

Two species of the genus *Bathynomus* A. Milne-Edwards, 1879 (Isopoda: Cirolanidae) used commercially in South Vietnam

Два вида рода *Bathynomus* A. Milne-Edwards, 1879 (Isopoda: Cirolanidae), используемые в коммерческих целях в южном Вьетнаме

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КЛЮЧЕВЫЕ СЛОВА: рыболовство, Isopoda, *Bathynomus*, морфология, таксономия, морепродукты.

ABSTRACT. Representatives of *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025 and *B. jamesi* Kou, Chen et Li, 2017 (Crustacea: Isopoda: Cirolanidae) are herein reported for the first time from a fish market in Long Hòa, Cần Giở District (Hồ Chí Minh City), as well as from several markets in Hồ Chí Minh City, southern Vietnam. The examined specimens of both species were analyzed using an integrative approach combining morphological examination and molecular analysis based on two genetic markers (mitochondrial COI mtDNA and 16S rRNA genes). According to information provided by the vendor, specimens of the recently described *B. vaderi* were collected from the southern continental shelf of the East Sea, as well as from areas surrounding the Trường Sa Archipelago (= Spratly), at depths of approximately 500–700 m. This record significantly extends the known distribution of the species to the southern part of the East Sea. The male of *B. vaderi* is described in detail based on specimens collected from southern Vietnam.

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РЕЗЮМЕ. Представители *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025 и *B. jamesi* Kou, Chen et Li, 2017 (Crustacea: Isopoda: Cirolanidae) впервые зарегистрированы на рыбном рынке в Лонгхоа, Канзё (Хошимин), а также на ряде рынков города Хошимин (южный Вьетнам). Собранные образцы обоих видов были исследованы с использованием интегративного подхода, включающего анализ морфологических признаков и молекулярно-генетическое изучение двух

маркеров (митохондриальные гены COI мтДНК и 16S рРНК). Согласно информации продавца, экземпляры недавно описанного вида *B. vaderi* были добыты на южном участке континентального шельфа Восточного моря, а также в районе южной части архипелага Чыонгша (= Спратли) на глубинах около 500–700 м, что существенно расширяет известный ареал данного вида на южную часть Восточного моря. Самец *B. vaderi* подробно описан на основании материалов, собранных в южном Вьетнаме.

Introduction

Representatives of the genus *Bathynomus* A. Milne-Edwards, 1879 (Crustacea: Isopoda: Cirolanidae) constitute dominant scavenging isopods in deep-sea ecosystems and are notable for their pronounced gigantism. These crustaceans are primarily distributed at depths ranging from 200 to 1.800 m and exhibit a biogeographic range largely confined to approximately 35°N–35°S within the Indo–West Pacific and the western Atlantic Oceans. To date, no representatives of this genus have been documented from either the eastern Pacific or the eastern Atlantic Oceans (e.g., Lowry & Dempsey [2006]). At present, 20 extant and five fossil species of *Bathynomus* are recognized [Hyžný *et al.*, 2020; Huang *et al.*, 2022; Ng *et al.*, 2025, 2026; Huang, Kawai, 2025]. The genus is conventionally subdivided into two size-based categories: “giants,” attaining sexual maturity at approximately 150 mm in body length, and “supergiants,” which mature at sizes exceeding 150 mm and may reach lengths of up to 500 mm [Chamberlain *et al.*, 1986; Lowry, Dempsey, 2006; Ng *et al.*, 2025]. Although primarily scavengers, species of *Bathynomus* are also known to prey oppor-

tunistically on slow-moving or sessile organisms (e.g., Barradas-Ortiz *et al.* [2003]).

Currently, five species of giant isopods of the genus *Bathynomus* are recorded from the East Sea: *B. affinis* Richardson, 1910; *B. decemspinus* Shih, 1972 (southern Taiwan); *B. doederleini* Ortmann, 1894 (eastern and southwestern Taiwan); *B. jamesi* Kou, Chen et Li, 2017 (northern and western East Sea); and *B. vaderi* Ng, Sidabalok et Nguyen, 2025 (northern and western East Sea) [Shih, 1972; Tso, Mok, 1991; Soong, Mok, 1994; Kou *et al.*, 2017; Huang *et al.*, 2022; Huang, Bruce, 2024; Ng *et al.*, 2025, 2026; Huang, Kawai, 2025]. The recently described *B. paracelensis* Huang et Kawai, 2025, from the northern East Sea, has subsequently been synonymized with *B. vaderi* [Ng *et al.*, 2026]. The first report of *Bathynomus* from Vietnam pertains to specimens from the Trường Sa Archipelago (= Spratly) that were misidentified as “*B. kensleyi*” (tbl. 260 mm) [Truong, 2015; after Ng *et al.*, 2025]. More recently, two of the aforementioned species, *B. jamesi* and *B. vaderi*, have been documented in local fish markets in Vietnam, reflecting their high commercial value due to large body size and distinctive taste; however, these records have been restricted to northern (Hà Nội) and central (Đà Nẵng) regions of the country [Ng *et al.*, 2025]. Both species are considered sympatric congeners within the East Sea, a pattern comparable to the co-occurrence of *B. giganteus* A. Milne-Edwards, 1879, *B. maxeyorum* Shipley, Brooks et Bruce, 2016, and *B. yucatanensis* Huang, Kawai et Bruce, 2022 in the Gulf of Mexico [Huang *et al.*, 2022].

