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A new species of the xanthid crab genus *Banareia* A. Milne-Edwards, 1869 (Crustacea: Brachyura: Xanthidae) from the Bay of Bengal, southeastern India

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Abstract. A new species of the xanthid crab genus, *Banareia* A. Milne-Edwards, 1869, is described from India using morphological and molecular characters. The new species was collected from the bycatch of the Pazhayar fishing port, which receives trawl catches from the Bay of Bengal, off Tamil Nadu state, in southeastern India. *Banareia metiguinotae*, new species, is most similar to *B. serenei* Guinot, 1976, from Vietnam, in the general form and fresh colouration, but it differs mainly in the outline of the carapace, the form of the front, carapace anterolateral margin, ambulatory legs, and the male pleon and gonopods. The morphological description of the new species is further augmented by mitochondrial cytochrome oxidase subunit I (COI) sequence data. With the description of this new species, 17 species of *Banareia* are hereby recognised, with four species known from Indian territorial waters.

Key words. Decapoda, Banareiinae, *Banareia metiguinotae*, biodiversity, taxonomy

INTRODUCTION

The xanthid crab genus, *Banareia* A. Milne-Edwards, 1869, includes 16 species, most of which are from the Indo-Pacific region, with one species, *B. palmeri* (Rathbun, 1894), occurring in the western Atlantic (Guinot, 1976; Ng et al., 2008). Three species of *Banareia* have been reported thus far from the territorial waters of India, namely: *B. armata* A. Milne-Edwards, 1869, and *B. kraussi* (Heller, 1861) from the Andaman and Nicobar Islands; and *B. banareias* (Rathbun, 1911) from the coasts of Tamil Nadu and Andhra Pradesh (Trivedi et al., 2018).

Recently, we collected one male and three female specimens from the trawl bycatch in Pazhayar, one of the most important commercial trawler-operating fishing ports in the east coast of Tamil Nadu state, south-eastern India. Trawlers operating from this port usually trawl further south in the waters of the Bay of Bengal at depths of 100 to 200 metres for commercial fishing, and they deposit low-value bycatch for conversion to livestock feed ingredients. The study of this bycatch has led to the discovery of both shallow- and deep-water brachyurans from the south-eastern coast of India. Some recent works that utilise material from the same fishing port have contributed to a better understanding of the regional diversity of brachyurans in India (Ng et al., 2017a, b, 2018; Prema et al., 2018, 2019, 2020, 2021, 2022; Mendoza et al., 2020).

After a careful morphological investigation of all species of the genus and notably a comparison with the holotype of the closest congener, *Banareia serenei* Guinot, 1976, with the help of Prof. Danièle Guinot (MNHN), we recognise the recently collected specimens to be a new species, described herein. The mitochondrial cytochrome oxidase subunit I (COI) was sequenced for the molecular confirmation of the new species and the obtained sequences were submitted to GenBank.

MATERIAL AND METHODS

The collected specimens were preserved in 95% alcohol. The morpho-taxonomical characters and terminology used in this present study follow Guinot (1979) and Davie et al. (2015). The measurements provided are of the maximum carapace width and the carapace length at the midline. All measurements are in millimetres (mm). The images were taken with a Canon EOS 80D digital camera, morphological characters were illustrated using Adobe Illustrator CS2, and the figure plates were edited in Adobe Photoshop CS6. The examined material in this study is deposited in the Centre of Advanced Study in Marine Biology, Annamalai University, Parangipettai, Tamil Nadu, India (CASAU) and the Muséum

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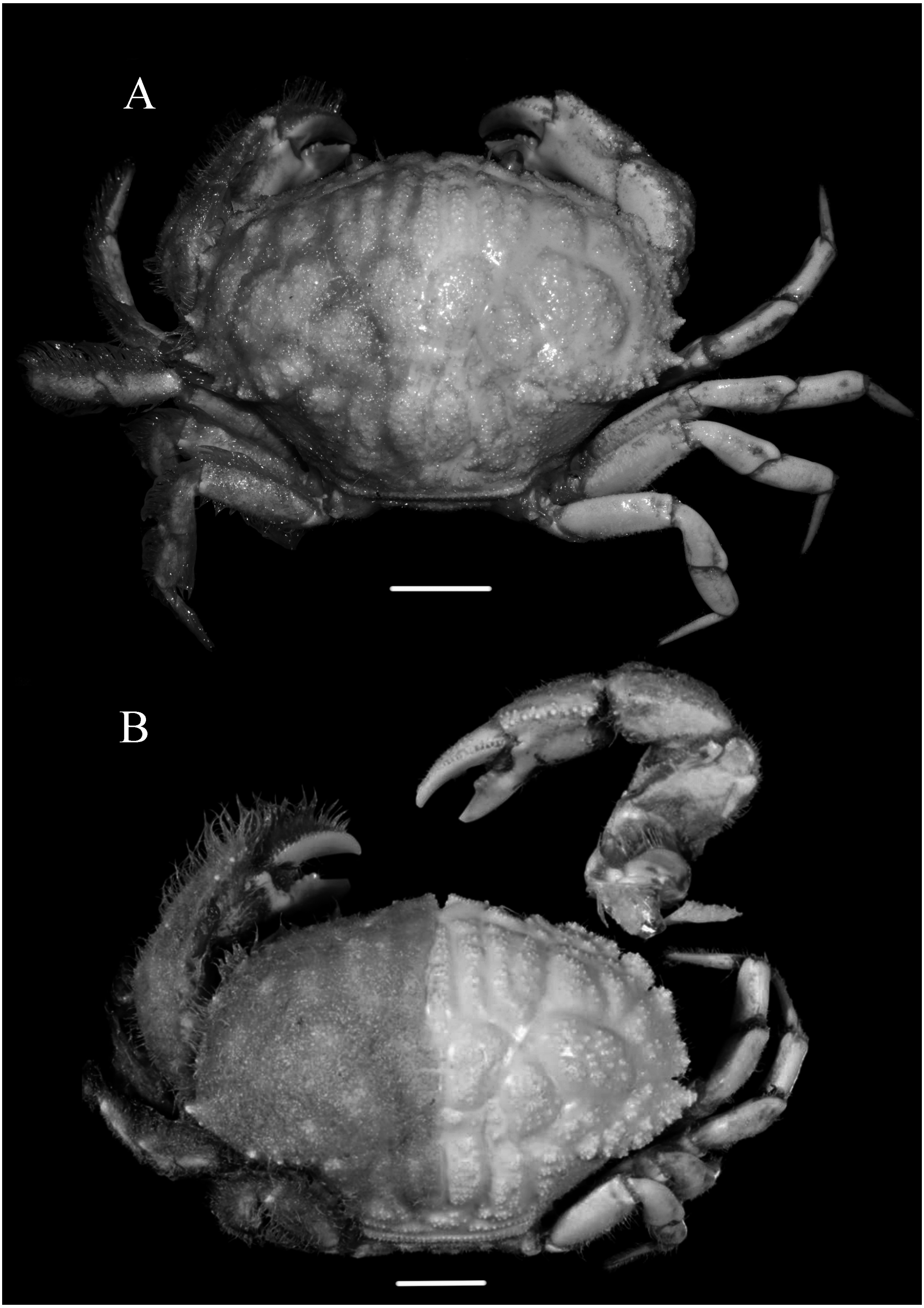

Fig. 1. Dorsal habitus, right half denuded. A, *Banareia metiguinotae*, new species, holotype, female (40.5 × 27.8 mm) (CASAU CR 2020-1020), Tamil Nadu, India; B, *Banareia serenei* Guinot, 1976, holotype, male (52.0 × 35.0 mm) (MNHN-IU-2014-22606 (= MNHN-B7224)), Nha Trang Bay, Vietnam. Scale bars = 10.0 mm.

