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Additions and revisions to the family Munididae (Anomura: Galatheoidea) from South Africa, with description of a new species

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Abstract. Squat lobsters of the family Munididae of South Africa have been severely neglected with little to no studies done on the group since the turn of the century. Relatively few species are known from the region, which otherwise has a diverse invertebrate fauna, suggesting that the South African munidid diversity has been underestimated. Accumulated material housed in the Natural History Collections of the Iziko South African Museum, some of which had remained there for decades without being identified, as well as samples opportunistically collected during the course of this study, were examined. Morphological analyses and DNA barcoding were used to add to, revise and update records of the regional munidid fauna. One new species of *Trapezionida* is described, while eight others (four of which are also new generic records for South Africa) are added to the regional fauna. Four other poorly-known species are redescribed and several other dubious records resolved. As a result, the number of munidid species in South Africa is raised from seven to 17. Moreover, a key to the South African munidid fauna is provided. In terms of distribution pattern, only two species were recorded off the west coast, while 15 were found off the east coast. Endemicity was remarkably low at about 6%, with *Trapezionida longisandla* sp. nov. being the only endemic species, though it likely also occurs outside South African waters. Though greatly enhancing knowledge to this important group, this study also highlights the need for more rigorous sampling and almost certainly more species remain to be discovered from the region.

Keywords. Squat lobsters, integrative taxonomy, Munididae, *Trapezionida*, *Typhlonida*.

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Introduction

Squat lobsters of the family Munididae Ah Yong, Baba, Macpherson & Poore, 2010 are anomuran crustaceans that typically have a spiniform rostrum with one, rarely two, supraocular spines on each side (Poore & Ah Yong 2023). Some of the more highly derived genera, such as *Neonida* Baba & de Saint Laurent, 1996 and some *Bathymunida* Balss, 1914, have the rostral and supraocular spines reduced to small spines or tubercles (Ah Yong *et al.* 2010; Baba & de Saint Laurent 1996). The family ranges from intertidal to bathyal habitats, but most species are found on continental shelf or slope areas (Schnabel *et al.* 2011). The Munididae recently underwent significant systematic changes as Machordom *et al.* (2022) split the genus *Agononida* Baba & de Saint Laurent, 1996 into three genera and *Munida* Leach, 1820 into 11 genera, as well as resurrected the genus *Grimothea* Leach, 1820. These changes were made based on a combination of molecular analyses (using both mitochondrial and nuclear markers) and morphological characters. Globally, the Munididae is the most diverse group of galatheoids and includes more than 450 extant species in 33 genera (Machordom *et al.* 2022; WoRMS Editorial Board 2025).

South Africa has a remarkably diverse marine environment in which the Atlantic, Indian and Southern Oceans come together. Two opposing major ocean currents, the cold Benguela Current that flows south to north along the western margin, and the warm Agulhas Current that transports tropical water from the Indian Ocean southwards along the eastern margin, drive the unique biogeographic zonation pattern observed around the coast (Gründlingh 1983; Nelson & Hutchings 1983; Shannon & Nelson 1996; Branch & Branch 2018).

The Munididae of South Africa are poorly studied with the last species added to the fauna 20 years ago (Baba 2005). The first munidid recorded was “*Munida sancti-pauli*” Henderson, 1885 recorded by Stebbing (1910) in his “General Catalogue of South African Crustacea” from Buffalo River near East London. Some 40 years later, Keppel Barnard’s famous “Descriptive catalogue on the decapod Crustacea of South Africa” (1950) still included only three munidid species; *Munida incerta* Henderson, 1888, ‘*M. sancti-pauli*’ and *M. semoni* Ortmann, 1894. Subsequently, only a few species records have been reported within larger regional works (Baba 2005) or described from opportunistic sampling events (Tirmizi & Javed 1976, 1992, 1993; de Saint Laurent & Macpherson 1988). Emmerson’s (2016) multi-volume guide on the Decapoda Latreille, 1802 of southern Africa listed nine munidids, though most of the names applied to these were outdated and one incorrect. The recent galatheoid checklist of the southwestern Indian Ocean (SWIO) by Macpherson *et al.* (2023), lists 45 munidids from ten genera of which seven were reported from South Africa. Incorporating all of these previous studies, a total of only eight species from four different genera have been reported from the region. Moreover, most of these species have also undergone taxonomic changes since they were originally reported and many of the descriptions are outdated. This is relatively few species, considering that South Africa is well-known for its diverse marine invertebrate fauna (Griffiths *et al.* 2010).

Given all these changes, plus the accumulation of unidentified specimens in the Natural History Collections of the Iziko South African Museum, a revision on this important group is long overdue and forms part of a series of revisions of South African squat lobster families, the first of which was on the Galatheaidea Samouelle, 1819 (Botha *et al.* 2025). The aim of this study is to compile a thorough monographic account of the Munididae of South Africa, incorporating all known species in a single study based on currently accepted nomenclature, describing any new species and reporting on new distribution records, as well as re-describing poorly described species using modern integrative techniques.

Material and methods

This study is mainly based on the examination of historic material from numerous research expeditions around the South African coast and accessioned in the Natural History Collections of the Iziko South African Museum, Cape Town (SAMC) spanning the period from 1901 to 2023, while one specimen included is held at the Natural History Museum of Denmark, University of Copenhagen (ZMUC), and another one in the Smithsonian Institution, National Museum of Natural History (USNM). Several collections of new material were also conducted during the study, mostly during the annual demersal research trawl surveys undertaken by the Department of Forestry, Fisheries and Environment aboard the RV *Africana* and RV *Compass Challenger*. These samples were collected using a German otter trawl design with several configurations and a 75 mm mesh cod-end fitted with 35 mm mesh liner. Trawls had a 30-minute bottom time duration over suitable habitats over the depth range of 50–800 m (specimens for this study were collected at depths of 450–555 m) on the South African west and south coasts (see Atkinson *et al.* 2011 for detailed methods). Additional collections examined formed part of the Natal Museum dredging program. After the specimens were collected, they were placed in 96% ethanol, which was replaced daily for three days so the specimens could be used for genetic analyses. Once analyses were completed, the specimens were transferred to 70% ethanol and deposited in the Natural History Collections of the Iziko South African Museum, Cape Town for long-term preservation.

Total genomic DNA was isolated from muscle and egg tissue using a Zymo DNA extraction kit following supplier recommendations. Two mitochondrial markers, 16S rRNA and *COI* (cytochrome *c* oxidase subunit I) were amplified through polymerase chain reaction (PCR) using primers 16Sar-L and 16Sbr-L (Palumbi 1996), and LCO1490 and HCO2198 (Folmer *et al.* 1994). Amplification reactions were performed in a final volume of 20 μ L which included 2–4 μ L DNA template, 0.2 mM of each primer, 10 μ L DreamTaq (Thermo Scientific™) and 4–2 μ L nuclease free water to make up 20 μ L. The initial denaturation step for thermal cycling consisted of 95°C for 3 minutes followed by 35 cycles at 95°C for 30 seconds, an annealing temperature of 50°C for 30 seconds and 72°C for 1 minute, and a final extension of 72°C for 10 minutes. PCR cleanup was conducted at a volume of 12 μ L, consisting of 10 μ L of PCR product and 0.7 μ L of Exonuclease I (Thermo Scientific™) and 1.3 μ L of FastAP Thermosensitive Alkaline Phosphatase (Thermo Scientific™). The cleanup was conducted at 37°C for 15 minutes, followed by 85°C for 15 minutes. Samples were sequenced at the Central Analytics Facility (CAF) in Stellenbosch. Sequences were edited using Geneious Prime ver. 2022.1.1 and manually aligned. Sequences of known species in the region were downloaded from GenBank and a progressive pairwise alignment was performed in Geneious. Lastly, a pairwise distance matrix was created in MEGA 11 with sequences trimmed to 547 base pairs. All sequences were uploaded onto the Barcode of Life Data System (BOLD) database.

The specimens were examined and drawn using a WILD stereo microscope and a Nikon SMZ1270, both equipped with a camera lucida, and digitally traced in Inkscape ver. 1.21 (<https://www.inkscape.com>) using a Wacom Intuos Pro. Photos were taken using a Nikon D3100 camera and edited with GIMP ver. 2.10.30 software (<https://www.gimp.com>). Images are credited to TPA Botha, unless stated otherwise. Maps were created using ESRI ArcGIS ver. 3.3.0.

The terminology and measurements used in this study follow those of Baba *et al.* (2009) and Poore & Ah Yong (2023). The specimen sizes are indicated by the postorbital carapace length (pcl), measured from the base of the rostrum (sinus between rostrum and supraocular spine) along the midline to the posterior margin of the carapace. The rostrum is measured from the base to the distal tip. Appendages are measured in dorsal (pereopod 1) and lateral (pereopods 2–4) midlines. Where applicable, ranges of morphological and meristic variations are included in the description, the holotype measurements are given in parentheses. Spinature of P2–4 given as number of distal spines plus number of spines following on from distal one (e.g., 1+4).

Abbreviations for morphological terms

Mxp3 = maxilliped 3
ov. = ovigerous
P1 = pereopod 1 (cheliped)
P2–4 = pereopods 2–4

Results

Taxonomy

Class Malacostraca Latreille, 1802
Order Decapoda Latreille, 1802
Infraorder Anomura MacLeay, 1838
Superfamily Galatheoidea Samouelle, 1819
Family Munididae Ahyong, Baba, Macpherson & Poore, 2010
Genus *Agononida* Baba & de Saint Laurent, 1996

Agononida africerta Poore & Andreakis, 2012
Figs 1, 12, 15A, Table 1

Agononida africerta Poore & Andreakis, 2012: 10, figs 2c, e, 3c, 8. Type localities: Mozambique and Madagascar, depth 446–570 m.

Munida incerta – Kensley 1977: 162 (northeast South Africa, depth 280–454 m).

Agononida africerta – Poore & Andreakis 2014: 205, figs 2a, 3 (Madagascar, depth 415–625 m). — Macpherson *et al.* 2023: 384 (Glorieuses Islands, Mayotte Island, depth 460–833 m).

Material examined

SOUTH AFRICA • 2 ♂♂ (16.4–18.8 mm); Africana Stn A32821; 35°09'47.88" S, 23°00'38.52" E; depth 450 m; 5 Oct. 2016; SAMC, SAMC-A094740 • 1 ♂ (18.4 mm), 1 ♀ (17.0 mm); Africana Stn A32822; 35°11'54.61" S, 22°56'34.80" E; depth 512 m; 5 Oct. 2016; SAMC, SAMC-A094742 • 2 ov. ♀ (19.0–22.0 mm); Nansen Trawl Stn 14; 29°21'36.00" S, 31°58'12.00" E; depth 397–403 m; 1 Feb. 2018; SAMC, SAMC-A094759 • 1 ♂ (15.1 mm); Africana Stn A29644; 34°54'58.80" S, 24°08'10.20" E; depth 460 m; 27 Apr. 2009; SAMC, SAMC-A069738 • 1 ♀ (18.6 mm); Africana Stn A21587; 34°43'48.00" S, 24°??'33" E; depth 313 m; 29 Apr. 2003; SAMC, SAMC-A094566.

Description

Colouration (in life, Fig. 15A)

Carapace and pleonites 1–3 orange or red, darker around bases of spines, rostrum and supraocular spines. Pleonites 4–6 whitish. P1–4 meri orange or red (banded white and orange/red in supermales), spines and squamae more strongly coloured. P1 with lighter orange patches at carpus-propodus joint and bases of fingers. In supermales, merus-carpus, carpus-propodus joints and fingers darker than rest of appendage. P2–4 with small orange spot at base of carpus and propodus, while distal two-thirds of dactyli bright red. Extensor margin of P1–4 meri with iridescent blue setae. Antennal flagellum mostly red, often whitish distally.

Female

CARAPACE. Width slightly greater than postorbital carapace length, with numerous short striae and interrupted transverse ridges with rows of short setae. Frontal margins transverse. Gastric region with pair of epigastric spines posterior to supraocular spines. Branchial region with 3 pairs of postcervical

spines. Lateral margins convex, widest at midpoint with long iridescent setae; anterolateral spine curved upwards, reaching sinus between rostrum and supraocular spine, second lateral spine considerably shorter than anterolateral spine, third and fourth spines set at angle along anterior cervical groove, last 2 posterior branchial spines smallest. Rostrum spiniform, curved upwards, $0.4 \times$ as long as carapace; supraocular spines ca half as long as rostrum.

STERNUM. Thoracic sternites with numerous short striae. Sternite 3 half as wide as sternite 4. Sternal plastron mid-length $0.6 \times$ as wide as sternite 7.

PLEON. Pleonites 2–4 covered with squamae, each with 4 spines along anterior transverse ridge; pleonite 4 with strong median spine on posterior transverse ridge. Telson $1.8 \times$ as wide as long; anterolateral margin sinusoidal, concave and smooth over half length; lateral margin convex, narrower posteriorly than anteriorly.

EYE. Ocular peduncles as long as broad. Maximum corneal diameter $0.9 \times$ as wide as width between bases of supraocular spines.

ANTENNULE. Article 1 with distomesial spine longer than both 2 distolateral and small lateral spines.

ANTENNA. Article 1 with strong distomesial process exceeding posterior margin of antennular article 1 and entire antennal peduncle; article 2 with large distomesial process overreaching article 3, small spine on mesial margin, small distal spine on lateral margin; articles 3–4 unarmed.

MXP3. Ischium $1.4 \times$ as long as merus, with distoflexor spine. Merus with spine around midlength on flexor margin, extensor margin with strong distal spine followed by several small eminences. Carpus, propodus and dactylus unarmed, but bearing long setae.

P1. Approximately $3.6\text{--}3.7 \times$ as long as carapace, covered with flat squamae, bearing short setae and longer iridescent setae. Merus $1.0\text{--}1.1 \times$ as long as carapace, carpus $0.5\text{--}0.6 \times$ as long as merus, palm $0.8 \times$ as long as merus, fingers $1.1 \times$ as long as propodus. Merus with 1+14 spines on dorsal margin, 6–7 spines on mesial margin, 16 spines on lateral margin (not visible in Fig. 1) and distal spine with 1–3 spine-like squamae on ventral margin. Carpus with 1+4 spines on dorsal margin, 4 spines on lateral margin (not visible in Fig.1) and 6 spines on mesial margin. Palm with 5 spines on dorsal margin, 1+5 spines on mesial margin and some spine-like squamae, 1+3 spines on lateral face on distal margin; finger cutting edges each with row of approximately 50 denticles.

P2–4. P2 moderately long and slender, $3.1\text{--}3.3 \times$ as long as carapace, merus $1.2\text{--}1.4 \times$ as long as carapace, $6.8\text{--}9.6 \times$ as long as greatest width, carpus $0.2\text{--}0.3 \times$ as long as merus, propodus $0.5\text{--}0.6 \times$ as long as merus, dactylus $0.4 \times$ as long as merus; ischium extensor margin with 1+3–4 spines, flexor margin with distal spine; merus with 1+15–20 spines along extensor margin, with 1+8–9 spines on flexor margin; carpus with 1+1–3 spines on extensor margin, large distal spine on flexor margin; propodus with row of robust setae on flexor margin, distally paired; dactylus $5.6 \times$ as long as basal width, evenly curved over distal two-thirds, with row of 20 robust setae distal to heel of flexor margin. P3 $2.9\text{--}3.1 \times$ carapace length, merus $0.8\text{--}1.2 \times$ as long as carapace, $6.3\text{--}6.5 \times$ as long as greatest width, carpus $0.3 \times$ as long as merus, propodus $0.7 \times$ as long as merus, dactylus $0.6\text{--}0.7 \times$ as long as propodus; ischium with 1+3 spines on extensor margin, with distal spine on flexor margin, merus with 1+15–20 spines on extensor margin, with 1+7–11 on flexor margin; propodus with row of robust setae on flexor margin, distally paired; carpus with 1+2–3 spines on extensor margin, large distal spine on flexor margin; dactylus distal two-thirds evenly curved, $6.1 \times$ as long as basal width, with row of 3–4 robust setae distal to heel of flexor margin. P4 $2.8\text{--}3.1 \times$ as long as carapace, merus $1.1\text{--}1.2 \times$ as long as carapace, $6.0\text{--}7.0 \times$ as long as greatest width, carpus $0.3 \times$ as long as merus, propodus $0.6\text{--}0.7 \times$ as long as merus, dactylus $0.5\text{--}0.6 \times$ as long