Food safety and the study of food objects (including identification and taxonomic studies) is one of the tasks of the Joint Vietnam–Russia Tropical Science and Technology Research Center. During field investigations in southern Vietnam, large specimens of *Bathynomus* were observed for sale in a local seafood market in Long Hòa, Cần Giỏi, Hồ Chí Minh City, as well as in several markets within Hồ Chí Minh City. Specimens were collected and examined using an integrative taxonomic approach and were identified as *B. vaderi* and *B. jamesi*. To our knowledge, these species have not previously been recorded from southern Vietnamese waters or documented in local markets of this region. This observation substantially extends the known distributional range of *B. vaderi*, as vendors indicated that the specimens were collected from the southern sector of the East Sea, including the continental shelf and the southern Trường Sa Archipelago (= Spratly). Furthermore, we provide a detailed description of male specimens of *B. vaderi* and document additional diagnostic features based on the material from the southern Vietnam.

Material and Methods

SAMPLE COLLECTION AND PROCESSING. The *Bathynomus* specimens studied were purchased from the Hàng Duong Seafood Market (Chợ Hải Sản Hàng Dương; 10°23'13.2"N, 106°55'09.9"E), located in Thạnh Thới, Long Hoà, Cần Giỏi, Hồ Chí Minh (see Fig. 2) and several fish markets/restaurants in Hồ Chí Minh City, southern Vietnam in 2023 and 2026. The animals were alive and quite active at the time of purchase (see Figs 1, 7).

According to the seller, they had been captured in the southern part of the East Sea, on the continental shelf and around the southern Trường Sa Archipelago (= Spratly Islands), at depths of approximately 500 meters. The market is a small local seafood venue where fishermen deliver their catch directly, rather than through resellers. *Bathynomus* specimens are always sold live, indicating that they were captured recently and unlikely to have been transported over long distances by fishing vessels. The material has been deposited in the Zoological Museum of Moscow State University, Moscow (ZMMU) (2 inds) and the Laboratory of Tropical Ecology of the Southern Branch of the Joint Vietnam–Russia Tropical Research and Technological Centre, Hồ Chí Minh City, Vietnam (VRTC) (4 inds). Only primary synonyms are given in the article.

MORPHOLOGICAL STUDY. Specimens and dissected body parts were photographed with a Canon G16 digital camera. The terminology of body parts follows Ng *et al.* [2025, 2026]. Total body length (tbl.) was measured from the anterior tip of the head to the posterior end of the pleotelson plate with a central spine; body width (bw.) was measured as the maximal distance between lateral margins.

AMPLIFICATION AND DNA SEQUENCING. Total genomic DNA was extracted from a tissue sample of each collected specimen following the invertebrate protocol of the Canadian Center for DNA Barcoding [Ivanova *et al.*, 2006]. Extracted DNA was used as a template for amplification of partial mitochondrial cytochrome C oxidase subunit I (COI) and 16S rRNA (16S). Reaction conditions and primers are described in Table 1. Polymerase chain reactions were performed with an “HS Taq” kit (Eurogen Lab, Russia) following the manufacturer’s protocol. For sequencing, 2 µL of amplicons were purified by ammonium acetate precipitation with ethanol [Osterburg *et al.*, 1975] and used as a template for the sequencing reactions with a BigDye Terminator v3.1 sequencing kit by Applied Biosystems. Sequencing reactions were analyzed using an ABI 3500 Genetic Analyzer (Applied Biosystems). The consensus sequence for the COI fragment was assembled from reads of both primers wherever available. All novel sequences were submitted to NCBI GenBank.

PHYLOGENETIC ANALYSIS. Additional sequences of mitochondrial genes COI mtDNA and 16S rRNA were taken from the GenBank (NCBI) database (see Fig. 2 for species and accession numbers). The sequences of the family Cirolanidae, *Atarbolana exoconta* Bruce et Javed, 1987 (KX782999) for COI and *Excirrolana hirsuticauda* Menzies, 1962 (MK898194) for 16S rRNA, were used as the outgroup (after Huang & Kawai [2025]). The multiple sequence alignments of COI (~519 base pairs) and 16S (~335 base pairs) were obtained with MEGA 7.0 [Kumar *et al.*, 2016]. The best evolutionary substitution model was determined using MEGA 7.0 as HKY+G+I for COI and T92+G for 16S. The ML phylogenetic analysis was conducted using MEGA 7.0 with 1000 bootstraps performed to support the robustness of nodes.

Results

MOLECULAR GENETIC APPROACH. Molecular genetic analysis of *Bathynomus* specimens collected in southern Vietnam, based on two gene markers (COI mtDNA and 16S rRNA), confirms their conspecificity with *B. vaderi* Ng, Sidabalok et Nguyen, 2025 and *B. jamesi* Kou, Chen et Li, 2017 (see Fig. 2). These taxa are clearly differentiated from other congeners reported from the East Sea on the basis of both genetic markers (see Huang & Kawai [2025]; Ng *et al.* [2026]).



Fig. 1. Local fish market at Long Hòa, Cần Giờ, Hồ Chí Minh, southern Vietnam.

Рис. 1. Местный рыбный рынок в Лонгхоа, Канзё, Хошимин, южный Вьетнам.