National d'Histoire Naturelle (MNHN), Paris, France. The following abbreviations are used: CL, maximum carapace length; CW, maximum carapace width (including teeth); G1, first male pleopod; G2, second male pleopod; P1–P5, first to fifth pereopods, respectively.

Muscle tissue extracted from the ambulatory leg (P4) of the holotype was subjected to DNA extraction using the DNeasy Blood & Tissue Kit (Qiagen Inc., Valencia, CA) following the manufacturer's protocol. The quality and concentration of the extracted DNA was confirmed following Mandal et al. (2021). The polymerase chain reactions (PCR) were carried out using the combination of primers LCO1490: 5′-GGTCAACAAATCATAAAGATATTGG and HCO2198: 5′-TAA ACTTCAGGGTGACCAAAAAATCA-3′ (Folmer et al., 1994), which amplified a 709-bp fragment of the Cytochrome oxidase subunit 1 (COI) mitochondrial gene. The amplification and sequencing steps were carried out following the protocol of Mandal et al. (2014, 2021). The obtained sequences were aligned and edited using MEGA 7.0 (Tamura et al., 2013) and have been deposited in the NCBI GenBank.

SYSTEMATICS

Superfamily Xanthoidea MacLeay, 1838

Family Xanthidae MacLeay, 1838

Subfamily Banareiinae Števčić, 2005

***Banareia* A. Milne-Edwards, 1869**

***Banareia metiguinotae*, new species**
(Figs. 1A, 2A–C, 3A–C, 4A–C, E, 5, 6)

Material examined. Holotype: female (40.5 × 27.8 mm) (CASAU CR 2020-1020), bycatch of commercial trawlers, depth 100–200 m, 11°32.134′N 79°57.66′E, Pazhayar fishing port, Tamil Nadu, coll. M. Prema & S. Ravichandran, 8 January 2020.

Paratype: 1 female (41.9 × 29.2 mm) (CASAU CR 2023-1026), coll. 26 February 2023, other data same as holotype.

Other material: 1 male (37.0 × 25.1 mm), (CASAU CR 2018-1041), 1 female (47.0 × 35.0 mm) (CASAU CR 2018-1042), coll. 7 April 2018, other data same as holotype [Note: These specimens were examined, photographed, and illustrated by MP & SRC but were subsequently misplaced while in transit by courier and could not be found].

Comparative material examined. *Banareia serenei* Guinot, 1976: holotype, male (52.0 × 35.0 mm) (MNHN-IU-2014-22606 (= MNHN-B7224), from commercial near-shore trawler, depth 20–30 m, Nha Trang Bay, Vietnam, coll. Nguyen Van Luom, 1970.

Diagnosis. Carapace transversely subovate, broader than long (CW/CL ratio 1.34–1.47); anterolateral margins arcuate, divided into four broad lobes, anterior two granulose, posterior two further armed with large conical teeth; first lobe wide, flat, separated from external orbital angle by shallow concavity; second lobe similar to first but narrower; third lobe with one large conical tooth each on anterior and posterior ends, margin in between granulose, concave; fourth (last) lobe extends inward into branchial region as a granular ridge, armed with several granular or conical teeth, anterior-most of which being the largest and marking widest point of carapace, other teeth decreasing in size posteriorly until reduced to granules. Dorsal surface of carapace moderately setose, with numerous round granules, shallow furrows with dense tomentum. Chelipeds subequal, robust, external surface of palm setose, granular, with longitudinal rows of granules around midline and near ventral margin. Ambulatory legs moderately long, stout, densely covered with long and short setae, posterior margin of meri lined with large granules. G1 long, slender, curving laterally from base to tip, distal tip laterally concave, slightly narrower than main shaft, with numerous simple setae covering most distal part, subdistal sternal margin with short, spiniform setae, sternal surface smooth, dorsolateral margin with seven short, hooked spines. G2 short, less than half length of G1, sigmoid in shape with tapering distal end, terminal segment about one-third length of subdistal segment, lateral margin of subdistal segment lined with short setae.

Description. Female holotype: Carapace (Figs. 1A, 2A, 5A) transversely subovate, 1.4 times as broad as long, dorsal surface granular, moderately setose, strongly convex longitudinally and transversely, regions well defined, separated by narrow, smooth, tomentose furrows; 1F flat, distinct from areolate 2F; 2F separated from 1M by shallow transverse furrow; 2M tripartite, elongate, innermost branch completely separate from middle and outermost branches and fused with 1M, middle and outermost branches nearly separate, fused at base forming a "V"; 3M tripartite, areoles separated by narrow furrows, middle anterior areole long and narrow, 2 basal areoles subovate, wide; 4M, 2L, 3L, 6L distinct, entire; 1L indistinct, depression formed by islets of granules; 4L merging with third lobe of carapace anterolateral margin; 5L partially divided by thin, longitudinal furrow; 1P long, completely divided by shallow median longitudinal furrow; 2P with scattered clumps or indistinct rows of granules; 1R merged with posterolateral teeth, 2R separated from 3R by distinct, subdivided, several small prominent granular islets, surface not very uniform in appearance. Similarly, supra-, infraorbital margins, subhepatic, pterygostomial regions finely granular and setose; subhepatic region with narrow grooves originating from clefts between lobes of carapace anterolateral margin, particularly around third lobe. Front projecting beyond the level of orbits, bilobate, lobes separated by deep fissure which continues as a furrow and connects with anterior tip of 3M, frontal margins strongly concave, granular. Orbits relatively small, width about 0.2 times carapace width; supraorbital margin with three incisions, granular, separated from front by distinct incision; infraorbital margin continuous,

