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New chitons (Mollusca: Polyplacophora) of the genera *Rhyssoplax, Lucilina* and *Onithochiton* from shallow waters of Papua New Guinea

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Four species of chitons are added to the known species of Polyplacophora of Papua New Guinea. Three of them, *Lucilina insueta* **sp. nov.**, *L. nemirkoae* **sp. nov.** and *Onithochiton maklayi* **sp. nov.,** are new to science. Twenty six species of chitons are now known from shallow waters near Papua New Guinea. One of the new species (*L. insueta* **sp. nov.**) has callus rudiment showing a very close relationship to species of genera *Onithochiton* and *Lucilina*. Finding another species (*L. nemirkoae* **sp. nov**.) without pectination in insertion plates once again confirms the instability of this feature in the subfamily Toniciinae.

Key words: chitons, *Rhyssoplax*, *Lucilina*, *Onithochiton*, new species, Papua New Guinea.

Новые хитоны (Mollusca: Polyplacophora) родов *Rhyssoplax*, *Lucilina* и *Onithochiton* из мелководий Папуа Новая Гвинея

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Четыре вида хитонов добавлены к известным видам Polyplacophora Папуа Новая Гвинея. Три из них: *Lucilina insueta* **sp. nov.**, *L. nemirkoae* **sp. nov.** and *Onithochiton maklayi* **sp. nov.** являются новыми для науки. В настоящее время на мелководьях Папуа Новая Гвинея известно 26 видов хитонов. Один из новых видов (*L. insueta* **sp. nov.**) имеет зачаток каллуса, показывающий очень близкое родство видов родов *Onithochiton* и *Lucilina*. Находка другого вида (*L. nemirkoae* **sp. nov.**) без гребенчатости инсерционных пластинок еще раз подтверждает нестабильность этого признака в подсемействе Toniciinae.

Ключевые слова: хитон, *Rhyssoplax*, *Lucilina*, *Onithochiton*, новые виды, Папуа Новая Гвинея.

Despite the fact that Papua New Guinea is located in the Coral Triangle Region, which is known as one of the highest biodiversity regions, up to now only 22 shallow water species of chitons have been found there [Kaas et al., 2006; Schwabe, 2006]. This number seems too little for such a vast region. In the above mentioned works, only a few species of certain genera have been recorded**:** *Rhyssoplax* Thiele, 1893

(2 species), *Lucilina* Dall, 1882 (1 species), *Onithochiton* Gray, 1847 (1 species), *Cryptoplax* Blainville, 1818 (1 species), *Leptoplax* Dall, 1882 (1 species), *Notoplax* H. Adams, 1862 (1 species). Species of genus *Acanthochitona* Gray, 1821 are absent entirely. All these genera are well represented in adjacent waters to the south [Iredale, Hull, 1923–1926, 1929–1932], and to the north [Nierstrasz, 1905a; Sirenko, 2016]. Probably, the reason for such impoverished species composition can be explained by a lack of our knowledge for the area. With the exception of the two first above-mentioned works, only 13 other works describe and mention the Papua New Guinea chitons [Quoy, Gaimard, 1835; Pilsbry, 1892–1894; Nierstrasz, 1905a, b; Thiele, 1909; Ashby, 1923; Leloup, 1981; Kaas, Van Belle, 1985a, b, 1994; Ferreira, 1986; Wells, 2002a, b]. This article presents the results of taxonomic study of materials collected by two Russian expeditions. Four new species of chitons are recorded for the study area, three of which are described for the first time.

Material and methods

The specimens examined were collected in two Russian expeditions: R/V *Kallisto*, cruise 1, 1975, in Astrolabe Bay, Papua New Guinea and R/V *Dmitriy Mendeleev*, cruise 18, 1977, near Manus Island, Bismarck Archipelago.

Four specimens were prepared for a scanning electron microscope (SEM). They were boiled in 7% KOH for 5–15 minutes (depends on body length), then boiled twice in fresh water. Several valves (usually the valves I, IV, V and VIII), a large section of the radular ribbon and a portion of the girdle were then chosen for examination by a scanning electron microscope FEI SEM Quanta 250 Scan. The rest of the radula and the girdle were dried and put in Canada balm for examination under the light microscope.

Abbreviations: BL – body length; stn – station; spm(s) – specimen(s); IEE RAS – A.N. Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences, Moscow, Russia; MNHN – Muséum national d'Histoire naturelle, Paris; ZISP – Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

Taxonomy

Class **POLYPLACOPHORA** Gray, 1821
Subclass **NEOLORICATA** Bergenhayn, 1955
Order **CHITONIDA** Rafinesque, 1815
Family **Chitonidae** Rafinesque, 1815
Subfamily **Chitoninae** Rafinesque, 1815
Genus *Rhyssoplax* Thiele, 1893

Type species. *Chiton janeirensis* Gray, 1828, sensu Thiele, 1893 (=*Chiton affinis* Issel, 1869), by subsequent designation.

Rhyssoplax venusta Hull, 1923
Figs. 1, 2, 12B

Rhyssoplax venusta Hull, 1923, p. 165, pl. 26, figs. 1–4, 9–12; Iredale, Hull, 1926, p. 179, 180, pl. 19, figs. 28–35, 37; Dawydoff, 1952, p. 113; Sirenko, 2012, p. 71, pl. 12F; figs. 16, 17; Sirenko, 2019, p. 8, fig. 2F.

Chiton (*Rhyssoplax*) *venusta* (Hull, 1923): Leloup, 1952, p. 56, text-fig. 19, pl. 5, fig. 1, pl. 6, fig. 2.

Chiton (*Rhyssoplax*) *venustus* (Hull, 1923): Kaas, Van Belle, 1980, p. 139; Kaas, Van Belle, 1998, p. 196; Kaas et al., 2006, p. 229, fig. 92, map 37 (bibliography and synonymy).

Type material. Holotype (AM C.49545) and two paratypes (AM C.170744).

Type locality. Queensland, Keppel Bay, Emu Park.

Material examined. Papua New Guinea, Bismarck Archipelago, Manus Island, Silver Sound, 02°01′ S, 146°53′ E, R/V *Dmitriy Mendeleev*, 18 cruise, sample 4, 1 m, 1 spm, BL 14 mm (ZISP 2302), 27.01.1977.

Distribution. This species is widely distributed in the western Pacific and was found in north-eastern Queensland, Papua New Guinea, Vietnam and Guangxi Province of southern China. It is first find of the species near Papua New Guinea. The species lives near Vietnam and southern China at depth from 0 to 20 m.

Remarks. The studied specimen was damaged. All its features (shell, armature of girdle and head of major lateral teeth of radula match the original description and the drawings of Hull [1923]. Slit formula of this specimen is 8/1/15.

Subfamily **Toniciinae** Pilsbry, 1893

Genus *Lucilina* Dall, 1882

Type species. *Chiton confissus* Gould, 1846 (=*Chiton lamellosus* Quoy et Gaimard, 1835) by subsequent designation by Pilsbry, 1893.

Lucilina insueta Sirenko sp. nov.
Figs. 3–5, 12C

urn:lsid:zoobank.org:act:9A18C9A0-1FCB-4BA3-9754-0549511DA62E

Type material. Holotype (ZISP 2303), now disarticulated, consisting of the mount of part of girdle and radula, vial with valves, part of radula and part of girdle.

