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ON A NEW SPECIES OF FRESHWATER CRAB OF THE GENUS *OVITAMON* NG & TAKEDA 1992 (CRUSTACEA: BRACHYURA: POTAMIDAE) FROM PANAY ISLAND, PHILIPPINES

Daniel Edison M. Husana
Environmental Biology Division, Institute of Biological Sciences, CAS, University of the Philippines Los Baños, College, Laguna, Philippines 4031
Email: dehusana@gmail.com

Tomoki Kase
Department of Geology and Paleontology, National Museum of Nature and Science
4-1-1 Amakubo, Tsukuba City, Ibaraki 305-0005
Email: kase@kahaku.go.jp

Peter K. L. Ng
Raffles Museum of Biodiversity Research, Department of Biological Sciences, National University of Singapore
14 Science Drive 4, 117543 Singapore
Email: peterng@nus.edu.sg

ABSTRACT. — A new species of potamid freshwater crab *Ovitamon* Ng & Takeda, 1992, is described from Panay Island, Philippines. *Ovitamon agmamba*, new species, is the largest known member of the genus, and while its overall appearance is similar to *O. tomaculum* Ng & Takeda, 1992, also described from Panay, its male first gonopod morphology is closer to that of *O. arcanum* Ng & Takeda, 1992, from Marinduque Island. The distinguishing characters for the new species are the concave proximal lateral margin of the male telson and the diagnostic structure of the male first gonopod, which is relatively more sinuous, as well as having a more slender terminal segment.

KEY WORDS. — Potamidae, *Ovitamon*, *Ovitamon agmamba*, new species, Panay Island, Philippines

INTRODUCTION

Six species of *Ovitamon* Ng & Takeda, 1992, all from the Philippines, are known at present: *O. baloy* Manuel-Santos & Ng, 2013 [western Panay Island]; *O. lubang* Manuel-Santos & Ng, 2013 [Mindoro Island]; *O. arcanum* Ng & Takeda, 1992 [Marinduque Island]; *O. artifrons* (Bürger, 1884) [southwestern Luzon]; *O. cumingii* (Miers, 1884) [Guimaras Island]; and *O. tomaculum* Ng & Takeda, 1992 [southern Panay Island] (Ng et al., 2008; Manuel-Santos & Ng, 2013). *Ovitamon agmamba*, new species, from northeast Panay Island, is the third species to be described from this central Philippine island and the seventh species in the genus. This new species is also the largest known member of the genus. The terminology used here follows that of Ng & Takeda (1992). The abbreviations G1 and G2 are used for the male first and second gonopods, respectively, and the measurements provided are for the carapace width and carapace length, respectively, in millimeters. Material examined is deposited in the Crustacean Reference Collection, National Museum of the Philippines, Manila (NMCR); the Zoological Reference Collection, Raffles Museum of Biodiversity Research, National University of Singapore (ZRC); and the National Museum of Nature and Science, Tokyo (NSMT).

TAXONOMY

Family Potamidae Ortmann, 1896

Ovitamon Ng & Takeda, 1992

Ovitamon agmamba, new species
(Figs. 1–4)

Material examined. — Holotype: male (50.0 × 38.8 mm) (NMCR 39075) Agmamba creek, Barangay Traciano, Dumarao, Capiz, Panay Island, 11°14.662'N, 122°38.528'E, Philippines, coll. T. Kase, 12 May 2012. Paratypes: 1 female (50.7 × 39.4 mm) (NMCR 39080), same data as holotype; 1 male (50.4 × 40.1 mm) (NSMT-Cr 22314), 1 female (49.7 × 38.6 mm) (NSMT-Cr 22315), 1 male (41.4 × 32.7 mm), 1 female (46.4 × 37.0 mm) (ZRC 2013.0273), same data as holotype.

Comparative material. — *Ovitamon tomaculum* (Ng & Takeda, 1992), paratypes: 2 males, 5 females (largest 21.6 × 17.1 mm), two juveniles (NSMT-Cr 11220) Pitogo River, Panay, Philippines, coll. M. Takeda & S. Shokita, 19 Aug.1985. *Ovitamon baloy* Manuel-Santos & Ng, 2013, holotype male (19.5 × 14.7 mm) (NMCR 15007), Philippines, Panay island, Antique, Valderama, Mount Baloy, 1340 m asl, coll. M. R. Manuel, Oct.1989.