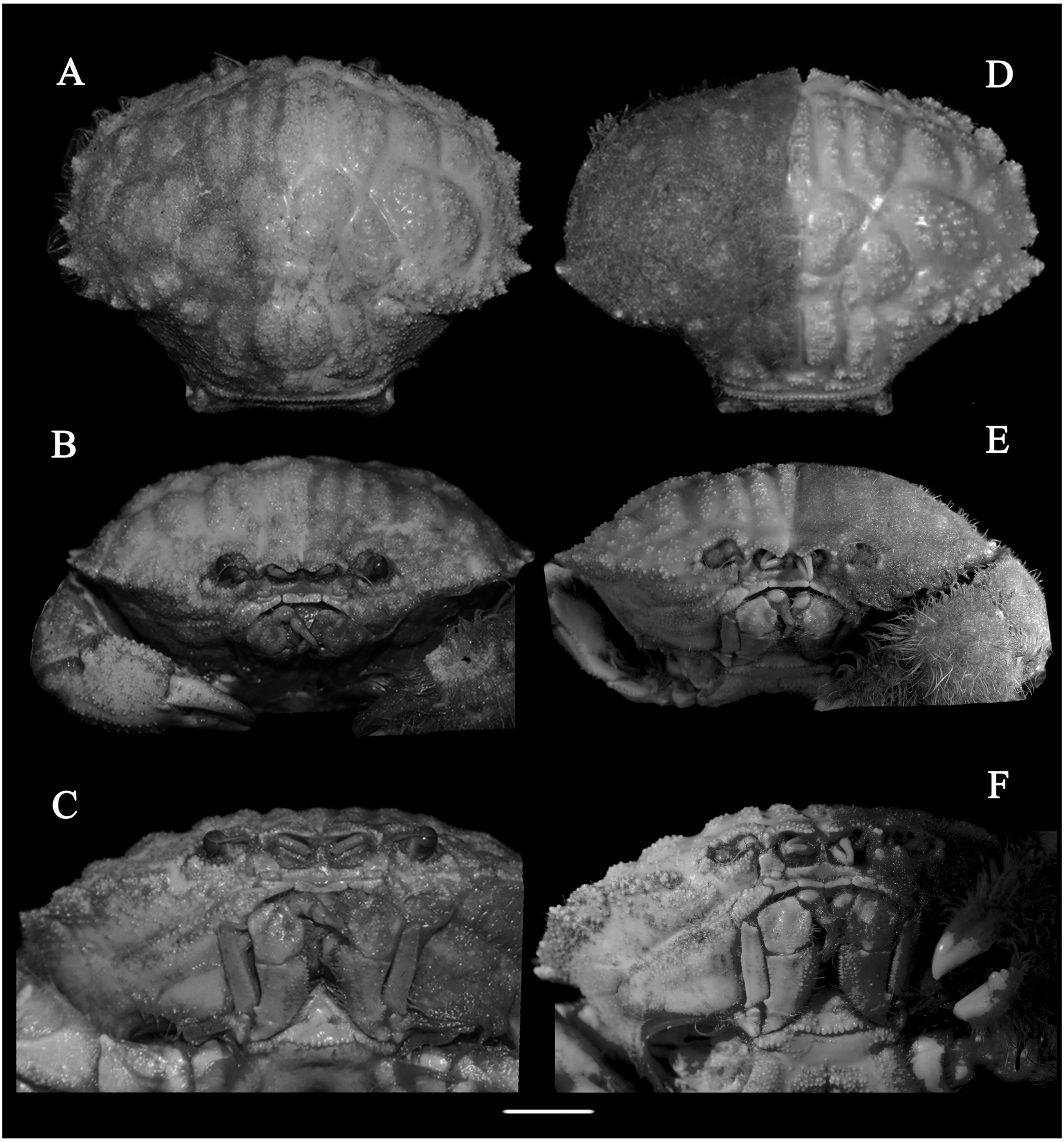

Fig. 2. A–C, *Banareia metiguinotae*, new species, holotype, female (40.5 × 27.8 mm) (CASAU CR 2020-1020), Tamil Nadu, India; D–F, *Banareia serenei* Guinot, 1976, holotype, male (52.0 × 35.0 mm) (MNHN-IU-2014-22606 (= MNHN-B7224)), Nha Trang Bay, Vietnam. A, D, carapace, dorsal view; B, E, cephalothorax, anterior view; C, F, anterior cephalothorax, anteroventral view. Scale bars = 10.0 mm.

granular, infraorbital tooth pointed, not visible in dorsal view, abutting basal antennal article. Anterolateral margin arcuate, granular, gradually connected by line of low granules to supraorbital margin, separated from external junction of supra- and infraorbital margins (exorbital angle) by small, smooth concavity; anterolateral margin divided into four broad granular lobes; first, anterior most lobe wide, truncate, margin nearly straight, separated from second lobe by shallow but distinct notch; second lobe similar to first but narrower, margin distinctly convex; third lobe widest, with one large conical tooth each on anterior and posterior ends, margin in between these teeth granulose, concave; fourth, posterior most lobe more acutely triangular, apex surmounted by large conical tooth which marks widest point of carapace, posterior margin extending inward onto branchial region as a granular ridge, armed with several granular teeth decreasing in size posteriorly until reduced to granules. Posterolateral margins concave, lined with numerous small granules, concavity for receiving posterior ambulatory legs when folded against carapace (coaptation); posterior margin slightly sinuous, lined with minute, round granules.