Type locality. Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks, R/V *Kallisto*, cruise 1, 03.01.1975, leg. B.I. Sirenko.

Etymology. From the Latin insuetus, uncommon, referring to the uncommon number of slits and rudiment of callus in the tail valve.

Distribution. Known only from the type locality.

Diagnosis. Animal of medium size, shell rather low, back rounded. Tegmentum smooth in all areas except for a few weak concentric growth lines. Slit formula 9/1/2 + rudiment of callus. Girdle looking smooth, leathery, dorsal scales very small and short with one longitudinal rib, ventral scales subquadrangular, ornamented around

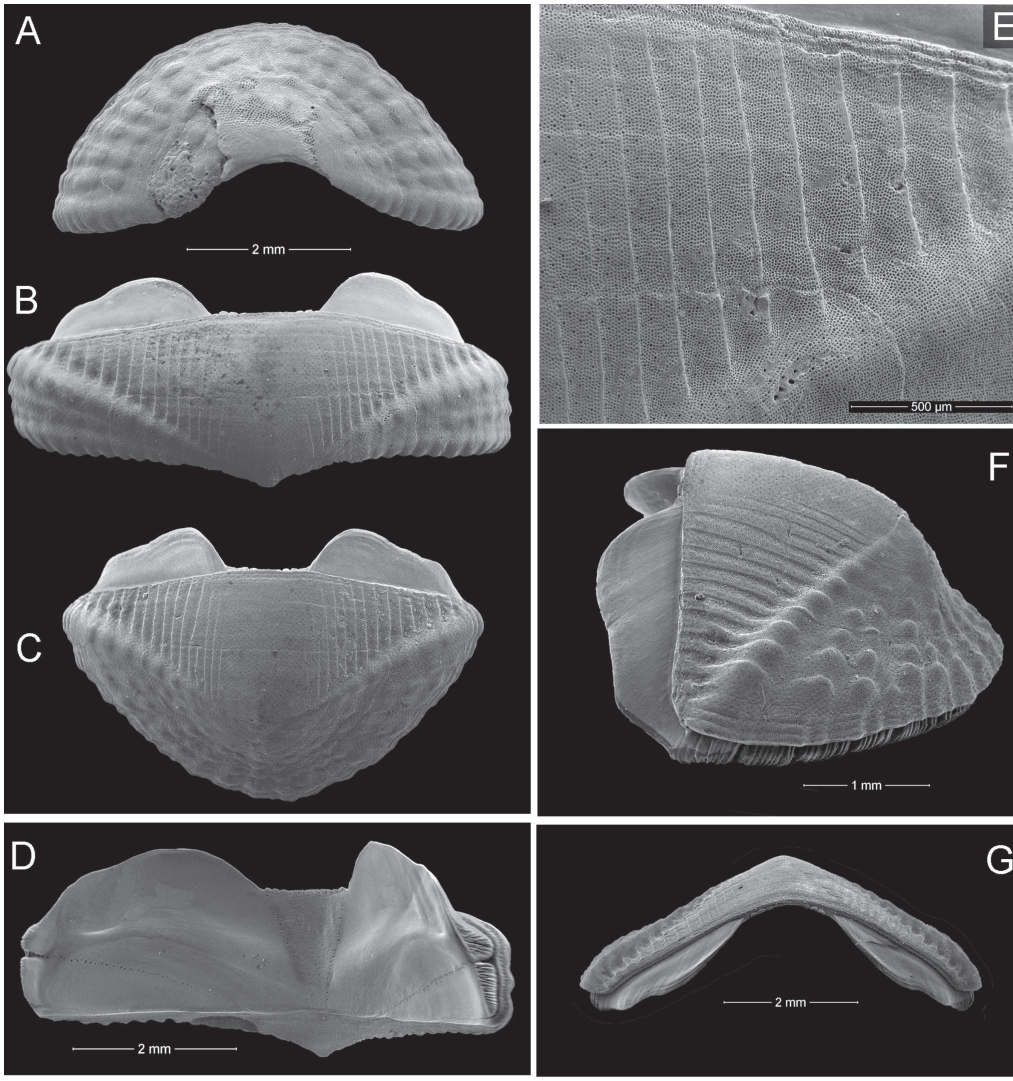

Fig. 1. *Rhyssoplax venusta* (ZISP 2302), Papua New Guinea, Bismarck Archipelago, Manus Island, 1 m, BL 14 mm. **A** – head valve, dorsal view; **B** – valve V, dorsal view; **C** – tail valve, dorsal view; **D** – valve IV, ventral view; **E** – surface of tegmentum in central and lateral areas; **F** – tail valve, lateral view; **G** – valve V, rostral view.

with 14–15 distally converging riblets. Major lateral tooth of radula with tetracuspid cap, the outer three denticles blunt and much rounded, the innermost sharpest.

D e s c r i p t i o n. Chiton of medium size, holotype, BL 20.0 mm, elongate oval. Shell low (dorsal elevation 0.27), back rounded, intermediate valves side slopes straight, valves slightly beaked. Tegmentum mainly yellowish with brown and olive spots. Girdle of fixed holotype colored in predominant tegmental color yellow.

Head valve semicircular. Intermediate valves with anterior margin straight in a wide central part, splayed laterally, side margins rounded, hind margin almost straight at both sides of rounded apex, lateral areas not raised. Tail valve slightly narrower than head valve, the length somewhat less than half the width, front margin weakly convex in the middle, hind margin evenly convex, mucro posterior, hind slope steep, convex, antemucronal area convex.

Tegmentum smooth in all areas, with a few weak concentric growth lines. Head valve with minute, black ocelli sparsely distributed in 8 radiating series in between, lateral and postmucronal areas with one row of ocelli in anterior portion.

Articulamentum white with light brown in middle portion, apophyses triangular with rounded top in intermediate valves, and trapezoidal in tail valve, jugal sinus straight, about 1/3 of the valve's width, provided with a very short, finely denticulated plate.