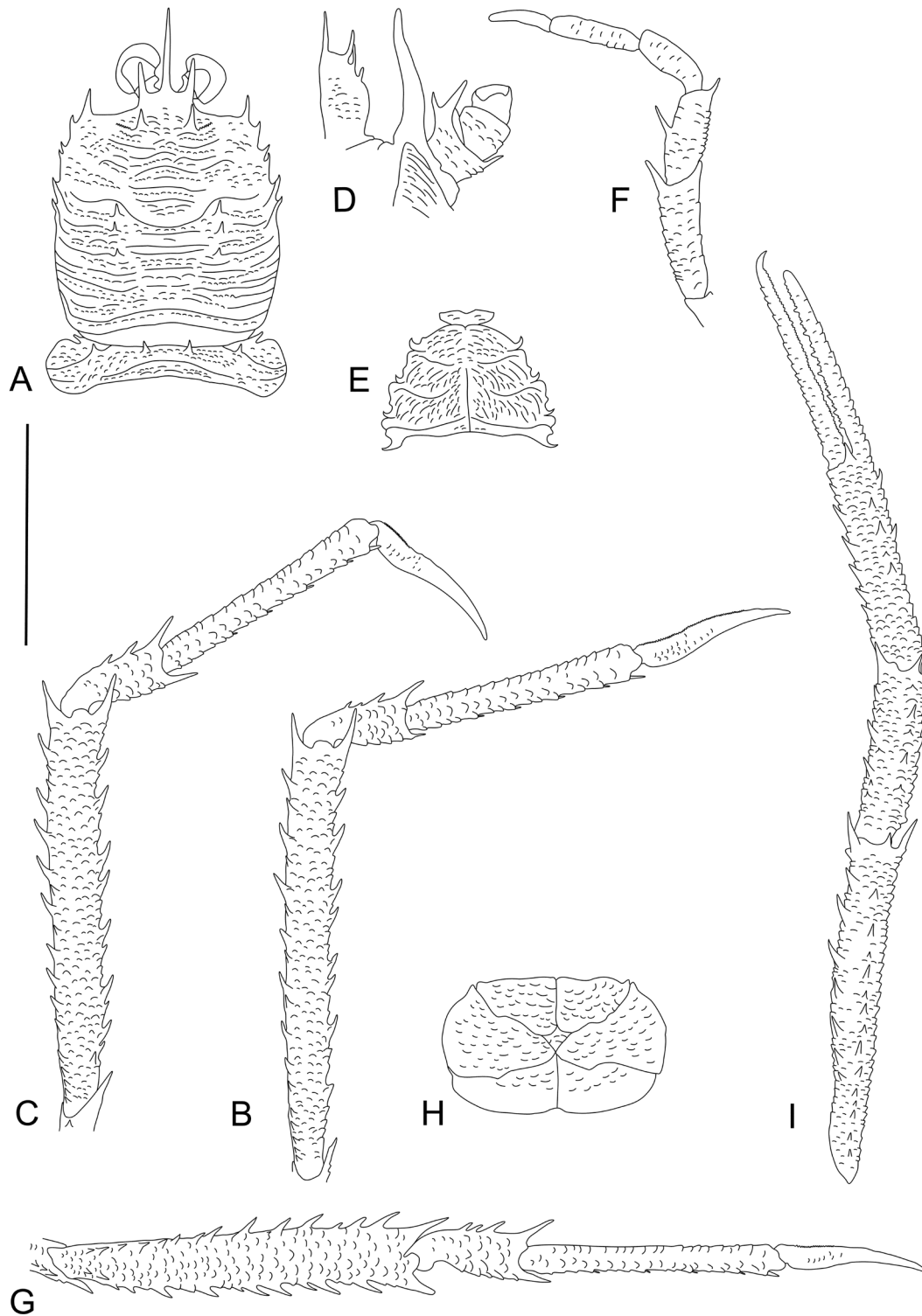


Fig. 1. *Agononida africerta* Poore & Andreakis, 2012, ov. ♀, 19.3 mm (SAMC-A094759), South of Richard's Bay, South Africa. **A.** Carapace and anterior pleonite, dorsal view. **B.** Right P2, lateral view. **C.** Right P3, lateral view. **D.** Cephalic region, showing antennular and antennal peduncles, ventral view. **E.** Sternal plastron, ventral view. **F.** Left Mxp3, lateral view. **G.** Right P4, lateral view. **H.** Telson. **I.** Right P1, dorsal view. Scale bars: A, E = 20.0 mm; B–C, G–I = 15.0 mm D, F = 10.0 mm.

as propodus; ischium extensor margin with 1+3 spines on flexor margin, extensor margin with distal spine, merus with 1+14 spines on extensor margin, flexor margin with 1+8–10 spines, with 1–4 proximal spines on lateral face; propodus with row of robust setae on flexor margin, with distal pair; carpus with 1+3 spines on extensor margin, large distal spine on flexor margin; dactylus less curved than P2 and P3, less setose distally, $6.1 \times$ as long as basal width, with 2 robust setae distal to heel of flexor margin.

Male

Based on SAMC-A094740, pcl 18.0 mm. Anterolateral margin of telson similar as in female. P1 merus as long as carapace, carpus $0.6 \times$ as long as merus, propodus $0.8 \times$ as long as merus, finger $0.9 \times$ as long as propodus. Merus with 1+5 spines on dorsal margin, 14 spines on lateral face, 5–8 spines on mesial margin. P2 $3 \times$ as long as carapace, carpus $0.3 \times$ as long as merus, dactylus $0.6 \times$ as long as propodus, with row of 13 robust setae on flexor margin, distal to heel. P3 $2.9 \times$ as long as carapace, dactylus $0.5 \times$ propodus as long as, with 2 robust setae distal to heel on flexor margin. P4 $2.8 \times$ as long as carapace, dactylus $0.6 \times$ as long as propodus; with 3 robust setae distal to heel of flexor margin.

Variation

Ranges noted in above description. Some variation with regards to morphometrics between South African specimens and original description. Several ratios between articles of appendages vastly different, for example, P1 palm originally described as $1.9 \times$ as long as merus; however, in South African specimens, P1 palm $0.8 \times$ as long as merus.

General distribution

Mozambique, Madagascar, Glorieuses Islands, Mayotte Island, depth 394–833 m, and now South Africa.

South African distribution

Shelf edge South of Knysna to uThukela, depth 280–512 m (Fig. 12).

Genetic data

COI, 16S, see Table 1.

Remarks

This species is part of the *Agononida incerta* complex described by Poore & Andreakis (2012, 2014). These authors examined material from Mozambique and Madagascar, which were previously recorded as *A. incerta* (Henderson, 1888), and deemed these to be their new species, *A. africanata*. They also suggested that Kensley's (1977) material, which they erroneously deemed as being from Mozambique, but was actually collected from iSimangaliso Marine Protected Area in north-eastern South Africa, is likely to be the same new species. Upon examination of morphological and genetic data for the South African material, it can be confirmed that these specimens, previously identified as *Munida incerta* (later changed to *A. incerta*) are indeed *A. africanata*. The present study greatly expands the distribution of this species, as the material of '*M. incerta*' was only reported from iSimangaliso Marine Protected Area to the shelf edge off Knysna (Fig. 12). The South African material differs in several aspects with regards to morphometrics when compared to the original description by Poore & Andreakis (2012). However, it is worth noting that their measurements were taken from photographs, as opposed to measuring physical specimens (hence the reason a redescription is given above). Meanwhile, the specimens agreed well with regards to diagnostic characters of *A. africanata*. This species is frequently caught together with *Gonionida benguelae* (de Saint-Laurent & Macpherson, 1988) (Munididae) on the south and east coast, as well as *Scyramathia hertwigi* Chun, 1900 (family Epialtidae Mac Leay, 1838), *Metanephrops mozambicus* Macpherson, 1990 (family Nephropidae Dana, 1852) and *Haliporoides triarthrus* Stebbing, 1914 (family Solenoceridae Wood-Mason & Alcock, 1891) on the east coast. The South African material

aligns well with Mozambican *A. africanus* material and has almost no genetic divergence at 0.0–0.2% (16S; Table 1) and 0.0% (*COI*; Table 1). The South African *A. africanus* material also has low divergence with *A. vanuacerta* Poore & Andreakis, 2014 (0.8–1.2% 16S) and *A. indocerta* Poore & Andreakis, 2012 (0.8–1.4% 16S; 2.7–3.0% *COI*). Interestingly, *A. madagascerta* Poore & Andreakis, 2014 which is also known from the area, is more distantly related, with a divergence of 12.7–13.1%.

Genus *Babamunida* Cabezas, Macpherson & Machordom, 2008

Babamunida brucei (Baba, 1974)

Figs 2, 12

Munida brucei Baba, 1974: 55, figs 1–2. Type locality: off East coast of Kenya, depth 119 m.

Munida brucei – Baba 2005: 260 (key, synonymies, Maroon Point, Mauritius, depth 37–46 m).

Babamunida brucei – Cabezas *et al.* 2008: 69 (transfer to new genus). — Macpherson *et al.* 2023: 384 (compilation, SWIO).



Fig. 2. *Babamunida brucei* (Baba, 1974), South of Richards Bay, depth 95–105 m, not collected. Photograph by: SeaEye Falcon 12177 during the African Coelacanth Ecosystem Program (ACEP): Imida Frontiers in 2017.

Material examined

None available and identified on the basis of the photograph shown in Fig. 2.

General distribution

Kenya, Mauritius, depth 37–119 m, and now South Africa.

South African distribution

South of Richards Bay, KwaZulu-Natal, depth 95–105 m (Fig. 12).

Remarks

Due to the elusive nature of species of *Babamunida* Cabezas, Macpherson & Machordom, 2008, identification from colour photographs is often the only way to record their presence. This has been shown to be effective by Poupin *et al.* (2012) and Schnabel *et al.* (2009), who reported on *B. hystrix* (Macpherson & de Saint-Laurent, 1991) and *B. kanaloa* Schnabel, Martin & Moffitt, 2009 from French Polynesia and the Hawaiian Islands, respectively. Schnabel *et al.* (2009) states that characteristic colouration can be used for species diagnoses in the genus.

This specimen was observed, but not collected, during the African Coelacanth Ecosystem Program (ACEP): Imida Frontiers expedition led by Kerry Sink with the SeaEye Falcon 12177 remotely operated vehicle (ROV) (Fig. 2). The identification is made based on the distinct rostrum and short supraocular spines, the broad P1 carpus and palm, and the P4 merus which is more than half the length of the P2 merus and does not reach the anterior margin of the carapace, as well as the colour pattern, which is diagnostic of *B. brucei*. As described by Baba (1974), the colour pattern includes a reddish-brown body, purple transverse lines on the posteriormost ridge on the carapace and the posterior margins of the pleonites 2–4 and lastly pale spots and bands on P1–4. The specimen reported here agrees well with all these characters, moreover, as *B. brucei* is the only species from this genus known from the Indian Ocean (off the East coast of Kenya), there is confidence in this identification.

This is the first record of the genus *Babamunida* in South Africa. Species in this genus are elusive, and many have been observed to occupy burrows or holes (Schnabel *et al.* 2009; Poupin *et al.* 2012) and if they are observed in the open, they rapidly move to a nearby hole or burrow. This obviously increases the difficulty of collections and could be the reason they have not previously been collected from South Africa.

Genus *Curtonida* Macpherson & Baba in Machordom *et al.*, 2022

Curtonida manqingae (Liu, Lin & Huang, 2013)

Fig. 12

Munida manqingae Liu, Lin & Huang, 2013: 380, figs 1–2. Type locality: Southwest Indian Ridge, depth 2218 m).

Curtonida manqingae Machordom *et al.* 2022: 954 (new combination).

Munida sp. – Kensley 1968: 287 (west of Cape Town, depth 2525–2782 m).

Material examined

SOUTH AFRICA • 1 ov. ♀ (8.7 mm); Africana II Stn A318; 16°51'00.00" S, 16°51'00.00" E; depth 2524–2780 m; 9 Dec. 1959; SAMC, SAMC-A010525.

Colouration

According to Liu *et al.* (2013), anterior part of carapace (anterior branchial, cardiac, gastric and hepatic region), antennal, antennular and ocular peduncles deep pink; posterior part of carapace (intestinal and posterior branchial region) and pleon pink; P1–5 and telson light pink. No updated colour information available, as examined specimen was preserved in ethanol.

General distribution

Western Indian Ocean, depth 2218 m, and now South Africa.

South African distribution

West of Cape Town, depth 2523–2780 m (Fig. 12).

Remarks

This addition represents not only a new species record but also a new genus record for South Africa. Although the only material was a disarticulated specimen, it agrees well with the original description. Interestingly, the species was described from a hydrothermal vent field on the Southwest Indian Ridge at a similar depth of 2218 m and is one of two species in the family Munididae known to occur in hydrothermal vent fields, the other being *Typhlonida magniantennulata* (Baba & Türkay, 1992). This is the first time since the original description of a single ovigerous female and increases the known depth range substantially, representing one of the deepest munidid records ever recorded. Kensley (1968) appears to have recorded this species but only listed it as *Munida* sp., followed by a brief description of some characters. That specimen was collected using a beam trawl, together with *Galacantha rostrata* A. Milne-Edwards, 1880, a common munidopsid from South Africa at more than 2500 m depth.

Genus *Gonionida* Macpherson & Baba in Machordom *et al.*, 2022

Gonionida benguela (de Saint Laurent & Macpherson, 1988)

Figs 3, 13, 15B, Table 1

Munida benguela de Saint Laurent & Macpherson, 1988: 106, figs 1, 2a, c, 3a, d, f–i. Type localities: South of Namibia, South Africa, depth 450–825 m.

Munida sancti-pauli – Barnard 1950: 489, fig. 92b (off Cape Point, depth 458 m).

Munida benguela – Baba 2005: 95, 260 (key, synonymies, off Durban and off Natal, depth 500–730 m).

— Macpherson *et al.* 2017: 37, fig. 11b–c (key, Mozambique, Madagascar, depth 352–732 m). — Atkinson & Sink 2018: 175, colour figs.

Gonionida benguela – Machordom *et al.* 2022: 956 (new combination). — Macpherson *et al.* 2023: 385 (Mayotte Island, depth 788–800 m).

Diagnosis

The carapace with 3–4 pairs of epigastric spines of which the longest pair behind the supraocular spines. The frontal margins slightly oblique. The branchial lateral margins with five spines. The rostrum spiniform, less than half as long as the carapace and curved upwards distally. The surface of the thoracic sternite 7 lateral margins smooth. The pleonite 2 armed with 8–10 spines on anterior transverse ridge and the pleonites 3–6 unarmed. The antennular article 1 with two well-developed, subequal distal spines; two lateral spines of which the distal much longer than the proximal and exceeding the distomesial spine. The antennal article 1 with a strong distomesial spine, not exceeding the distal margin of the article 2. The article 2 with a distomesial spine exceeding the distal margin of the article 4; the distolateral spine barely exceeding the midlength of the article 3. The article 3 unarmed. The Mxp3 ischium with a small

distal spine on the flexor margin; the merus slightly shorter than the ischium measured along the extensor margin, armed with two well-developed spines on the flexor margin of which the proximal spine almost twice as long as the distal spine; the extensor margin unarmed. The P1–4 covered with short dense setae and long iridescent setae.

Material examined

SOUTH AFRICA • 1 ♂ (17.1 mm); Africana Stn A10136; 34°10'0" S, 26°50'18" E; depth 670 m; 2 Jun. 1990; SAMC, SAMC-A40002 • 2 ♂♂ (20.4–22.3 mm); Africana Stn A22817; 32°21'0" S, 16°28'12" E; 450 m depth; 9 Feb. 2004; SAMC, SAMC-A094552 • 4 ♂♂ (17.6–21.5 mm); Africana Stn A22810; 32°16'48" S, 16°22'48" E; depth 455 m; 7 Feb. 2004; SAMC, SAMC-A094553 • 2 ♂♂ (16.7–16.8 mm); Africana Stn A32822; 35°11'54.61" S, 22°56'34.8" E; depth 512 m; 5 Oct. 2016; SAMC, SAMC-A094741 • 1 ♂ (19.0 mm); Africana Stn A34830; 35°18'18.71" S, 22°47'12.8" E; depth 555 m; 18 Apr. 2021; SAMC, SAMC-A094748 • 1 ♂ (18.0 mm); Africana Stn A34832; 35°11'43.4" S, 23°00'32.4" E; depth 527 m; 18 Apr. 2021; SAMC, SAMC-A094749 • 1 ♀ (18.0 mm); Nansen Trawl Stn 7; 29°42'36" S, 31°29'24" E; depth 263–267 m; 30 Jan. 2018; SAMC, SAMC-A094756 • 1 ♂ (12.8 mm); Nansen Trawl Stn 14; 29°21'36" S, 31°58'12" E; depth 397–403 m; 1 Feb. 2018; SAMC, SAMC-A094758 • 1 ov. ♀ (16.5 mm); Compass Challenger Stn D00877; 34°06'2.52" S, 17°31'21.72" E; depth 514 m; 1 Feb. 2022; SAMC, SAMC-A094754 • 1 ♂ (15.8 mm); UCT Ecological Survey Stn LBT 74; 32°01'58.8" S, 16°05'00.00" E; depth 500 m; 23 Sep. 1971; SAMC, SAMC-A79354 • 1 ov. ♀ (19.6 mm); Africana Stn A29631; 35°18'30" S, 22°46'48" E; depth 545 m; 24 Apr. 2009; SAMC, SAMC-A069682 • 2 ♂♂ (19.9–22.6 mm), 2 ♀♀ (18.3–20.0 mm); Africana Stn A19417; 33°15'00.00" S, 17°10'12" E; depth 471 m; 20 Jan. 1999; SAMC, SAMC-A094561 • 1 ov. ♀ (17.4 mm); Africana Stn A22823; 32°01'12" S, 16°16'12" E; depth 459 m; 9 Feb. 2004; SAMC, SAMC-A094565 • 1 ♀ (21.0 mm); Africana Stn A23595; 35°12'00.00" S, 22°56'52.8" E; depth 500 m; 2 May 2004; SAMC, SAMC-A094564 • 1 ♂ (12.2 mm); Africana Stn A09138; 30°05'24" S, 14°53'24" E; depth 470 m; 3 Aug. 1989; SAMC, SAMC-A094563 • 1 ♂ (12.4 mm); Africana Stn A32158; 31°03'18.12" S, 15°42'13.38" E; depth 451 m; 13 Jan. 2012; SAMC, SAMC-A073877.