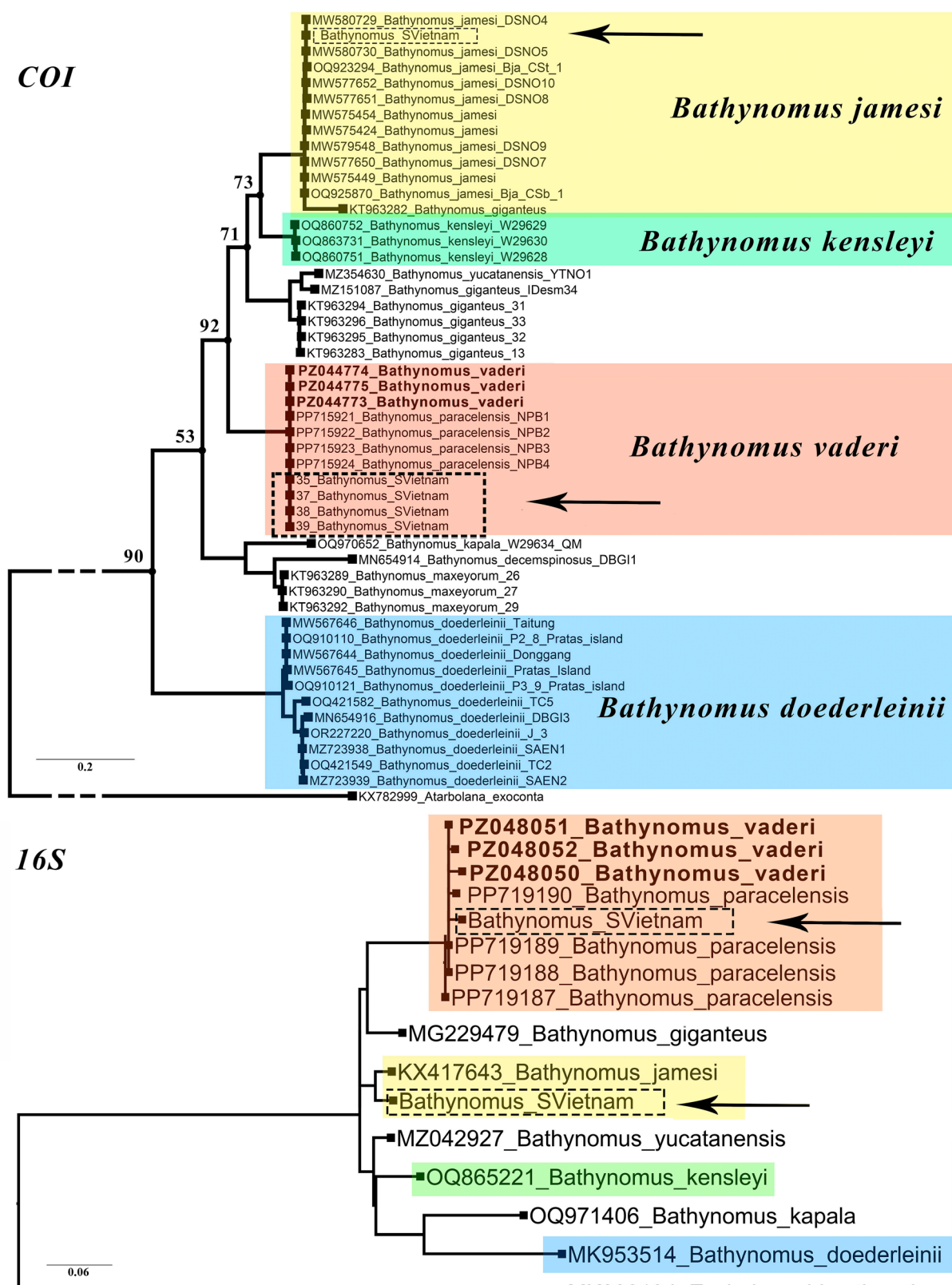


Fig. 2. Phylogenetic relationships of the collected specimens of the genus *Bathynomus* from Long Hòa, Cần Giỏi, Hồ Chí Minh, southern Vietnam (indicated by black arrow). Numbers at the nodes indicates the bootstrap values on ML analysis. Colored are species discovered in the East Sea.

Рис. 2. Филогенетические взаимоотношения представителей рода *Bathynomus* из Лонгхоа, Кангэ, Хошимин, южный Вьетнам (указаны чёрной стрелкой). Числа в узлах обозначают значения бутстреп-поддержки в анализе максимального правдоподобия (ML). Цветом выделены виды, обнаруженные в Восточном море.

Table 1. Amplification and sequencing primers and PCR conditions
Таблица 1. Праймеры для амплификации и секвенирования и условия проведения ПЦР.

Marker	Primer	PCR conditions	References
Cytochrome C oxidase subunit I	ZplankF1_t1 tgtaaacacgacggccagtTCTASWAATCATAARGATATTGG ZplankR1_t1 caggaaacagctatgacTTCAGGRTGCCRAARAATCA	5 min — 94 °C, 35× [15 sec — 95 °C, 45 sec — 45 °C, 1 min — 72 °C], 7 min — 72 °C	Prosser <i>et al.</i> , 2013
	jgLCO1490 T ITC IAC IAAAYCAYAAAGAYATTGG jgHCO2198 TAIACYTCIGGRTGICCAARAAYCA	5 min — 94 °C, 35× [15 sec — 95 °C, 45 sec — 45 °C, 1 min — 72 °C], 7 min — 72 °C	Geller <i>et al.</i> , 2013
16S RNA	16Sar-L CGC CTG TTT ATC AAA AAC AT 16SR CCG RTY TGA ACT CAG CTC ACG	5 min — 94 °C, 35× [20 sec — 95 °C, 30 sec — 52 °C, 45 sec — 72 °C], 7 min — 72 °C	Palumbi <i>et al.</i> , 1996 Puslednik, Serb, 2008

Notably, all COI mtDNA sequences obtained from currently known populations are identical and correspond to the single haplotype (GenBank accession numbers: PP715921–PP715924 for specimens from the northern East Sea [Huang, Kawai, 2025]; PZ044773–PZ044775 for specimens from the central East Sea [Ng *et al.*, 2026]; and PZ697260–PZ697265 for specimens from the southern East Sea (present study)). In contrast, 16S rRNA sequences exhibit variation among populations (GenBank accession numbers: PZ697256 and PZ697257 for the southern population (present study); for central populations, see Ng *et al.* [2026: table 1]; and for northern populations, see Huang & Kawai [2025: fig. 8]. Furthermore, intraspecific variation in 16S rRNA is also observed within both central and northern populations [Huang, Kawai, 2025; Ng *et al.*, 2026].