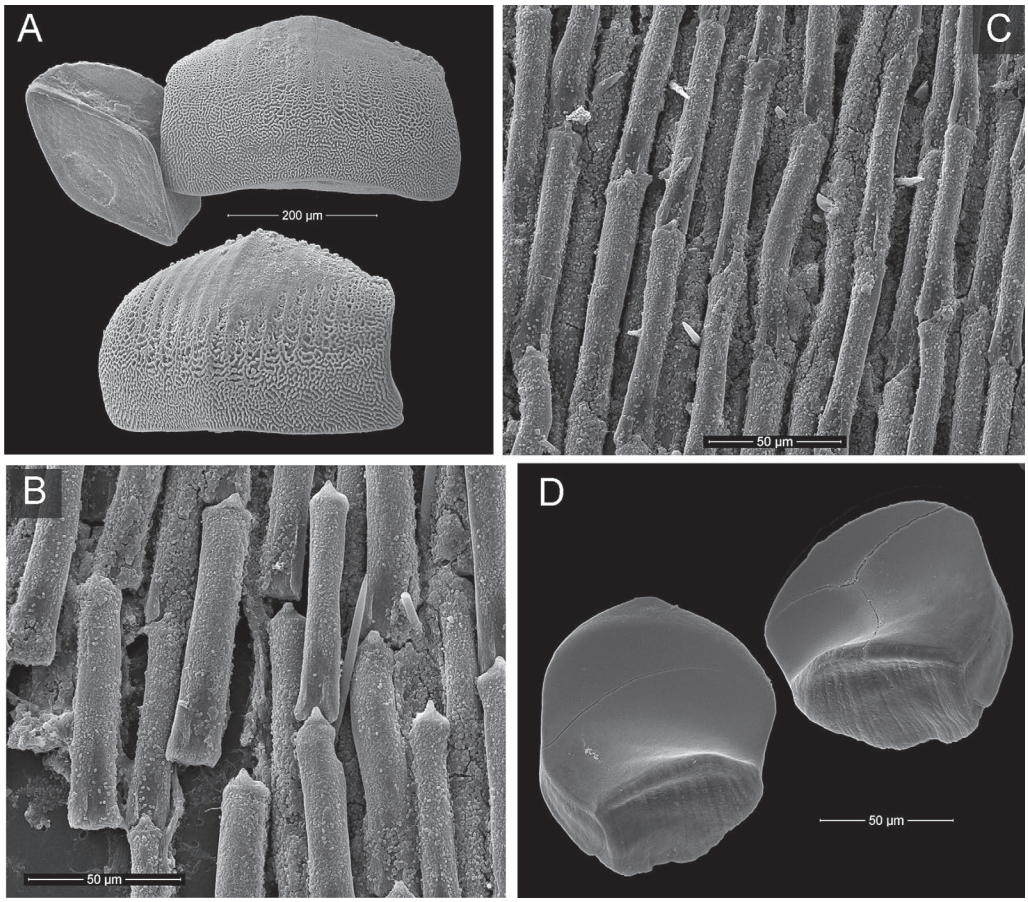

Fig. 2. *Rhyssoplax venusta* (ZISP 2302), Papua New Guinea, Bismarck Archipelago, Manus Island, 1 m, BL 14 mm. **A** – dorsal scales; **B** – ventral spicules near margin; **C** – ventral spicules, in middle; **D** – heads of major lateral teeth.

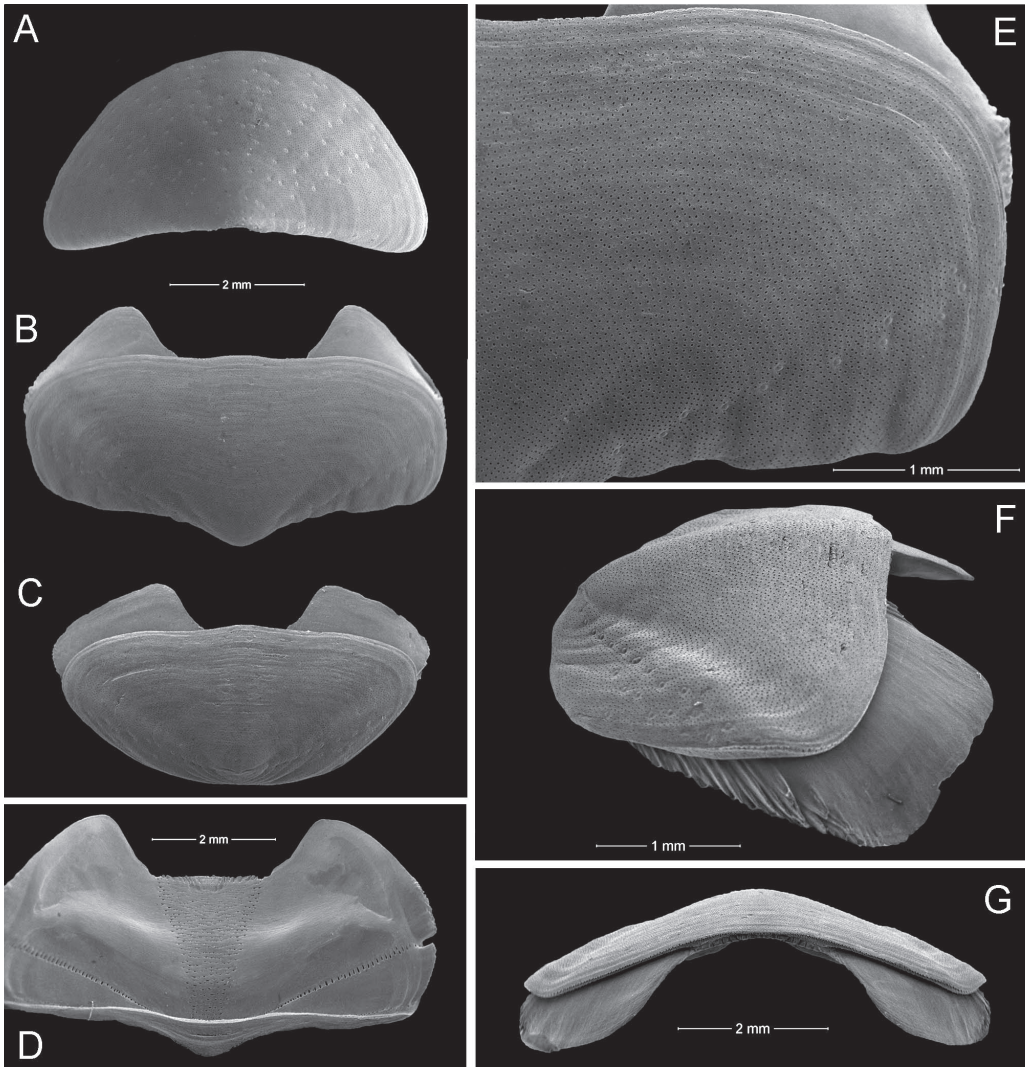

Fig. 3. *Lucilina insueta*, **holotype** (ZISP 2303), Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks, BL 20 mm. **A** – head valve, dorsal view; **B** – valve V, dorsal view; **C** – tail valve, dorsal view; **D** – valve IV, ventral view; **E** – surface of tegmentum in central and lateral areas; **F** – tail valve, lateral view; **G** – valve V, rostral view.

Slit formula 9/1/2+rudiment of callus, pectination and slit rays well indicated in head and intermediate valves, insertion teeth short, finely grooved on the upper side, sharply pectinated at outer edge, eaves short, solid. Tail valve with pectination on the hind parts of the apophyses, with two obsolete slits and a smooth rudiment of callus between the slits (Fig. 4B).

Girdle about 3.3 mm wide near valve V, looking smooth, leathery dorsally covered with not numerous, small scales (20x10 μm), protruded from cuticula, and ornamented

with one longitudinal rib, and more rare small spicules (8x4 μm). Ventral scales (27–29x25 μm) subquadrangular, ornamented around with 14–15 distally converging riblets.

Radula of the holotype 6.5 mm long, with 42 transverse rows of mature teeth, central tooth of radula knobby in the lower part, slightly narrow in the central part, distally widening to an even wider quadrangular blade, major lateral tooth with tetracuspid cap, the outer three denticles blunt and much rounded, the innermost sharpest.