Variation

Ranges noted in above diagnosis. Dorsal surface of carapace with small spines rarely present posterior to parahepatic spine.

Colouration (in life; Fig. 15B)

Colour of dorsal surface of carapace and pleonites 2–3 brick red or pinkish; pleonites 4–6 and telson white (pleonite 4 occasionally partially reddish). Rostrum and supraocular spines mostly reddish, seldomly white. P1 pinkish or reddish. P2–4 pinkish or reddish, distal part of propodi and proximal part of dactyli whitish.

General distribution

Namibia, Mozambique, Mayotte Island, Madagascar and South Africa, depth 252–825 m.

South African distribution

Orange River to Mozambican border, depth 263–825 m (Fig. 13).

Genetic data

COI, see Table 1.

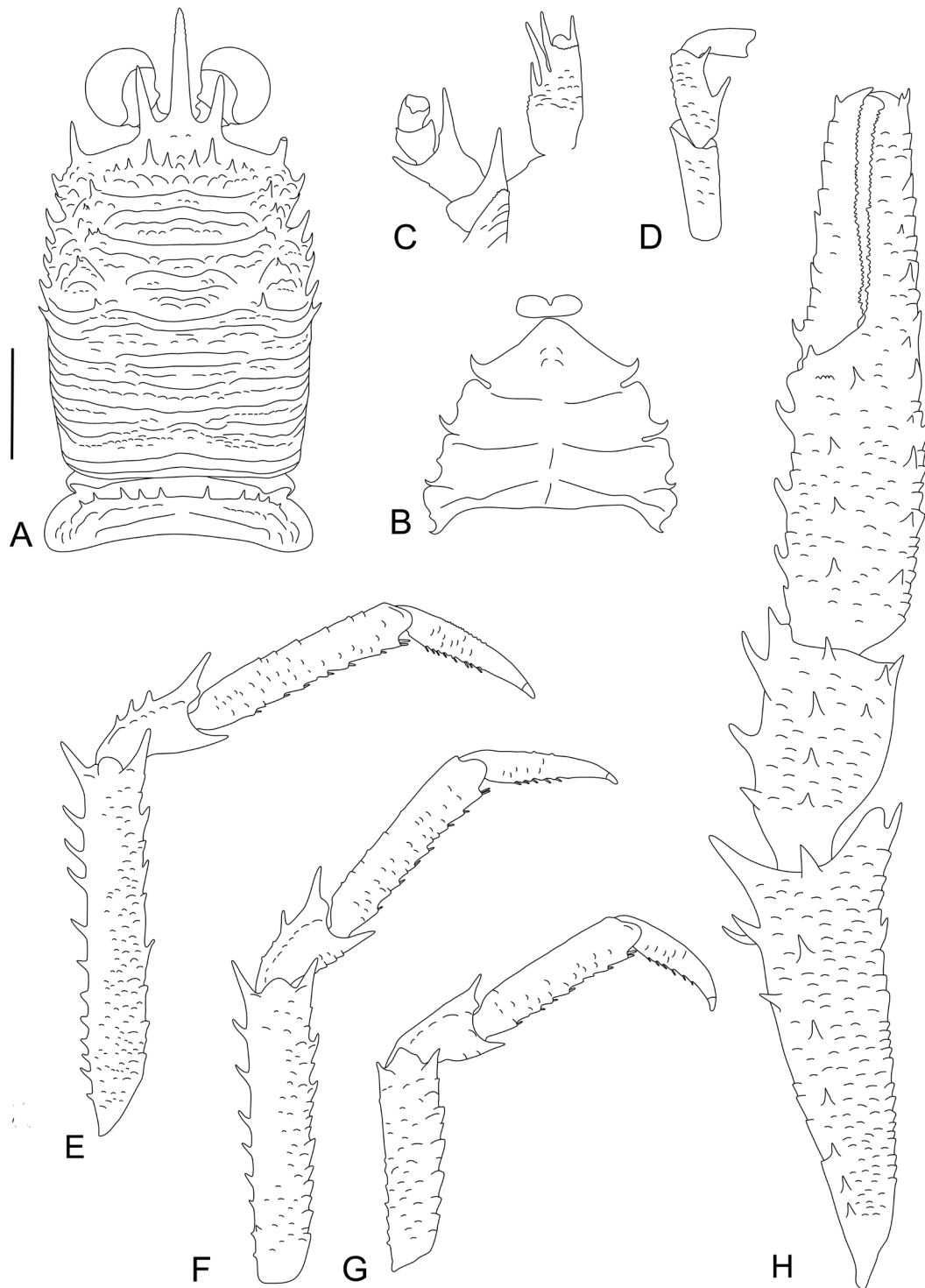


Fig. 3. *Gonionida benguela* (de Saint Laurent & Macpherson, 1988), ♂, 19.2 mm (SAMC-A094748), South of Knysna, South Africa. **A.** Carapace and anterior pleonite, dorsal view. **B.** Sternal plastron, ventral view. **C.** Cephalic region showing antennular and antennal peduncles, ventral view. **D.** Left Mxp3, lateral view. **E.** Right P2, lateral view. **F.** Right P3, lateral view. **G.** Right P4, lateral view. **H.** Right P1, dorsal view. Scale bars: A = 10.0 mm; B–H = 5.0 mm.

Remarks

This species is by far the most common and widely-distributed munidid and is frequently caught by demersal trawl research vessels. It is the only munidid found along the entire coastline of South Africa, often caught along with *Agononida africanus* on the south and east coasts. Other species frequently found in the same trawls include the majoid crab *Scyramathia hertwigi*, the hermit crab *Parapagurus bouvieri* Stebbing, 1910, the mud crab *Dyspanopeus* sp. and the whelk *Fusitriton magellanicus* (Röding, 1798). The South African material aligns with Mozambican material as it has a divergence of 0.0% (COI; Table 1). *Gonionida benguela* is closely related to *G. crosnieri* Macpherson, Rodríguez-Flores & Machordom, 2023 with a divergence of 2.3% (COI, see Macpherson *et al.* 2023). COI divergence is greater than 24.0% (though the sequence is short at 320 base pairs) to *G. hoda* (Macpherson, Rodríguez-Flores & Machordom, 2017) and 10.9–11.1% to *G. shaula* (Macpherson & de Saint Laurent, 2002). *Gonionida benguela* can morphologically be separated from *G. shaula* by the lack of spines along the anterior transverse ridge of the pleonite 3 and the P1 palm shorter, not $1.4 \times$ as long as fingers, as in *G. shaula*. It can also be distinguished from *G. hoda* by the rather transverse frontal carapace margins and the antennal article 1 with a strong distomesial spine reaching the end of the article 2, instead of the oblique frontal carapace margins and a weaker distomesial spine of the antennal article 1 not reaching the end of the article 2.

Gonionida hoda (Macpherson, Rodríguez-Flores & Machordom, 2017)

Fig. 13

Munida hoda Macpherson, Rodríguez-Flores & Machordom, 2017: 15, figs 5, 11d. Type locality: Mozambique, depth 630–715 m.

Gonionida hoda – Machordom *et al.* 2022: 941 (new combination). — Macpherson *et al.* 2023: 385 (compilation, SWIO).

Material examined

SOUTH AFRICA • 1 ♂ (5.9 mm); Meiring Naude Stn J10; 31°44'18" S, 29°32'12" E; depth 350 m; 4 Jul. 1985; SAMC-A094550 • 2 ♂♂ (5.1–5.9 mm); Meiring Naude Stn J9; 31°44'18" S, 29°32'42" E; depth 300 m; 4 Jul. 1985; SAMC, SAMC-A094551.

Variation

In South African specimens examined, carapace with branchial dorsal spine and Mxp3 merus with small spine on extensor margin.

General distribution

Mozambique, depth 630–715 m, and now South Africa.

South African distribution

South of Port St. Johns, depth 300–350 m (Fig. 13).

Remarks

The South African specimens agree well with the original description of *G. hoda* and were found slightly shallower than previously recorded. Previously only known from southern Mozambique. This is only the second time since the original description that this species has been collected and represents a small southwards range extension. This species is somewhat similar to *G. shaula*; however, it differs in the unarmed third pleonite. See under Remarks of *G. benguela* for differences from that species.

Gonionida shaula (Macpherson & de Saint Laurent, 2002)

Fig. 13

Munida shaula Macpherson & de Saint Laurent, 2002: 475, fig. 3d. Type locality: Reunion Island, depth 460–470 m.

Munida shaula – Baba 2005: 274 (key, synonymies). — Macpherson, Rodríguez-Flores & Machordom 2017: 42, fig. 13b (key, Mozambique, Madagascar, depth 263–450 m).

Gonionida shaula – Machordom *et al.* 2022: 940 (new combination). — Macpherson *et al.* 2023: 385 (Mozambique Channel, compilation).

Material examined

SOUTH AFRICA • 2 ♂♂ (5.3–6.4 mm), 1 ov. ♀ (6.3 mm); RV *Pickle* Stn 25; 29°56'00.00" S, 31°19'30" E; depth 412 m; 26 Aug. 1929; ZMUC, ZMUC CRU-11526.

Variation

South African specimens with 3 lateral spines on antennular article 1 (not 2 as in original description); 2–4 spines on the pleonite 2 (not 7–9 spines); carapace transverse ridges mostly uninterrupted.

Colouration

According to Macpherson *et al.* (2017), carapace and pleon orange to orange-red; rostrum and supraocular spines orange-reddish; pleonites 5–6 whitish with few orange ridges; tailfan whitish; P1 pink-whitish, with some red bands on distal portions of carpus, palm and fingers, and several dorsal spines reddish. P2–4 whitish with some red bands.

General distribution

Mozambique, Madagascar, La Réunion, Zanzibar and South Africa, depth 263–510 m.

South African distribution

East of Durban, depth 412 m (Fig. 13).

Remarks

The material reported under this name included specimens previously reported by Baba (2005) under the name *Munida kuboi* Yanagita, 1943 from off Durban at a depth of 412 m. Prior to Baba (2005), *G. shaula* was described as *Munida shaula* from Madagascar by Macpherson & de Saint Laurent (2002), which included some material reported under the name *M. kuboi*. Baba (2005) acknowledged this newly described species, but noted that one of the South African specimens bore a distomesial spine on the antennal article 1 that terminated at the midlength of article 4, and as he states “However, it bears the spine terminating in the midlength of the article 4, not overreaching the peduncle”. It is worth noting that the original description by Macpherson & de Saint Laurent (2002) does not state that the spine overreaches the antennal peduncle but that it reaches the end of the peduncle. The ZMUC CRU-11526 specimens have distomesial spines on the antennal second article that either almost reach or reach the end of the peduncle. This differs from that of *G. kuboi*, where the distomesial spine of the antennal article 2 only reaches the end of article 3. Based on this information, as well as considering the known distribution ranges of *G. kuboi* (Bali Sea, between Cebu and Bohol, Illana Bay off SW Mindanao, N of Sulawesi, S of Mindoro, South China Sea off SW Luzon, Taiwan, and the Sea of Japan and Sagami Bay, Japan) and *G. shaula* (Southwest Indian Ocean), these specimens of *G. kuboi* from South Africa are better referred to *G. shaula* (see *G. benguela* remarks for genetic divergence values and morphological differences.). This species was collected along with two other squat lobster species; *Galathea lumaria* Baba, 2005 and *Urotychus simiae* Kensley, 1977.

Genus *Raymunida* Macpherson & Machordom, 2000

Raymunida cf. *vittata* Macpherson, 2009
Figs 4, 12

Raymunida vittata Macpherson, 2009: 446, fig. 7. Type locality: Vanuatu, depth 32–40 m.

Raymunida vittata – Osawa 2012: 140, figs 3, 4b (Kume Island, Ryukyu Islands, depth 96–123 m).
— Macpherson *et al.* 2023: 366, fig. 4c (Mozambique, Madagascar, Mozambique Channel, depth 60–277 m).

Material examined

SOUTH AFRICA • 1 ov. ♀ (6.6 mm); Meiring Naude Stn ZB22; 27°02'24.00" S, 32°54'54.00" E; depth 75 m; 6 Jun. 1990; SAMC, SAMC-A094532 • 1 ♂ (4.6 mm); Meiring Naude Stn ZDD2; 27°14'36.00" S, 32°48'48.00" E; depth 74 m; 9 Jun. 1990; SAMC, SAMC-A094534 • 1 ♂ (9.7 mm, with externa of a Thompsoniidae Høeg & Rybakov, 1992 on P1–4); Meiring Naude Stn ZH3; 27°32'48.12" S, 32°42'36.00" E; depth 68 m; 3 Jun. 1987; SAMC, SAMC-A094533 • 1 ♂ (7.2 mm); Meiring Naude Stn ZH4; 27°33'12.00" S, 32°42'48.00" E; depth 85 m; 3 Jun. 1987; SAMC, SAMC-A094579.

Variation

Distal spines of antennal article 2 variable, occasionally distolateral spine longer than distomesial, unlike original description, which notes a longer distomesial spine. Antennal article 3 of all South African specimens armed with small distomesial spine, unlike unarmed in original description.



Fig. 4. *Raymunida* cf. *vittata* Macpherson, 2009 from a reef at Roonies, Sodwana Bay, depth ~32 m, not collected. Photograph by Mike and Valda Fraser.

Colouration (in life; Fig. 4)

Carapace and pleon orange-red, with some white bands along dorsal surface; lateral margins with white blotches. P1 have white and red bands, distal portion of fingers red (white in western Pacific specimens; Macpherson *et al.* 2023). P2–4 red with no bands.

General distribution

Western Pacific Ocean from New Caledonia, Vanuatu to Japan, depth 32–194 m, Madagascar, Mozambique, Mozambique Channel, depth 60–277 m, and now South Africa.

South African distribution

Off Boteler Point and Sodwana Bay, KwaZulu-Natal, depth 68–85 m (Fig. 12).

Genetic data

COI, 16S, see Table 1.

Remarks

This species is recorded as cf. as the status of *Raymunida vittata*, *R. elegantissima* (De Man, 1902) and *R. lineata* Osawa, 2005 remain unresolved (Macpherson *et al.* 2023). *Raymunida vittata* and *R. lineata* are separate species because they have different morphological and colour characters. However, *R. vittata* or *R. lineata* may actually belong to *R. elegantissima* considering the variability of the antennal spination showed in Osawa (2012). Genetic data show that neither clade is monophyletic, with both clades including both specimens of *R. vittata* and *R. elegantissima*. The South African material forms part of the *R. vittata* clade (Botha 2025). To add to the confusion, Emmerson (2016) lists *R. lineata* from KwaZulu-Natal, although the reference to this is listed as IOC-Mainbaza, (Bouchet. pers. com.) and it is unclear where the specimen was from. Without conclusive evidence, this should not be retained as a species record from South Africa. The South African material has low divergence values of 0.2–0.4% (16S) and 0.9–1.1% (*COI*) to *R. vittata* s. lat. known from the SWIO. This material is also quite similar to specimens identified as *R. elegantissima* with a divergence of 0.4% (16S) and 0.9–1.2% (*COI*). It is, however, quite distantly related to *R. insulata* Macpherson & Machordom, 2001, at 5% (16S) and 15.6% (*COI*). More material (and inclusion of further molecular markers) of these species from different areas are required to resolve this species complex.

One of the specimens examined bears the externa of a Rhizocephalan species of Thompsoniidae Høeg & Rybakov, 1992. Apparently *Thompsonia* Kossmann, 1872 has been reported from South Africa (Høeg & Rybakov 1992), but more work is required to confirm the identification. This record of *R. vittata* from South Africa represents a small range extension, as it was previously reported from Mozambique and the greater SWIO region (Poupin *et al.* 2022; Macpherson *et al.* 2023). The specimen displayed in Fig. 4 was not examined, though it is very similar to the specimen of *R. vittata* reported by Poupin *et al.* (2022, fig. 9f) from Mayotte.

Genus *Trapezionida* Macpherson & Baba in Machordom *et al.*, 2022

Trapezionida antonbruuni (Tirmizi & Javed, 1980)

Figs 5, 14

Phylladorhynchus antonbruuni Tirmizi & Javed, 1980: 256, fig. 1. Type locality: off Mozambique, depth 62 m.

Munida antonbruuni – Baba 1991: 480 (transfer to *Munida*). — Tirmizi & Javed 1993: 126, fig. 56 (redescription of the holotype). — Baba 2005: 259 (key, synonymies). — Macpherson *et al.* 2017: 32 (key).

Trapezionida antonbruuni – Machordom *et al.* 2022: 960 (new combination). — Macpherson *et al.* 2023: 386 (compilation).

Material examined

SOUTH AFRICA • 3 ♂♂ (1.6–1.8 mm); Durban Bay; 29°52'42.31" S, 31°10'0.41" E; depth 99 m; 5 Feb. 2021; SAMC, SAMC-A094791 • 2 ♂♂ (1.6–1.7 mm); UCT Ecological Survey N.A.D. STN 3; 30°47'6" S; 30°29'6" E; depth 44 m; 17 May 1958; SAMC, SAMC-A094578 • 1 ♂ (1.9 mm); off Umgeni River; 29°49'14.41" S, 31°14'17.05" E; depth 110 m; 5 Feb. 2021; SAMC, SAMC-A094745.

