

Species of the genus *Acanthochitona* (Mollusca: Polyplacophora) from the Spratly Islands, South China Sea

Виды рода *Acanthochitona* (Mollusca: Polyplacophora) островов Спратли, Южно-Китайское море

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Abstract. Three species of the genus *Acanthochitona* Gray, 1821, two of which are rare [*A. intermedia* (Nierstrasz, 1905) and *A. saitoi* Sirenko, 2012] and one is new to science (*A. spratlyenses* sp. nov.), have been collected off the Spratly Islands in the South China Sea, known also as the Truong Sa Islands. Colour and SEM photographs are given for all three species. The new species belongs to the group of acanthochitons that inhabit shoals of Vietnam, the Ryukyu Islands and the Spratly Islands. This group is characterised by the absence of a distinct border between the jugal and pleurolateral areas and merged pustules on the jugal area of the intermediate valves.

Резюме. Три вида рода *Acanthochitona* Gray, 1821, два из которых редки [*A. intermedia* (Nierstrasz, 1905) и *A. saitoi* Sirenko, 2012], а один – новый для науки (*A. spratlyenses* sp. nov.), собраны у берегов островов Спратли в Южно-Китайском море, известных также как острова Чыонгша. Для всех трёх видов в статье приведены фотографии – цветные и полученные с помощью сканирующего электронного микроскопа. Новый вид относится к группе акантохитонов, которые обитают на мелководьях Вьетнама, островов Рюкю и Спратли и характеризуются отсутствием оформленной границы между югальным и плевролатеральным полями и сливающимися пустулами на югальном поле.

Key words: chitons, South China Sea, Spratly Islands, Vietnam, Acanthochitonidae, *Acanthochitona*, new species

Ключевые слова: хитоны, Южно-Китайское море, острова Спратли, Вьетнам, Acanthochitonidae, *Acanthochitona*, новый вид

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Introduction

The Spratly Islands (or Truong Sa Islands) are located in the southeastern part of the South China Sea. In Vietnam, these islands are considered in

the Khanh Hoa Province. They consist of atolls with small islands and shallow waters. Most of the land is exposed only at low tide. A proximity to the Philippine and Indonesian islands suggests existence of rich marine fauna.

According to the previously published works (Sowerby, 1841, 1842; Reeve, 1847; Haddon, 1886; Pilsbry, 1892–1894; Nierstrasz, 1905; Thiele, 1909; Leloup, 1933, 1936, 1981; Ang, 1967; Kaas, 1982, 1989, 1990; Kaas & Van Belle, 1985a, 1985b, 1987, 1990, 1994; Schwabe & Ruthensteiner, 2001; Schwabe, 2005, 2007; Burghardt et al., 2006; Kaas et al., 2006; Saito, 2006; Sigwart & Sirenko, 2012; Sirenko, 2016, 2020, 2021, in press; Sirenko & Saito, 2017, 2020), there are 62 known species of chitons in the Philippine waters and 55 species known off the coast of Indonesia.

Both marine area and the Spratly Islands are a part of the Coral Triangle, which is a section in the Pacific Ocean with the highest species diversity (Allen, 2007). To protect these unique coral communities, scientists suggested forming an International Marine Peace Park in the Spratly Islands area (McManus, 1994; McManus et al., 2010). Unfortunately, apart from several studies devoted to the state of coral communities and to individual benthic species (Latypov, 2012; Zhao et al., 2013; Tkachenko et al., 2020; Sirenko & Nguen Tai, 2020; Sirenko, 1985b, in press), the marine fauna of the Spratly Islands has not been studied at all.

This paper reviews the species of the chiton genus *Acanthochitona* Gray, 1821 in the Spratly Islands area based on the material collected by three expeditions of the Joint Russian–Vietnamese Tropical Research and Technology Centre in 2018, 2019 and 2020.

Material and methods

Specimens chosen for examination under a scanning electron microscope (SEM) were boiled in 7% KOH for 5–7 minutes, and then boiled twice in fresh water. After that, several valves (usually valves I, II, IV, V and VIII), half of the radula and a portion of the girdle were examined under a FEI SEM Quanta 250 scanning electron microscope. The remaining parts of radula and girdle were dried and put in Canada balsam for examination under a light microscope.

Bathymetric ranges are reported as inner values of the shallowest and deepest stations as explained in Bouchet et al. (2008).

Most of the material including the holotype and paratypes of the new species is deposited at

the Zoological Institute of the Russian Academy of Sciences, St Petersburg.

The following abbreviations are used: BL – body length; MVRTC – Museum of Joint Russian–Vietnamese Tropical Research and Technological Centre; SCUBA – self-contained underwater breathing apparatus; ZIN – Zoological Institute, Russian Academy of Sciences, St Petersburg, Russia; ZMA – Zoological Museum Amsterdam, the Netherlands.

Taxonomy

Class **Polyplacophora** Gray, 1821

Subclass **Neoloricata** Bergenhayn, 1955

Order **Chitonida** Thiele, 1909

Suborder **Acanthochitonina** Bergenhayn, 1930

Superfamily **Cryptoplacoidea** H. et A. Adams, 1858

Family **Acanthochitonidae** Pilsbry, 1893

Genus ***Acanthochitona*** Gray, 1821

Acanthochitona intermedia (Nierstrasz, 1905) (Figs 1A, 1C, 2–5)

Acanthochites intermedius Nierstrasz, 1905: 56, pl. I, fig. 19, pl. IV, figs 109–114.

Acanthochitona penicellatus: Ang, 1967: 394, pl. I, figs 1–4 (non *Chiton penicillatus* Deshayes, 1863, according to Saito, 2006).

Acanthochitona intermedia: Saito, 2000: 23, pl. 11, fig. 7; Saito, 2017: 737, pl. 10, fig. 9.

Syntypes (two specimens; not examined). **Philippines**, *Sulu Archipelago*, Sanguisiapo, Siboga, station 93 (ZMA; MOLL.138568). **Indonesia**, *Banda Is.*, Siboga, station 240, depth 12 m (ZMA; MOLL.138569).

Material examined. **South China Sea**, *Spratly Is.*: 1 intermediate valve, 11°23'45.1"N, 114°35'15.1"E, depth 14–15 m, on dead corals, SCUBA, 25 Nov. 2018, B. Sirenko leg. (ZIN, No. 2399); 4 specimens, Da Lon I., 9°59'54.8"N, 113°50'33.8"E, depth 1.5 m, on old shells and dead corals, SCUBA, 11 Dec. 2018, B. Sirenko leg. (ZIN, No. 2396); 1 specimen, same place, depth 1.5–2.0 m, on old tridacna clam, SCUBA, 12 Dec. 2018, B. Sirenko leg. (ZIN, No. 2400); 2 specimens, Len Dao I., 9°46'37"N, 114°22'34.8"E, depth 9–15 m, on dead corals, SCUBA, 16 May 2019, T. Nguyen Tai leg. (ZIN, No. 2398); 5 specimens, Toc Tan I., 8°48'27"N, 113°56'04"E, depth 9–10 m,