Diagnosis. — Carapace ovoid, proportionately rounded, smooth; anteroexternal angle of third maxilliped merus produced; male telson longer than somite 6, proximal lateral margin concave; G1 proportionately stout, tapering to distal end, slender, terminal segment cylinder-shaped, upcurved, surfaces covered with dense, smooth, spiniform, short setae, outer distolateral margin of subterminal segment concave.

Description of holotype male. — Carapace ovoid (Fig. 1a), broader than long; dorsal surface and posterolateral regions smooth; suborbital, sub-branchial and pterygostomial smooth; branchial region swollen, carapace appearing inflated laterally and longitudinally. Frontal margin gently sinuous; supraorbital margin entire; external orbital angle triangular, outer margin granulated; epibranchial tooth low, blunt, distinctly separated from external orbital angle; anterolateral margin convex, granulated; posterolateral margin distinctly converging posteriorly. Epigastric cristae distinct, low, rugose, vaguely confluent with low but sharp postorbital cristae.

Eyes well developed, well pigmented, fills entire cavity, cornea wider than peduncle in dorsal view. Buccal cavern quadrate. Exopod of third maxilliped with long flagellum, as long as width of merus; ischium squarish with shallow indistinct median sulcus on proximal three-quarters of ventral surface, relatively deeper proximally; anteroexternal angle distal margin of merus produced (Fig. 1b, c). Epistome relatively wide, margins cristate, posterior margin with triangular median lobe with concave margins; lateral lobes low (Fig. 1b).

Chelipeds unequal, outer surface of cheliped smooth, finger subequal in length with palm (Fig. 2a, b), carpus with prominent inner distal spine and sharp basal granule on proximal part. Ambulatory legs relatively slender, long, surfaces smooth, without subdistal spines on dorsal margins of meri; posterior margins of all legs smooth.

Thoracic sternites smooth, setae present on junctions of suture and lateral margins of sternites 2, 3; suture between sternites 2, 3 gently convex; sternites 1, 2 completely fused, with setae on suture, triangular with apex long, sharp. Sterno-abdminal cavity reaching imaginary line joining anterior edges of coxae of chelipeds. Abdominal segment triangular (Fig. 3a);

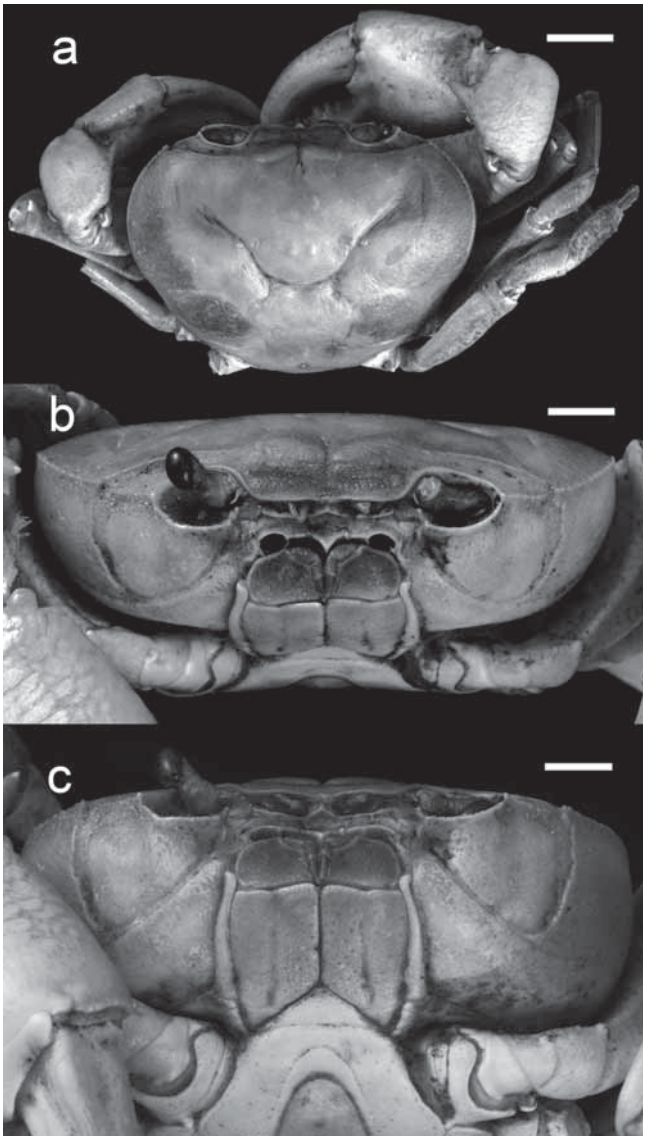

Fig. 1. *Ovitamon agmamba*, new species, holotype male (50.0 × 38.8 mm) (NMCR 39075), Panay Island, Philippines: a, habitus, dorsal view; b, cephalothorax, anterior view; c, buccal field and thoracic sternum, ventral view. Scale bars = 10.0 mm (a), 5.0 mm (b, c).