Description

CARAPACE. 1.1 × as long as broad, with weak secondary transverse striae often interrupted between main transverse ridges. Carapace with few scattered setae, dorsal ridges nude. Gastric region with 2–3 pairs of small epigastric spines, longest pair behind supraocular spines. One pair of postcervical spines present behind mid-transverse ridge. Frontal margins oblique. Lateral margins weakly convex. Anterolateral spine well-developed, nearly reaching base of supraocular spines; 1 spine behind anterolateral spine, anterior to cervical groove on well-rounded hepatic region. Branchial margins with 5 spines. Rostrum broad, triangular, slightly less than half length of remaining carapace, sometimes distally notched and slightly upturned. Supraocular spines short, about 0.2 × as long as rostrum.

STERNUM. Surface of thoracic sternites smooth. Sternite 3 somewhat boat-shaped, anterior margin with median notch. Sternite 4 anterior margin somewhat sinuous, serrated anterolaterally and contiguous to sternite 3.

PLEON. Pleonites unarmed. Pleonites 2 and 3 each with 1 uninterrupted ridge behind anterior ridge. Pleonites 4 and 5 with interrupted short ridges behind anterior ridge. Posteromedian margin of pleonite 6 straight.

EYE. Ocular peduncles approximately as long as broad, maximum corneal diameter 0.4 × distance between bases of anterolateral carapace spines.

ANTENNULE. Article 1 with 2 well-developed distal spines, distomesial shorter than distolateral; 2 lateral spines (excluding distal), proximal spine minute.

ANTENNA. Article 1 distomesial spine short, reaching mid-length of article 2. Article 2 with distomesial spine almost reaching distal margin of article 3; distolateral spine reaching mid-length of article 3. Article 3 with or without minute distomesial spine, small distolateral spine may be present.

MXP3. Ischium with small distal spine on both flexors. Merus shorter than ischium; flexor margin with 2 spines, proximal spine well-developed, distal spine sharp, smaller than proximal spine; extensor margin with small distal spine (not illustrated) followed by short protuberances. Carpus unarmed.

P1. 2.4–2.7 × as long as carapace, with some iridescent, long setae. Merus 0.8–0.9 × as long as carapace, 2.7 × as long as carpus, with distal spines on dorsal, ventral, lateral and mesial margins, dorsomesial spine strongest, rows of small spines dorsally. Carpus 0.6–0.7 × as long as palm, 1.7–2.1 × as long as broad, with spines on dorsomesial and dorsolateral margins and tooth-like process on ventral surface. Palm 2.0–3.0 × as long as broad, with rows of lateral and mesial spines. Fingers as long as palm; fixed

finger with several distal spines followed by few blunt spines, cutting edge with row of small spines; movable finger with small spine on mesial margin.

P2–4. Moderately long and slender, with some long, iridescent setae (not illustrated) on extensor margin; lateral surface with setiferous scales. P2 2.2–2.5 × as long as carapace. Meri shorter posteriorly (P3 merus 0.8–0.9 × as long as P2 merus, P4 merus 0.8 × as long as P3 merus); P2 merus 0.8–0.9 ×

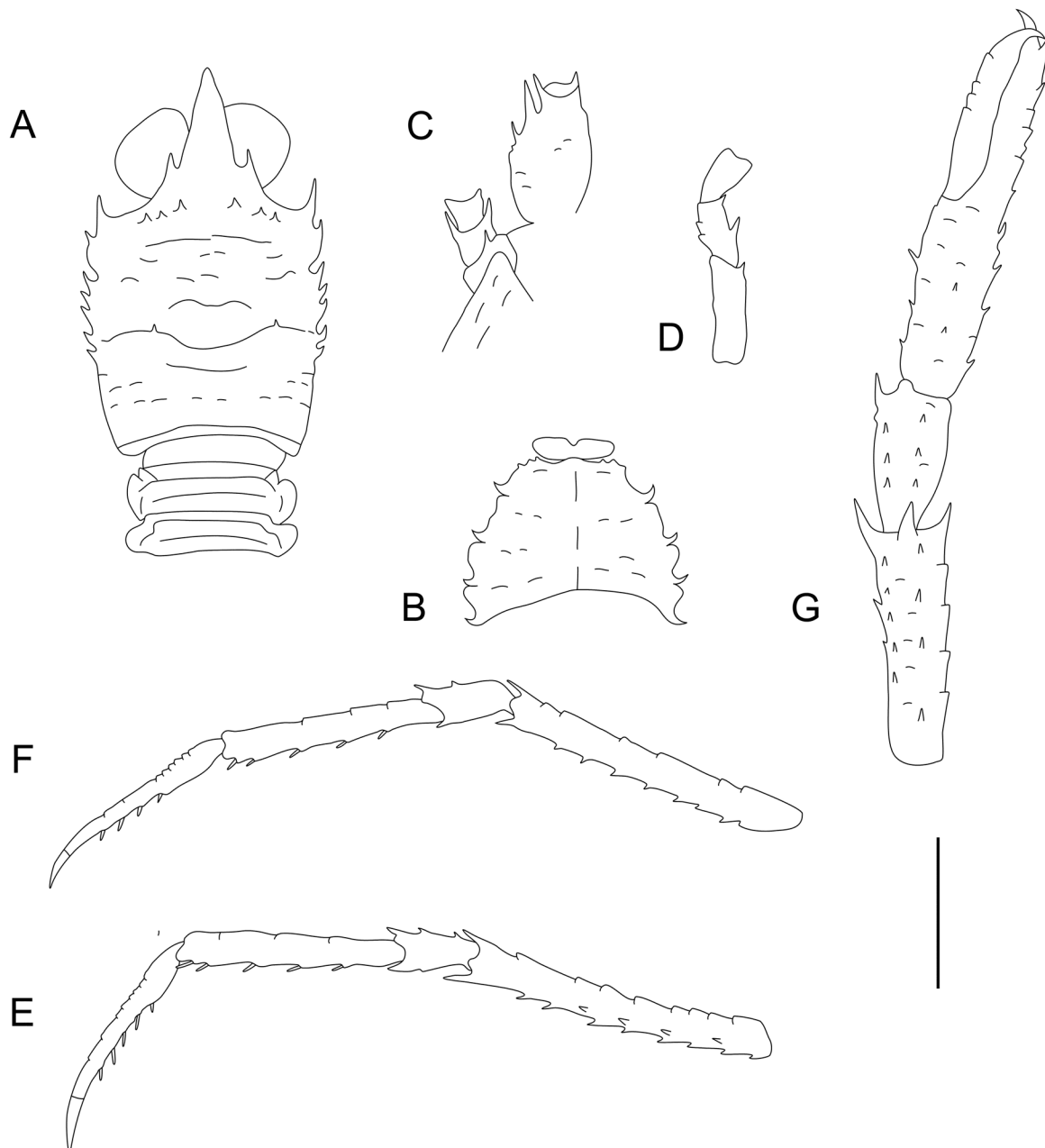


Fig. 5. *Trapezionida antonbruuni* (Tirmizi & Javed, 1980), ♂, 1.6 mm (SAMC-A094791), east of Durban, South Africa. **A.** Carapace and anterior pleonites, dorsal view. **B.** Sternal plastron, ventral view. **C.** Cephalic region showing antennular and antennal peduncles, ventral view. **D.** Right Mxp3, lateral view. **E.** Left P2, lateral view. **F.** Left P3, lateral view; **G.** Right P1, dorsal view. Scale bars: A = 1.0 mm; B–G = 0.6 mm.

as long as carapace, 7.5–10.6 × as long as broad, 1.4–1.6 × as long as propodus; P3 merus 5.3–7.5 × as long as broad, 1.2–1.5 × as long as P3 propodus; P4 merus 4.9–6.7 × as long as broad, 1.0–1.3 × as long as propodus. P2–3 meri each with row of 8 blunt spines on extensor margin, distal largest, sharp; P4 merus with 2 proximal spines and large distal spine on extensor margin; flexor margins of P2–4 with 7–9 spines, P2 lateral margins row of spines, unarmed on P3–4. Carpi with 2–3 spines on extensor margin; flexor margin with distal spine, followed by some low eminences. P2–4 propodi 7.4–8.2 × as long as broad; extensor margin unarmed; flexor margin with 5–6 slender, movable spines. Dactyli long, slender, 0.9–1.0 × as long as propodi; flexor margin with 4–5 spinules, but no spinule at base of unguis.

Variation

Ranges noted in above description. In all specimens examined, antennal article 3 with minute distomesial spine (not illustrated), but distolateral spine present in original description. P1 2.4–2.7 × as long as carapace, whereas originally described as more than 3.0 ×.

General distribution

Mozambique, depth 62 m, and now South Africa.

South African distribution

East coast from Durban to Port Shepstone, depth 44–99 m (Fig. 14).

Remarks

These are the first specimens of this enigmatic species since the original description of a single female by Tirmizi & Javed (1980) and more importantly, the first time a male has been observed and illustrated. It is a new record for South Africa (collected by Dr Elodie Heyns funded by an FBIP small grant project), although, as the holotype was collected east of Beira, Mozambique, so these new specimens represent only a modest range extension and slightly increased depth range.

The South African material corresponds well to the original description, as they are also very small at ~2 mm pcl, have five spines on the carapace lateral margins behind the cervical groove, no granules on the lateral parts of the thoracic sternite 7, no spines on the pleonite 2, large eyes and a distolateral spine on the antennular article 1 longer than the distomesial spine. However, there are some slight differences from the original description, the P1 ratio to the carapace length is 2.4–2.7, while it was described to be in excess of 3.0. It is worth noting that the original description was based on a single female specimen, giving no indication of variation. Unfortunately, DNA extractions of the specimens examined were unsuccessful.

This species is easily recognised from other species of *Trapezionida* in South African waters by the broad rostrum with short supraocular spines and their small size (pcl < 2.0 mm). *Trapezionida janetae* is also of similar size, but has a slender rostrum and three instead of five pairs of carapace epigastric spines, unlike in *T. antonbruuni*.

Trapezionida babai (Tirmizi & Javed, 1976)

Fig. 14

Munida babai Tirmizi & Javed, 1976: 81, figs 1–3. Type locality: off Natal, depth 150 m.

Munida babai – Baba 1990: 962 (Madagascar, depth 185–210 m). — Tirmizi & Javed 1993: 122, figs 54–55 (off Durban, depth 118–150 m). — Baba 2005: 259 (key, synonymies, West Malay Peninsula, 70 m). — Macpherson *et al.* 2017: 54 (key).

Trapezionida babai – Machordom *et al.* 2022: 960 (new combination). — Macpherson *et al.* 2023: 386 (compilation).

Type material

Holotype

SOUTH AFRICA • ♂ (6.0 mm including rostrum); IIOE Stn 390L; 29°35'00.00" S, 31°38'00.00" E; depth 150 m; 9 Sep. 1964; USNM, USNM 181103.

General distribution

Madagascar, Mozambique, Red Sea, Southwest Australia and South Africa, depth 70–456 m.

South African distribution

East of Durban, KwaZulu–Natal, depth 118–150 m (Fig. 14).

Remarks

No specimens were available for examination in the present study and this record is based on the literature cited above. This species was originally described from South Africa and remains valid. It has subsequently been described from other Indian Ocean localities (Macpherson *et al.* 2017). In South Africa, the species is easily recognised by having spines on the anterior transverse ridge of the fourth pleonite and short carapace supraocular spines.

Trapezionida cf. *barbeti* (Galil, 1999)

Figs 6, 14

Munida barbeti Galil, 1999: 59, fig. 1. Type locality: Mauritius, depth 55 m.

Trapezionida barbeti – Machordom *et al.* 2022: 960 (new combination). — Macpherson *et al.* 2023: 387 (compilation).

Material examined

Images taken on SCUBA, but not collected.

General distribution

Flic en Flac, Mauritius, depth 55 m, and now South Africa.

South African distribution

Aliwal Shoal, KwaZulu–Natal, depth 30 m (Fig. 14).

Remarks

This species was identified from two high quality photographs (Fig. 6) taken by Mike and Valda Fraser. The identification is made based on several inferences, the first is the shallow depth from which it was recorded. It is relatively uncommon for munidids to be reported from less than 50 m depth. Secondly, several characters are shared between the specimens in the photographs and *T. barbeti* as described from Mauritius. These are the five pairs of epigastric spines and four spines on the branchial margin (also relatively uncommon) of the carapace, as well as the spinature on the chelipeds. Lastly, the colour of the individuals in photographs corresponds well to that of the original description by Galil (1999), which reads: “Carapace vivid red, triangular yellow patches on hepatic region. Pleon red with round yellow patch anteriorly. Chelipeds and pereopods striped red and yellow”. Clearly, these specimens are

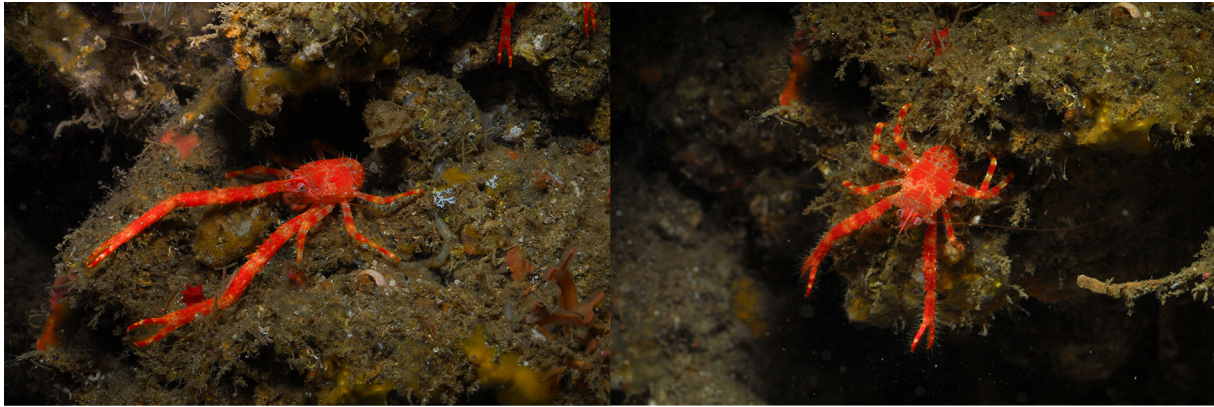


Fig. 6. Two specimens of *Trapezionida cf. barbetti* (Galil 1999) on hard substrate reef from Aliwal Shoal, southern extension, depth 30 m. Photographs by Mike and Valda Fraser.

similar to *T. barbetti*. However, as we do not have any collected material, the identification is given as *Trapezionida cf. barbetti*. A similar identification for this species was made by Poupin *et al.* (2022) who also identified this species in Mayotte based on colour images (which look identical to the South African images, compare Fig. 6 of this study and Poupin *et al.* 2022: figs 9b–c). This species is also noted as a frequently observed inhabitant of the mesophotic zone (between 30–150 m), which is not different in South African waters and can be assumed is the case for most of the SWIO region. This represents a new record for South Africa and is a modest range extension, as this species was described from Mauritius, and has been reported from Mayotte, Seychelles Islands and La Reunion.

Trapezionida janetae (Tirmizi & Javed, 1992)

Figs 7, 14

Munida janetae Tirmizi & Javed, 1992: 317, fig. 2. Type locality: off Somalia, depth 78–82 m.

Munida janetae – Tirmizi & Javed 1993: 98, fig. 42 (redescription of holotype). — Baba 2005: 265 (key, synonymies). — Macpherson *et al.* 2017: 44, 54 (key, Red Sea, depth 55 m).

Trapezionida janetae – Machordom *et al.* 2022: 960 (new combination). — Macpherson *et al.* 2023: 387 (compilation, SWIO).

Material examined

SOUTH AFRICA • 9 ♂♂ (2.2–3.2 mm); KZN Museum Stn 2021-02_xx117; 29°49'14.41" S, 31°14'17.05" E; depth 110 m; 5 Feb. 2021; SAMC, SAMC-A094799 • 1 ♂ (1.8 mm); KZN Museum Stn 2021-02_xx117; 29°49'14.41" S, 31°14'17.05" E; depth 110 m; 5 Feb. 2021; SAMC, SAMC-A094762.

Description

CARAPACE. Slightly longer than broad, with some secondary striae between main transverse ridges. Dorsal surface with transverse ridges bearing short non-iridescent setae and some scattered long, iridescent setae. Gastric region with 5–6 pairs of epigastric spines, largest pair posterior to supraocular spines; 1–2 small median spines behind rostral spine. One parahepatic, dorsal branchial and postcervical spine on each side. Frontal margins slightly sinuous, nearly transverse. Anterolateral spine well-developed, not reaching level of sinus between rostrum and supraocular spines; 1–3 spines in front of anterior branch of cervical groove. Branchial margins with 5 spines. Rostrum spiniform, keeled dorsally, serrate distally,

about $0.4 \times$ as long as carapace. Supraocular spines very short, less than one third length of rostrum, directed slightly upwards.

STERNUM. Sternite 3 slightly narrower than sternite 4 anterior margin, broadly V-shaped notch on anteromedian margin. Sternite 4 anterior margin transverse, surface with some striae; sternites 5–7 smooth.