The holotype with 39 gills on both sides, extending from valve II to first half of valve VIII.

R e m a r k s. The rudiment of callus bring this species closer to species of the genus *Onithochiton* but pectination and two obsolete slits on the sides of insertion plate of the tail valve require to place this species in the genus *Lucilina*. *L. insueta* sp. n. is

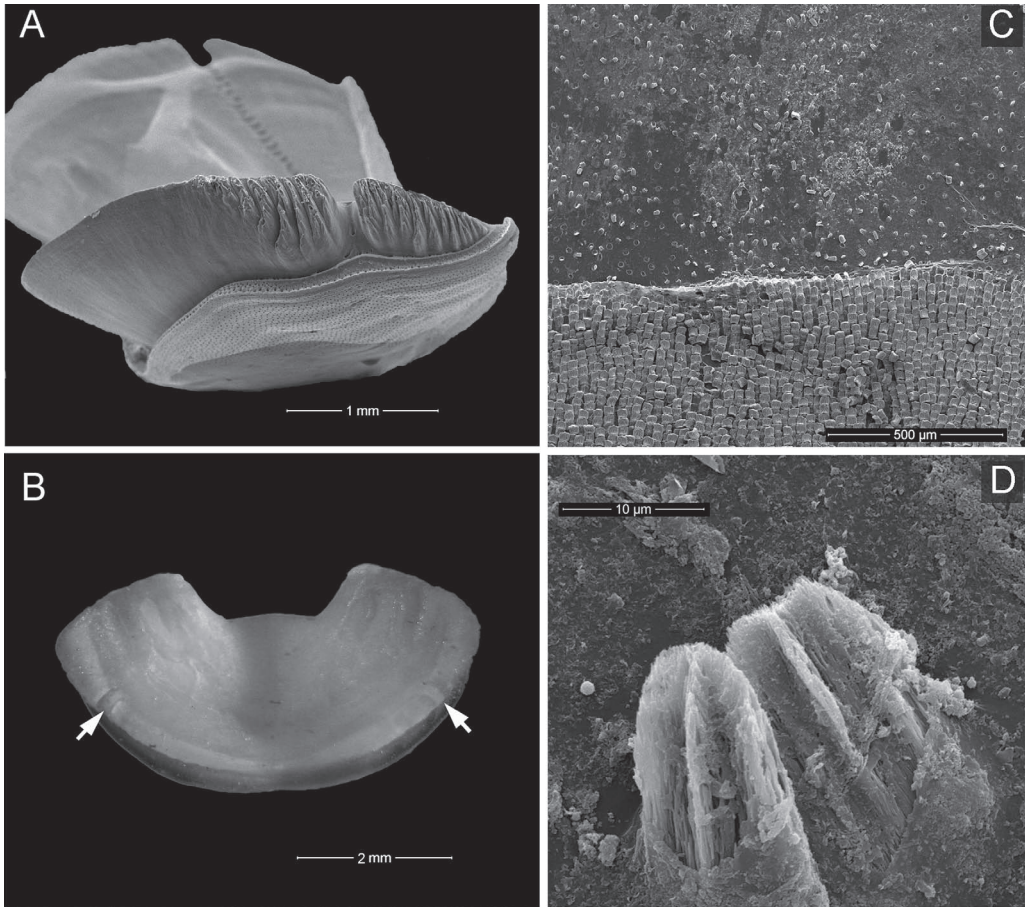

Fig. 4. *Lucilina insueta***, holotype** (ZISP 2303), Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks, BL 20 mm. **A** – valve IV, lateral view; **B** – tail valve, ventral view. Arrows show slits of insertion plates; **C** – dorsal and ventral scales; **D** – dorsal scals.

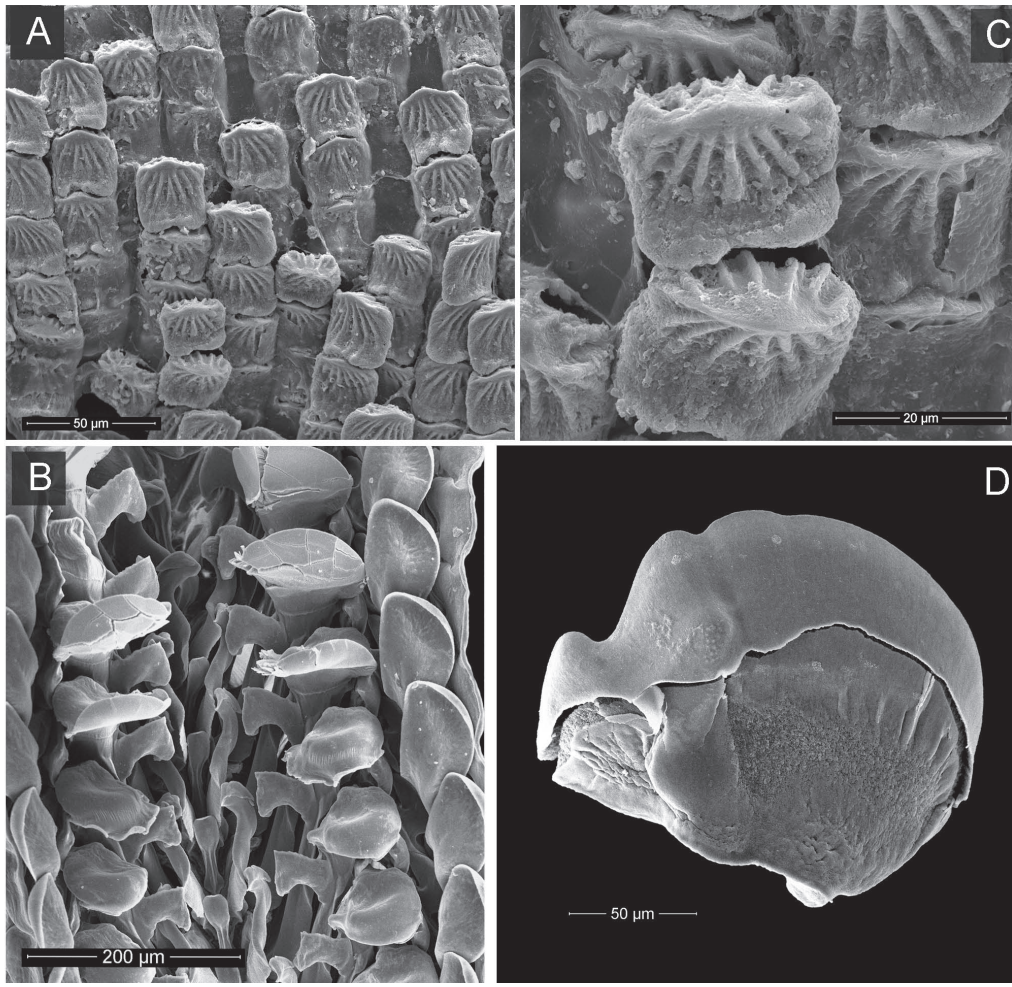

Fig. 5. *Lucilina insueta*, **holotype** (ZISP 2303), Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks, BL 20 mm. **A**, **C** – ventral scales; **B** – radula; **D** – head of major lateral tooth of radula.

superficially similar to south Australian *L. dupuisi* (Leloup, 1973) that has also practically smooth tegmentum, but differs from the latter in having unique rudiment of callus and only two slits in insertion plate of the tail valve (vs. 9 equidistant slits in *L. dupuisi*).