Taxonomy

Suborder Cymothoida Wägele, 1989

Family Cirolanidae Dana, 1852

Genus *Bathynomus* A. Milne-Edwards, 1879

***Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025**

Figs 3–6.

MATERIAL EXAMINED. 1 ♂, 257 mm, 1 ♂ juv, 213 mm, VRTC – VIETNAM, Hồ Chí Minh, Cần Giờ district, Long Hòa, Thanh Thới, a local Hang Duong Seafood Market (Chợ Hải Sản Hàng Dương; 10°23'13.2"N, 106°55'09.9"E), September 2023; 1 ♂, 291 mm, ZMMU Mc-1478, and 1 ♀, 256 mm, ZMMU Mc-1479 – VIETNAM, Hồ Chí Minh, Cần Giờ district, Long Hòa, Thanh Thới, a local Hang Duong Seafood Market (Chợ Hải Sản Hàng Dương; 10°23'13.2"N, 106°55'09.9"E), September 2023, I.N. Marin and V.A. Kolevator leg.

DIAGNOSIS. BODY with sub-parallel margins in shape, about 2.5× longer than wide (Figs 3, 6a, b). Clypeal region with lateral margin parallel, distal margin concave, apex narrowly round, transversely rectangular (Figs 4a, 6d). Coxa of pereopod 7 narrows distally, curved posteriorly (Fig. 5f). Pleotelson (Figs 3, 4g, h, 6a, b) about 0.7 as long as wide, vaulted laterally, with 11 slightly upwardly curved posterior pleotelson spines, with 2 distinct small posterolateral spines, with distinct row of setae between spine. Appendix masculina (Fig. 5b, c) slightly shorter than or reaching to end of endopod of pleopod 2.

DESCRIPTION. MALE (ZMMU Mc-1478). Body (Fig. 3) tbl. 291 mm long, bw. 118 mm at pereonite 5, about 2.5× longer

than wide, with sub-parallel lateral margins, coarsely punctate, without sculpture. Head ridge above eyes discontinuous (Fig. 4b, c). Clypeal region (Fig. 4a) distal margin slightly concave; lateral margins parallel; apex narrowly round; apex angle obtuse (about 108 degrees).

ANTENNULA with flagellum almost equal to peduncle; peduncle 4-articulated, article 4 about 1.2× longer than article 3, flagellum extending to within pereonite 2.

PEREOPOD 1 (Fig. 4e); ischium with 1 posterior robust seta and 2 robust setae on posterodistal margin; merus with 7 robust setae on anterodistal angle, posterolateral margin with 4 robust setae in proximal row on and 4 robust setae in distal row; carpus with 3 robust setae on distal margin; propodus 2.1 as long as wide, with 4 robust setae on posterior margin. Pereopod 2 (Fig. 4f) ischium with 2 robust setae on posterior margin and 4 robust setae on posterodistal margin; merus with 9 or 10 robust setae on anterodistal angle, posteromedial margin with 3 robust setae in proximal row and 3 or 4 robust setae in distal row; propodus with 3 or 4 robust setae on posterior margin. Pereopod 7 (Fig. 5f) basis 2.8× as long as greatest width, inferior margin convex; ischium 0.5× as long as basis, inferior margin with 1 or 3 robust seta, superior distal angle with 11 robust setae, inferior distal angle with 9 robust setae; merus 0.6× as long as ischium, as long as wide, inferior margin with 1 or 2 robust seta, superior distal angle with 20 robust setae, inferior distal angle with 12 robust setae; carpus 0.8× as long as ischium, 2× as long as wide, inferior margin with 3 robust setae, superior distal angle with 23 robust setae, inferior distal angle with 19 robust setae; propodus 0.8 as long as ischium, 3.3× as long as wide, inferior margin with 4 of robust setae (as 1+2+1), superior distal angle with 10 robust setae, inferior distal angle with 1 robust seta; dactylus 0.5 as long as propodus. Coxa of pereopod 7 distally narrowed, gently curved posteriorly (Fig. 5f).

PLEONITE 3 (Fig. 3) not extending beyond pleonite 5; pleonite 4 reaching distal part of pleonite 5; Penial processes (Fig. 5a) distally bluntly rounded.

APPENDIX MASCULINA (Fig. 5b, c) with parallel margins, not extending beyond endopod, with narrowing rounded.

PLEOTELSON (Figs 3, 4g) about 0.7 time as long as greatest width, smooth (minute pores), with inconspicuous longitudinal carina on dorsal surface; dorsal surface distinctly convex; posterior margin with 11 long, prominent, slightly upwardly curved spines and 2 distinct small posterolateral spines, with setae between spines, central spine simple.