PLEON. Pleonite 2 anterior transverse ridge unarmed; pleonites 2 and 3 each with deep, median groove, anterior half of each pleonite with 1 uninterrupted stria, lateral parts of each pleonite with 2 short striae. Pleonite 4 with 2 uninterrupted, ridges. Pleonite 5 with 1 posteromedian ridge (not illustrated). Pleonite 6 with 2 transverse ridges, anterior ridge short, posteromedian ridge interrupted medially.

EYE. Ocular peduncles wider than long, maximum corneal diameter $0.4 \times$ distance between bases of anterolateral carapace spines.

ANTENNULE. Article 1 with 2 subequal distal spines, lateral margin with 2–3 spines, distalmost spine largest, exceeding distolateral spine.

ANTENNA. Article 1 with distomesial spine barely overreaching distal margin of article 2. Article 2 distomesial spine reaching midlength of article 4, distolateral spine reaching half of article 3. Article 3 with small distolateral spine and sometimes with small distomesial spine.

MXP3. Ischium with small distal spine each on flexor and extensor margins. Merus with 2 subequal spines on flexor margin, extensor margin with small distal spine. Carpus unarmed.

P1. $2.4\text{--}2.7 \times$ as long as carapace, with some short plumose setae and several long iridescent setae along mesial margins of articles. Merus $0.9 \times$ as long as carapace, $3.0 \times$ as long as carpus, with some small dorsal spines; strong distal spines, distomesial spine largest, reaching mid-length of carpus, distolateral spine followed by several eminences and small spines. Carpus $0.6 \times$ as long as palm, $1.2 \times$ as long as broad; mesial margin with 3–4 spines, distalmost spine strongest; dorsal surface with some small spines. Palm $1.8 \times$ as long as broad, with rows of dorsal, lateral and mesial spines. Fingers longer than palm, fixed and movable fingers each with marginal row of spines, ending in slender claw.

P2–4. Moderately long and slender, with some plumose and long iridescent setae along extensor margin. P2 $2.1\text{--}2.3 \times$ as long as carapace. Meri shorter posteriorly (P3 merus $0.9 \times$ as long as P2 merus; P4 merus $0.8 \times$ as long as P3 merus); P2 merus $0.7 \times$ as long as carapace, $5.6 \times$ as long as broad, $1.2\text{--}1.3 \times$ as long as propodus; P3 merus $5.0 \times$ as long as broad, $1.1\text{--}1.2 \times$ as long as P3 propodus; P4 merus $4.1 \times$ as long as broad, as long as P4 propodus. P2–3 meri with row of 9–10 spines on extensor margin, P4 merus with 3–4 proximal spines; flexor margins with some distal spines, followed by several eminences; lateral surfaces unarmed. Carpi extensor margins with 2–4 spines on P2–3 and 1 spine on P4; lateral surface with some striae; flexor margin with distal spine. Propodi $4.7\text{--}5.1$ (P2–3) and 4.5 (P4) \times as long as broad; extensor margin unarmed; flexor margin with 7–9 movable spines. Dactyli slender, $0.8\text{--}0.9 \times$ as long as propodi; flexor margin with 5–7 spinules, no spine on base of unguis.

Variation

Ranges noted in above description. In all South African specimens, Mxp3 with 2 spines on flexor margin, instead of 3 spines in original description. Sternite 3 V-shaped medially, more rounded in original description. Rostrum keeled, but not illustrated in original description. In some specimens, antennal article 3 with distomesial spine.

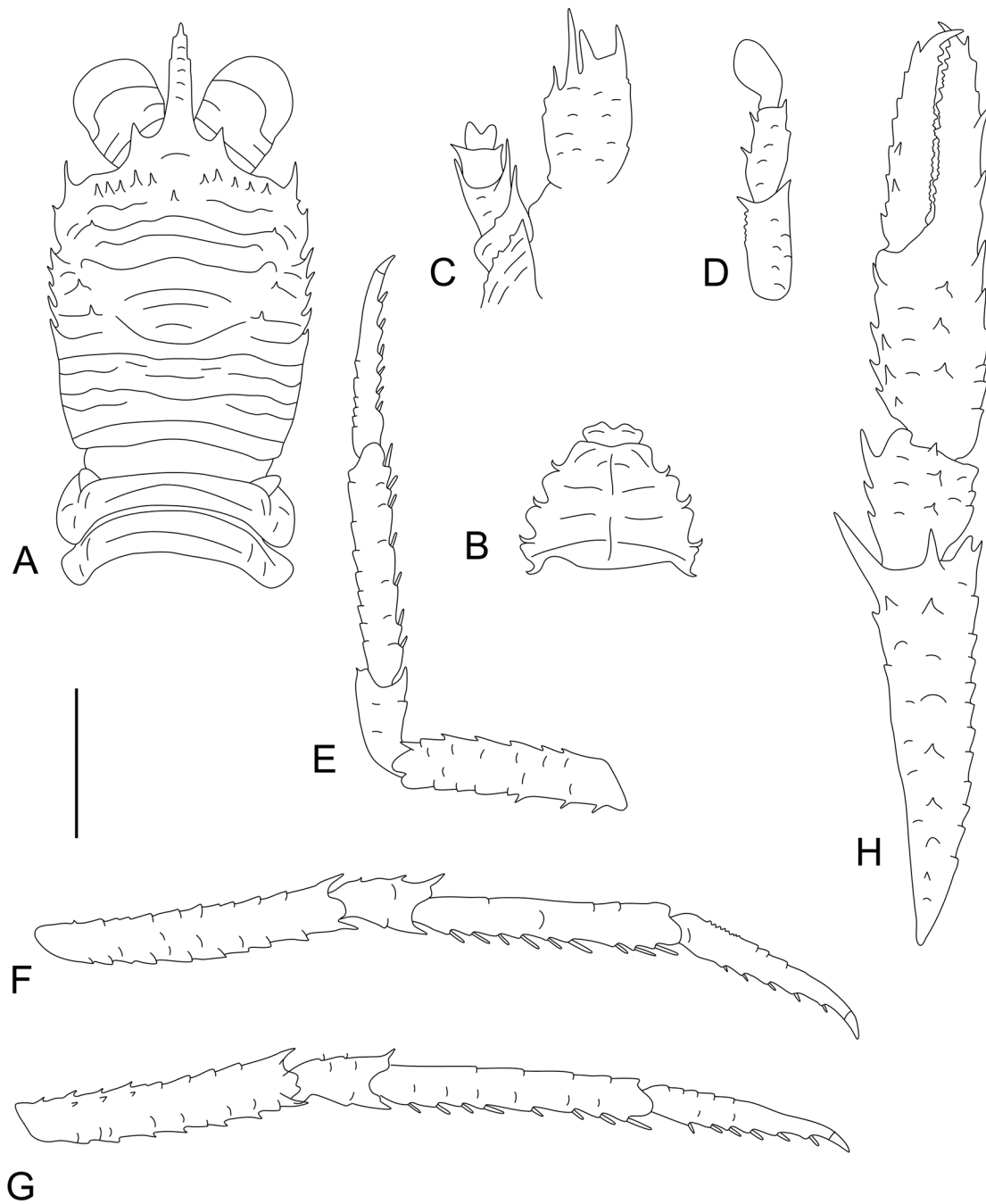


Fig. 7. *Trapezionida janetae* (Tirmizi & Javed, 1992), ♂, 1.8 mm (SAMC-A094762). **A–E, G.** ♂, 2.0 mm (SAMC-A094799), off Umgeni River, South Africa. **F, H.** ♂, 1.8 mm (SAMC-A094762), off Umgeni River, South Africa. **A.** Carapace and anterior pleonites, dorsal view. **B.** Sternal plastron, ventral view. **C.** Cephalic region showing antennular and antennal peduncles, ventral view. **D.** Left Mxp3, lateral view. **E.** Right P4, lateral view. **F.** Right P2, lateral view. **G.** Right P3, lateral view. **H.** Right P1, dorsal view. Scale bars: A, H = 1.0 mm; B–G = 0.6 mm.

General distribution

Somalia, Red Sea and South Africa, depth 55–118 m.

South African distribution

Off Durban, depth 110–118 m (Fig. 14).

Remarks

This is the second record of *T. janetae* since the original description based on two females. The males examined correspond well to the original description and were collected from roughly the same location as the paratype. They were sampled along with another munidid, *T. antonbruuni*, as well as the galatheid, *Galathea labidolepta* Stimpson, 1858 (collected by Dr Elodie Heyns funded by an FBIP small grant project).

This species can easily be distinguished from other species of the genus *Trapezionida* found in South African waters by the small size (pcl < 3.5 mm), the short supraocular spines, the five pairs of carapace epigastric spines and P1 fingers that are longer than the palm.

Trapezionida limula (Macpherson & Baba, 1993)

Figs 8, 10B, 14, 15C, Table 1

Munida limula Macpherson & Baba, 1993: 402, fig. 11. Type locality: Madagascar, depth 85–90 m.

Munida semoni – Barnard 1950: 491, fig. 92c (key, synonymies). — Kensley 1981: 34 (list).

Munida limula – Baba 2005: 267 (key, synonymies). — Macpherson *et al.* 2017: 32, 37, fig. 12a (key, South Madagascar, depth 23–209).

Trapezionida limula – Machordom *et al.* 2022: 960 (new combination). — Macpherson *et al.* 2023: 387 (compilation).

Material examined

SOUTH AFRICA • 1 ♂ (6.2 mm); missing locality data; depth 91 m; 14 Mar. 1901; SAMC, SAMC-A8235 • 1 ♂ (6.1 mm); UCT Ecological Survey N.A.D. Stn 11; 29°46'00.00" S, 31°17'00.00" E; depth 130 m; 23 Apr. 1958; SAMC, SAMC-A19510 • 1 ov. ♀ (5.4 mm); Meiring Naude Stn ZJ3; 27°42'54.00" S, 32°40'54.00" E, depth 160 m; 8 Jun. 1988; SAMC, SAMC-A094572 • 1 ♂ (6.8 mm); Meiring Naude Stn ZJ1; 27°43'12.00" S, 32°39'42.00" E; depth 50 m; 8 Jun. 1988; SAMC, SAMC-A094538 • 1 ov. ♀ (5.4 mm); Meiring Naude Stn ZC10; 27°06'00.00", 32°53'18.00" E, depth 74 m; 6 Jun. 1990; SAMC, SAMC-A094537 A094538 • 1 ov. ♀ (6.3 mm); Meiring Naude Stn ZD4; 27°11'06.00" S, 32°50'54.00" E; depth 100 m; 9 Jun. 1990; SAMC, SAMC-A094535 • 1 ov. ♀ (5.4 mm); missing locality data; depth 183 m; 1 Mar. 1963; SAMC, SAMC-A094575 • 1 ♂ (4.5 mm), 1 ♀ (3.1 mm); KZN Museum Stn 2021-02_xx115; 29°50'04.00" S, 31°14'09.00" E, depth 135 m; 5 Feb. 2021; SAMC, SAMC-A094779.

Description

CARAPACE. Slightly longer than broad, several secondary striae present between main transverse ridges. Dorsal surface with ridges bearing short, dense non-iridescent setae and numerous scattered long iridescent setae; 5–6 pairs of epigastric spines, longest pair behind supraocular spines, 1–2 small median spines behind rostral spine; 1–3 parahepatic spines, 1 dorsal branchial and 1 postcervical spine on each side. Frontal margins moderately oblique, serrated. Lateral margins slightly convex; anterolateral spine well-developed, not reaching level of sinus between rostrum and supraocular spines; 2–3 spines in front of anterior branch of cervical groove. Branchial margins with 5 spines. Rostrum spiniform, 0.5 × as long

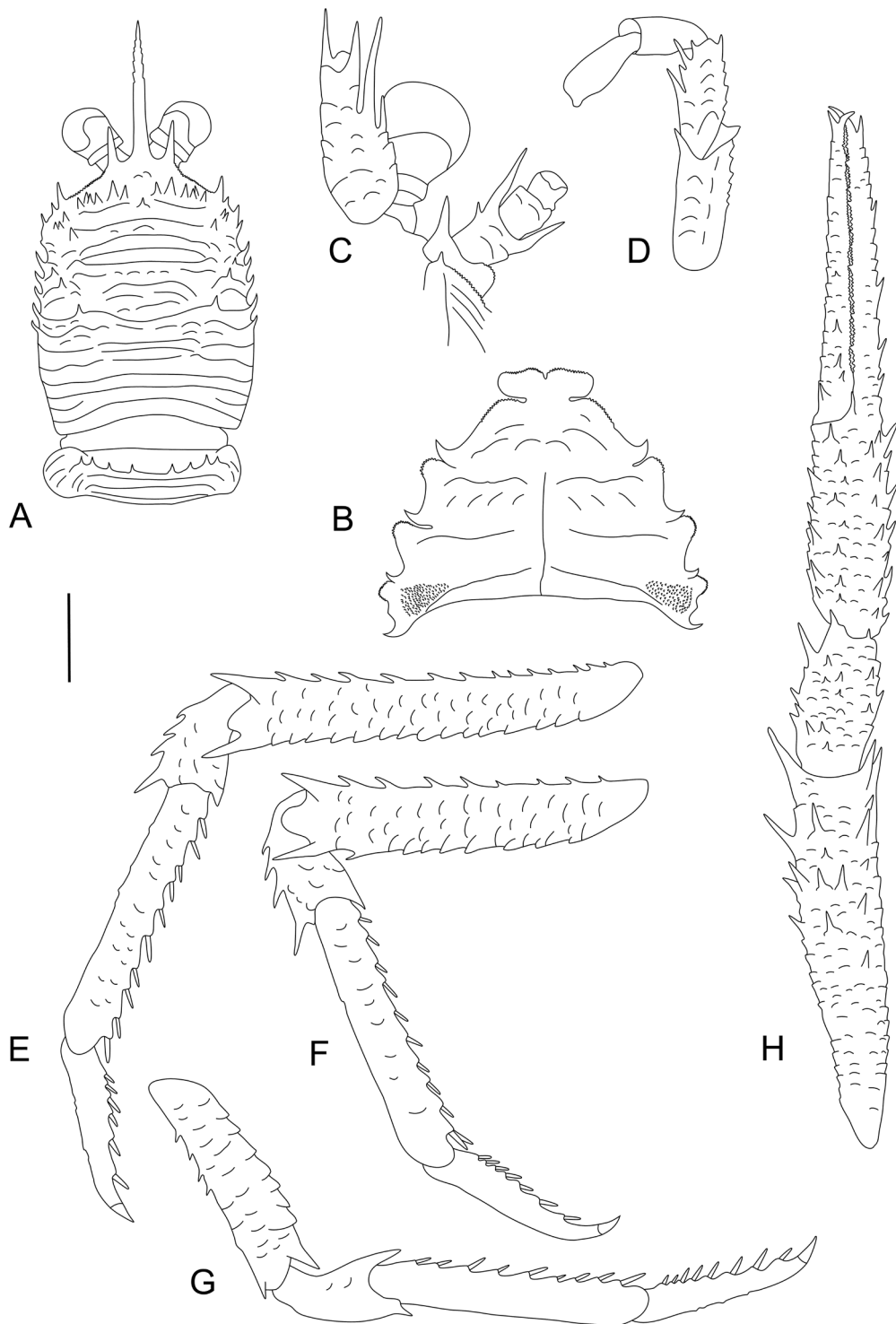


Fig. 8. *Trapezionida limula* (Macpherson & Baba, 1993), ov. ♀, 6.3 mm (SAMC-A094535), south of Kosi Bay, South Africa. **A.** Carapace and anterior pleonite, dorsal view. **B.** Sternal plastron, ventral view. **C.** Cephalic region showing antennular and antennal peduncles, ventral view. **D.** Left Mxp3, lateral view. **E.** Left P2, lateral view. **F.** Left P3, lateral view. **G.** Left P4, lateral view. **H.** Right P1, dorsal view. Scale bars: A = 2.0 mm; B–G = 1.0 mm; H = 1.5 mm.

as carapace. Supraocular spines not reaching mid-length of rostrum, slightly divergent, directed slightly upwards. Pterygostomial flap with longitudinal ridges and small scales on surface.

STERNUM. Thoracic sternites 4–5 with several short striae on surface; sternites 6–7 without striae, lateral portion of sternite 7 with granules.

PLEON. Pleonite 2 anterior transverse ridge with 8 spines; pleonites 2–4 each with 3–4 uninterrupted transverse striae; pleonite 5 with 2 short ridges; pleonite 6 with 3 ridges, first and second interrupted medially.

EYE. Ocular peduncles slightly longer than broad, maximum corneal diameter $0.3 \times$ distance between bases of carapace anterolateral spines.

ANTENNULE. Article 1 with 2 well-developed distal spines, distomesial longer than distolateral; 2–3 lateral spines, distal spine much longer than proximal spine, exceeding distomesial spine.

ANTENNA. Article 1 with distomesial spine reaching distal margin of article 2. Article 2 with distomesial spine slightly exceeding distal margin of article 4; mesial margin with small spine; distolateral spine reaching distal margin of article 3. Article 3 unarmed.

MXP3. Ischium with distal spine on both flexor and extensor margins. Merus with 3 spines on flexor margin and distal spine on extensor margin. Carpus unarmed. Surface of ischium and merus covered with small scales.