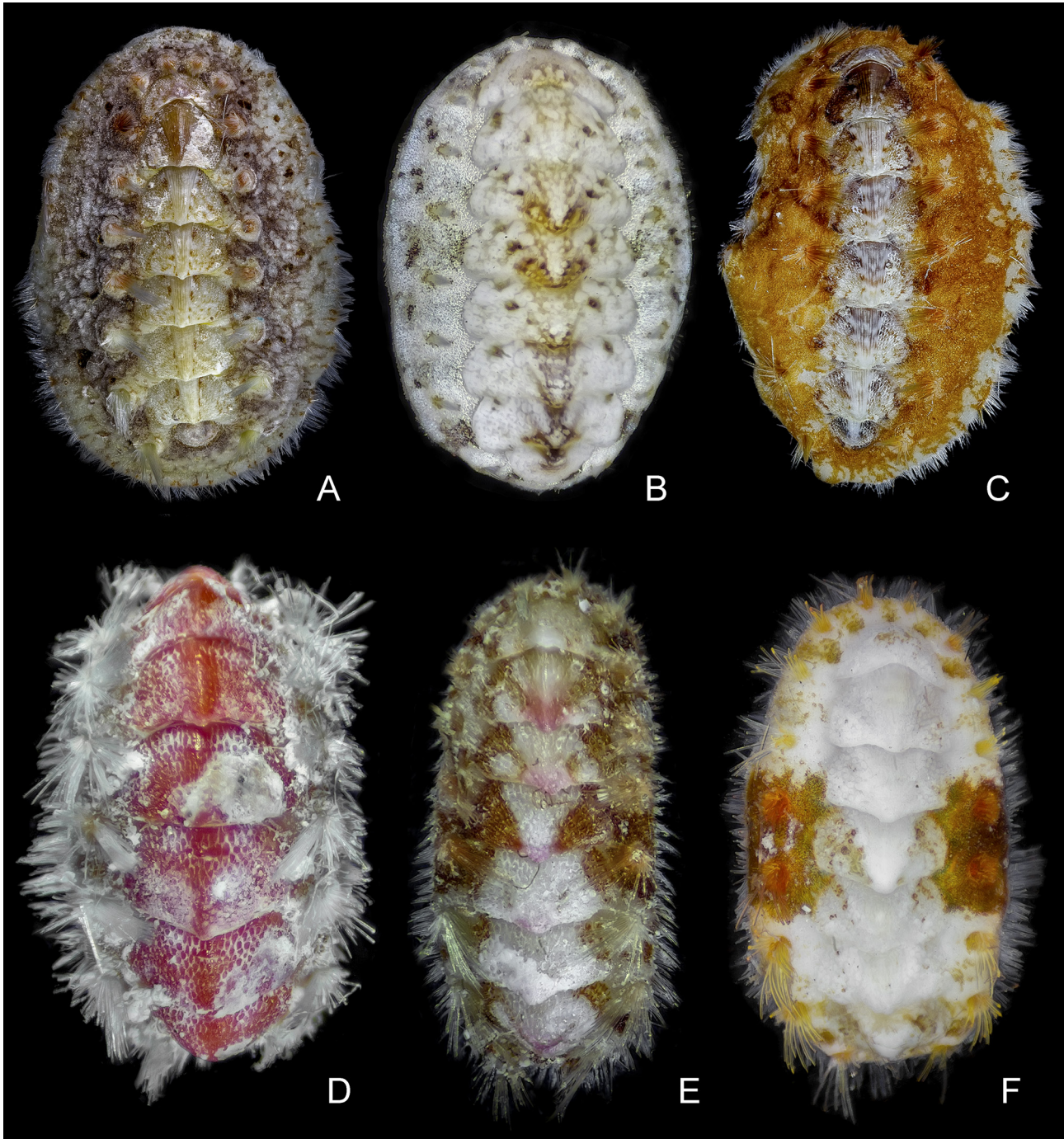
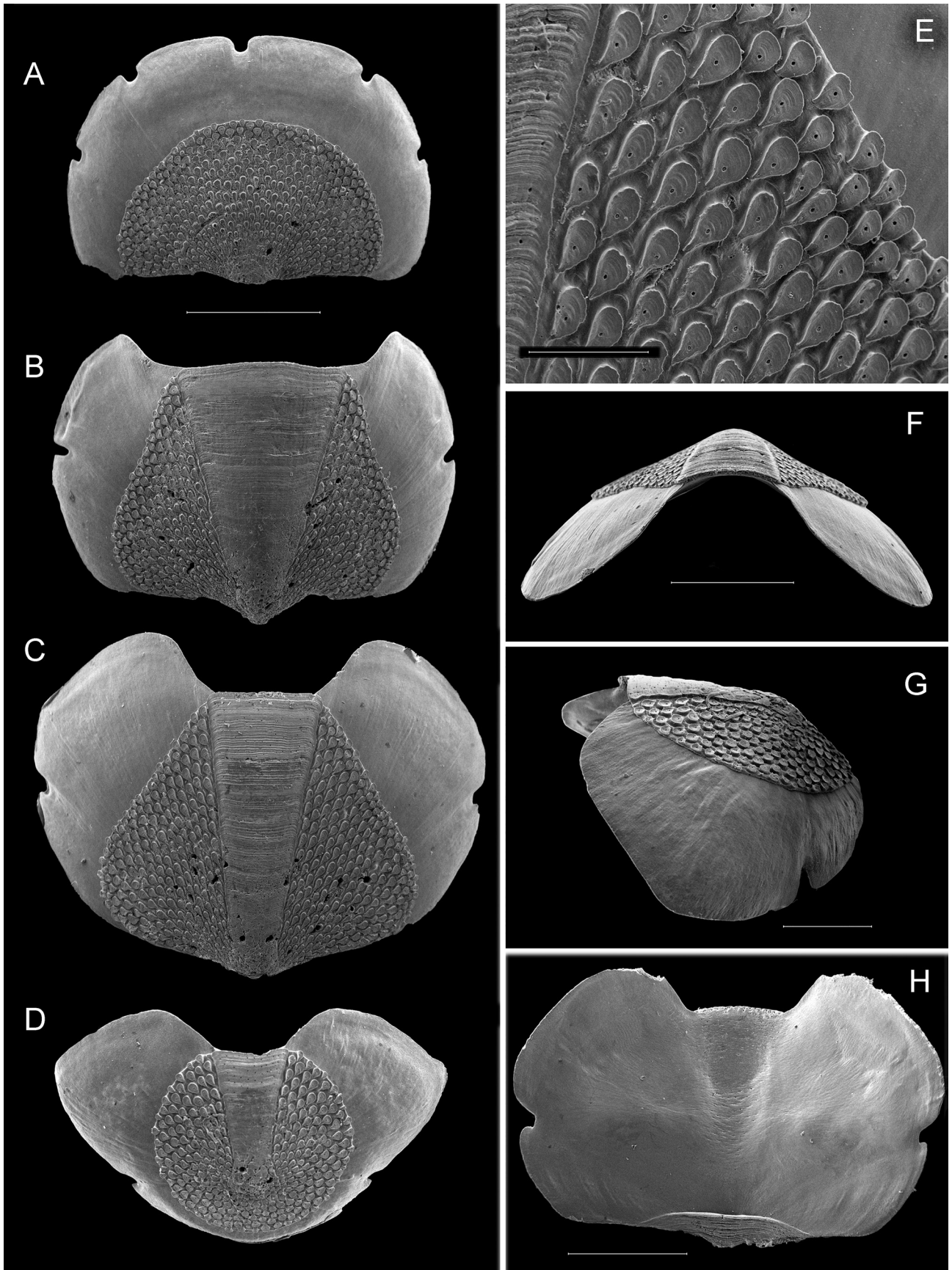


Fig. 1. *Acanthochitona*, complete specimens from the Spratly Islands in dorsal views. *Acanthochitona intermedia* (ZIN, No. 2395), BL 14.5 mm (A); *A. saitoi* (ZIN, No. 2414), BL 3.5 mm (B); *A. intermedia* (ZIN, No. 2397), BL 10.0 mm (C); *A. spratlyenses* **sp. nov.**, paratype (ZIN, No. 2418), BL 5.0 mm (D), holotype (ZIN, No. 2416), BL 4.0 mm (E), paratype (ZIN, No. 2417), BL 4.9 mm (F).

Fig. 2. *Acanthochitona intermedia* (ZIN, No. 2396), BL 11.0 mm. Valve I, dorsal view (A); valve II, dorsal view (B); valve V, dorsal view (C); valve VIII, dorsal view (D); sculpture of tegmentum in jugal and pleurolateral areas (E); valve V, rostral view (F); valve VIII, lateral view (G); valve IV, ventral view (H). Scale bars: 1 mm (A–D, F, H), 200 µm (E), 500 µm (G). →