UROPODS (Figs 3b, c, 5d) not extending beyond pleotelson; peduncle with 2 short robust setae on caudolateral margin; exopod and endopod with smooth lateral and distal margins;

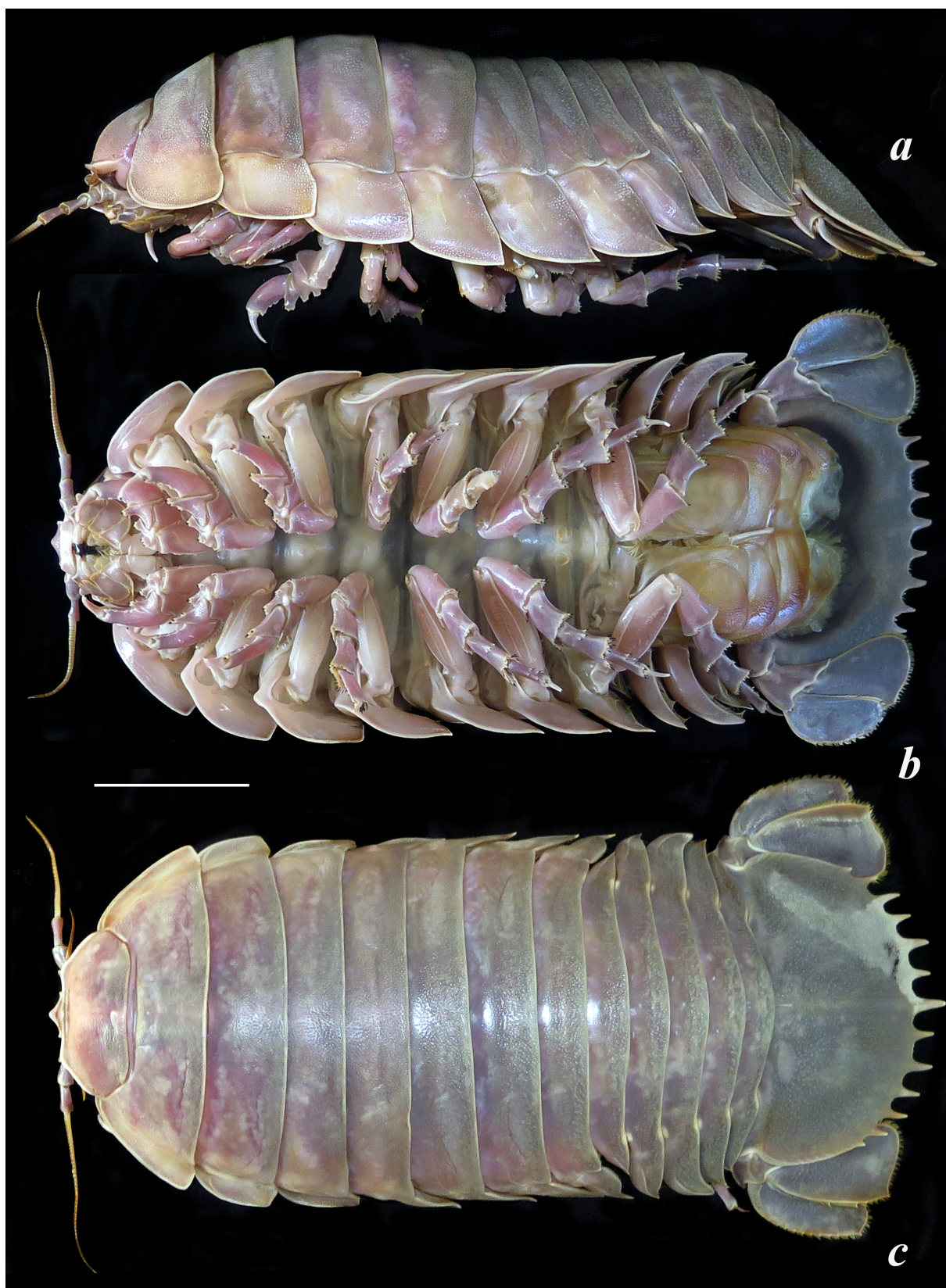


Fig. 3. *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025, ♂, ZMMU Mc-1478, from the local fish market at Long Hòa, Cần Giò, Hồ Chí Minh, southern Vietnam: *a* — lateral view; *b* — ventral view; *c* — dorsal view. Scale bar 50 mm.

Рис. 3. *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025, ♂, ZMMU Mc-1478, с местного рыбного рынка в Лонгхоа, Канзё, Хошимин, южный Вьетнам: *a* — вид сбоку; *b* — вид снизу; *c* — вид сверху. Масштабный отрезок 50 мм.



Fig. 4. *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025, ♂ (*a-g*), ZMMU Mc-1478, and ♀ (*h*), ZMMU Mc-1479, from the local fish market at Long Hòa, Cần Giỏi, Hồ Chí Minh, southern Vietnam: *a* — clypeal region; *b* — head, frontal view; *c* — head and anterior somite, dorsal view; *d* — posterior somites, pleotelson and uropods, lateral view; *e* — pereopod 1; *f* — pereopod 2; *g, h* — pleotelson and uropods, dorsal view. Scale bar 5 mm.

Рис. 4. *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025, ♂ (*a-g*), ZMMU Mc-1478, и ♀ (*h*), ZMMU Mc-1479, с местного рыбного рынка в Лонгхоа, Канзё, Хошимин, южный Вьетнам: *a* — клипеус; *b* — голова, вид спереди; *c* — голова и передний сомит, вид сверху; *d* — задние сомиты, плеотельсон и уropоды, вид сбоку; *e* — переопод 1; *f* — переопод 2; *g, h* — плеотельсон и уropоды, вид сверху. Масштабный отрезок 5 мм.