P1. About $3.0 \times$ as long as carapace, with short non-iridescent setae. Merus as long as carapace, $2.9 \times$ as long as carpus, with several dorsal and mesial spines, distal spines strong, distomesial spine not reaching proximal third of carpus. Carpus about half as long as palm, $1.7 \times$ as long as broad, with small spines on dorsal surface and well-developed spines on mesial margins. Palm $2.9 \times$ as long as broad, with rows of spines on mesial and lateral margins and dorsal surface. Fingers $1.2 \times$ as long as palm; fixed finger with row of spines on lateral margin; dactylus with some spines on proximal half.

P2–4. Moderately long and slender, with some short, plumose and long iridescent setae along extensor margin of articles. P2 1.9 – $2.1 \times$ as long as carapace. Meri shorter posteriorly (P3 merus $0.8 \times$ as long as P2 merus, P4 merus $0.7 \times$ as long as P3 merus); P2 merus $0.8 \times$ as long as carapace, $10.0 \times$ as long as broad, $1.3 \times$ as long as propodus; P3 merus $4.7 \times$ as long as broad, 1.1 – $1.2 \times$ as long as P3 propodus; P4 merus $3.8 \times$ as long as broad, as long as P4 propodus. Extensor margins of P2–3 meri with 9–12 proximally diminishing spines, distal spine strong, extensor margin of P4 meri with several proximal spines and distal spine; flexor margins with some distal spines followed proximally by some eminences; lateral surfaces unarmed. Carpi with 4 proximally diminishing spines on extensor margins of P2–3, only distal spine on extensor margin of P4; flexor margin with distal spine; lateral surface with several short ridges sub-parallel to extensor margin of P2–3. Propodi 5.6 (P2–3) and 6.1 (P4) \times as long as broad; extensor margin unarmed; flexor margin with 10–12 movable spines. Dactyli slender, 0.6 – $0.7 \times$ as long as propodi; extensor margin unarmed; flexor margin with 7–8 movable spinules, spinule at the base of the unguis (not illustrated); P2 dactylus $4.8 \times$ as long as broad.

Variation

Ranges noted in above description. Most specimens with a row of 2 median epigastric spines on carapace, instead of 1 spine as originally described. Antennular article 1 with 3 (4 in one specimen) lateral spines instead of 2 depicted spines in original description. Antennal article 1 with distomesial spine clearly exceeding distal margin of article 2, instead of barely reaching that margin. In some specimens examined, antennal article 3 with distolateral spine.

Genetic data

COI, see Table 1.

General distribution

Madagascar, Mozambique (this study) depth 23–209 m, and now South Africa.

South African distribution

Aliwal Shoal to Sodwana Bay, KwaZulu-Natal, depth 50–183 m (Fig. 14).

Remarks

Some specimens of *Trapezionida semoni* (Ortmann, 1894) identified by Barnard (1950) and Kensley (1981) are herein transferred to *T. limula* instead, as the specimens have a distal spine on the extensor margin of the Mxp3 merus and granules on the sternite 7, both diagnostic characters of *T. limula* which are absent in *T. semoni*. These specimens correspond well to the original description in all other regards. Some of the *T. semoni* material are also transferred to *T. mesembria* (Macpherson, Rodríguez-Flores & Machordom, 2017) in this study. South African specimens of *T. limula* are most closely related to *T. roshanei* (Tirmizi, 1966) with a divergence of 19.5–19.8% (*COI*) (McCallum *et al.* 2021, western Australia material of *T. roshanei*). Interestingly, *T. limula* seems quite distantly related to other species in the genus; however, this is the first ever sequence of the species and more material is required to understand relationships with other species.

This species is redescribed and depicted here as it was previously described in 1993, and the present description follows the most up-to-date convention on taxonomically important features. It is superficially similar to *T. janetae*, as both species have five pairs of epigastric spines and a median epigastric spine, as well as five lateral spines behind the cervical groove on the carapace. However, *T. limula* can easily be distinguished by having a row of spines on the anterior transverse ridge of the pleonite 2 and granules on the lateral parts of the thoracic sternite 7, both characters are absent in *T. janetae*.

Trapezionida longisandla sp. nov.

[urn:lsid:zoobank.org:act:8E7B3649-232D-4EF9-9392-B02550E576BC](https://doi.org/10.21203/rs.3.rs-10000000/v1)

Figs 9, 10A, 14

Type material

Holotype

SOUTH AFRICA • 1 ♂ (7.4 mm); Meiring Naude Stn ZN2; 28°17'18.0" S, 32°33'36.0" E; depth 100–120 m; 10 Jun. 1988; SAMC, SAMC-A094536.

Etymology

The specific epithet refers to the unusually long and slender P1 of this species and is derived from the isiZulu word 'isandla' which means hand, used in combination with long. The isiZulu is the predominant language spoken in KwaZulu-Natal, where this species was found. The name is used as a noun in apposition.

Diagnosis

The carapace with six pairs of epigastric spines of which the longest pair posterior to the supraocular spines and the two median epigastric spines posterior to the rostrum. The frontal margins oblique. The branchial margins with five spines. The rostrum spiniform, 0.6 × as long as the carapace and dorsally carinated. The sternite 7 with granules on the lateral parts. The pleonite 2 armed with nine spines on the

anterior transverse ridge and the pleonites 3–6 unarmed. The antennular article 1 with two distal spines of which the distomesial spine slightly longer than the distolateral; the lateral margin with two spines of which the distal spine much longer than the proximal, exceeding the distolateral spine, and with much smaller spines on the proximal half. The antennal article 1 with the distomesial spine almost reaching the distal margin of the article 2; the article 2 with well-developed distal spines of which the distomesial spine exceeding the end of the article 3 and the distolateral spine almost reaching the end of the article 3. The Mxp3 ischium with a small distal spine on the flexor margin and a well-developed spine on the extensor margin; the merus longer than the ischium, the flexor margin with three subequal spines; the extensor margin with a small distal spine. The P1 long, slender, roughly $4.7 \times$ as long as carapace, with sparse spines; the palm $5.1 \times$ as long as broad. The P2–4 moderately slender, with short plumose and long iridescent setae.

Description

CARAPACE. $1.1 \times$ as long as broad, with few secondary striae between main transverse ridges. Dorsal surface with transverse ridges bearing short non-iridescent setae and some scattered iridescent setae; 6 pairs of epigastric spines, longest pair posterior to supraocular spines, 2 median epigastric spines posterior to rostrum; 1 parahepatic, 1 branchial dorsal and 1 postcervical spine on each side. Frontal margins ridged, oblique. Lateral margins slightly convex; anterolateral spine well-developed, not reaching level of sinus between rostrum and supraocular spines; 2–3 spines anterior to end of cervical groove. Branchial margins with 5 spines. Rostrum spiniform, $0.5 \times$ as long as carapace, dorsally carinated, ridged distally. Supraocular spines short, not reaching midlength of rostrum nor end of corneas, subparallel, directed slightly upwards.

STERNUM. Sternite 3 as wide as anterior margin of sternite 4; anterior margin with two median lobes, separated by notch. Sternite 4 broadly triangular; anterior margin ridged, nearly transverse, narrowly contiguous to sternite 3. Sternites 4 and 5 with some striae on surface. Posterolateral margins of sternite 7 with granules on lateral parts.

PLEON. Anterior transverse ridge of pleonite 2 with 9 spines; pleonites 2–3 each with 3–4 uninterrupted ridges on tergite behind anterior transverse ridge; pleonites 4–5 with 2 uninterrupted ridges and some short, interrupted ridges. Posteromedian margin of pleonite 6 straight.

EYE. Ocular peduncles longer than broad, maximum corneal diameter $0.3 \times$ distance between bases of anterolateral spines.

ANTENNULE. Article 1 with 2 well-developed distal spines, distomesial slightly longer than distolateral; lateral margin with 2 spines, distal much longer than proximal, exceeding distolateral spine, and with much smaller spines below proximal spine.

ANTENNA. Article 1 with distomesial spine almost reaching distal margin of article 2. Article 2 with well-developed distal spines, distomesial exceeding end of article 3, distolateral spine almost reaching end of article 3. Article 3 unarmed.

MXP3. Ischium with small distal spine on flexor margin and well-developed distal spine on extensor margin; lateral surface carinated, with some transverse striae. Merus longer than ischium, with transverse striae laterally; flexor margin with 3 subequal spines; extensor margin with small distal spine followed by several eminences.

P1. $4.7 \times$ as long as carapace, with short plumose and few long iridescent setae along mesial margins of articles. Merus $1.7 \times$ as long as carapace, $3.7 \times$ as long as carpus, with rows of dorsal and mesial spines; distal spines somewhat well-developed, distomesial spine not reaching proximal third of carpus. Carpus

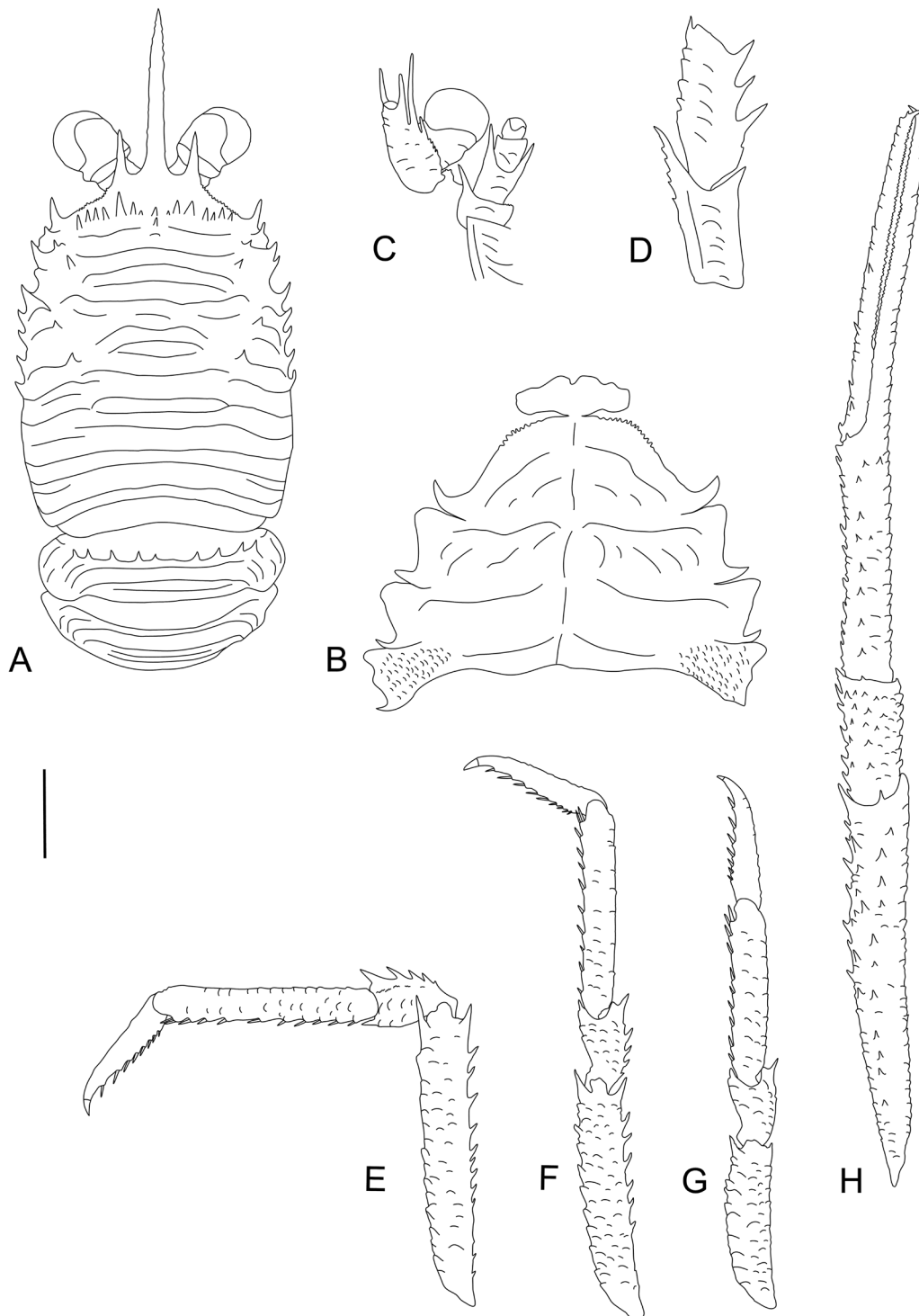


Fig. 9. *Trapezionida longisandla* sp. nov., holotype, ♂, 7.4 mm (SAMC-A094536), northeast of St. Lucia, South Africa. **A.** Carapace and anterior pleonites, dorsal view. **B.** Sternal plastron, ventral view. **C.** Cephalic region showing antennular and antennal peduncles, ventral view. **D.** Left Mxp3, lateral view. **E.** Right P2, lateral view. **F.** Left P3, lateral view. **G.** Left P4, lateral view. **H.** Right P1, dorsal view. Scale bars: A, C, E–G = 2.0 mm; B, D = 1.0 mm; H = 1.5 mm.

0.5 × as long as palm, 1.9 × as long as broad, with numerous spines on dorsal and mesial surfaces. Palm 5.1 × as long as broad, with rows of small dorsal and mesial spines. Fingers 1.4 × as long as palm; fixed finger with some distal spines, ending in curved strong claw; dactylus with some spines mesially on dorsal surface, ending in strong claw.

P2–4. Moderately long and slender, with short plumose and long iridescent setae on extensor margin of articles. P2 2.5 × as long as carapace. Meri shorter posteriorly (P3 merus 0.8 × as long as P2 merus; P4 merus 0.7 × as long as P3 merus); P2 merus 0.9 × as long as carapace, 6 × as long as broad, 1.3 × as long as P2 propodus; P3 merus 4.8 × as long as broad, 1.1 × as long as P3 propodus; P4 merus 3.6 × as long as broad, as long as P4 propodus. P2–P3 meri with row of 12 and 7 proximally diminishing spines on extensor margin, respectively; P4 merus with only small distal spine on extensor margin; flexor margins with some distal spines followed by several eminences, distalmost spine strong; lateral surface unarmed. P2–3 carpi with 5 spines on extensor margin, P4 carpus with only distal spine on extensor



Fig. 10. Right P1, dorsal views. **A.** *Trapezionida longisandla* sp. nov., holotype, ♂, 6.4 mm (SAMC-A094536), northeast of St. Lucia, South Africa. **B.** *T. limula*, ♂, 6.8 mm (SAMC-A094538), north of Richards Bay, South Africa. Scale bar = 4.0 mm.

margin; flexor margins each with distal spine; lateral surface with row of several short, granular ridges, sub-parallel extensor margin. Propodi 4.2–4.5 × (P3–P2) and 3.6 (P4) × as long as broad; extensor margin unarmed; flexor margin with 9–10 slender, movable spines, distal spines paired. Dactyli slender, 0.7 × as long as propodi; flexor margin with 7–9 movable spinules, no spinule at base of unguis.

South African distribution

Northeast of St. Lucia, KwaZulu-Natal, depth 100–120 m (Fig. 14).

Remarks

Trapezionida longisandla sp. nov. belongs to the group of species that has five spines on the branchial margins of the carapace, granules on the lateral parts of the thoracic sternite 7, and spines on the anterior transverse ridge of the pleonite 2. It is most closely related to *T. limula* from Madagascar, Mozambique and now South Africa (present study), but the two species differ in the P1 length, shape and spination. The new species is considerably different from *T. limula*, as the P1 is 4.7 × as long as the carapace in the new species, whereas it is only 3.9 × in *T. limula*. Moreover, the fingers and palm are especially slender in the new species, as the palm is 5.1 × as long as wide in the new species and only 2.9 × in *T. limula*. The P1 of the new species is overall much less spinose than that of *T. limula* and possesses weaker spines on the mesial margin (see comparison for similar-sized male specimens provided in Fig. 10). Furthermore, the P2–4 propodi are considerably slenderer in *T. longisandla* than *T. limula*. Lastly, the new species does not possess a spine on the mesial margin of antennal article 2, which is present in *T. limula*.

The new species is also similar to *T. euripa* (Macpherson, Rodríguez-Flores & Machordom 2017) from Madagascar, but can be easily distinguished by several characters. The pleonites 2–3 have fewer transverse ridges in *T. longisandla* sp. nov. (three or four) than in *T. euripa* (eight). The branchial dorsal spine of the carapace is present in the new species, but it is absent in *T. euripa*.

Moreover, the distomesial spine of the antennular article 1 is longer than the distolateral in *T. longisandla* sp. nov., but the two distal spines are subequal in *T. euripa*. The Mxp3 merus has a distal spine on the extensor margin, but the spine is absent in *T. euripa*. The P1 length, shape and spination also differ between the two species. The P1 is 4.7 × as long as the carapace in the new species, but only 3.0 × in *T. euripa*, and the palm is considerably slenderer, 5.1 × as long as broad in the new species, compared to 2.5 × in *T. euripa*. The P1 is overall much less spinose and possesses weaker spines on the mesial margin in the new species than in *T. euripa*.

Unfortunately, no genetic data could be obtained for this new species as it was preserved in formalin.

Trapezionida mesembria (Macpherson, Rodríguez-Flores & Machordom, 2017)

Fig. 14

Munida mesembria Macpherson *et al.*, 2017: 18, figs 6, 12b. Type locality: Mozambique, depth 171–180 m.