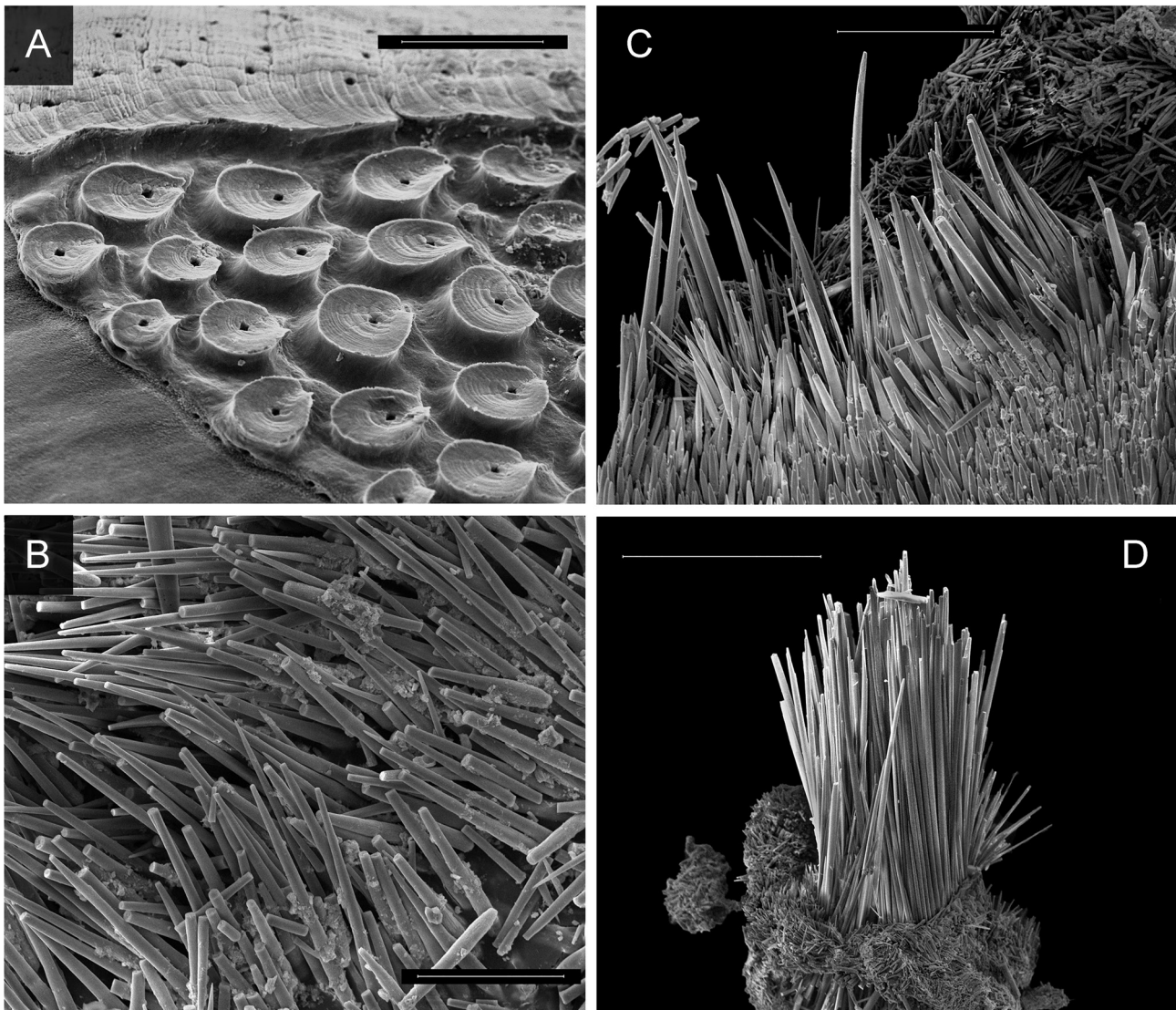


Fig. 3. *Acanthochitona intermedia* (ZIN, No. 2396), BL 11.0 mm. Valve VIII, jugal and pleurolateral area (A); dorsal needles (B); dorsal, marginal and ventral needles (C); tuft of needles and dorsal needles (D). Scale bars: 100 μ m (A), 50 μ m (B), 200 μ m (C), 400 μ m (D).

on dead corals, SCUBA, 25 May 2019, T. Nguyen Tai leg. (ZIN, No. 2397); 1 specimen, Thuyen Chai I., 8°16'35.3"N, 113°21'10.7"E, depth 12–15 m, on dead corals, SCUBA, 29 May 2019, T. Nguyen Tai leg. (ZIN, No. 2395); 3 specimens, 8°49'24.4"N, 113°58'46.9"E, depth 16–18 m, on old tridacna clams and dead corals, SCUBA, 13 Oct. 2020, T. Nguyen Tai leg. (MVRTC, No. 08); 2 specimens, 8°49'32"N, 113°55'20.6"E, depth 6–7 m, on old tridacna clams, SCUBA, 18 Oct. 2020, T. Nguyen Tai leg. (MVRTC, No. 05).

Measurements. BL 14.5 mm (1 specimen; ZIN, No. 2395), 5.0–13.0 mm (4 specimens; ZIN, No. 2396), 9.0–15.0 mm (5 specimens; ZIN, No. 2397), 8.0 and 11.0 mm (2 specimens; ZIN,

No. 2398), 4.0 mm (1 specimen; ZIN, No. 2400), 7.0 and 12.0 mm (2 specimens; MVRTC, No. 05), 8.5–14.0 mm (3 specimens; MVRTC, No. 08).

Notes. The examined specimens have the valves of shell, spicules and needles of girdle very similar to those of the type material from the Philippines and Indonesia. The specimen with BL equal to 11 mm has twelve gills arranged from valve IV to valve VII and the radula 4.1 mm long with 23 transverse rows of mature teeth.

Distribution. Amami Islands (Ryukyu Islands, southern Japan), Spratly Islands, Philippines, Indonesia; depth 2–16 m.

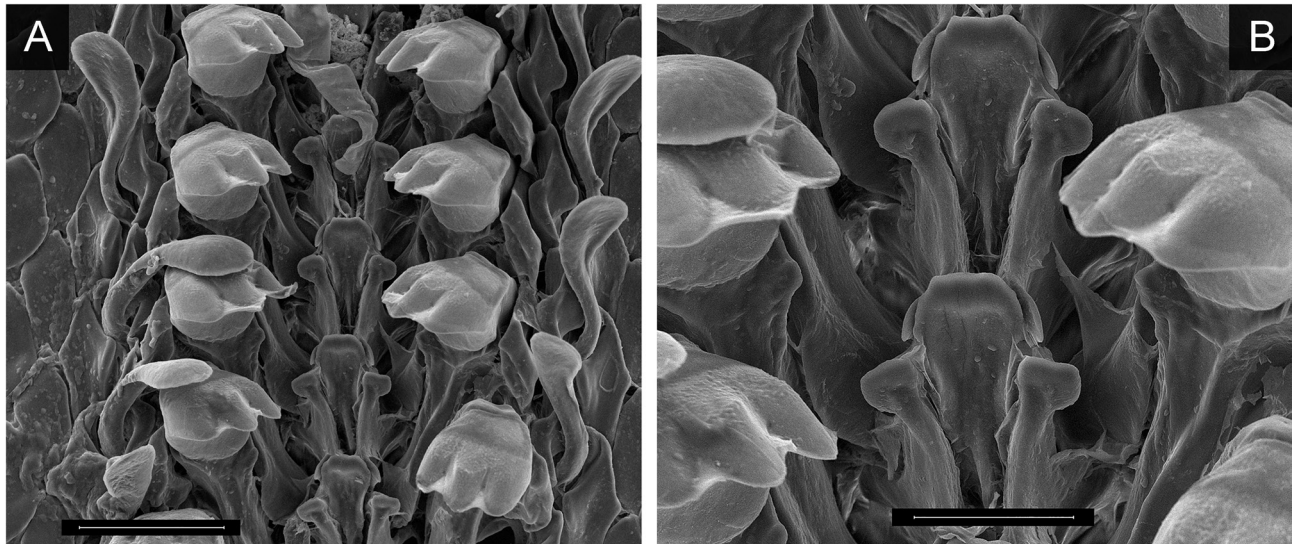


Fig. 4. *Acanthochitona intermedia* (ZIN, No. 2396), BL 11.0 mm. Part of radula (A); central, first lateral and major lateral tooth of radula (B). Scale bars: 100 µm (A), 50 µm (B).

***Acanthochitona saitoi* Sirenko, 2012**
(Figs 1B, 6–9)

Acanthochitona saitoi Sirenko, 2012: 95, pl. 14C, Figs 31 and 32; Sirenko, 2016: 85; Sirenko & Saito, 2017: 503.

Holotype. Vietnam, South China Sea, Nhatrang Bay, Than Bay, 25 Apr. 2009, depth 1–1.5 m, on dead corals, B. Sirenko leg. (ZIN, No. 2181).

Paratypes. Vietnam, 2 specimens, same place, 25 March 2010, depth 1.0–1.5 m, on red crustose algae, B. Sirenko leg. (ZIN, No. 2182).

Other material examined. South China Sea, Spratly Is.: 1 specimen, Song Tu Tay I., 11°25'10.6"N, 114°19'51.9"E, depth 10 m, on dead coral, SCUBA, 20 Nov. 2018, B. Sirenko leg. (ZIN, No. 2405); 1 specimen, 11°23'45.1"N, 114°35'15.1"E, depth 0.5–1.0 m, on dead coral, SCUBA, 27 Nov. 2018, B. Sirenko leg. (ZIN, No. 2408); 1 specimen, Nam Yet I., 10°10'17.0"N, 114°21'59.2"E, depth 31–42 m, on dead coral, SCUBA, 4 Dec. 2018, B. Sirenko leg. (ZIN, No. 2415); 4 specimens, Da Lon I., 9°59'54.8"N, 113°50'33.8"E, depth 1.5 m, on old shells of tridacna clams, SCUBA, 11 Dec. 2018, B. Sirenko leg. (ZIN, No. 2414); 2 specimens, Len Dao I., 9°46'53.4"N, 114°22'24.7"E, depth 5–6 m, on dead corals, SCUBA, 19 May 2019, B. Sirenko leg. (ZIN, No. 2403); 1 specimen, 9°46'33"N, 114°22'18.0"E, depth 6–7 m, on old tridacna clam, SCUBA, 20 May 2019, B. Sirenko leg. (ZIN, No. 2406); 2 specimens, Toc Tan I., 8°48'27"N, 113°56'04"E, depth 30 m, on dead corals, SCUBA, 25 May 2019, B. Sirenko leg. (ZIN, No. 2401); 3 specimens, 8°49'42.2"N, 113°57'40.38"E, depth 1.5–4.0 m, on old tridacna clams, SCUBA,