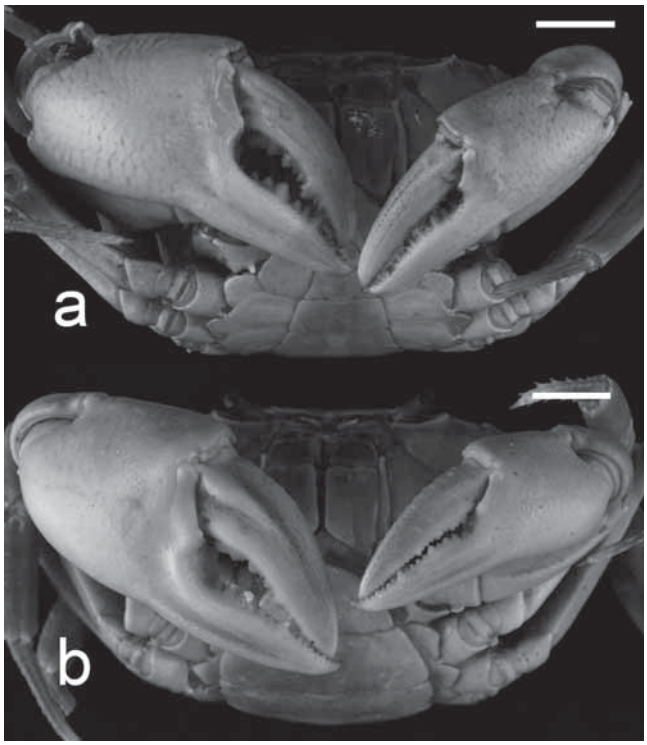

Fig. 2. Chelipeds. *Ovitamon agmamba*, new species: a, holotype male (50.0 × 38.8 mm) (NMCR 39075); b, paratype female (49.7 × 38.6 mm) (NSMT-Cr22315); Panay Island, Philippines. Scale bars = 10.0 mm.

somite 3 widest, narrowing progressively towards telson; lateral margins of somite 6 almost straight; telson longer than somite 6, lateral margins slightly concave proximally.

G1 tapering to distal end (Figs. 3d, e, 4a, b, d, e), sinuous, slender, membranous collar separating terminal and subterminal segments dorsally, slightly swollen proximally at dorsomesial corner. Terminal segment cylindrical, upcurved, 0.38 times length of subterminal segment. Surfaces of subterminal segment covered with dense, smooth, spiniform, short setae, longitudinal groove running from base to distal end of ventral surface, lined with long setae along margins. Distal segment of G2 (Figs. 3f, 4c, f) long, 0.57 times length of basal segment.

Paratype female. — The female agrees in all aspects to the male holotype in non-sexual characters. The subcircular abdomen covers almost the entire thoracic sternum (Fig. 3b).

Etymology. — The new species is named after the type locality of this species. The name is used as a noun in apposition.

Habitat. — *Ovitamon agmamba*, new species, was collected from small creek in low mountain area. This new species was found hiding under rocks and crevices during daytime.

Remarks. — Three species of potamids are known from Panay-Guimaras region on Panay Island: *Ovitamon cumingii* Miers, 1884 (from Guimaras Island, ca. 10°35'N, 122°36'E), *O. tomaculum* Ng & Takeda, 1992 (from Pitogo River, ca. 10°34.78'N, 122°3.82'E, in southern Panay), and *O. baloy* Manuel-Santos & Ng, 2013 (Mount Baloy, western Panay, ca. 11°8.800'N, 122°15.183'E). The new species, *O. agmamba* (from northeastern Panay, 11°14.662'N, 122°38.528'E), is the fourth to be described from this region. This is also the largest known *Ovitamon* species and can easily be distinguished from all congeners by several very distinct characters.