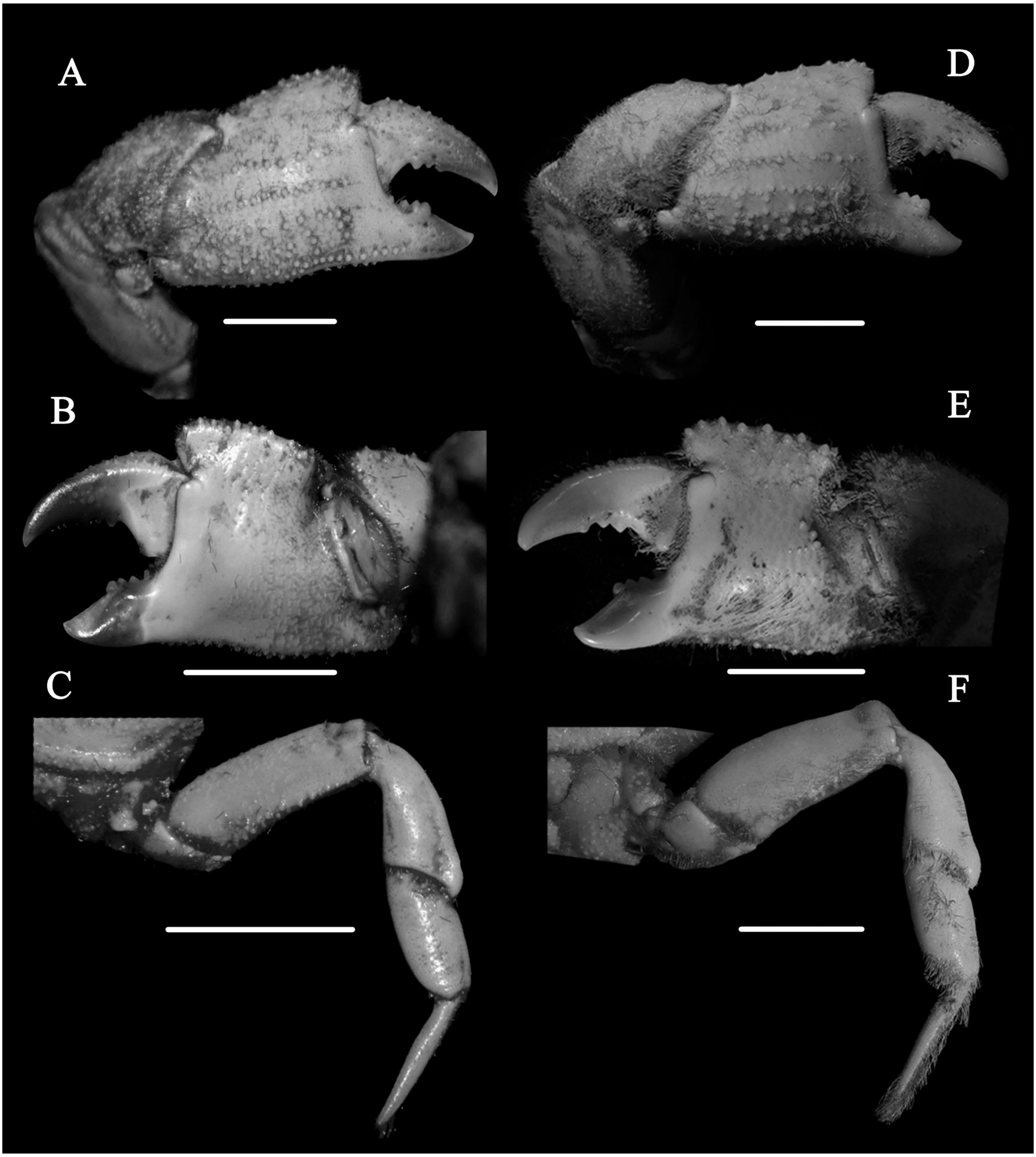

Fig. 3. A–C, *Banareia metiguinotae*, new species, holotype, female (40.5 × 27.8 mm) (CASAU CR 2020-1020), Tamil Nadu, India; D–F, *Banareia serenei* Guinot, 1976, holotype, male (52.0 × 35.0 mm) (MNHN-IU-2014-22606 (= MNHN-B7224)), Nha Trang Bay, Vietnam. A, D, right cheliped, external view; B, E, right chela, internal view; C, F, right P5, dorsal view (C, denuded). Scale bars = 10.0 mm.

Eyes (Fig. 2B, C) with short, stout peduncles, filling entire orbit, distal part of ocular peduncle finely granular, covered by short dense tomentum; corneas well developed. Basal antennal article (Fig. 2B, C) broadly sub-rectangular, granular, occupying, but not completely filling orbital hiatus, immobile, flagellum entering orbital hiatus, tip reaching external orbital margin when extended. Antennular fossa (Fig. 2B, C) sub-rectangular, antennules folding transversely, slightly diagonally, antennular fossa sealed completely by basal antennular segment, outer region deeply grooved. Epistome well developed (Fig. 2B, C), posterior region well divided into 1 central and 2 lateral lobes by 2 wide clefts; central lobe without pronounced median tooth or protuberance, margin nearly straight; margins of lateral lobes nearly straight, laterally two lines of evenly arranged rounded granules stretching towards pterygostomian region. Endostomial ridges indiscernible.