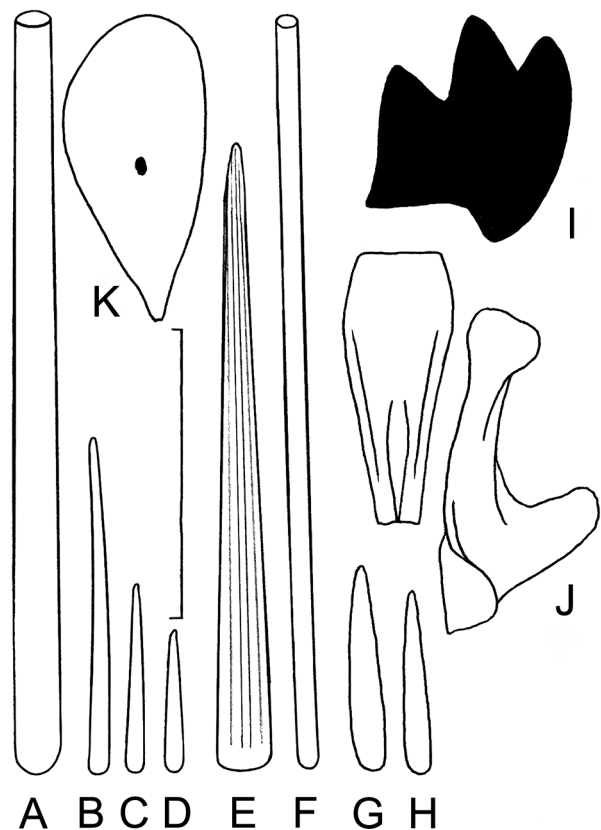


Fig. 5. *Acanthochitona intermedia* (ZIN, No. 2396), BL 11.0 mm. Needle of tuft (A); dorsal needles (B, C, D); ribbed marginal needle (E); smooth marginal needle (F); ventral needles (G, H); head of major lateral tooth of radula (I); central and first lateral teeth of radula (J); pustule of pleurolateral area (K). Scale bar: 100 µm.

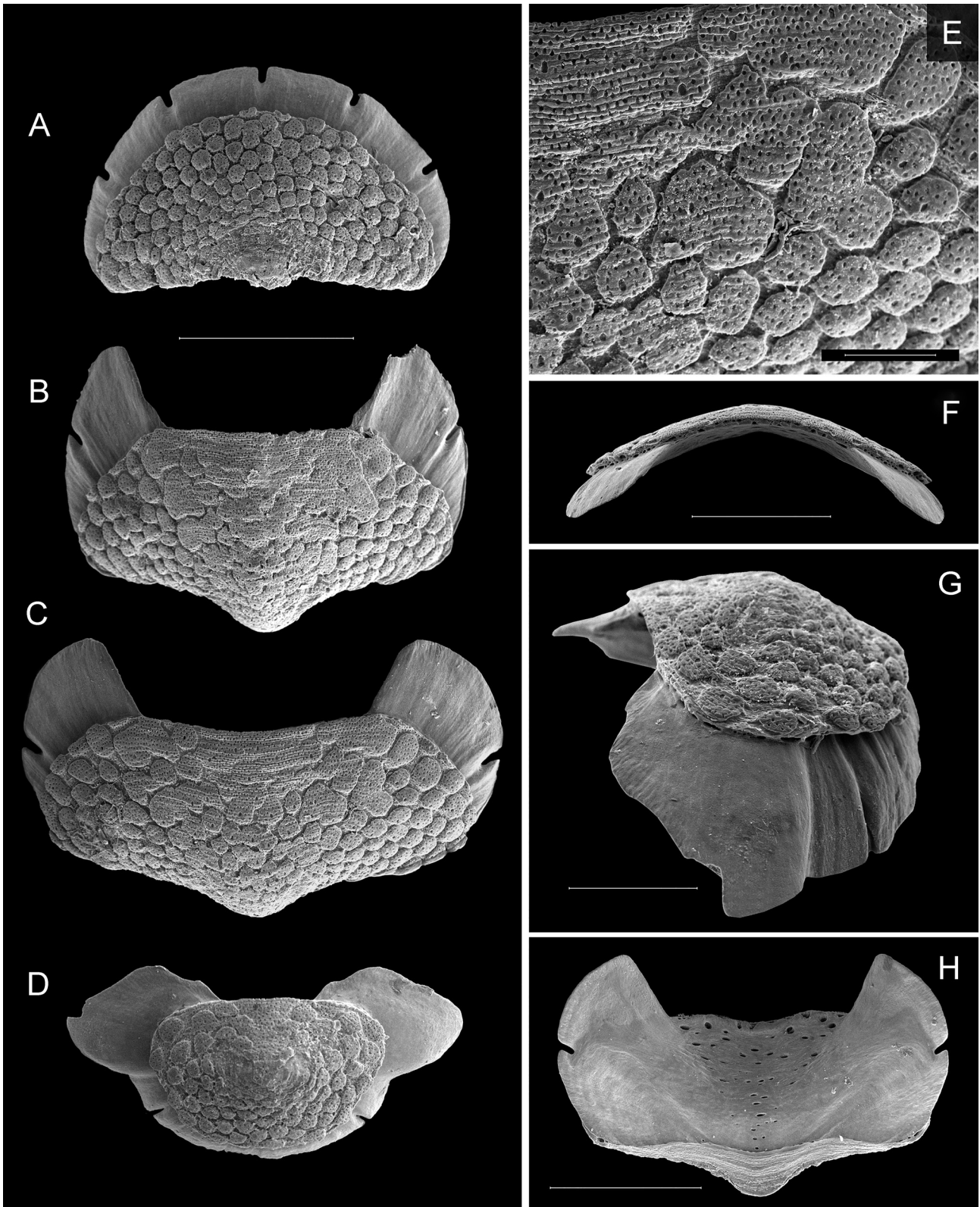


Fig. 6. *Acanthochitona saitoi* (ZIN, No. 2414), BL 3.5 mm. Valve I, dorsal view (A); valve II, dorsal view (B); valve V, dorsal view (C); valve VIII, dorsal view (D); sculpture of tegmentum in jugal and pleurolateral areas (E); valve V, rostral view (F); valve VIII, lateral view (G); valve IV, ventral view (H). Scale bars: 500 μ m (A–D, F, H), 100 μ m (E), 200 μ m (G).