Compared to *O. cumingii*, which is only known from dried specimens from Guimaras Island (G1 structure not known) (see Ng & Takeda, 1993), the overall appearance of the carapace of *O. agmamba*, new species, is more rounded, the lateral margins are more convex and inflated while the branchial regions are relatively smooth (Fig. 1a) (vs

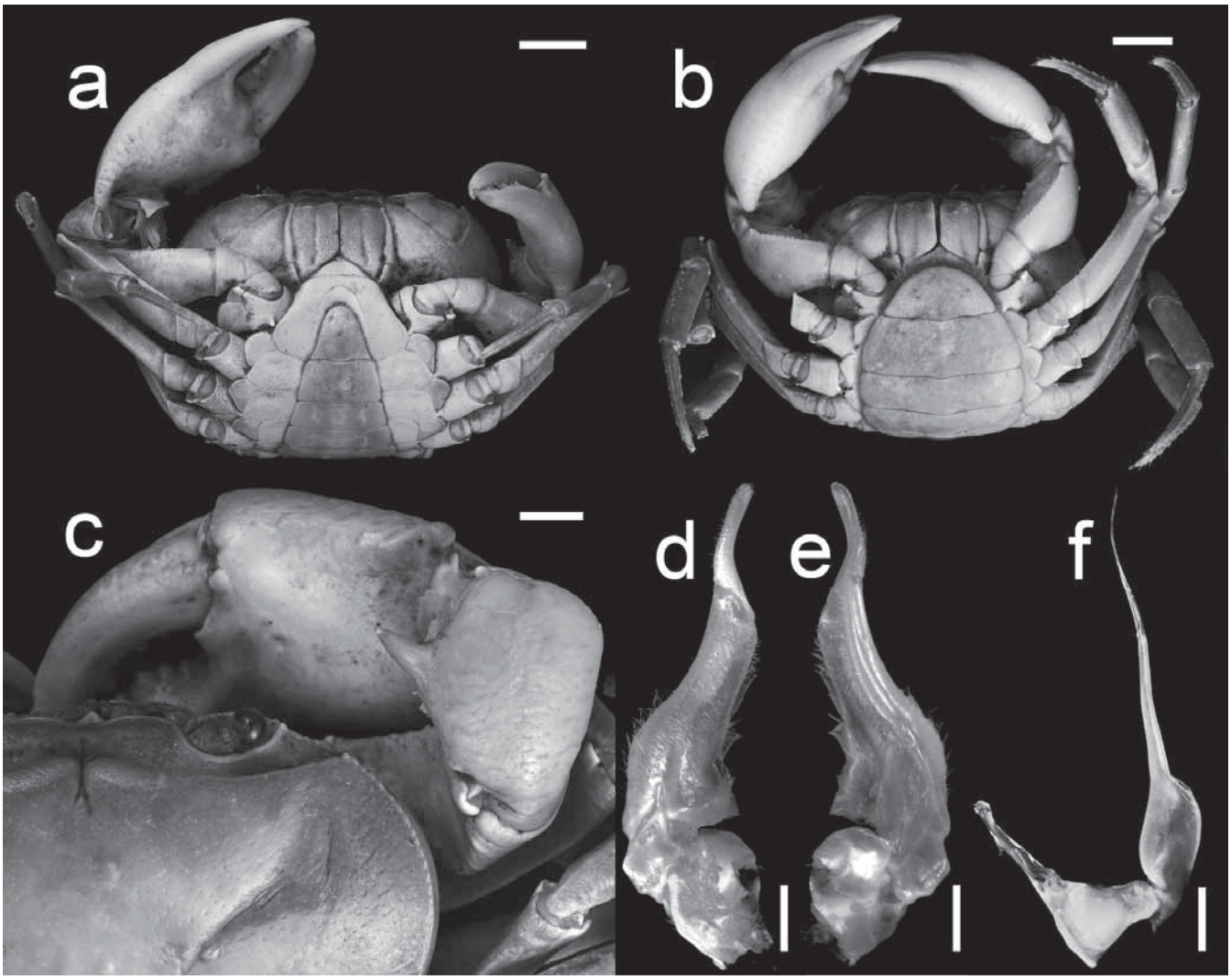

Fig. 3. *Ovitamon agmamba*, new species, a, c–f, holotype male (50.0 × 38.8 mm) (NMCR 39075); b, paratype female (49.7 × 38.6 mm) (NSMT-Cr22315); Panay Island, Philippines. a, b, abdomen; c, male right anterolateral margin and right cheliped; d, left G1, dorsal view; e, left G1, ventral view; f, left G2, ventral view. Scale bars = 10.0 mm (a, b), 5.0 mm (c), 2.0 mm (d–f).