Lucilina nemirkoae Sirenko sp. nov.
Figs. 6–8

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T y p e m a t e r i a l. Holotype (ZISP 2304) now disarticulated, consisting of mount of part of girdle and radula, vial with valves, part of radula and part of girdle.

Type locality. Papua New Guinea, Bismarck Archipelago, Manus Island, Silver Sound, 02°01′ S, 146°53′ E, 1 m (R/V *Dmitriy Mendeleev*, 18 cruise, sample 4, 27.01.1977).

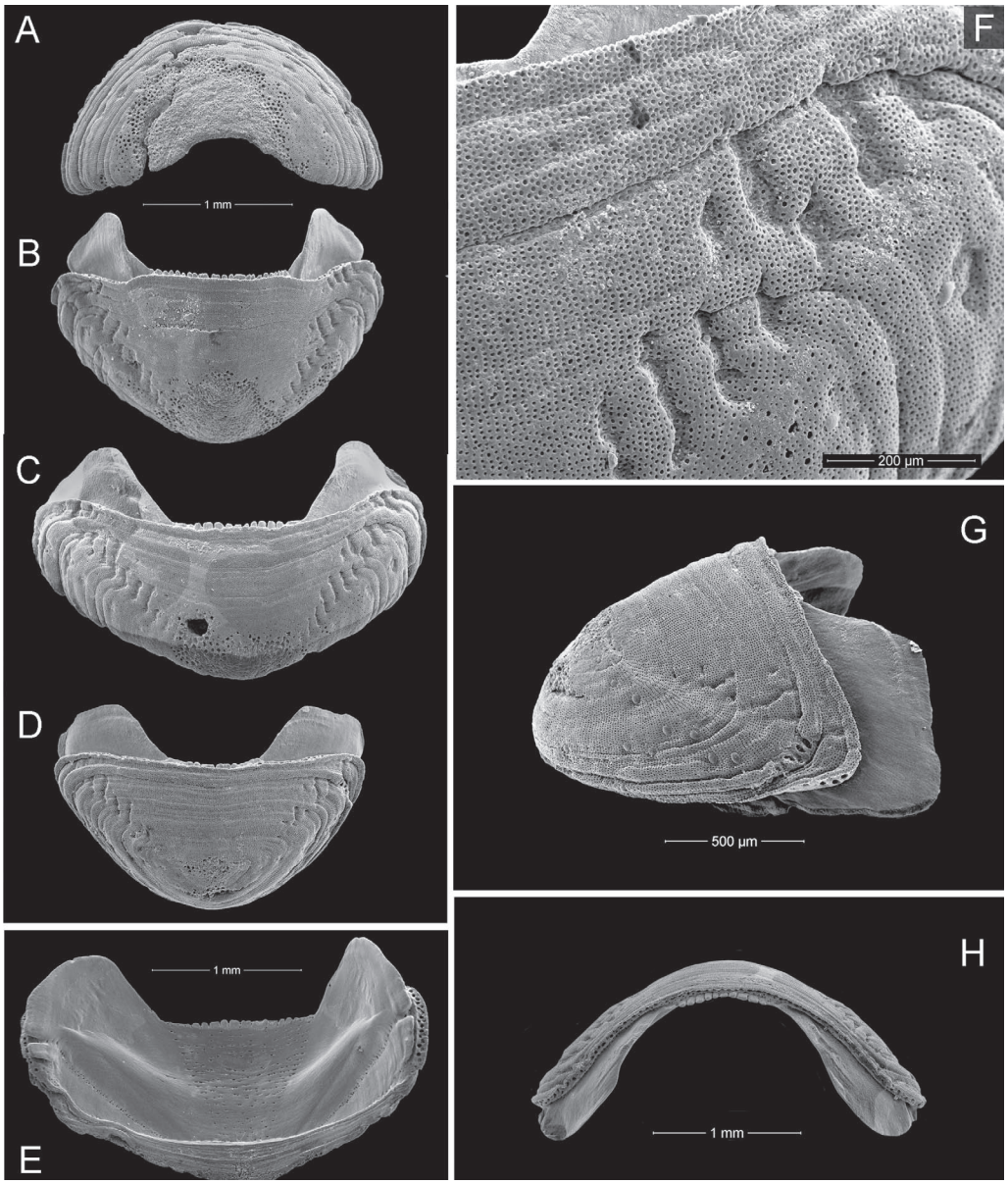

Fig. 6. *Lucilina nemirkoae*, **holotype** (ZISP 2304), Papua New Guinea, Bismarck Archipelago, Manus Island, 1 m. BL 7.0 mm. **A** – head valve, dorsal view; **B** – valve II, dorsal view; **C** – valve V, dorsal view; **D** – tail valve, dorsal view; **E** – valve IV, ventral view; **F** – surface of tegmentum in central and lateral areas; **G** – tail valve, lateral view; **H** – valve V, rostral view.