Trapezionida mesembria – Machordom *et al.* 2022: 940 (new combination). — Macpherson *et al.* 2023: 387 (compilation).

Material examined

SOUTH AFRICA • 1 ♀ (5.1 mm); Meiring Naude Stn XX57; 31°05'48" S, 30°18'48" E; depth 140 m; 8 Jul. 1985; SAMC, SAMC-A094549 • 1 ♂ (6.8 mm), 2 ov. ♀♀ (7.7–9.2 mm); SS Pieter Faure Stn 196; 30°10'20.64" S, 30°50'8.52" E; depth 168 m; 7 Mar. 1901; SAMC, SAMC-A0900.

Variation

The South African material examined has a small distolateral spine on antennal article 3.

Colouration

According to Macpherson *et al.* (2017), carapace and pleon orange with some red patches; rostrum and supraocular spines orange; P1 mostly orange with some reddish bands, fingers orange with several white and red spots; P2–4 mostly orange, with reddish transverse bands.

General distribution

Mozambique, depth 112–357 m, and now South Africa.

South African distribution

Port Edward to Aliwal Shoal, depth 140–168 m (Fig. 14).

Remarks

Some of the material deposited in the Natural History Collections of the Iziko South African Museum was previously identified as *Trapezionida semoni* by Barnard (1950) and Kensley (1981), but is in fact *T. mesembria*, based on the pleonite 2 lacking spines, which are present on *T. semoni*. The South African material represents a small range extension for this recently described species from Mozambique. The material agrees quite well with the original description of *T. mesembria*, except for the presence of a small distolateral spine on the antennal article 3. Unfortunately, molecular analyses were not possible as the specimens were too old and were originally fixed in formalin.

Trapezionida nesiototes (Macpherson, 1999)

Figs 14, 15D, Table 1

Munida nesiototes Macpherson, 1999: 480, fig. 3. Type locality: Seychelles Islands, depth 200 m.

Munida nesiototes – Baba 2005: 269 (key, synonymies). — Macpherson *et al.* 2017: 32, 42, fig. 13a (Mozambique, depth 264–277 m).

Trapezionida nesiototes – Machordom *et al.* 2022: 940 (new combination). — Macpherson *et al.* 2023: 387 (compilation).

Material examined

SOUTH AFRICA • 1 ♀ (4.9 mm); Meiring Naude Stn ZB19; 27°00'42.00" S, 32°55'12.00" E; depth 70 m; 6 Jun. 1990; SAMC, SAMC-A094569 • 1 ov. ♀ (7.3 mm); Meiring Naude Stn K13; 31°56'06.00" S, 29°26'30.00" E; depth 410–430 m; 20 Jul. 1982; SAMC, SAMC-A094766 • 1 ♀ (12.7 mm); Meiring Naude Stn K10; 31°50'42.00" S, 29°28'30.00" E; depth 150–160 m; 20 Jul. 1982; SAMC, SAMC-A094570 • 2 ♂♂ (8.7–12.2 mm), 2 ♀♀ (9.5–11.3 mm); Nansen Trawl Stn 3; 30°18'0.00" S, 30°54'36.00" E; depth 226 m; 29 Jan. 2018; SAMC, SAMC-A094757.

Colouration (in life, Fig. 15D)

Carapace and pleonites 2–4 orange-reddish; pleonites 5–6 light orange with white spots; tailfan orange-whitish; rostrum and supraocular spines orange, rostrum distally white; P1 orange with numerous white spines; P2–4 orange with white spines, distal region of propodus and dactyli whitish.

General distribution

Mozambique, Seychelles Islands, depth 200–277 m, and now South Africa.

Table 1. List of *COI* and 16S sequences from different muninid specimens with their associated accession numbers from the Natural History Collections of the Iziko Museum (SAMC), as well as their BOLD accessions numbers.

SAMC no.	Species	<i>COI</i>	16S	BOLD accession no.
SAMC-A094759	<i>Agononida africerta</i> Poore & Andreakis, 2012	X	X	SMUCT034-24
SAMC-A094759	<i>Agononida africerta</i>	X	X	SMUCT035-24
SAMC-A094758	<i>Gonionida benguela</i> (de Saint-Laurent & Macpherson, 1988)	X		SMUCT038-24
SAMC-A094754	<i>Gonionida benguela</i>	X		SMUCT039-24
SAMC-A094779	<i>Trapezionida limula</i> (Macpherson & Baba, 1993)	X		SMUCT040-24
SAMC-A094757	<i>Trapezionida nesiotes</i> (Macpherson, 1999)	X		SMUCT036-24
SAMC-A094757	<i>Trapezionida nesiotes</i>	X		SMUCT037-24

South African distribution

Coffee Bay to Kosi Bay, depth 70–430 m (Fig. 14).

Genetic data

COI, see Table 1.

Remarks

This species was first described from the Seychelles Islands and later reported from Mozambique by Macpherson *et al.* (2017). These current records thus represent a small range extension into South African waters. This species was collected from habitat with coarse sand and reef gravel together with several potential Vulnerable Marine Ecosystem (VME) species, such as *Balanophyllia* Wood, 1844 cup corals, *Narella* Gray, 1870 sp., *Thouarella* Gray, 1870 sp., and > 100 kg of several sponge species (pers. com. K. Sink). Also, included in the sample were the hermit crabs *Dardanus arrosor* (Herbst, 1976) and *Paguroopsis confusa* Lemaitre, Rahayu & Komai, 2018. The South African material has a 0.0–0.2% (*COI*) divergence from Mozambican *T. nesiotes* material, and the other closest congener from the region is *T. euripa* at 21.5–21.8% divergence.

Trapezionida* cf. *sphinx (Macpherson & Baba, 1993)

Fig. 14

Munida sphinx Macpherson & Baba, 1993: 414, figs 18–19. Type localities: Madagascar, Indonesia, depth 170–175 m.

Munida sphinx – Baba 2005: 126, 275 (key, synonymies). — Macpherson *et al.* 2017: 33 (key, Madagascar, depth 179–331 m).

Trapezionida sphinx – Machordom *et al.* 2022: 940 (new combination). — Macpherson *et al.* 2023: 388 (compilation).

Material examined

MOZAMBIQUE • 1 ♂ (8.7 mm); UCT Ecological Survey Stn 6X; 34°46'00.00" S, 35°18'00.00" E; depth 110 m; 18 Aug. 1964; SAMC, SAMC-A094541.

Colouration

Carapace, pleonites and appendages ground colour pale, ridges orange/reddish, P2–4 with some reddish transverse bands. Rostrum and supraocular spines orange. Tailfan whitish.

General distribution

Indonesia, Madagascar, Mauritius, Mozambique, Zanzibar and South Africa, depth 90–366 m.

South African distribution

Off Durban, KwaZulu-Natal, depth 138 m (Fig. 14).

Remarks

This species was previously thought to be *Trapezionida japonica* (Tirmizi & Javed, 1993). However, Baba (2005) questioned the validity of this identification (as well as other close relatives). It is well known that *T. japonica* has been misidentified several times in the past and forms part of a species complex including *T. sphinx*, *T. eudora* and *T. limula* (see Macpherson & Baba 1993). The original specimen of *T. japonica* from South Africa could not be examined, as the material was never deposited in the Smithsonian Museum, as stated by Tirmizi & Javed (1993). The examination of a Mozambican specimen identified as *T. sphinx* provided more insight on the *T. japonica* complex, as some specimens of *T. japonica* have previously been synonymised with *T. sphinx* (Baba, 2005). It is thus highly likely that the specimen of Tirmizi & Javed (1993) from South Africa is in fact *T. sphinx*. However, new South African material is required to confirm this. This species was collected from the same sampling event as *Galathea* cf. *pubescens* and *Phylladorhynchus* cf. *janiquae*.

Genus *Typhlonida* Macpherson & Baba in Machordom *et al.*, 2022

Typhlonida aff. *galalala* (McCallum, Ahyong & Andreakis, 2021)
Figs 11–12

Munida galalala McCallum *et al.* 2021: 119, figs 4–5. Type locality: Western Australia, depth 924–1101 m.

Typhlonida galalala Machordom *et al.* 2022: 941 (table s2).

Material examined

SOUTH AFRICA • 1 ov. ♀ (6.2 mm); Meiring Naude Stn SM129; 30°53'00.00" S, 30°31'00.00" E; depth 850 m; 11 May 1977; SAMC, SAMC-A016046.

Diagnosis

The carapace with three pairs of epigastric spines of which the longest pair behind the supraocular spines. The frontal margins transverse. The branchial margins with five spines. The rostrum spiniform, less than half the length of the remaining carapace, with small, lateral eminences on the distal half and some short carinae dorsally, slightly curved upwards. The surface of the thoracic sternite 7 smooth. The anterior transverse ridge of the pleonite 2 with four spines, two median and two lateral; the pleonites 3–6 unarmed. The antennular article 1 with two distal spines of which the distomesial spine minute and the distolateral well-developed; two lateral spines of which the distal spine much longer than the proximal, overreaching the distolateral spine. The antennal article 1 with a distomesial spine almost reaching the

distal margin of the article 2; the article 2 with a distomesial spine almost reaching the distal margin of the article 3 and a small distolateral spine, not reaching the midlength of the article 3; the article 3 with a distinct distomesial spine. The Mxp3 ischium with small distal spines on both the flexor and extensor margin; the merus shorter than the ischium, with two spines on the flexor margin of which the proximal larger than the distal, the extensor margin distally unarmed. The P1–4 covered with short plumose and some long, non-iridescent setae.

Global distribution

Northwest Australia and South Africa

South African distribution

East of Margate, KwaZulu-Natal, depth 850 m (Fig. 12).

Remarks

This is the first record of the genus *Typhlonida* in South African waters. The specimen examined closely resembles *T. galalala* (McCallum, Ahyong & Andreakis, 2021) known only by the holotype, with some minor differences (hence it is listed herein as aff.). These differences include the absence of distinct spines on the extensor margin of the P4 merus (the spines are present in the holotype of *T. galalala*) and the transverse frontal margin of the carapace (the margin is oblique in the holotype of *T. galalala*), as well as a stouter P1 compared to that of *T. galalala*, though the difference in P1 may be due to different sex of the two specimens. Despite these differences, we consider these are insufficient to warrant erection of a new species and treat it more prudent to assign the present specimen as *T. aff. galalala* pending collection of more material to confirm the identification. We note that species in the genus *Typhlonida* can exhibit a great deal of variation, making identifications difficult.

The specimen examined can also be differentiated from *T. typhle* (Macpherson, 1994) by having a distomesial spine on the antennal article 3, which is absent in *T. typhle*. The P2–4 dactyli are clearly shorter than the propodi in the present specimen, while they are only slightly shorter than the propodi in *T. typhle*. Moreover, the Mxp3 flexor margin has two spines in the present specimen, while it possesses only one spine in *T. typhle*. Lastly, the distal spine on the lateral margin of the antennular article 1 exceeds the distolateral spine in the specimen examined, whereas it does not reach the distolateral spine in *T. typhle*.

Unfortunately, no genetic data could be obtained for this specimen as it was preserved in formalin after collection by dredge.

Key to the species of the family Munididae Ahyong, Baba, Macpherson & Poore, 2010 in South Africa

1. Epipods on P1–3. Mxp3 carpus with distal spine on flexor margin *Raymunida* cf. *vittata* Macpherson, 2009
- Epipods absent on P1–3. Mxp3 carpus unarmed on distal flexor margin 2
2. Male G1 absent. Mxp3 merus flexor margin with single well-developed spine
- Male G1 and G2 present. Mxp3 merus flexor margin with two or more spines 3

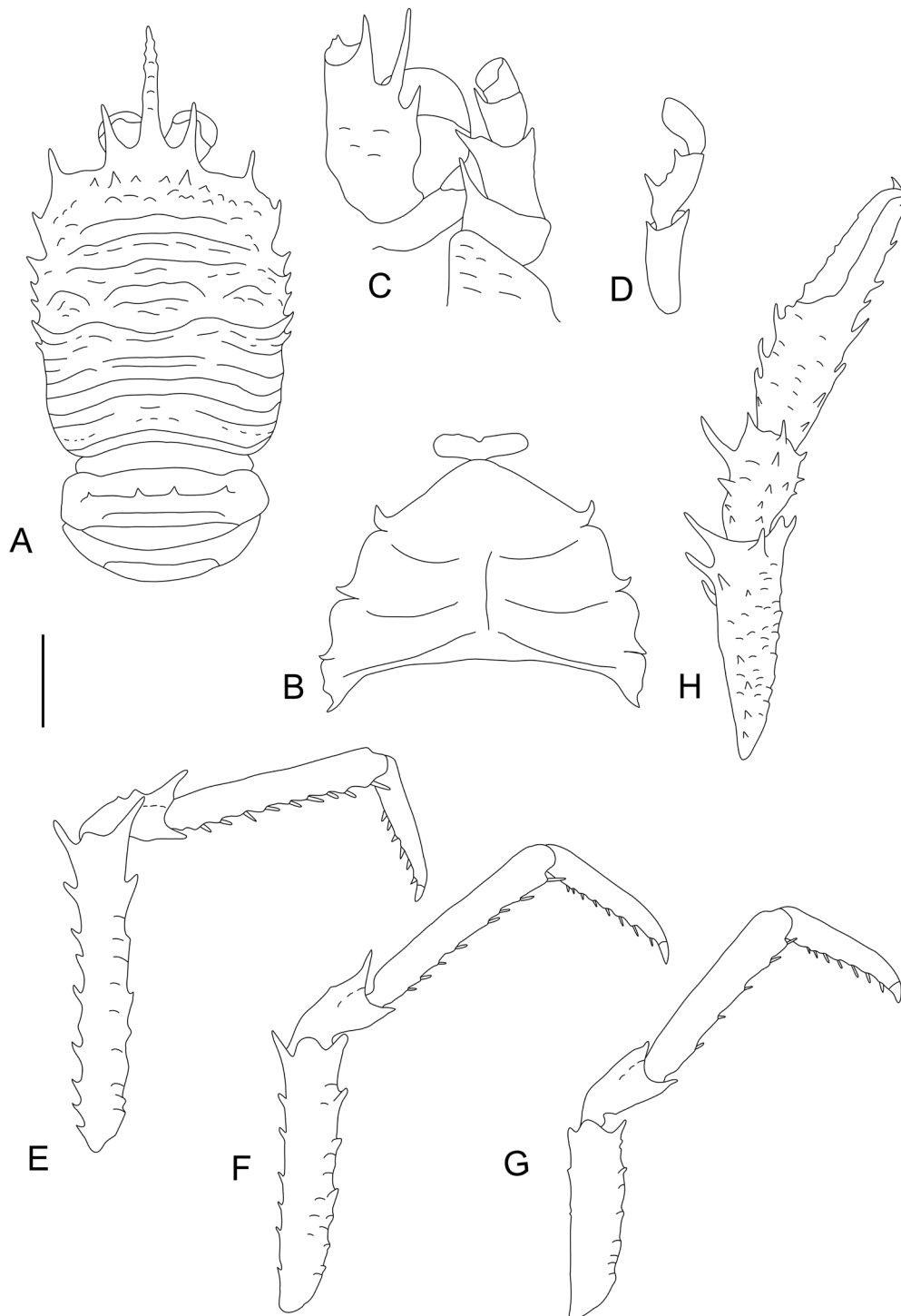


Fig. 11. *Typhonida* aff. *galalala* (McCallum, Ahyong & Andreakis, 2021), ov. ♀, 6.2 mm (SAMC-A016046), east of Margate, South Africa. **A.** Carapace and anterior pleonites, dorsal view. **B.** Sternal plastron, ventral view. **C.** Cephalic region showing antennular and antennal peduncles, ventral view. **D.** Left Mxp3, lateral view. **E.** Right P2, lateral view. **F.** Right P3, lateral view. **G.** Right P4, lateral view. **H.** Right P1, dorsal view. Scale bars: A, H = 2.0 mm; B–G = 1.0 mm.