squarish carapace, lateral margins are less convex and the branchial regions have weak but distinct striae or granules in *O. cumingii*, cf. Ng & Takeda, 1993: fig. 1A, B). These differences cannot be accounted for by size related aspects as the type male of *O. cumingii* is relatively large at 38.0 by 28.9 mm (Ng & Takeda, 1993: 112), and comparable in size to one of the small paratype males (ZRC 2013.0273, 41.4 × 32.7 mm) of *O. agmamba* examined here.

The dorsal surface of the carapace of *O. agmamba* is similar in appearance to *O. tomaculum* and the adult material of the latter could easily be mistaken as a juvenile form of the new species if they are compared side by side. Other than the much larger adult size of *O. agmamba* (which reaches carapace widths of 40–50 mm vs only 20 mm for *O. tomaculum*), other differences include the lateral margins of the male telson being concave in the proximal part (Fig. 3a) (vs almost straight in *O. tomaculum*, cf. Ng & Takeda, 1992: 156), the middle angle of the distal margin of the third maxilliped merus is relatively more produced (Fig. 1b) (vs less produced in *O. tomaculum*, cf. Ng & Takeda, 1992: fig. 3D), the outer distolateral margin of the subterminal segment of the G1 is more concave (Figs. 3d, e, 4a, b, d, e) (vs slightly sinuous in *O. tomaculum*, cf. Ng & Takeda, 1992: fig. 3E–F, J–K, G–H), and the terminal segment of the G1 is proportionately more slender (Figs. 3d, e, 4a, b, d, e) (vs stouter in *O. tomaculum*, cf. Ng & Takeda, 1992: fig. 3E–F, J–K, G–H).

Adult specimens of *O. agmamba* are twice as large as *O. baloy* and the identities of the two species cannot be confused, even though they are from nearby localities. The carapaces of the two species are quite different from each other: the anterolateral margin of *O. agmamba* is distinctly serrated due to the presence of granules (Figs. 1a–b, 3c) (vs absent in *O. baloy*, cf. Manuel-Santos, 2013: fig. 1A, B). The G1s of the two species are also quite different, with that of *O. agmamba* relatively more slender (Figs. 3d, e; 4a, b, d, e) (vs stouter in *O. baloy*, cf. Manuel-Santos, 2013: fig. 3A–B)

With regard to the general shape of the G1, that of *O. agmamba* is most similar to *O. arcanum* Ng & Takeda, 1992, described from Marinduque Island. The G1 of *O. agmamba*, however, is relatively more slender towards the distal end and the terminal segment is more upright distally (Figs. 3d, e, 4a, b, d, e) (vs evenly cylindrical with more prominently bent terminal segment in *O. arcanum*, cf. Ng & Takeda, 1992: fig. 1D–G). The shape of the male telson is also different, with the lateral margins of *O. agmamba* distinctly concave (Fig. 3a) (vs straight in *O. arcanum*, cf. Ng & Takeda, 1992: fig. 1C).