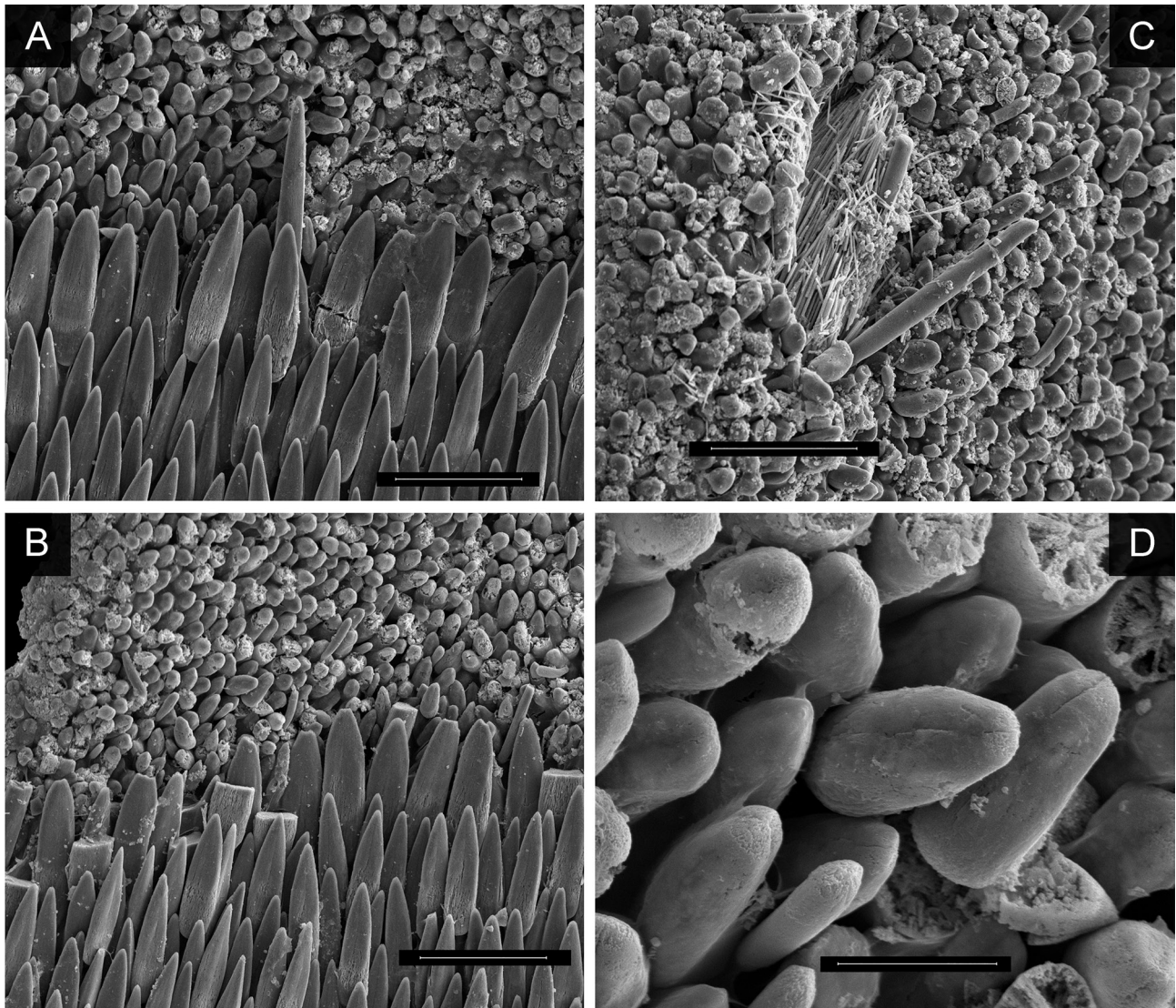


Fig. 7. *Acanthochitona saitoi* (ZIN, No. 2414), BL 3.5 mm. Dorsal spicules, marginal needle and ventral scales (A, B); dorsal spicules and tuft of needles (C); dorsal spicules (D). Scale bars: 50 μ m (A–C), 10 μ m (D).

25 May 2019, B. Sirenko leg. (ZIN, No. 2412); 1 specimen, 8°49'47.8"N, 113°56'3.2"E, depth 2.0–4.0 m, on old tridacna clam, SCUBA, 27 May 2019, B. Sirenko leg. (ZIN, No. 2410); 2 specimens, Thuyen Chai I., 8°16'35.3"N, 113°21'10.7"E, depth 30–33 m, on dead corals, SCUBA, 30 May 2019, B. Sirenko leg. (ZIN, No. 2413); 1 specimen, 9°55'33.6"N, 112°20'58.5"E, depth 12–15 m, on old tridacna clam, SCUBA, 1 June 2019, B. Sirenko leg. (ZIN, No. 2402); 2 specimens, Truong Sa Dong I., 8°53'15.7"N, 112°14'08.3"E, depth 20 m, on dead corals, SCUBA, 2 June 2019, B. Sirenko leg. (ZIN, No. 2407); 1 specimen, Da Tay I., 8°50'35.2"N, 112°11'26.0"E, depth 20 m, on old clam, SCUBA, 3 June 2019, B. Sirenko leg. (ZIN, No. 2409); 1 specimen, Da Lat I., 8°39'30.0"N, 111°39'36.0"E,

depth 23 m, on dead coral, SCUBA, 6 June 2019, B. Sirenko leg. (ZIN, No. 2411).

Measurements. BL 3.0–4.0 mm (2 specimens; ZIN, No. 2401), 4.0 mm (1 specimen; ZIN, No. 2402), 2.0–2.5 mm (2 specimens; ZIN, No. 2403), 3.1 mm (1 specimen; ZIN, No. 2405), 3.0 mm (1 specimen; ZIN, No. 2406), 4.0 mm (2 specimens; ZIN, No. 2407), 3.0 mm (1 specimen; ZIN, No. 2408), 3.0 mm (1 specimen; ZIN, No. 2409), 4.5 mm (1 specimen; ZIN, No. 2410), 4.0 mm (1 specimen; ZIN, No. 2411), 2.0–6.0 mm (3 specimens; ZIN, No. 2412), 1.5–2.0 mm (2 specimens; ZIN, No. 2413), 2.7–3.5 mm (4 specimens; ZIN, No. 2414), 4.5 mm (1 specimen; ZIN, No. 2415).

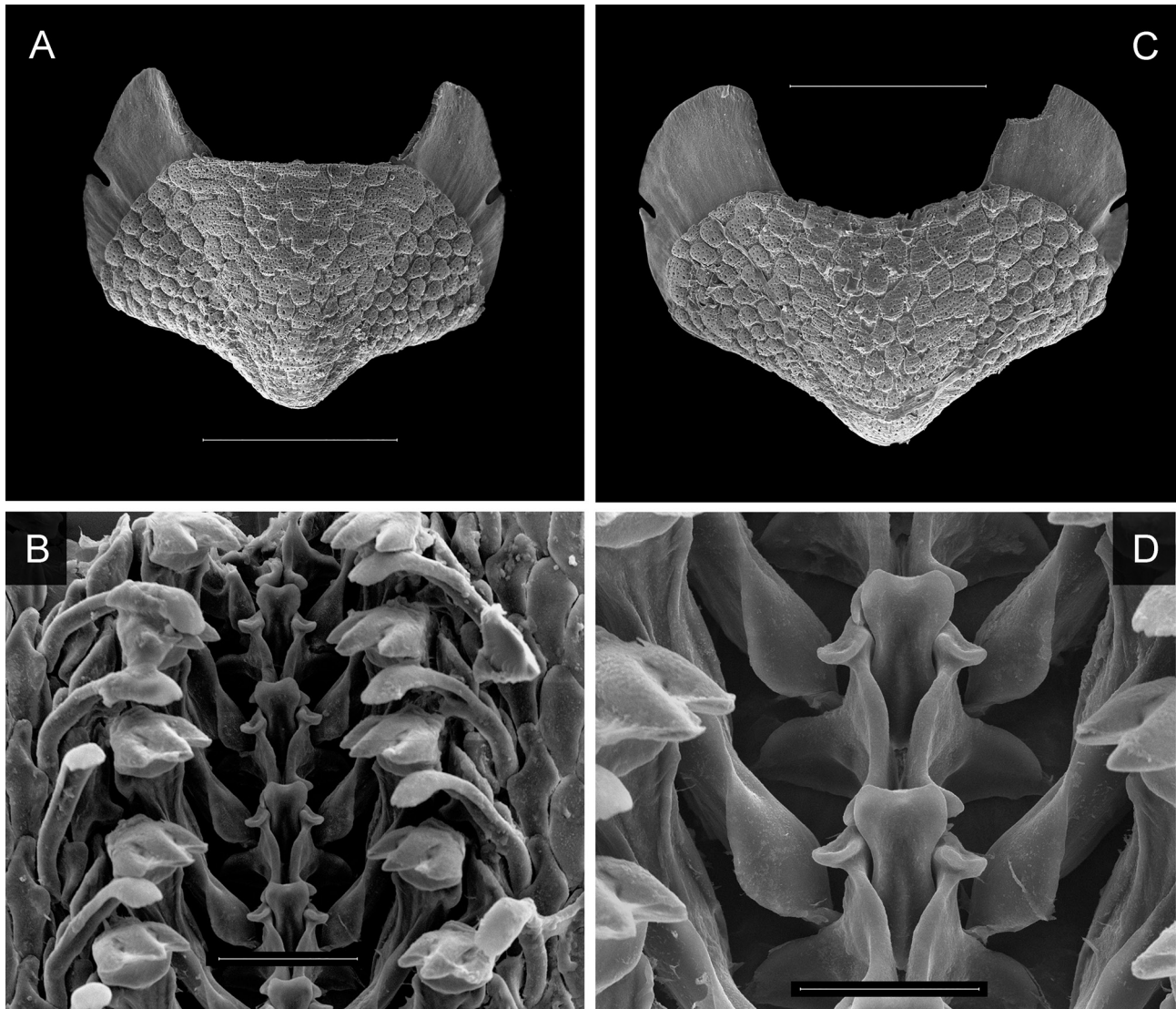


Fig. 8. *Acanthochitona saitoi* (ZIN, No. 2414), BL 2.7 mm (A, C), BL 3.5 mm (B, D). Valve II, dorsal view (A); part of radula (B); valve V, dorsal view (C); central, first lateral and major lateral tooth of radula (D). Scale bars: 500 μ m (A, C), 50 μ m (B), 30 μ m (D).

Notes. The specimens collected at the Spratly Islands differ from the type specimens (Nhatrang Bay) and from the specimens collected at the Okinawa Islands in the larger pustules in tegmen- tum, whereas other features of the shell, the girdle and the radula are similar. The examined specimen with BL equal to 3.5 mm has six gills arranged from valve V to valve VII and the radula 1.3 mm long with 23 transverse rows of mature teeth.