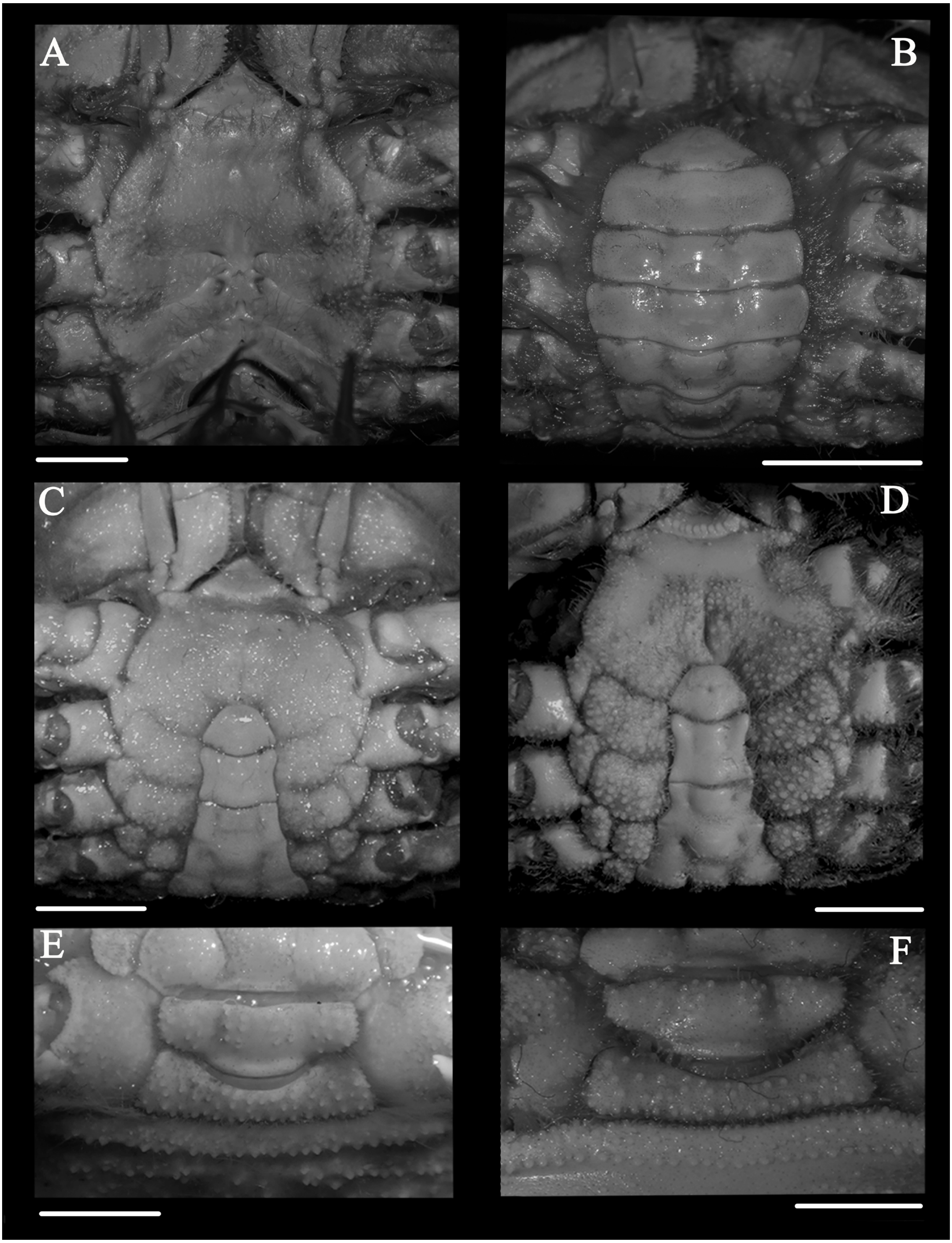

Fig. 4. A, B, *Banareia metiguinotae*, new species, holotype, female (40.5 × 27.8 mm) (CASAU CR 2020-1020), Tamil Nadu, India; C, E, *Banareia metiguinotae*, new species, male (37.0 × 25.1 mm) (CASAU-CR 2018-1041), Tamil Nadu, India. D, F, *Banareia serenei* Guinot, 1976, holotype, male (52.0 × 35.0 mm) (MNHN-IU-2014-22606 (= MNHN-B7224)), Nha Trang Bay, Vietnam. A, female sternopleonal cavity, ventral view; B, female pleon, ventral view; C, D, male thoracic sternum and pleon, ventral view; E, F, male pleon, somites 1 and 2, posteroventral view. Scale bars: A= 5.0 mm; B–F = 10.0 mm.

Buccal aperture not completely closed by third maxillipeds (Fig. 2C), which form large gap between them. Third maxilliped elongated, external surfaces smooth with scattered granules mesially; merus subquadrate, with short setae on external surface, anteroexternal angle not extended, longitudinal submedian groove with oblique sulcus, mesial margin minutely granulated; ischium longer than broad, with shallow submedian sulcus, submedian granular ridge, distal part of lateral margin nearly straight, mesial margin cristate, minutely dentate; separated from basis by thin furrow. Exopod slender, smooth, tapering distally, tip just reaching anterior edge of merus, flagellum long, exceeding width of merus when extended.

Thoracic sternum (Fig. 4A) narrow; sternites 1, 2 fused, forming large, minutely granular, triangular plate which impinges in between and separates third maxilliped ischia, posterior margin of sternite 2 lined with large round granules (Fig. 2C); suture between sternites 2, 3 distinct, complete, marked by deep furrow; sternite 3 short, exposed surface granular, setose; suture between sternites 3, 4 incomplete, marked by cleft on lateral edges and wide, V-shaped furrow medially; sternite 4 large, granular, median line present on smooth area anterior to telson, extending into sternopleonal cavity; sternites 5, 6, 7 with intervening sutures interrupted at midline, suture between sternites 7, 8 complete; median line absent at level of sternites 5, 6, present at level of sternites 7, 8. Sternopleonal cavity granular, shallow; sterno-pleonal locking tubercle on sternite 5 effaced. Vulvae positioned mesially on sternite 6, near suture with sternite 5, large, opening C-shaped, facing mesially.

Chelipeds (P1) (Figs. 1A, 3A, B, 5A) subequal, robust; external surface abundantly covered with granules, short stiff setae. Merus short, only distalmost tip visible from dorsal view, indistinctly granular. Carpus short, broad, external surface rugose, with clumps of coarse granules, internal surface smooth, dorsal and ventral margins lined with densely arranged round granules, internal angle rounded, unarmed. External surface of palm granular, upper third of palm with scattered granules, middle part with two parallel rows of larger granules, lower part with irregularly, densely arranged granules and 1 row of round granules extending to proximal third of fixed finger; superior margin of palm subcristate, slightly convex, raised above line of superior margin of adjacent dactylus; inferior margin of palm sinuous, convex subproximally, concave at junction with fixed finger. Fingers shorter than midlength of palm, flattened, external surfaces pitted; proximal half of cutting margins with irregular subtriangular teeth, distal half blade-like, especially in fixed finger; superior margin of dactylus lined with round granules on proximal two-thirds.

Ambulatory legs (P2–P5) (Figs. 1A, 3C, 5) short (P3 longest, combined merus–dactylus length less than maximum carapace width, P3 length/CW ratio 0.75); robust, dorsal surfaces covered with short setae, margins lined with long setae. Meri sub-rectangular; P5 merus length/width ratio 2.6, dorsal surface smooth, upper margin slightly convex, minutely granular, lower margin slightly concave, with larger round granules especially proximally. Carpi elongatedly trapezoidal, distinctly shorter than corresponding merus, narrowest proximally, widest distally, dorsal surface smooth, with submarginal sulcus near upper margin, upper and lower margins smooth. Propodi sub-rectangular, distinctly shorter than corresponding carpus, smooth, upper and lower margins slightly convex, smooth. Dactyli slender, distinctly longer than corresponding propodus, nearly straight except for slightly curved distal tip, tapering distally and ending in simple chitinised claw.

Pleon (Figs. 4B, 6B) subovate in outline, lateral margins distinctly convex, covering most of thoracic sternum except sternite 1, 2 and anterior portion of sternite 3; somites freely articulated, somite 4 broadest, somite 6 longest, telson subtriangular, short tomentum on the surface, punctate, and margins covered by dense short and long setae.

Male: Somatic (non-sexual) characters similar to female holotype. Thoracic sternum (Fig. 4C) densely packed with prominent granules, these granules stronger than dorsal surface of carapace, punctate; sternites 1, 2 completely fused, triangular, bordered by large pearliform granules; suture between sternites 2, 3 distinct, in deep groove. Sternites 3, 4 almost completely fused, suture 3/4 medially interrupted, represented by long transverse furrow medially and short lateral clefts on either side. Sternite 4 broad, median line present, just anterior to telson. Exposed portions of sternites 5, 6 relatively broad, much broader than respective episternites; exposed portion of sternite 7 narrower, only slightly broader than its episternite; sternite 8 not exposed when pleon is closed. Sutures 4/5, 5/6, 6/7 distinct in sternal plate and medially interrupted in sternopleonal cavity; suture between sternites 7, 8 complete; median line absent at level of sternites 5, 6, present at level of sternites 7, 8. Tubercle of sternopleonal lock well developed, on anterior portion of sternite 5, close to suture with sternite 4.