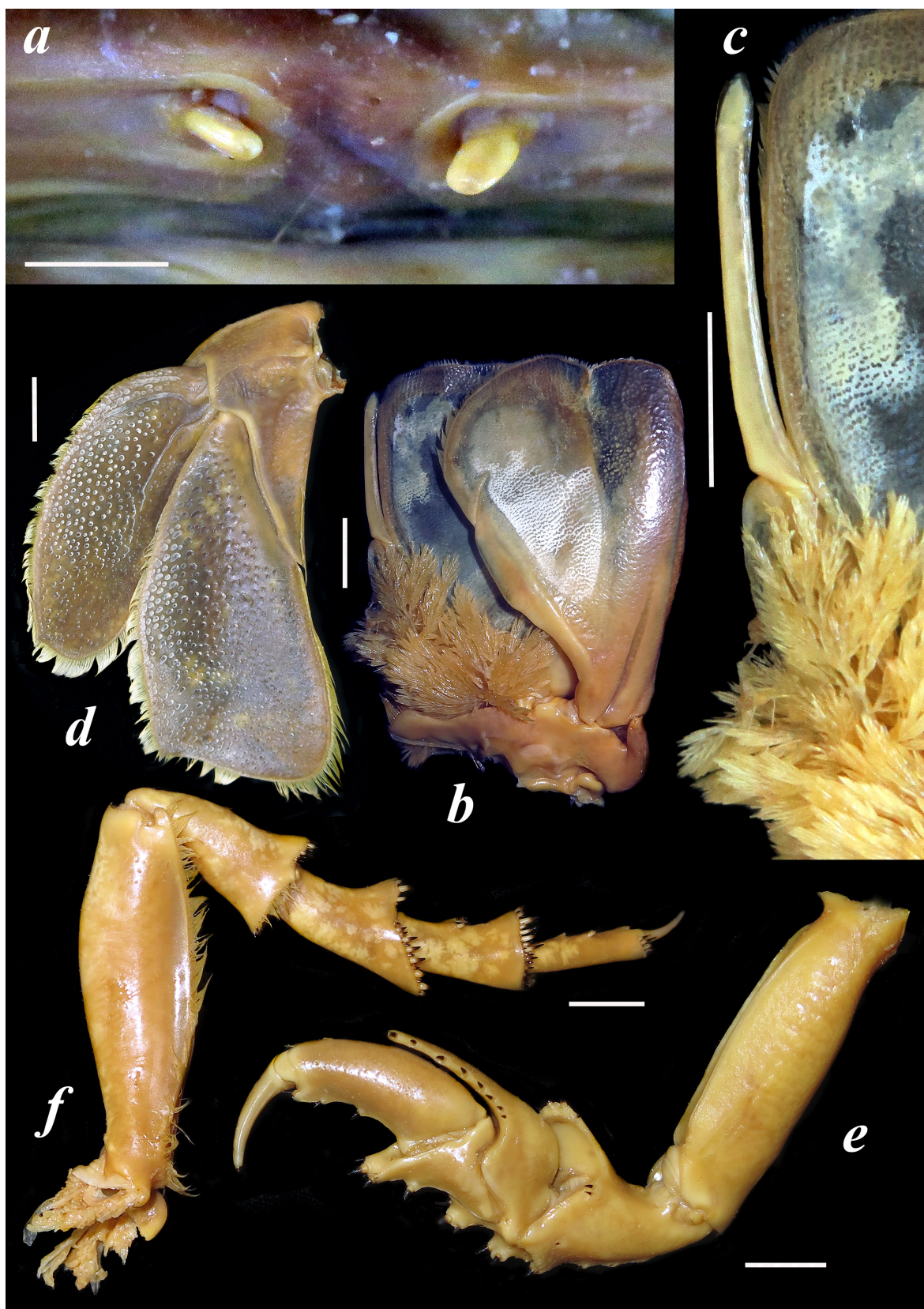


Fig. 5. *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025, ♂, ZMMU Mc-1478: *a* — penial processes; *b* — pleopod II; *c* — appendix masculina; *d* — uropod; *e* — pereopod 3; *f* — pereopod 7. Scale bar 5 mm.

Рис. 5. *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025, ♂, ZMMU Mc-1478: *a* — пениальные отростки; *b* — плеопод II; *c* — appendix masculina; *d* — уropод; *e* — переопод 3; *f* — переопод 7. Масштабный отрезок 5 мм.