Distribution. Nhatrang Bay and Spratly Islands (South China Sea), Okinawa Islands (Ryukyu Is- lands, southern Japan); depth 1.5–31 m.

***Acanthochitona spratlyenses* sp. nov.**

(Figs 1D–F, 10–13)

Holotype. Female (adult specimen); **South China Sea, Spratly Is.**, Truong Sa Dong I., 8°53'15.7"N, 112°14'08.3"E, depth 20 m, on dead corals, SCUBA, 2 June 2019, B. Sirenko leg. (ZIN, No. 2416).

Paratypes. **South China Sea, Spratly Is.:** 1 speci- men, same data as for holotype (ZIN, No. 2419); 1 speci- men, Song Tu Tay I., 11°23'45.1"N, 114°35'15.1"E, depth 14–15 m, on dead coral, SCUBA, 25 Nov. 2018, B. Sirenko leg. (ZIN, No. 2417); 1 specimen, Da Lat I., 8°39'30.0"N, 111°39'36.0"E, depth 23 m, on old

tridacna clam, SCUBA, 6 June 2019, B. Sirenko leg. (ZIN, No. 2418).

Note. The holotype and paratypes are now disarticulated and consist of the following parts: SEM stubs of valves I, II, V, IV, VIII, a part of the perinotum and the radula; slide-mounted parts of the perinotum and the radula; and a vial with other valves.

Measurements. BL 4.0 mm (holotype), 4.9 mm (paratype; ZIN, No. 2417), 5.0 mm (paratype; ZIN, No. 2418), 4.0 mm (paratype; ZIN, No. 2419).

Diagnosis. Small chiton with rounded beak and rather low intermediate valves. Jugum wide, wedge-shaped. Tail valve small, oval, with posterior mucro. Pustules on tegmentum droplet-shaped or oval, quincuncially arranged in pleurolateral areas; pustules in jugal area becoming more oblong, merging with each other in centre of area. Top of pustule flat, with single megal aesthete pore and two micraesthete pores in pustules of pleurolateral area and up to six in pustules near jugal area. Tegmental plain without aesthete pores. Girdle dorsally covered with minute, somewhat flattened, sharply pointed spicules and larger, curved in lower part, smooth, pointed needles. Sutural tufts prominent, consisting of thick, slightly curved, smooth needles. Marginal needles weakly ribbed in upper half.

Description. Small elongate-oval chiton. Body length up to 5.0 mm. Valves rounded with small beak, rather elevated (dorsal elevation of valve V equal to 0.35). Tegmentum white with reddish brown maculation, sometimes completely red.

Head valve more than semicircular, with posterior margin straight and anterior slope slightly convex. Intermediate valves roughly rectangular or widely trapezoidal, low, beaked; front margin concave; hind margins slightly concave at both sides of beak; jugum wide wedge-shaped, tail valve trapezoidal, with posterior mucro; anterior and posterior slopes slightly convex.

Pustules densely covering tegmentum, arranged in quincunx order in all areas except for jugum. In jugal area, pustules becoming more oblong, merging with each other in centre of area. Each pustule flat at top, with a single megal aesthete pore and two micraesthete pores in pleurolateral area and up to six pores near jugal area. Tegmental plain without micraesthete pores.

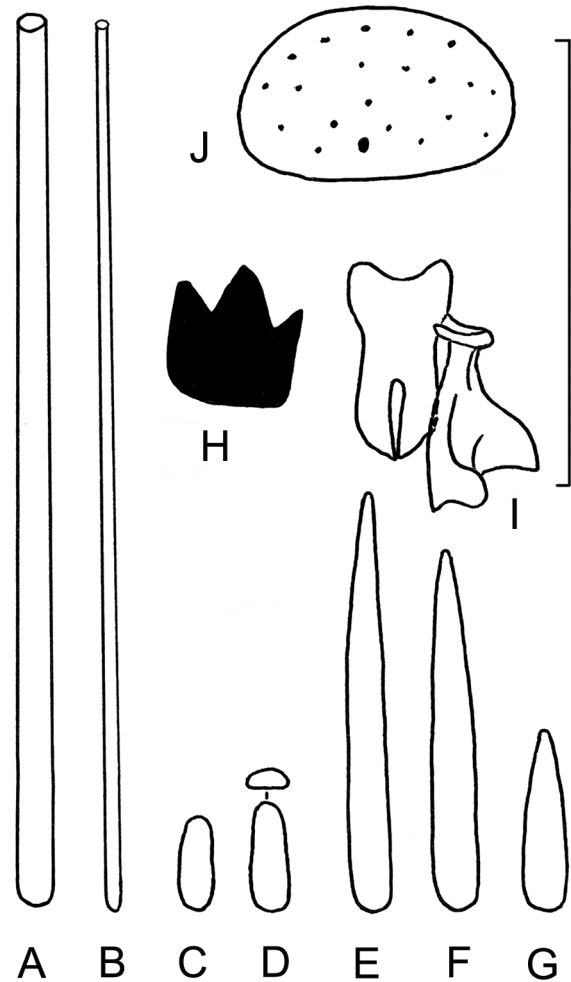


Fig. 9. *Acanthochitona saitoi* (ZIN, No. 2414), BL 3.5 mm. Needles of tuft (A, B); dorsal spicules (C, D); marginal needles (E, F); ventral needle (G); head of major lateral tooth of radula (H); central and first lateral teeth of radula (I); pustule of pleurolateral area (J). Scale bar: 100 μ m.

Articulamentum translucent, with transverse callus in middle of valves and several small pores under anterior margin of jugum. Apophyses projecting forwards, triangular, widely separated from each other in intermediate valves, truncated in tail valve. Insertion plate short, with short narrow slits. Slit formula 5/1/2.

Girdle rather wide, its width near valve V about 360 μ m. Girdle dorsally densely covered with small, sharply pointed, flattened spicules 52–53 \times 8 μ m and rarer but larger, curved in lower part, smooth pointed needles 65–121 \times 8–10 μ m. Sutural tufts prominent, consisting of up to ten thick, sharply pointed, smooth, slightly curved needles