Pleon (Figs. 4C, E & 6A) relatively broad, short, tip of telson just reaching imaginary transverse line between sternal condyles of P1 coxae; short tomentum on surface. Telson subtriangular, smooth, apex round, lateral margins straight, basal margin convex, basal width slightly greater than median length, tightly fitted into sterno-pleonal cavity; somite 6 subquadrate, slightly wider than long, smooth, anterior and lateral margins concave, posterior margin sinuous; somites 3–5 fused, traces of sutures seen as lateral notches and mesial grooves, lateral margins sinuous and largely concave, somite 3 widest, somites 4, 5 smooth, somite 3 with minute granules scattered on surface; somite 2 subtrapezoidal, granular, lateral margins rounded, anterior margin sinuous, central region of posterior margin distinctly convex; somite 1 subtrapezoidal, somewhat curved, granular, broader than somite 2, anterior margin concave, posterior margin slightly convex, lateral margins straight.

G1 (Fig. 6C, D) curving laterally from base to tip; slender, distal tip laterally concave, slightly narrow, numerous long,

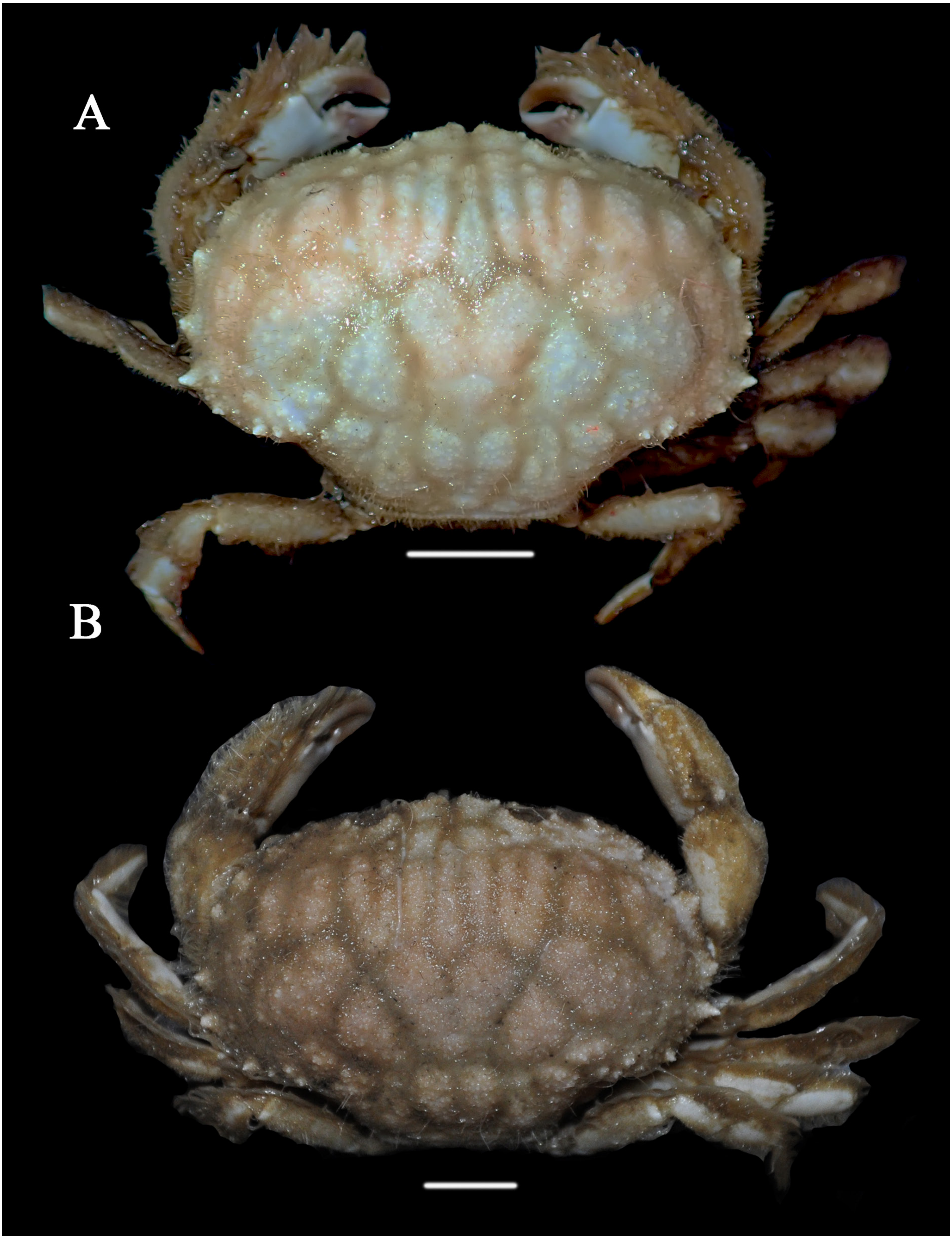

Fig. 5. *Banareia metiguinotae*, new species, fresh colouration, brushed clean but not denuded. A, paratype, female (41.9× 29.2 mm) (CASAU CR 2023-1026); B, male (37.0 × 25.1 mm), (CASAU CR 2018-1041). Scale bars = 10.0 mm.