3. Bases between rostral and supraocular spines with deep groove. P1 fingers $2.5 \times$ as long as palm ..
 *Babamunida brucei* (Baba, 1974)
- Bases between rostral and supraocular spines with shallow groove. P1 fingers shorter than $2.5 \times$
 length of palm 4
4. Eyes small, not wider than eyestalk, corneas not dilated. Antennular article 1 with small distomesial
 spine, at most half as long as distolateral spine. Antennal articles 1 and 2 with small distomesial
 spines at most reaching distal margin of article 2. Thoracic sternite 4 triangular, with narrow anterior
 margin *Typhlonida* aff. *galalala* (McCallum, Ahyong & Andreakis, 2021)
- Eyes wider than eyestalk, corneas dilated. Antennular article 1 with well-developed distomesial
 spine, more than half as long as distolateral spine. Antennal articles 1 and 2 with well-developed
 distomesial spines exceeding tip of article 2 or 3. Thoracic sternite 4 trapezoidal or triangular 5
5. Carapace branchial margin distinctly convex, first lateral spine mesial to anterolateral angle
- *Curtonida manqingae* Liu, Lin & Huang, 2013
- Carapace branchial margin straight or weakly convex, first lateral spine usually at anterolateral
 angle 6

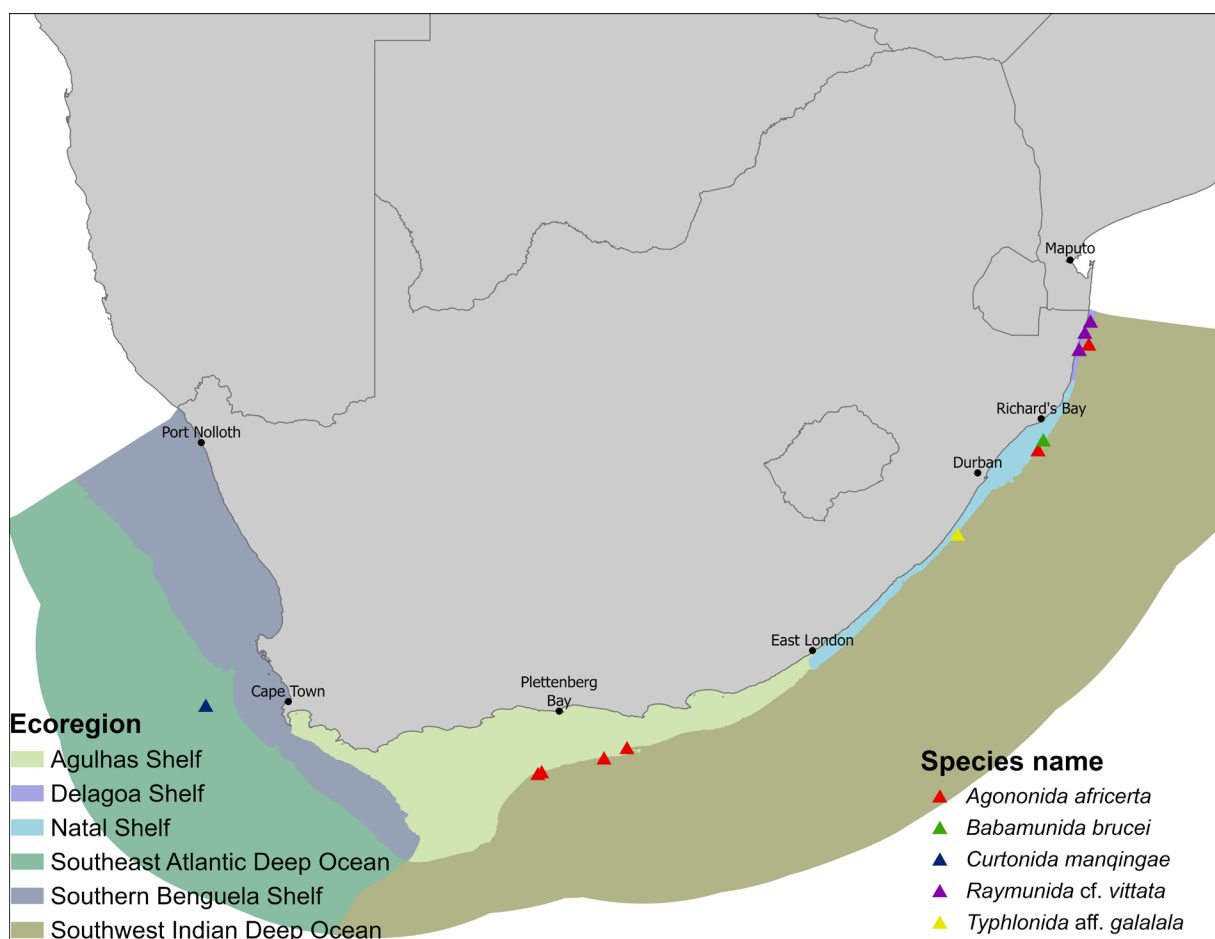


Fig. 12. Marine ecoregions in South African waters (Sink *et al.* 2019) with distribution of species in the genera *Agononida* Baba & de Saint Laurent, 1996, *Babamunida* Cabezas, Macpherson & Machodrom, 2008, *Curtonida* Macpherson & Baba in Machordom *et al.*, 2022, *Raymunida* Macpherson & Machordom, 2000 and *Typhlonida* Macpherson & Baba, 2022 superimposed.

- 6. Thoracic sternite 4 trapezoidal, anterior margin wide and contiguous or sub-parallel to posterior margin of sternite 3 at least $\frac{3}{4}$ of length 7
 - Thoracic sternite 4 triangular, anterior margin narrow, contiguous to posterior margin of sternite 3 at most along $\frac{1}{3}$ of the length 15
- 7. Four spines on branchial margins of carapace 8
 - Five spines on branchial margins of carapace 9
- 8. Posterior thoracic sternites with granules on lateral parts *Trapezionida* cf. *barbeti* (Galil, 1999)
 - Posterior thoracic sternites without granules on lateral parts *Trapezionida nesiotes* (Macpherson, 1999)
- 9. Thoracic sternite 7 with small granules on lateral parts 10
 - Thoracic sternite 7 without small granules on lateral parts 11
- 10. P1 palm 5 × as long as broad; P1 weakly spinose. Antennal article 2 without mesial marginal spine *Trapezionida longisandla* sp. nov.
 - P1 palm 3 × as long as broad; P1 strongly spinose. Antennal article 2 with mesial marginal spine .. *Trapezionida limula* (Macpherson & Baba, 1993)
- 11. Pleonites unarmed 12
 - Pleonite 2 with spines on anterior transverse ridge of tergite 14

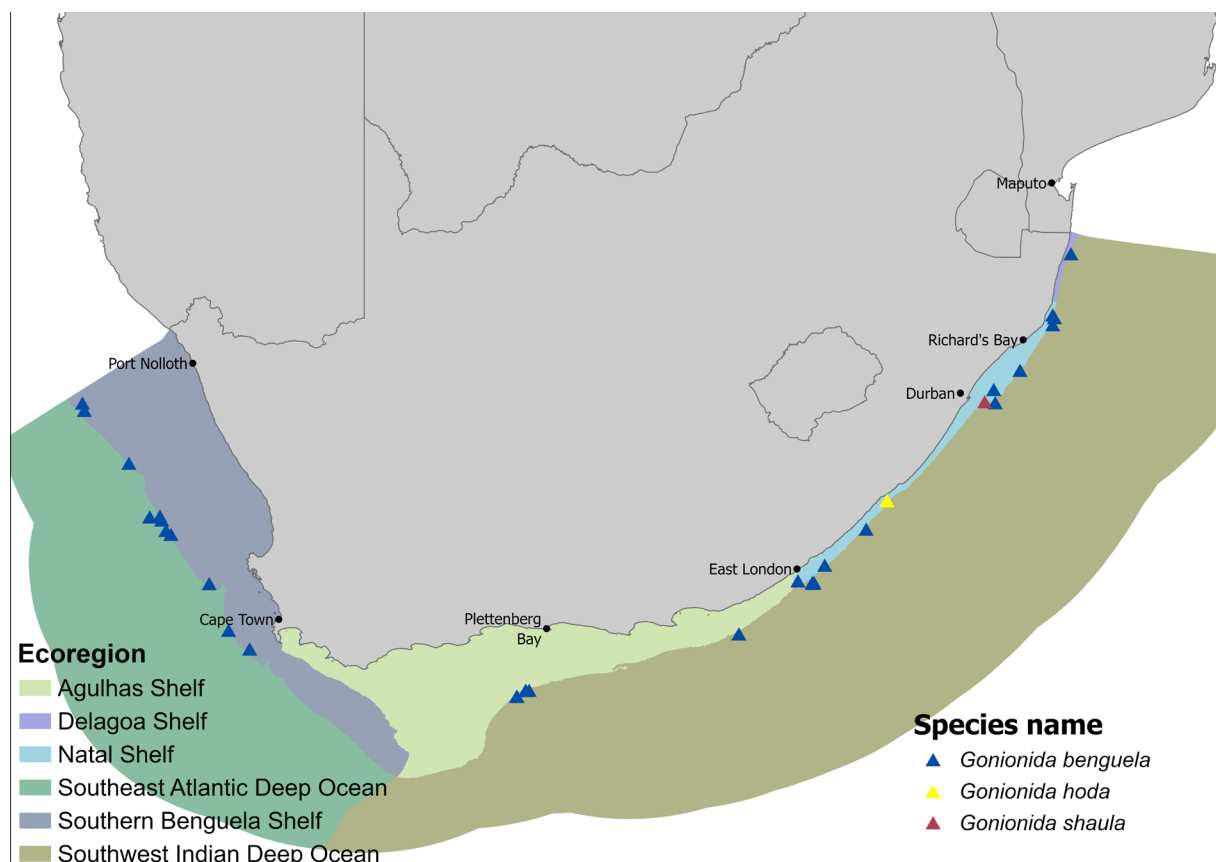


Fig. 13. Marine ecoregions in South African waters (Sink *et al.* 2019) with distribution of species in the genus *Gonionida* Macpherson & Baba in Machordom *et al.*, 2022 superimposed.

12. Antennular article 1 distal spines subequal *Trapezionida janetae* (Tirmizi & Javaid, 1992)
 – Antennular article 1 distal spines different sizes 13
13. Antennular article 1 distomesial spine longer than distolateral
 *Trapezionida mesembria* (Macpherson, Rodríguez-Flores & Machordom, 2017)
 – Antennular article 1 distomesial spine shorter than distolateral
 *Trapezionida antonbruuni* (Tirmizi & Javed, 1980)
14. Pleonite 4 with spines on anterior transverse ridge
 *Trapezionida babai* (Tirmizi & Javed, 1976)
 – Pleonite 4 unarmed *Trapezionida cf. sphinx* (Macpherson & Baba, 1993)
15. Pleonites 2 and 3 each with spines on anterior transverse ridge
 *Gonionida shaula* (Macpherson & de Saint Laurent, 2002)
 – Only pleonite 2 with spines on anterior transverse ridge 16
16. Carapace frontal margins oblique
 *Gonionida hoda* (Macpherson, Rodríguez-Flores & Machordom, 2017)
 – Carapace frontal margins transverse
 *Gonionida benguela* (de Saint Laurent & Macpherson, 1988)

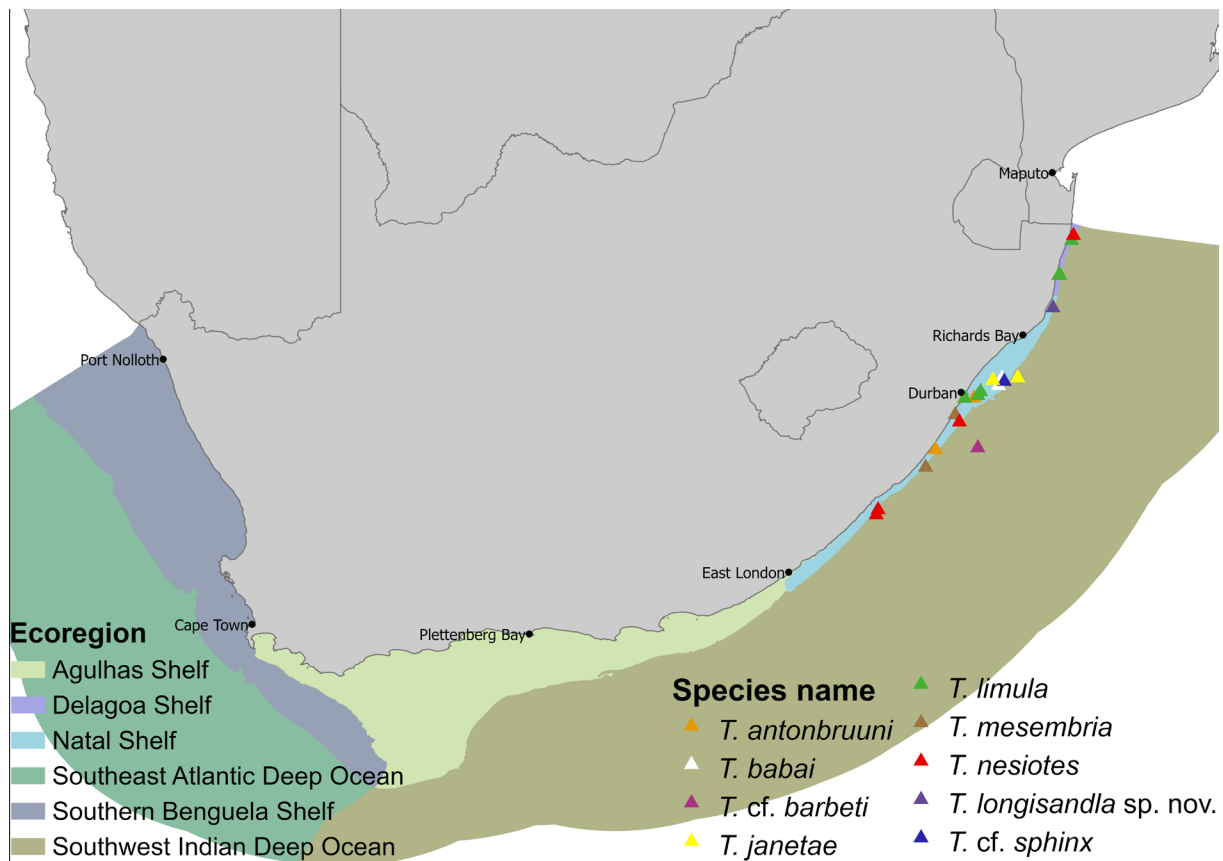


Fig. 14. Marine ecoregions in South African waters (Sink *et al.* 2019) with distribution of species in the genus *Trapezionida* Macpherson & Baba in Machordom *et al.*, 2022 superimposed.



Fig. 15. Dorsal views of live specimens. **A.** *Agononida africanata* Poore & Andreakis, 2012, south of Knysna, South Africa, ♂, 18.8 mm (SAMC-A094740). **B.** *Gonionida benguela* (de Saint Laurent & Macpherson, 1988), south of Knysna, South Africa, ♂, 17.6 mm (SAMC-A094749). **C.** *Trapezionida limula* (Macpherson & Baba, 1993), south of Algoa Bay, South Africa, ov. ♀, 8.7 mm (SAMC-A094779). **D.** *Trapezionida nesiotetes* (Macpherson, 1999), east of Scottburgh, South Africa, ♂, 11.3 mm (SAMC-A094757).

Discussion

Following this study, 17 munidid species from seven genera are recognised in the squat lobster fauna list for South Africa, more than doubling the previously known number. Among them, ten species and three genera are reported from South Africa for the first time (however, two of the new records, *Babamunida brucei* and *Trapezionida barbeti* require further work and specimen collections to confirm their identifications as both are identified from in situ images only). One species is described as new to science. *Trapezionida longisandla* sp. nov. is quite similar to *T. limula* and *T. euripa*, but the slender and greatly elongated P1 are diagnostic for the new species.

Three previously identified munidids were found to have been incorrectly identified and are transferred to other species within the same genera already known from the region. The material of *Gonionida kuboi* from South Africa belongs to *G. shaula*, and that of *Trapezionida japonica* is identified as *T. sphinx* instead. Additionally, several studies reported on specimens of *Trapezionida semoni* from South Africa and they highlighted the need for a revision of the material (Macpherson & Baba 1993; Baba 2005; Macpherson *et al.* 2017). Here, it is confirmed that *T. semoni* is not present in South Africa and material previously identified under that name belongs to *T. limula* or *T. mesembria* instead. As stated by Macpherson *et al.* (2023), the *Raymunida elegantissima-lineata-vittata* complex requires more work, including molecular analyses to clarify the taxonomic statuses of component species. Moreover, the systematic status of the genus *Raymunida* remains uncertain, based on molecular and morphological analyses (Machordom *et al.* 2022). However, for now, the genus is retained in Munididae.

Of the 17 munidids now known from South Africa, only the new species, *Trapezionida longisandla* sp. nov., is endemic, giving an endemism rate of only 5.9%. Species richness is very similar to that in nearby countries such as Mozambique and Madagascar, which have 18 and 17 known species, respectively, but the South African endemism rate is considerably lower than 16.7% reported for Mozambique and 25% for Madagascar (Macpherson *et al.* 2023; Macpherson & Machordom 2025). Four species are shared between these three countries: *Agononida africerta*, *Gonionida benguela*, *G. shaula*, and *Raymunida vittata*. However, considering the high endemism rate of the SWIO region as a whole, it is unsurprising that many species are shared throughout the region. Of the 45 species listed by Macpherson *et al.* (2023) to occur in the SWIO, 14 are now known to occur in South Africa and two more species are added here, bringing the total number of SWIO munidids to 48.

Although many species have now been added to the South African munidid fauna, their diversity is likely still significantly underestimated. This is mainly because most benthic collections from South Africa have taken place off the south and west coasts, as most regional commercial fishing, and hence fisheries research, takes place within the Agulhas and Southern Benguela Shelf ecoregions. However, the vast majority of species in this group occur along the east coast, which remains relatively poorly sampled. Also historically, around 83% of existing samples recorded within South African waters are from depths shallower than 100 m, and 99% are from depths shallower than 1000 m (Griffiths *et al.* 2010). Given that most munidid genera are continental shelf and slope dwellers (Ahyong *et al.* 2011), it is thus likely that many species from deeper South African waters remain undocumented. Future studies should focus on more targeted collections on the east coast, as this is where the greatest diversity is likely to occur, as well as on deeper continental shelf and slope areas around the coast.

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