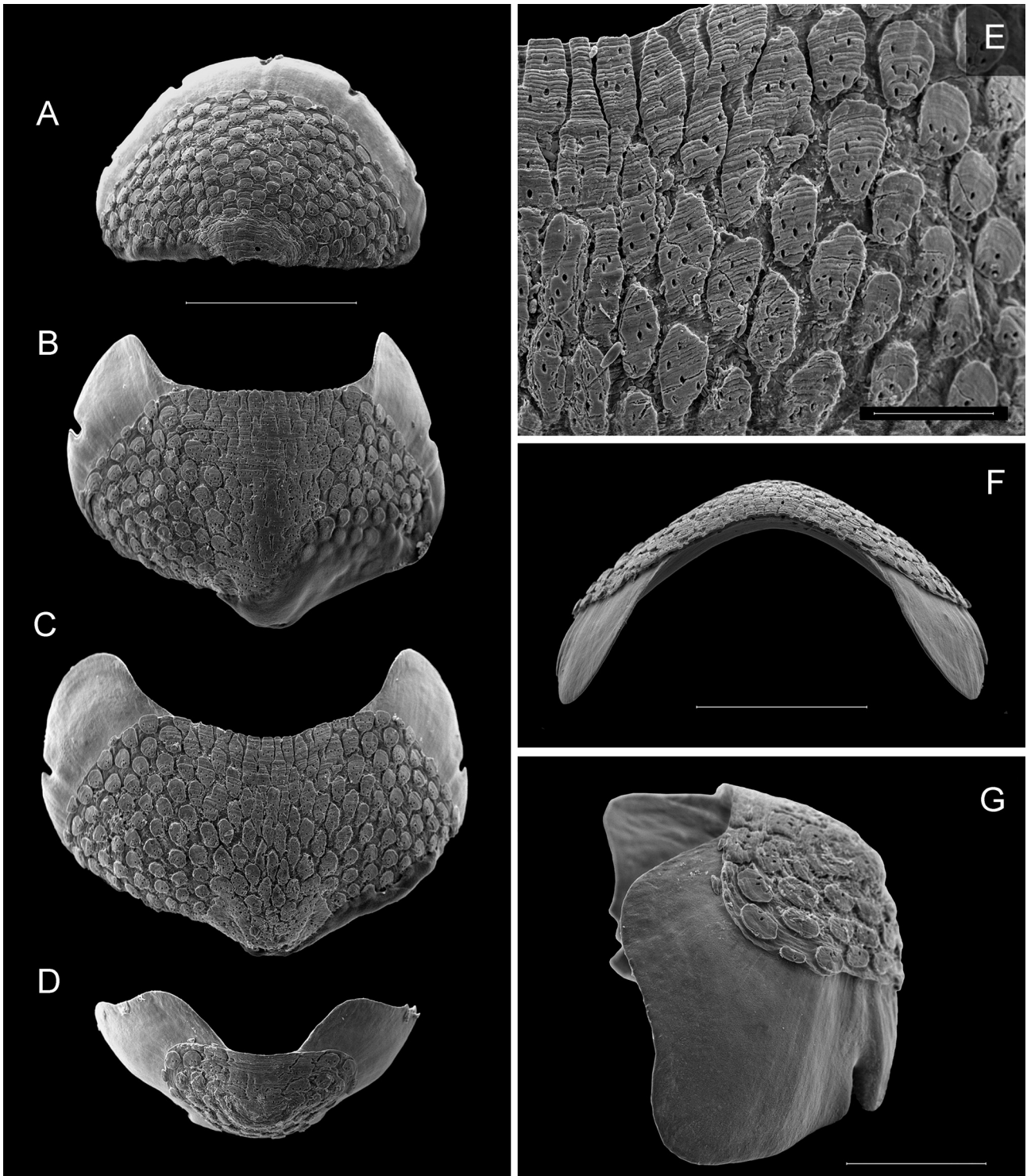


Fig. 10. *Acanthochitona spratlyenses* sp. nov., holotype. Valve I, dorsal view (A); valve II, dorsal view (B); valve V, dorsal view (C); valve VIII, dorsal view (D); sculpture of tegmentum in jugal and pleurolateral areas (E); valve V, rostral view (F); valve VIII, lateral view (G). Scale bars: 500 μ m (A–D, F), 100 μ m (E), 200 μ m (G).

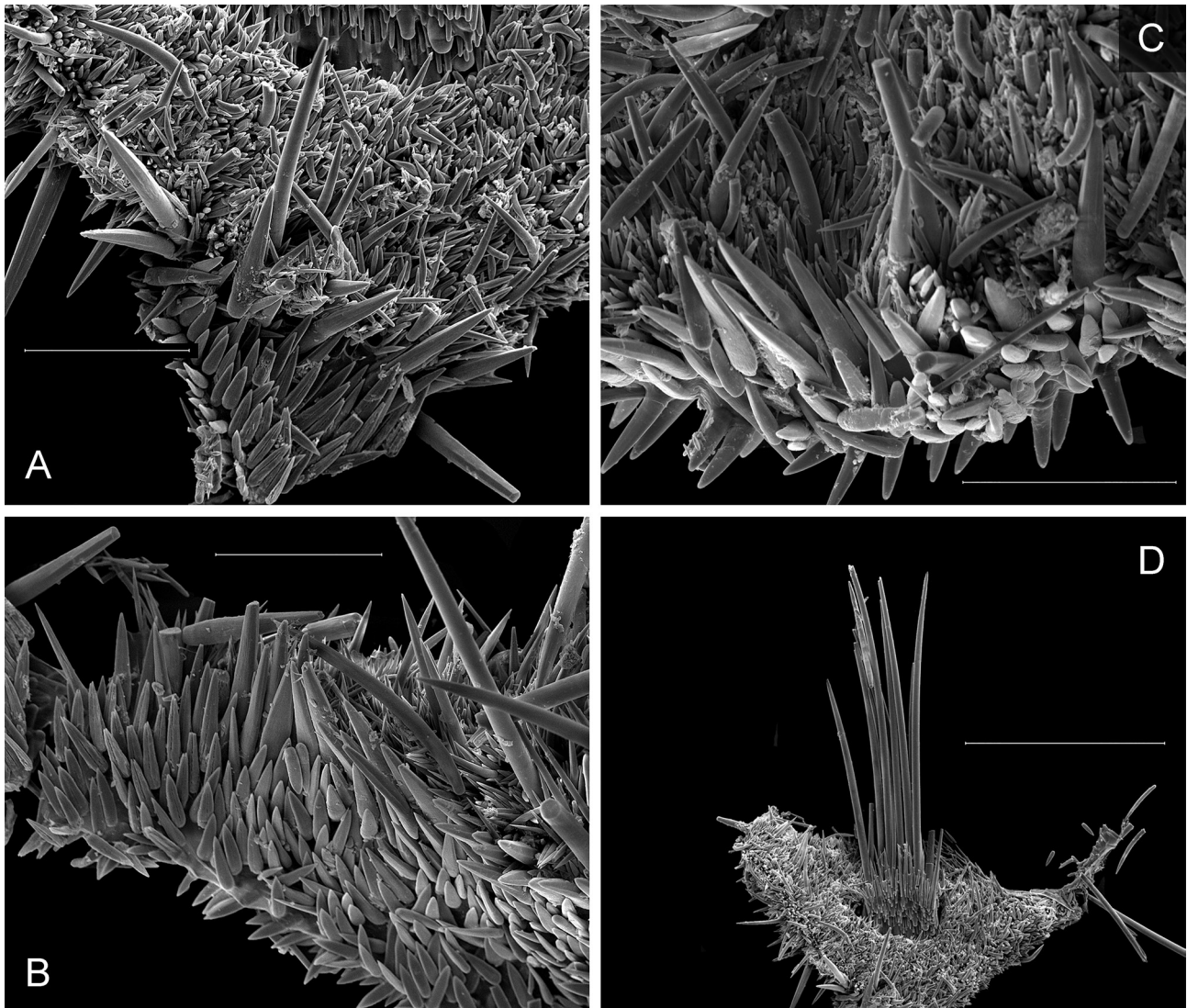


Fig. 11. *Acanthochitona spratlyenses* sp. nov., holotype. Dorsal needles and spicules, marginal needles and ventral spicules (A–C); Tuft of needles and dorsal needles and spicules (D). Scale bars: 100 μ m (A–C), 400 μ m (D).

up to $1100 \times 23 \mu$ m, surrounded by much shorter, thin, sharply pointed, smooth needles $120\text{--}130 \times 8 \mu$ m. Marginal spicules of two kinds: sharply pointed, weakly ribbed in upper half spicules up to $60\text{--}80 \times 10\text{--}11 \mu$ m, and smooth needles up to $300\text{--}350 \times 17 \mu$ m. Ventral spicules small, smooth, sharply pointed $61 \times 10 \mu$ m.

Radula of holotype 1.2 mm long, with 18 transverse rows of mature teeth. Central tooth with expanded top and sharply pointed base; first lateral tooth with thick nodulous anterodorsal corner; major lateral tooth with tricuspid head.

Holotype with seven gills on each side extending from valve V to valve VII; paratypes with eight gills.

Holotype is female with about 30 mature eggs (egg diameter $200\text{--}230 \mu$ m).

Comparison. The new species belongs to a group of acanthochitons which inhabit shoals of mainland Vietnam, the Ryukyu Islands and the Spratly Islands. This group is characterised by the absence of distinct border between the jugal and pleurolateral areas and by merged pustules on the jugal area of intermediate valves. The group consists of five species: *A. saitoi*, *A. savinkini* Sirenko, 2012, *A. nigra* Sirenko et Saito, 2017, *A. ostreaphila* Sirenko et Saito, 2017 and *A. spratlyenses* sp. nov.

Acanthochitona spratlyenses sp. nov. differs from *A. saitoi* and *A. savinkini* in having the