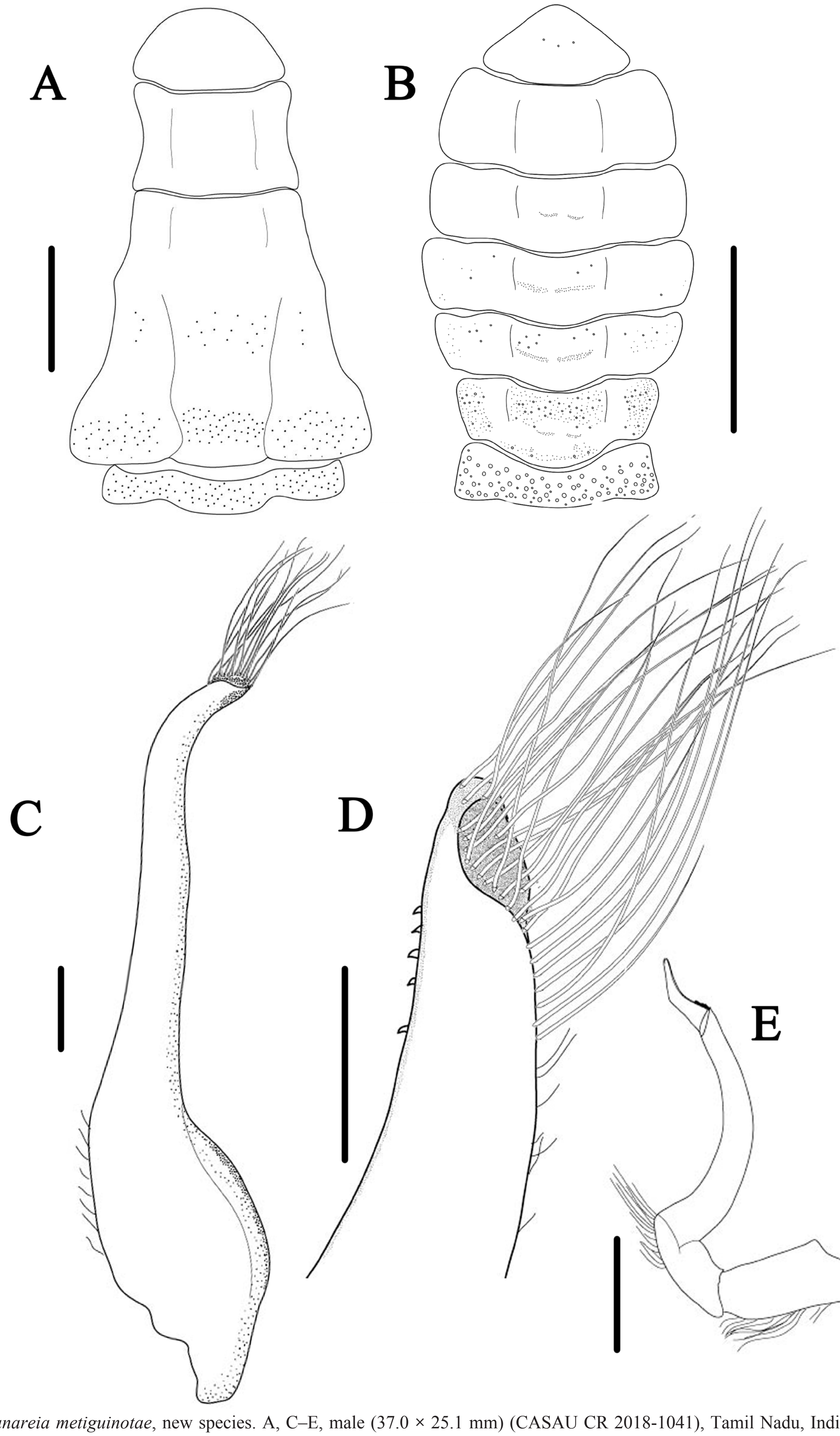

Fig. 6. *Banareia metiguinotae*, new species. A, C–E, male (37.0 × 25.1 mm) (CASAU CR 2018-1041), Tamil Nadu, India; B, holotype, female (40.5 × 27.8 mm) (CASAU CR 2020-1020), Tamil Nadu, India; A, male pleon, external view; B, female pleon, external view; C, left G1, pleonal view; D, distal tip of left G1, sternal view; E, left G2, sternal view. Scale bars: A, B = 10.0 mm; C–E = 5.0 mm.

simple setae covering most distal part; subdistal sternal margin with short, sharp setae, sternal surface smooth, dorsolateral margin with seven short, hooked spines.

G2 (Fig. 6E) short, less than half length of G1, sigmoid in shape with tapering distal end; terminal segment about one-third length of subdistal segment, lateral margin of subdistal segment lined with short setae.

Etymology. This species is dedicated to and named in honour of Prof. Danièle Guinot (MNHN), for her tremendous contribution to the taxonomy and systematics of brachyuran crabs, particularly the Xanthidae, which has been most helpful in the present study, and for her generous mentorship of her carcinological colleagues both young and old. The specific epithet is an arbitrary combination of metis (Gr. counsel, wisdom) and Guinot, and is used as a noun in apposition.

Colour in life. The holotype is almost entirely light brown in colour due to its tomentum; the underlying calcareous exoskeleton, however, is off-white except the fingers of the chelae, which are brownish black throughout most of their length, turning white only at the tips, and the claws of the ambulatory dactyli, which are dark brown (Fig. 5A, B).

Ecological note. The crabs were collected by commercial trawlers from depths of 100–200 m, where the seafloor substrate consists of fine mud.

Distribution. *Banareia metiguinotae*, new species, is currently known only from the type locality, off the south-eastern coast of Tamil Nadu, India, in the southwestern region of the Bay of Bengal.

Genetic data. The partial sequence of the COI gene, derived from the female holotype (CASAU CR 2020-1020), contains 709 bp, and the sequence data is deposited in the NCBI GenBank, with the accession code OM791611.

Remarks. *Banareia metiguinotae*, new species, fits well within the genus as defined by Guinot (1976) and Serène (1984), particularly in the following characters: the wide, subovate carapace, which is quite convex dorsally, with the anterolateral margins divided into lobes, instead of teeth, by thin clefts; the presence of narrow grooves on the subhepatic region of the carapace; the blade-like fingers of the chela which cross at the tips; the relatively wide clefts on the epistome; and the subquadrate merus of the third maxillipeds. Among the 16 species of *Banareia* currently recognised (Ng et al., 2008), *B. metiguinotae*, new species, is morphologically most similar to *B. serenei* Guinot, 1976 (type locality: Nha Trang Bay, Vietnam), particularly in the general outline of the carapace and the division of the anterolateral margin whereby the third lobe is exceptionally long and has a concave margin, and the fourth lobe is sharply dentiform (Figs. 1, 2A, D). Several reliable morphological features, however, distinguish the two species: **(1)** the carapace is relatively narrower and its dorsal surface relatively more convex in *B. metiguinotae* (Figs. 1A, 2A) (vs. carapace relatively broader and more flattened in *B. serenei*; Figs. 1B, 2D); **(2)** the median cleft of the front is relatively shallower, and the mesial angles of the frontal lobes are rounded in *B. metiguinotae* (Figs. 1A, 2A, B) (vs. the median cleft of the front is wider and deeper, the mesial angles of the frontal lobes are sharper in *B. serenei*; Figs. 1B, 2D, E); **(3)** the third lobe of the carapace anterolateral margin has distinct conical teeth on its anterior and posterior angles and the fourth lobe is surmounted by a large conical tooth (Figs. 1A, 2A) (vs. third lobe without well-formed teeth and the fourth lobe is surmounted by a wider, prismatic, granular tooth in *B. serenei*; Figs. 1B, 2D); **(4)** the margins on the inner surfaces of the chelar palm and dactylus have smaller, somewhat scattered granules in *B. metiguinotae* (Fig. 3B) (vs. larger conical granules lined uniformly in *B. serenei*; Fig. 3E); **(5)** the ambulatory legs are relatively longer (P5 length/CL = 0.73), and the anterior margin of the P5 merus is nearly straight in *B. metiguinotae* (Fig. 3C) (vs. ambulatory legs relatively shorter (P5 length/CL = 0.52), upper margin of P5 merus distinctly convex in *B. serenei*; Fig. 3F); **(6)** in the male pleon, the lateral margins of somites 4 and 5 are only slightly concave, and somite 6 is subquadrate and relatively shorter in *B. metiguinotae* (Figs. 4C, 6A) (vs. lateral margins of pleonal somites 4 and 5 much more pronouncedly concave, pleonal somite 6 sub-rectangular and relatively longer in *B. serenei*; Fig. 4D, cf. Guinot, 1976: fig. 31B); **(7)** the distal tip of the G1 is slightly narrow, with seven short, hooked spines on the dorso-lateral margin, sternal surface smooth, and the most distal part covered by numerous long and simple setae in *B. metiguinotae* (Fig. 6C, D) (vs. G1 distal tip more blunt, with numerous short, hooked spines on the dorso-lateral margin and sternal surface, and the most distal part with several long plumose setae in *B. serenei*; cf. Guinot, 1976: fig. 34A, B); and **(8)** G2 terminal segment slightly longer (Fig. 6E) (vs. G2 terminal is slightly shorter in *B. serenei*; cf. Guinot, 1976: fig. 34C).