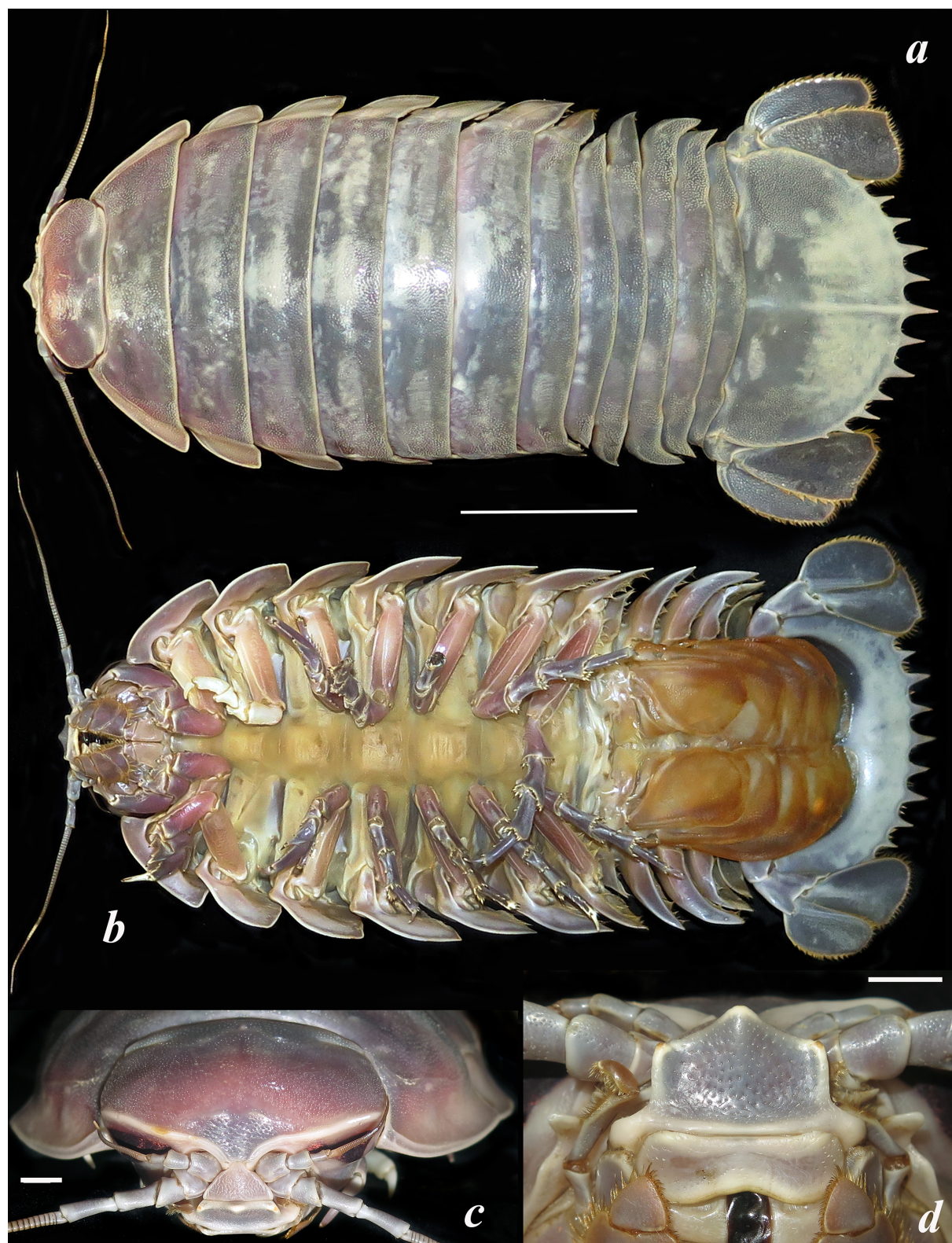


Fig. 6. *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025, ♀, ZMMU Mc-1479, from local fish market at Long Hòa, Cần Giỏi, Hồ Chí Minh, southern Vietnam: *a* — general dorsal view; *b* — general ventral view; *c* — head, frontal view; *d* — clypeal region. Scale bars: 50 mm (*a*, *b*), 5 mm (*c*, *d*).

Рис. 6. *Bathynomus vaderi* Ng, Sidabalok et Nguyen, 2025, ♀, ZMMU Mc-1479, с местного рыбного рынка в Лонгхоа, Канзё, Хошимин, южный Вьетнам: *a* — общий вид сверху; *b* — общий вид сбоку; *c* — голова, вид сверху; *d* — клипеус. Масштабные отрезки: 50 мм (*a*, *b*), 5 мм (*c*, *d*).



Fig. 7. *Bathynomus jamesi* Kou, Chen et Li in, 2017, ♀♀, not sampled (a–f), VRTC (g–i), from local fish markets at Hồ Chí Minh (a–f) and Long Hòa, Cần Giỏi (g–i), Hồ Chí Minh, southern Vietnam: a, g — general ventral view; b, e — general dorsal view; c — general lateral view; d, f, i — head, clypeal region, frontal view; h — distal margin of telson.

Рис. 7. *Bathynomus jamesi* Kou, Chen et Li in, 2017, ♀♀, не собраны (a–f), ВРТС (g–i), с локальных рынков в Хошимине (a–f) и Лонгхоа, Кангэ (g–i), Хошимин, южный Вьетнам: a, g — общий вентральный вид; b, e — общий вид сверху; c — общий вид сбоку; d, f, i — голова, клипеус, вид спереди; h — дистальный край тельсона.

exopod lateral margin convex with 11 robust setae along margin, setal fringe continuous length (83.3%), medial margin straight, distomedial corner rounded, distal margin convex with 6 right robust setae, distolateral corner produced, acute; endopod lateral margin convex, with 5 robust setae; medial margin straight; distomedial corner rounded; distal margin sinuate with 12 robust setae; distolateral corner produced, acute.

FEMALE (ZMMU Mc-1479). Generally (Fig. 6) corresponds to the description of the females of *B. paracelensis* given by Huang & Kawai [2025].

SIZE. The largest collected specimens from southern Vietnam have tbl. of 256 mm in ♀ and 291 mm in ♂, while some ♂♂ reaching tbl. up to 325 mm [Ng et al., 2025, 2026].

TAXONOMICAL REMARKS. The morphology of males generally corresponds to the description given by Huang & Kawai [2025], and that of females [Ng et al., 2025]; diagnostic characters distinguishing this species from its congeners have been detailed by Ng et al. [2025, 2026]. The examined specimens are comparable in size to those reported in the original description, with the maximum body length of males reaching 291 mm (maximum recorded male length 325 mm; mean male length 279 mm [after Ng et al., 2025]). The present material exhibits subparallel lateral body margins after fixation (Fig. 3). However, as noted by Ng et al. [2026], this condition is likely an artifact of fixation, since live specimens display a distinctly concave body form (Fig. 1). Furthermore, the appendix masculina in the examined specimens corresponds to the original description [Ng et al., 2025], extending only to the margin of the endopod of pleopod 2 (Fig. 5b, c). In contrast, the appendix masculina in *B. jamesi* is markedly longer, extending beyond the distal margin of the endopod of pleopod 2 [Ng et al., 2025].