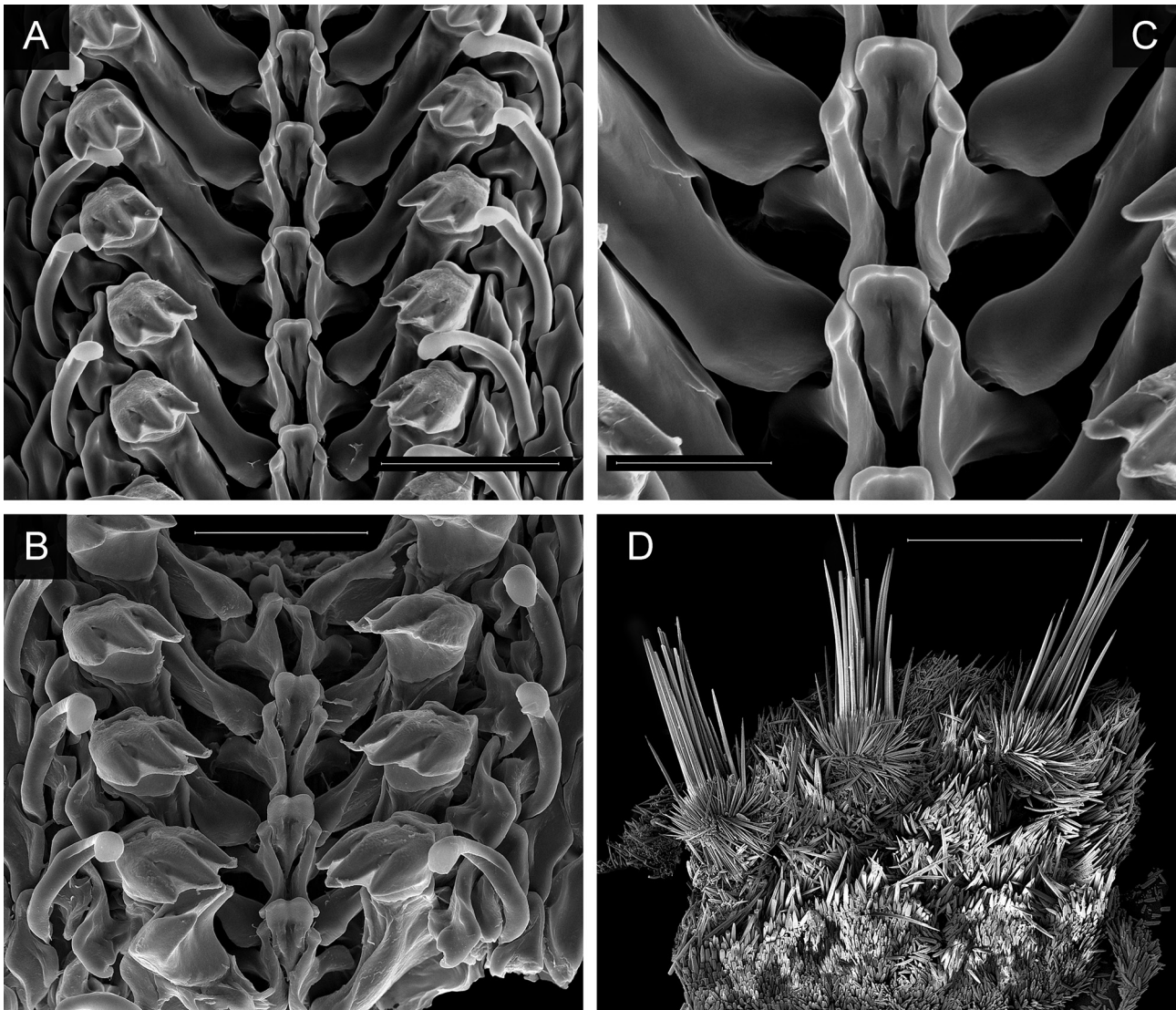


Fig. 12. *Acanthochitona spratlyenses* sp. nov., holotype (A, C) and paratype (ZIN, No. 2418), BL 5.0 mm (B, D). Part of radula (A, B); central, first lateral and shaft of major lateral teeth of radula (C); three tufts of needles and dorsal spicules and needles (D). Scale bars: 50 µm (A, B), 20 µm (C), 500 µm (D).

sharply pointed dorsal needles (*vs.* obtusely pointed spicules in both species), long (300–350 µm) marginal needles (*vs.* short, 60–67 µm, marginal needles in both species), two thick, sharply pointed, stout, smooth needles (*vs.* several stout and hundreds of fine needles in *A. savinkini*), and pustules on tegmentum with 3–7 pores of aesthetes (*vs.* pustules with more than 20 pores in *A. saitoi*). The new species differs from *A. nigra* in having the curved sharply pointed dorsal needles (*vs.* lacking dorsal needles in *A. nigra*), a posterior mucro (*vs.* an anterior mucro in *A. nigra*), small (5 µm) pores of mega-aesthetes (*vs.* large, 10 µm, pores in *A. nigra*).

Acanthochitona spratlyenses sp. nov. differs from *A. ostreaphila* in having the long insertion plates of valve VIII (*vs.* very short insertion plates in *A. ostreaphila*), pustules arranged close together (*vs.* pustules sparsely arranged in *A. ostreaphila*), a posterior mucro (*vs.* a central mucro in *A. ostreaphila*), and sharply pointed dorsal spicules (*vs.* curved bluntly pointed spicules in *A. ostreaphila*).

Distribution. The species is known only from the type locality in the Spratly Islands, at depths of 15–28 m.

Etymology. The species is named after the Spratly Islands.

Discussion

Together with *Acanthochitona leopoldi* (Leloup, 1933), which is the only species of the genus previously recorded from the Spratly Islands area (Sirenko & Nguen Tai, 2020), we currently know four *Acanthochitona* species from these islands. One of the species, *A. intermedia*, was also found in the Philippines and Indonesia (Nierstrasz, 1905). The other two are found off Indonesia (*A. leopoldi*; Burghardt et al., 2006) and Vietnam (*A. saitoi*; Sirenko, 2012). Based on the known fauna, we conclude that the species composition of *Acanthochitona* in the Spratly Islands is the closest to those of Indonesia and the Philippines, where five and four species of this genus are known, respectively (Nierstrasz, 1905; Thiele, 1909; Burghardt et al., 2006; Schwabe, 2007). It should be noted that in Vietnam, where ten species are known (Sirenko, 2016; Sirenko & Saito,

2017) and in the Spratly Islands, with four species known, chitons were collected using the method proposed by Sirenko (2012).

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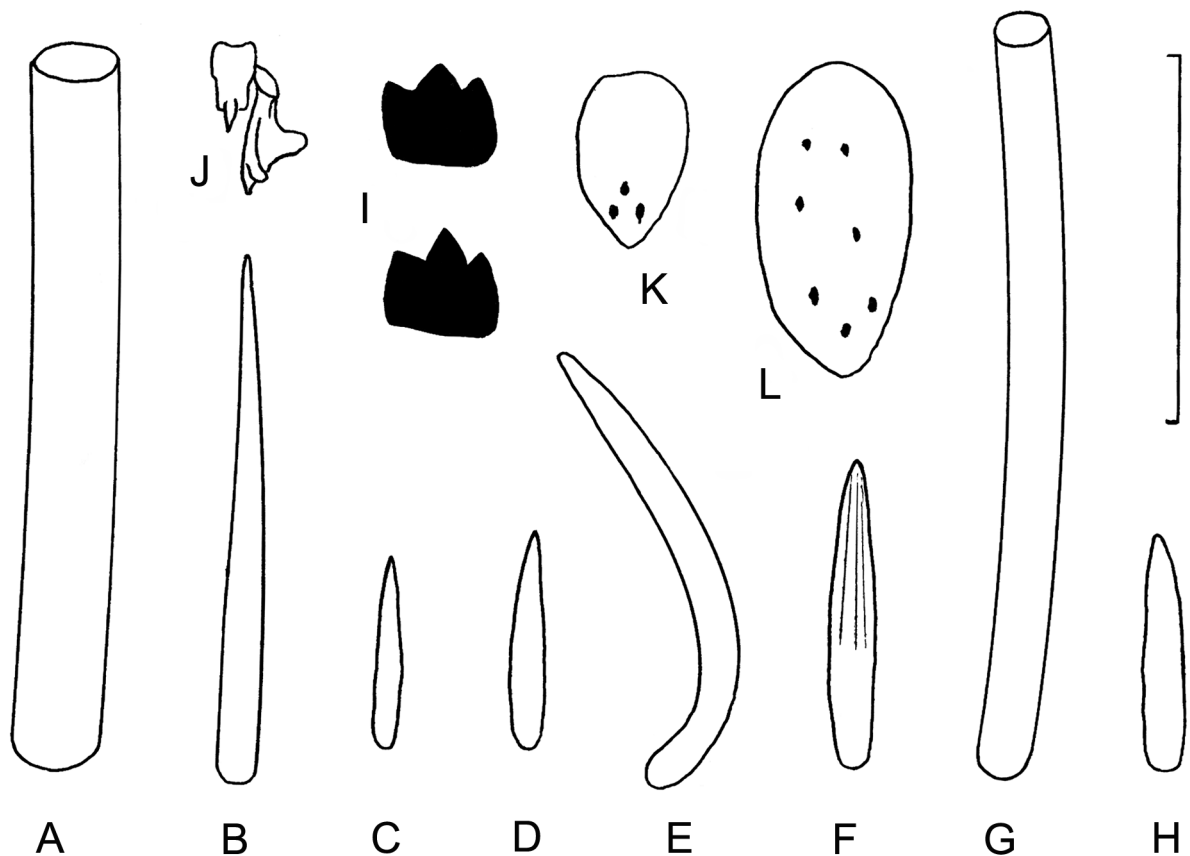


Fig. 13. *Acanthochitona spratlyenses* sp. nov., holotype. Needles of tuft (A, B); dorsal spicules (C, D); dorsal curved needle (E); marginal spicule (F); marginal needle (G); ventral spicule (H); heads of major lateral tooth of radula (I); central and first lateral teeth of radula (J); pustule of jugal area (K); pustule of pleurolateral area (L). Scale bar: 100 μ m.

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