DISCUSSION

The genus *Banareia* A. Milne-Edwards, 1869 (type species: *Banareia armata* A. Milne-Edwards, 1869), was last taxonomically treated as a whole by Guinot (1976) in her revision of the xanthid subfamily Trichiinae De Haan, 1841 (= Banareiinae Števčić, 2005), in which she included two other extant genera, *Trichia* De Haan, 1839 (= *Zalasius* Rathbun, 1897) and *Calvactaea* Ward, 1933, and one new fossil genus *Palaeotrichia* Guinot, 1976. In this work, she recognised 15 nominal species of *Banareia* (most of which were transferred from the genus *Actaea* De Haan, 1833), including two new species from Madagascar (*B. balssi*) and Vietnam (*B. serenei*). She also discussed two additional, potentially new species ("*Banareia* sp." and "*Banareia* cf. *villosa* ?") from Australia. Serène (1984) treated the Western Indian Ocean *Banareia* spp. but also provided a comprehensive key to 15 Indo-West Pacific species, including the 14 recognised by Guinot (1976) and the same "*B.* aff. *villosa*" from Australia. Davie (1993) subsequently described a new species, *B. fatuhiva*, from French Polynesia, which was the last species of the genus to be described until now (Ng et al., 2008). The xanthid subfamily Banareiinae

Števčić, 2005, has generally retained its component genera since Guinot's (1976) revision, although it is also referred to by its other synonyms, Trichiinae De Haan, 1841, and Zalasiinae Serène, 1968, owing to some confusion over the nomenclature of the genus *Trichia* De Haan, 1839. These nomenclatural issues have already been discussed elsewhere (Guinot, 1976; Holthuis, 1995; ICZN, 2004). In their molecular phylogeny of the Xanthidae, Lai et al. (2011) confirmed the inclusion of *Banareia*, *Calvactaea*, and *Trichia* (as *Zalasius*) in a monophyletic Banareiinae (as Zalasiinae), and also suggested the inclusion of another actaeine genus, *Pseudactaea* Guinot, 1971, in this subfamily. They also showed that Banareiinae did not have a close affinity to the core species of Actaeinae as suggested by other workers (e.g., Ng et al., 2008), forming a sister grouping instead with *Glyptoxanthus* A. Milne-Edwards, 1879/Glyptoxanthinae Mendoza & Guinot, 2011 (see also Mendoza & Guinot, 2011). The results for a monophyletic Banareiinae within Xanthidae were also supported in a more recent phylogenetic analysis of the superfamily Xanthoidea MacLeay, 1838, which included a larger dataset with greater taxon-sampling (Mendoza et al., 2022). The evolutionary relationships within *Banareia*, however, have not been fully elucidated as only a few species (i.e., *B. nobilii* (Odhner, 1925), *B. palmeri* (Rathbun, 1894), and *B. armata* A. Milne-Edwards, 1869) have been included in molecular phylogenetic studies (Lai et al., 2011; Thoma et al., 2014; Mendoza et al., 2022). For one, it would be interesting to test the monophyly of the genus in light of geographical or morphological outliers such as *B. palmeri* and *B. parvula* (Krauss, 1843), respectively.

The close similarity between *B. metiguinotae*, new species, and *B. serenei*, replicates a common pattern seen in marine brachyuran crabs, wherein there appears to be a biogeographic divide between the Indian Ocean and the Western Pacific Ocean (e.g., Lai et al., 2010; Windsor et al., 2019; Mendoza et al., 2020). This phenomenon, also known as the Marine Indo-West Pacific Break (Williams et al., 2002) is not limited to crabs and has been demonstrated for other animal groups as well, such as shrimps (Williams et al., 2002; Chan et al., 2021), echinoderms (Benzie, 1999; Williams et al., 2002; Kochzius et al., 2009), molluscs (Reid et al., 2006), and fishes (Carpenter et al., 2010). As such, and based on their very similar morphologies and current distribution, it is possible that the most recent common ancestor of *B. metiguinotae*, new species, and *B. serenei* may have been subjected to allopatric speciation pressures due to similar stochastic events in the region's dynamic geological history. While this is speculation at this point, it can be tested and confirmed subsequently by phylogeographic analyses as taxon and genetic sampling improves. At the moment, such a comparison is not feasible due to the lack of suitable material available for sequencing and the scarcity of comparable gene sequences in online repositories such as GenBank, where only a few gene sequences for a few species (e.g., *B. armata*, *B. nobilii*, *B. palmeri* and *B. subglobosa*) are deposited.

A few species of *Banareia* have been reported from the coastal waters of India (Trivedi et al., 2018). Previously, *B. armata* A. Milne-Edwards, 1869, and *B. kraussi* (Heller, 1861) were both recorded from the Andaman and Nicobar Islands, which are off-shore territories in the eastern Indian Ocean (Alcock, 1898; Dev Roy & Nandi, 2005; Dev Roy, 2015). Closer to the Indian mainland, only *B. banareias* (Rathbun, 1911) has been recorded from the states of Tamil Nadu (Deb, 1989) and Andhra Pradesh (Dev Roy & Nandi, 2007). There is no record of *Banareia* from the west coast of India. Now, a fourth species, *B. metiguinotae*, new species, is added to the Indian fauna, and it is also the second species of the genus to be recorded from Tamil Nadu. The discovery of a new species of *Banareia* amongst trawl bycatch taken from the Bay of Bengal is significant in light of the long history of benthic sampling in the area. For instance, marine expeditions conducted by the British on board the R.I.M.S. *Investigator* at the juncture of the late 1800s and early 1900s yielded a large body of material that has contributed immensely to the knowledge of the benthic biodiversity of the region (Alcock, 1902). A succession of deep-sea biodiversity surveys in the Indian Ocean soon followed, expanding the pool of knowledge even further (see Wafar et al., 2011). The present discovery is an indication of the importance of continued efforts to survey marine invertebrate diversity, particularly in the poorly known habitats and the deeper, under-sampled localities of the Indo-West Pacific region. Deep subtidal trawls have been shown to be a good sampling method for the discovery of new species of Brachyura (Richer de Forges et al., 2009, 2013; Ng & Rahayu, 2021) and wider application of this method to so-called "neglected habitats" is expected to contribute significantly to global and regional biodiversity tallies.

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