, 07°25'S, 147°30'E, 608–615 m, 23.VIII.2010, 1 ♀ ovi. cl 46.6 mm (MNHN-IU-2011-1884). — South of New Hanover, Stn CP 3650, 02°39'S, 150°03'E, 805–823 m, 27.VIII.2010, 1 ♂ cl 23.5 mm (MNHN-IU-2011-2807). — Open Bay, Stn CP 3666,

04°40'S, 151°33'E, 760–866 m, 23.IX.2010, 1 ♂ cl 41.0 mm, 1 ♀ cl 36.1 mm, 8 juveniles (MNHN-IU-2011-1147). — Open Bay, Stn CP 3667, 04°40'S, 151°34'E, 670–921 m, 23.IX.2010, 5 ♂♂ cl 19.9–39.0 mm, 6 ♀♀ cl 19.8–35.7 mm, 2 juveniles (MNHN-IU-2011-915). — North of Rabaul, Stn CP 3672, 04°04'S, 151°50'E, 702–724 m, 24.IX.2010, 1 ♂ cl 29.0 mm, 1 ♀ cl 49.6 mm (MNHN-IU-2011-870). — North of Rabaul, Stn CP 3674, 04°02'S, 151°50'E, 788–805 m, 24.IX.2010, 2 ♂♂ cl 21.9, 35.9 mm, 2 juveniles (MNHN-IU-2013-7006). — Kimbe Bay, Stn CP 3679, 05°21'S, 150°45'E, 490–715 m, 25.IX.2010, 1 ♂ cl 39.3 mm (MNHN-IU-2011-1513). — Southeast of Manus Island, Stn CP 3689, 02°16'S, 147°29'E, 679–685 m, 29.IX.2010, 1 ♂ cl 41.6 mm (MNHN-IU-2011-2734). — Madang, Stn CP 3709, 04°58'S, 145°52'E, 640–675 m, 2.X.2010, 1 ♀ ovi. cl 52.3 mm (MNHN-IU-2011-3362). — Astrolabe Bay, Stn CP 3714, 05°20'S, 145°51'E, 676–720 m, 5.X.2010, 1 ♀ cl 24.0 mm (MNHN-IU-2011-3354). — Astrolabe Bay, Stn CP 3714, 05°20'S, 145°51'E, 676–720 m, 5.X.2010, 1 ♀ cl 23.2 mm (MNHN-IU-2011-1019). — Astrolabe Bay, Stn CP 3718, 05°21'S, 145°54'E, 851–865 m, 6.X.2010, 1 ♀ cl 38.1 mm (MNHN-IU-2011-2223). — Mambare

Bay, Stn CP 3729, 07°52'S, 148°03'E, 575-655 m, 8.X.2010, 1 ♂ cl 40.1 mm, 1 ♀ ovi. cl 54.4 mm (MNHN-IU-2011-2022). — Mambare Bay, Stn CP 3730, 07°51'S, 148°01'E, 710-750 m, 8.X.2010, 1 ♂ cl 46.2 mm, 1 ♀ ovi. cl 52.3 mm (MNHN-IU-2013-7003). — Mambare Bay, Stn CP 3731, 07°50'S, 148°04'E, 895-1150 m, 8.X.2010, 1 ♂ cl 39.6 mm, 2 juveniles (MNHN-IU-2013-7002). — Lancasay Island, Stn CP 3736, 08°14'S, 150°32'E, 760-769 m, 9.X.2010, 3 ♂♂ cl 37.8-45.3 mm, 1 ♀ cl 43.1 mm, 1 juvenile (MNHN-IU-2011-2081). — Lancasay Island, Stn CP 3736, 08°14'S, 150°32'E, 760-769 m, 9.X.2010, 2 ♂♂ cl 28.9, 19.5 mm, 1 ♀ cl 24.4 mm (MNHN-IU-2011-1095). — Woodlark Island, Stn CP 3744, 09°17'S, 152°17'E, 776-856 m, 10.X.2010, 1 ♀ cl 53.5 mm (MNHN-IU-2011-952).

DISTRIBUTION. — Northwestern Australia to Indonesia, New Caledonia, Vanuatu, Solomon Islands, Fiji, Philippines, Japan, Taiwan; 200-1354 m (Ahyong & Brown 2002); new record for PNG.

Stereomastis sculpta (Smith, 1880)

Polycheles sculptus Smith, 1880: 346, pl. 7 figs 1-6 (type locality: off Nova Scotia, Canada, 43°10'N, 61°20'W). — Galil 2000: 292, 340, fig. 24. — Ahyong & Brown 2002: 75, 78. — Ahyong & Chan 2004: 179, fig. 3E, G. — Ahyong & Galil 2006: 765. — Boyko 2006: 42. — Ahyong 2007: 50.

Pentacheles spinosus A. Milne Edwards, 1880: 66 (type locality: W of Tortugas, off Dominica).

Stereomastis sculpta – Griffin & Stoddart 1995: 248. — Ahyong 2009: 385. — Chan 2010: 162. — Hendrickx 2012: 359.

MATERIAL EXAMINED. — BIOPAPUA, Huon Gulf, Stn CP 3638, 07°23'S, 147°34'E, 890-895 m, 23.VIII.2010, 1 ♂ cl 31.7 mm (MNHN-IU-2011-1303).

DISTRIBUTION. — Worldwide: both sides of the Atlantic Ocean and the Mediterranean Sea; widely distributed in the Indo-West Pacific, including Australia, Vanuatu, and Fiji; 200–4000 m (Galil 2000; Ahyong & Galil 2006); new record for PNG.

DISCUSSION

The Polychelidae collected by the BIOPAPUA Expedition comprise eight species in three genera. None are endemic; three – *Pentacheles laevis*, *Polycheles typhlops*, *Stereomastis sculpta* – are wide ranging,

known to occur in the Indo Pacific and Atlantic oceans, whereas *Polycheles coccifer*, *S. aculeata*, *S. auriculata* and *S. galil* are widespread within the western Pacific. *Polycheles baccatus* has the narrowest distribution of the species collected, ranging from the Wallis and Futuna Islands to Australia and the Philippines. Five of the species collected during the BIOPAPUA Expedition have been recorded in a study of the polychelid fauna of the nearby Solomon Islands (Ahyong & Galil 2006). However, possibly due to the preponderance of shallower stations, two species – *S. helleri* Spence Bate, 1878 and *S. nana* (Smith, 1884) – recorded from greater depths off the Solomon Islands, are missing from the present collection.

The polychelids of the Bismarck and western Solomon seas do not present significant novel bathymetric or distributional data. However, the importance of the collection lies in documenting benthic diversity in a region on the cusp of seabed exploitation.

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