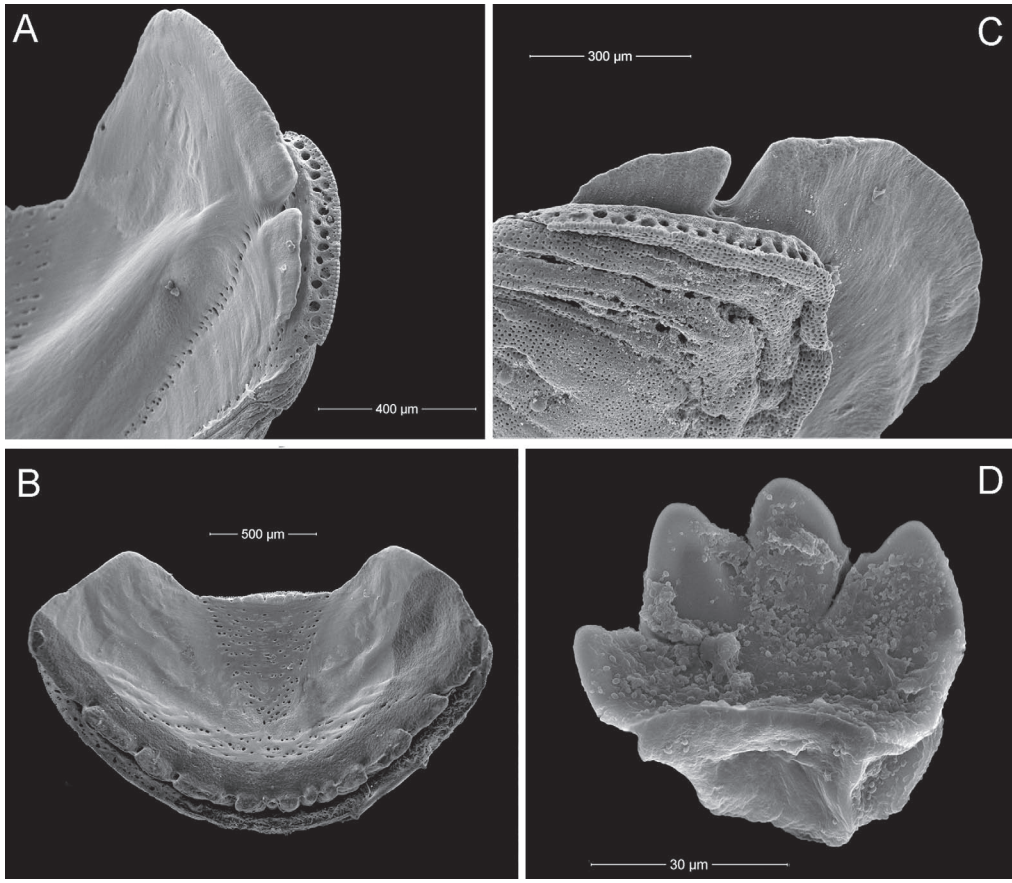

Fig. 7. *Lucilina nemirkoae*, **holotype** (ZISP 2304), Papua New Guinea, Bismarck Archipelago, Manus Island, 1 m. BL 7.0 mm. **A** – valve IV, ventral view, insertion plate without pectination; **B** – tail valve, ventral view; **C** – valve IV, lateral view, insertion plate and apophyses without pectination; **D** – head of major lateral tooth of radula.

E t y m o l o g y. Named in honour of my wife Alena Nemirko who help me to live and to work.

D i s t r i b u t i o n. Only known from the type locality.

D i a g n o s i s. Animal of small size, shell rounded. Intermediate valves sinuate in anterior margin, concave in the jugal area, convex at side margins, evenly convex, not beaked in posterior margin. Tail valve slightly narrower than head valve. Tegmentum of head valve, lateral area of intermediate valves, and postmucronal area of tail valve smooth, only with growth line. Pleural areas with 8–9 very short and deep longitudinal, sometimes interrupted grooves along diagonal line. Insertion plates very short and smooth. Dorsal spicules small, blunt-topped, with 8–10 ribs around. Ventral scales more or less rectangular, ornamented around 8–10 distally converging riblets. Major lateral tooth bearing a cusp with 4 denticles.

D e s c r i p t i o n. Holotype of small size, BL 7.0 mm, elongate oval. Valves low (dorsal elevation 0.37), back rounded, side slopes convex, not beaked. Tegmentum light yellow with white spots.

Head valve semicircular, front slope convex, posterior margin widely V-shaped, shallowly notched in the middle. Intermediate valves more than twice as wide as long, anterior margin sinuate, concave in the jugal area, convex at the pleurae, posterior margin evenly convex not beaked, lateral areas slightly raised. Tail valve slightly narrower than head valve, anterior margin slightly concave, hind margin evenly convex, mucro posterior, hind slope almost steep, convex, antemucronal slope straight.

Tegmentum of head valve, lateral area of intermediate valves, and postmucronal area of tail valve smooth, only with well noticeable growth line. Pleural areas with 8–9 very short and deep longitudinal, sometimes interrupted grooves along diagonal line on each side.

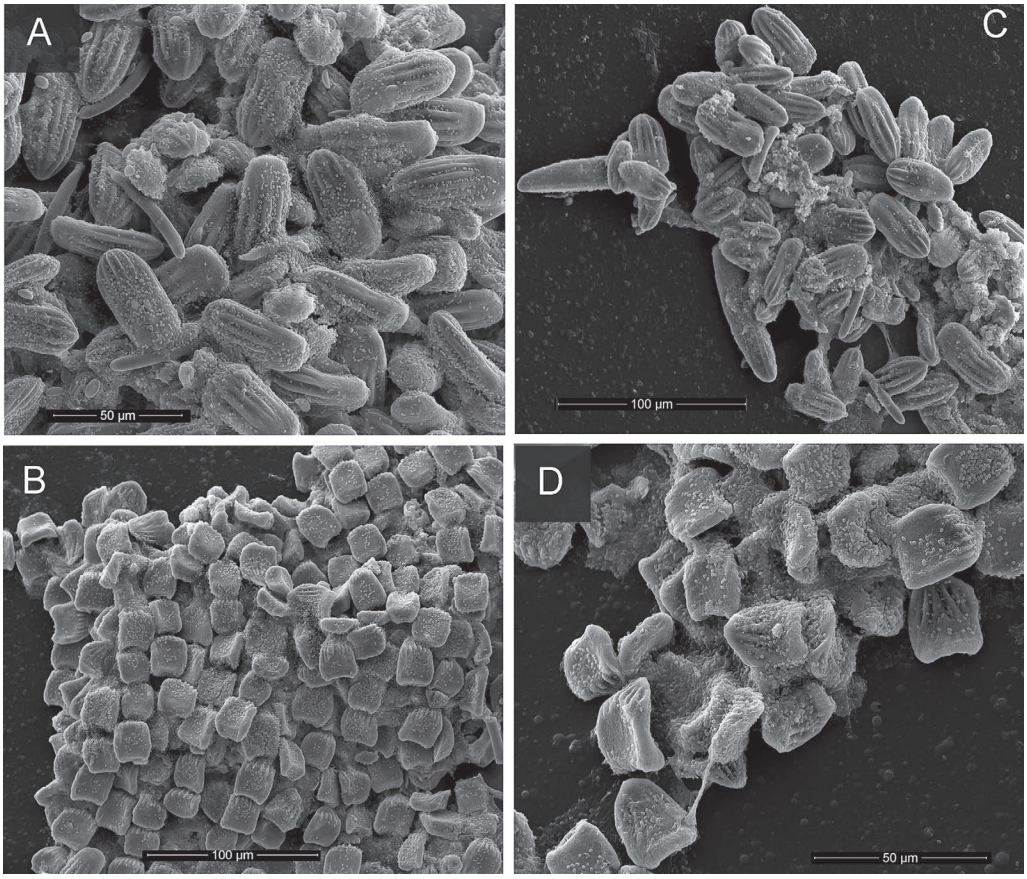

Fig. 8. *Lucilina nemirkoae*, **holotype** (ZISP 2304), Papua New Guinea, Bismarck Archipelago, Manus Island, 1 m. BL 7.0 mm. **A** – dorsal spicules and needles; **B**, **D** – ventral scales; **C** – dorsal spicules, needles and marginal needles.

Articulamentum white, apophyses triangular with rounded top in intermediate valves, and trapezoidal in tail valve, separated by a wide, deep, slightly concave, delicately dentate sinus (10–11 denticles in valves IV–VI). Slit formula 9/1/11, slit rays hardly or not indicated, teeth rather long, not pectinated, those of the tail valve much deformed, eaves narrow, porous.

Girdle dorsally covered with close-set small (45x21 μm), blunt-topped spicules, with 10–11 ribs around, and scattered curved needles (39–42x5 μm). Marginal spicules slightly ribbed, round-topped up to 79x17 μm. Ventral side of girdle clothed with more or less rectangular scales (25x21 μm), ornamented around 12–13 distally converging riblets.

Radula of the holotype was damaged, only the head of major lateral tooth is preserved, It has four denticles.

Due to the fact that the holotype was damaged, it was not possible to calculate the number of gills.