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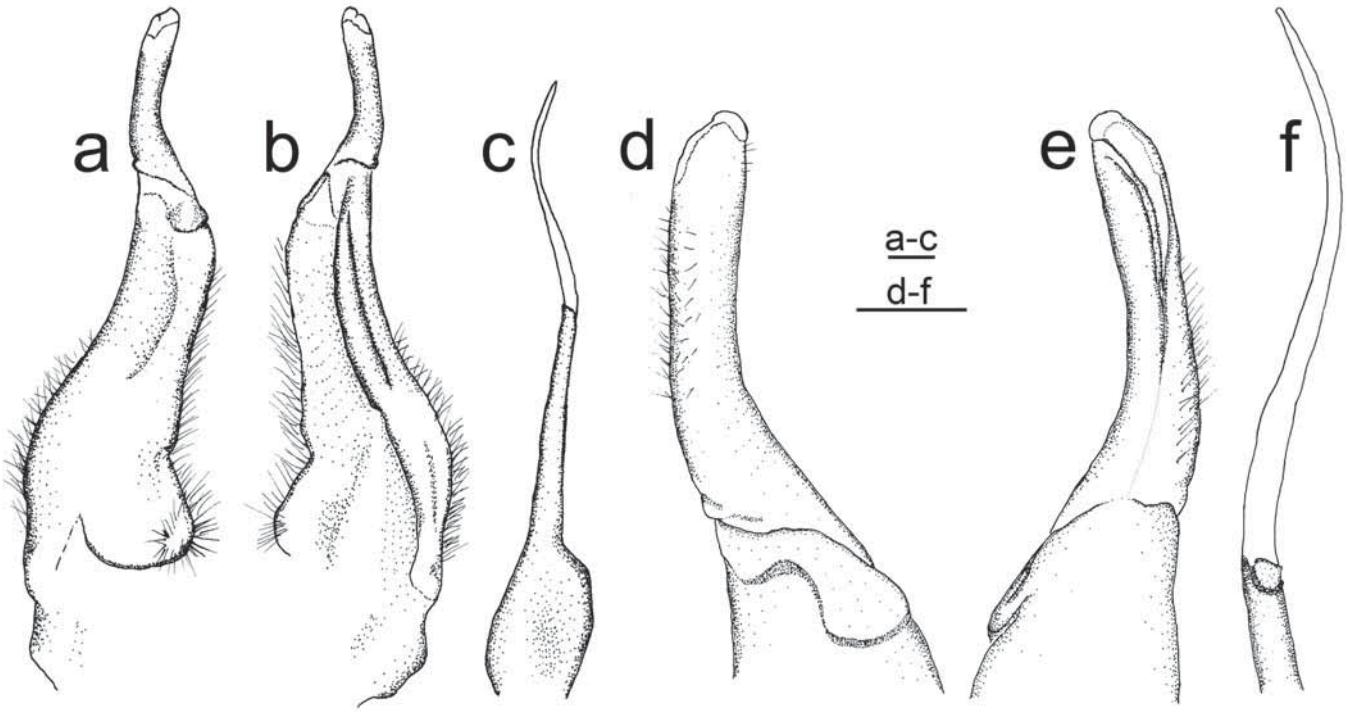

Fig. 4. *Ovitamon agmamba*, new species, holotype male (50.0 × 38.8 mm) (NMCR 39075), Panay Island, Philippines. a, left G1, dorsal view; b, left G1, ventral view; c, left G2, ventral view; d, distal segment of left G1, dorsal view; e, distal segment of left G1, ventral view; f, distal segment of left G2, dorsal view. Scale bars = 2.0 mm (a–c), 1.0 mm (d–f).

in Panay Island. Finally, we are grateful to two anonymous reviewers for their valuable comments and suggestions to improve this manuscript.

LITERATURE CITED

Bürger, O., 1884. Beiträge zur Kenntnis der Gattung *Telphusa*. *Zoologische Jahrbücher, Abtheilung für Systematik, Geographie und Biologie der Thiere*, **8**: 1–7, pl. 1.

Manuel-Santos, M. & P. K. L. Ng, 2013. Two new species of *Ovitamon* Ng & Takeda, 1992 (Crustacea: Brachyura: Potamidae) from the Philippines. *Zootaxa*, **3619**: 394–400.

Miers, E. J., 1884. Crustacea. In: *Report on the zoological collections made in the Indo-Pacific Ocean during the voyage of H.M.S.* Alert *1881–1882*. Part I. The collections from Melanesia. London, British Museum (Natural History). Pp. 178–322, pls. 18–32.

Ng, P. K. L., D. Guinot & P. J. F. Davie, 2008. Systema Brachyurorum: Part I. An annotated checklist of extant brachyuran crabs of the world. *Raffles Bulletin of Zoology*, Supplement, **17**: 1–286.

Ng, P. K. L. & M. Takeda, 1992. The freshwater crab fauna (Crustacea, Brachyura) of the Philippines. I. The family Potamidae Ortmann, 1896. *Bulletin of the National Science Museum*, Tokyo, (A)**18**(4): 149–166.

Ng, P. K. L. & M. Takeda, 1993. The freshwater crab fauna (Crustacea, Brachyura) of the Philippines. III. The identity of *Telphusa cumingii* Miers, 1884, and its placement in the genus *Ovitamon* Ng et Takeda, 1992 (family Potamidae). *Bulletin of the National Science Museum*, Tokyo, (A)**19**(3): 111–116.

Ortmann, A., 1896. Das System der Decapoden-Krebse. *Zoologische Jahrbücher, Abtheilung für Systematik, Geographie und Biologie der Thiere*, **9**: 409–453.