The number and size of setae on the segments of pereopods 1, 2, and 7 vary slightly between the left and right sides of the individuals and among different specimens examined; therefore, these features cannot be used as reliable morphological characters.

ACCESSION GENBANK NUMBERS. COI mtDNA — PZ697260–PZ697265; 16S rRNA — PZ697256, PZ697257.

DISTRIBUTION. Original description of *B. vaderi* was based on specimens purchased in markets and seafood restaurants of Quy Nhon City and Đà Nẵng City in Central Vietnam [Ng et al., 2025]. Additionally, recently synonymized *B. paracelensis* was described based on specimens purchased at the Zhengbin fishing port in Keelung, Taiwan, and caught in the northern East Sea, at the continental slope (19°04'60.0"N 115°15'00.0"E) near the Hoàng Sa Archipelago (= Xisha Islands, Paracel Islands), at the depth of about 300–550 m [Huang, Kawai, 2025]. The specimens for this research were obtained from a fish market in southern Vietnam (Hồ Chí Minh City and Long Hòa), allowing us to expand the distribution of this species to encompass almost the entire East Sea region (East Sea).

Bathynomus jamesi Kou, Chen et Li, 2017

Fig. 7.

MATERIAL EXAMINED. 1 ♀, 257 mm, 1 ♀ juv., 213 mm, VRTC – VIETNAM, Hồ Chí Minh, Cần Giờ district, Long Hòa, Thanh Thới, a local Hang Duong Seafood Market (Chợ Hải Sản Hàng Dương; 10°23'13.2"N, 106°55'09.9"E), April 2026.

DIAGNOSIS. Body with sub-parallel margins in shape, about 2.5× longer than wide (Figs 3, 6a, b). Clypeal region with lateral margin gently converging distally, distal margin concave, apex obtusely round, square or subquadrate. Coxa of pereopod 7 posterior margin slightly concave towards the tip. Pleotelson about 0.7 as long as wide, vaulted laterally, with 9–11 slightly upwardly curved posterior pleotelson spines, with 1–2 distinct

small posterolateral spines. Appendix masculina long, reaching beyond edge of endopod of pleopod 2.

SIZES. The measured specimens (all ♀♀, not collected) photographed at fish markets in Hồ Chí Minh City had tbl. of approximately 230, 260, 290, 305 and 330 mm (see Fig. 7), clearly corresponding to the “supergiant” species of the genus *Bathynomus*. The male specimens of *B. jamesi* reported by Ng et al. [2025], with tbl. of 410 and 415 mm and body masses exceeding 2.6 kg each, are recognized as the largest known species within the genus, and indeed the largest isopod, in the Indo-West Pacific region [Ng et al., 2025].

TAXONOMICAL REMARKS (after Ng et al. [2025]). *Bathynomus vaderi* differs from *B. jamesi* in the following morphological features: the lateral margins of the clypeal region are parallel (Fig. 4a) (vs. gently converging distally in *B. jamesi*; Fig. 7d, f, i); the apex of the clypeal region is narrowly round or acute (Fig. 4a) (vs. obtusely rounded in *B. jamesi*; Fig. 7d, f, i); the clypeus is transversely rectangular in shape (Fig. 4a) (vs. square or subquadrate; Fig. 7d, f, i); the distolateral corners of the uropod endopod and exopod are acute (Fig. 5d) (vs. subacute in *B. jamesi* [Huang et al., 2022: fig. 4d, e]); coxa P7 has the lateral margins more sinuous, with the posterior margin distinctly concave in form towards the tip (Figs 3a) (vs. margins less sinuous with the posterior margin only slightly concave towards the tip in *B. jamesi* [Ng et al., 2025: fig. 9F]); the dorsal surface of the pleotelson is distinctly raised, being gently convex in lateral view (Fig. 4d) (vs. almost flat or only slightly convex in lateral view in *B. jamesi* [Ng et al., 2025: fig. 9H]); the presence of numerous short setae between the pleotelson spines (Fig. 4g, h) (vs. absent or only with scattered setae in *B. jamesi*; Fig. 7h); and the appendix masculina is shorter, just reaching the edge of endopod of pleopod 2 (Fig. 5b, c) (vs. distinctly longer, protruding well beyond the edge of endopod of pleopod 2 in *B. jamesi* [Ng et al., 2025: fig. 10B–D]).

ACCESSION GENBANK NUMBERS. COI mtDNA — PZ697208, PZ697209; 16S rRNA — PZ697258, PZ697259.

DISTRIBUTION. The species has been originally described based on specimens collected at the depth 898m from Hainan Island (northern East Sea) [Kou et al., 2017] and lately redescribed from specimens collected near Pratas Island and Taiwan [Huang et al., 2022]. The species has also been reported from the Gulf of Aden, the northwestern Indian Ocean, and the northern East Sea in the western Pacific Ocean, at depths of 563–898 m [Kou et al., 2017]; however, these records have not been validated by the DNA analysis. The specimens for this study were obtained from a fish market in southern Vietnam, allowing us to expand the distribution of this species to encompass almost the entire East Sea region.

Compliance with ethical standards

CONFLICT OF INTEREST: The authors declare that they have no conflict of interest.

Ethical approval: No ethical issues were raised during our research.

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