R e m a r k s. Despite the fact that this new species has a small size it looks like an adult chiton. Suffice it to recall a related species *Tonicia disalvoi* (Dell Angelo, Raines et Bonfitto, 2004) whose body length is two millimeters less. The present new species is most similar to *Tonicia disalvoi* that also has similar sculpture of tegmentum and not pectinated insertion plates, but differs from the latter in having ribbed ventral scales (vs. smooth scales in *T. disalvoi*), posterior mucro (vs. anterior mucro in *T. disalvoi*), jugal and most part of central area smooth (vs. with small pits in *T. disalvoi*), and curved shape of intermediate valves (vs. broadly rectangular in *T. disalvoi*).

Genus *Onithochiton* Gray, 1847

T y p e s p e c i e s. *Chiton undatus* Quoy et Gaimard, 1835, non Wood, 1828 (=*Onithochiton neglectus* de Rochebrune, 1881) by subsequent designation by Gray, 1847.

Onithochiton maklayi Sirenko sp. nov.

Figs. 9–11, 12A

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T y p e m a t e r i a l. The holotype (ZISP 2305) now disarticulated, consisting of mount of part of girdle and radula, vial with valves, part of radula and part of girdle.

T y p e l o c a l i t y. Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks (R/V *Kallisto*, cruise 1, 03.01.1975, leg. B.I. Sirenko).

E t y m o l o g y. Named in honour of the Russian ethnographer Nikolay Miklukho-Maklay, who studied the populations of South-East Asia, Australia and Oceania, including the indigenous tribes of North-Eastern Papua New Guinea in Astrolabe Bay.

D i s t r i b u t i o n. Known only from the type locality.

M a t e r i a l e x a m i n e d. Papua New Guinea, Astrolabe Bay, Bilibili Island, R/V *Kallisto*, cruise 1, intertidal, rocks, holotype (ZISP 2305), BL 36.0 mm, 1 paratype (ZISP 2306), BL 35 mm, 03.01.1975, leg. B.I. Sirenko.

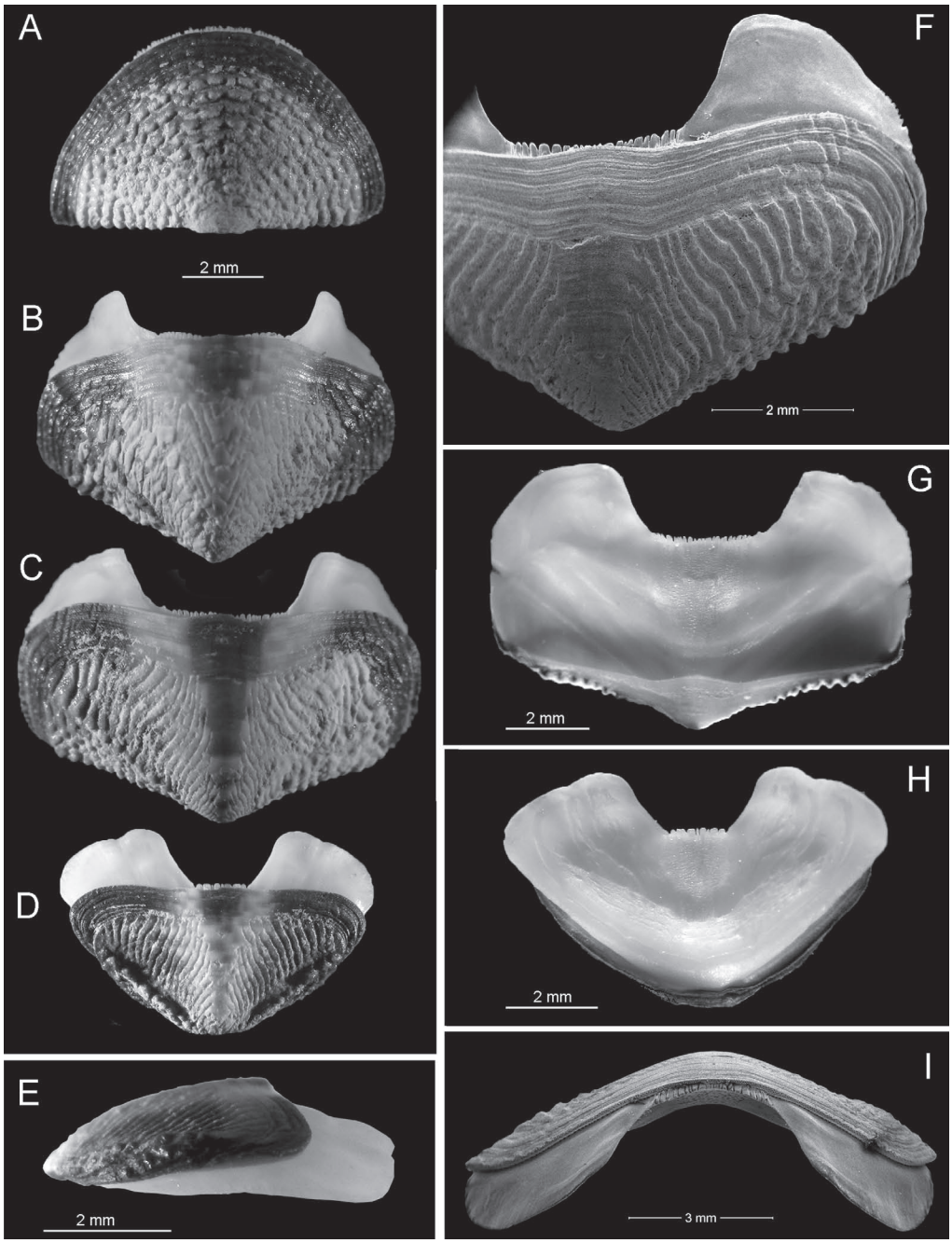

Fig. 9. *Onithochiton maklayi*, **holotype** (ZISP 2305), Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks, BL 36.0 mm. **A** – head valve, dorsal view; **B** – valve II, dorsal view; **C** – valve V, dorsal view; **D** – tail valve, dorsal view; **E** – tail valve, lateral view; **F** – valve IV, surface of tegmentum in central and lateral areas; **G** – valve VII, ventral view; **H** – valve VIII, ventral view; **I** – valve IV, rostral view.

D i a g n o s i s. Animal of medium size, shell rounded. Tail valve narrower than head valve. Tegmentum of head valve, lateral area of intermediate valves, and postmucronal area of tail valve with round or oval, convex pustules (up to 300–400 μm) more or less arranged in radial rows at least in head valve. Central area with flattened riblets along diagonal line arranged longitudinally at the sides, anteriorly converging towards the jugum; interstices in two times narrower than riblets. There are distinct growth lines in all areas near anterior and side margins. Dorsal side of girdle beset with sharp-topped spicules, with longitudinal ribs around and scattered smooth needles. Major lateral tooth bearing a cusp with two denticles the outer denticle large, blunt and much rounded, the innermost small and sharp.

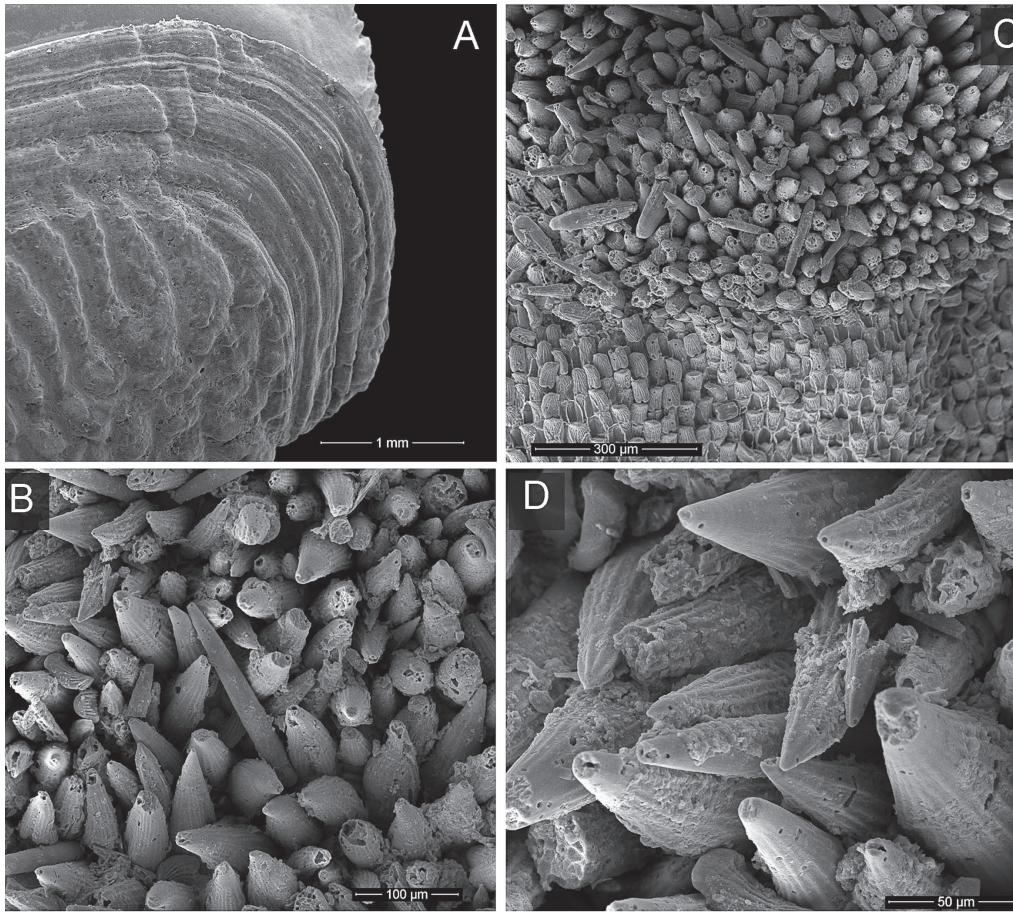

Fig. 10. *Onithochiton maklayi*, **holotype** (ZISP 2305), Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks, BL 36.0 mm. **A** – valve IV, surface of tegmentum in central and lateral areas; **B** – dorsal spicules and needles; **C** – dorsal spicules and needles, marginal needles and ventral scales; **D** – dorsal spicules.

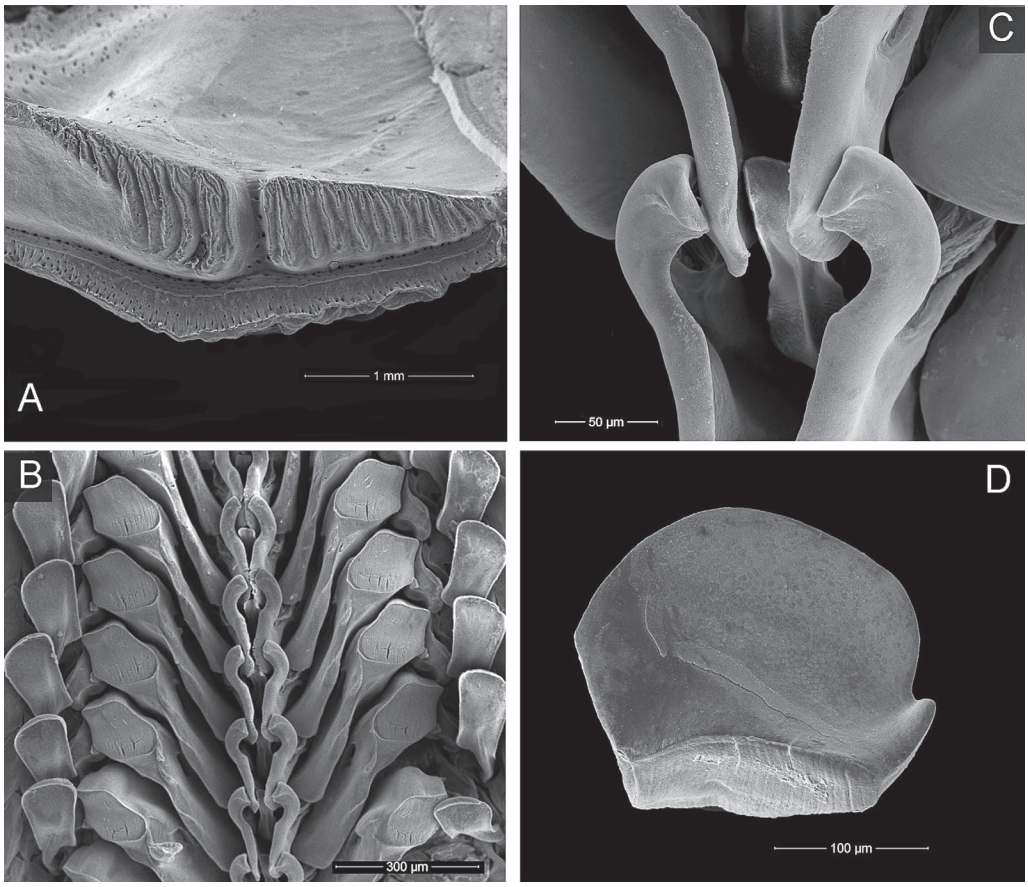

Fig. 11. *Onithochiton maklayi*, **holotype** (ZISP 2305), Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks, BL 36.0 mm. **A** – valve VIII, sculpture of insertion plates; **B** – radula; **C** – central and first lateral teeth of radula; **D** – head of major lateral teeth of radula.

D e s c r i p t i o n. The holotype 36.0x19.0 mm, elongated, oval, shell rather flat (dorsal elevation 0.25), rounded, slightly beaked. Color of tegmentum blackish-green in anterior margin of head valve, lateral and pleural areas of intermediate valves and hind margin of tail valve, other portion of central area and middle of head and tail valves yellow except red-brown in jugal area. Girdle yellow with reddish-brown spots.

Head valve semicircular, hind margin straight, Intermediate valves rectangular, front margin convex in valve II and concave medially, convex at the pleurae in other valves, hind margin beaked, straight to concave at both sides of the strongly, bluntly protruding apex, lateral areas not raised, Tail valve considerably narrower than head valve, triangular, the length almost half the width, front margin straight, hind margin angularly rounded, mucro terminal, antemucronal slope convex, postmucronal area restricted to a narrow strip on both sides of the terminal mucro.

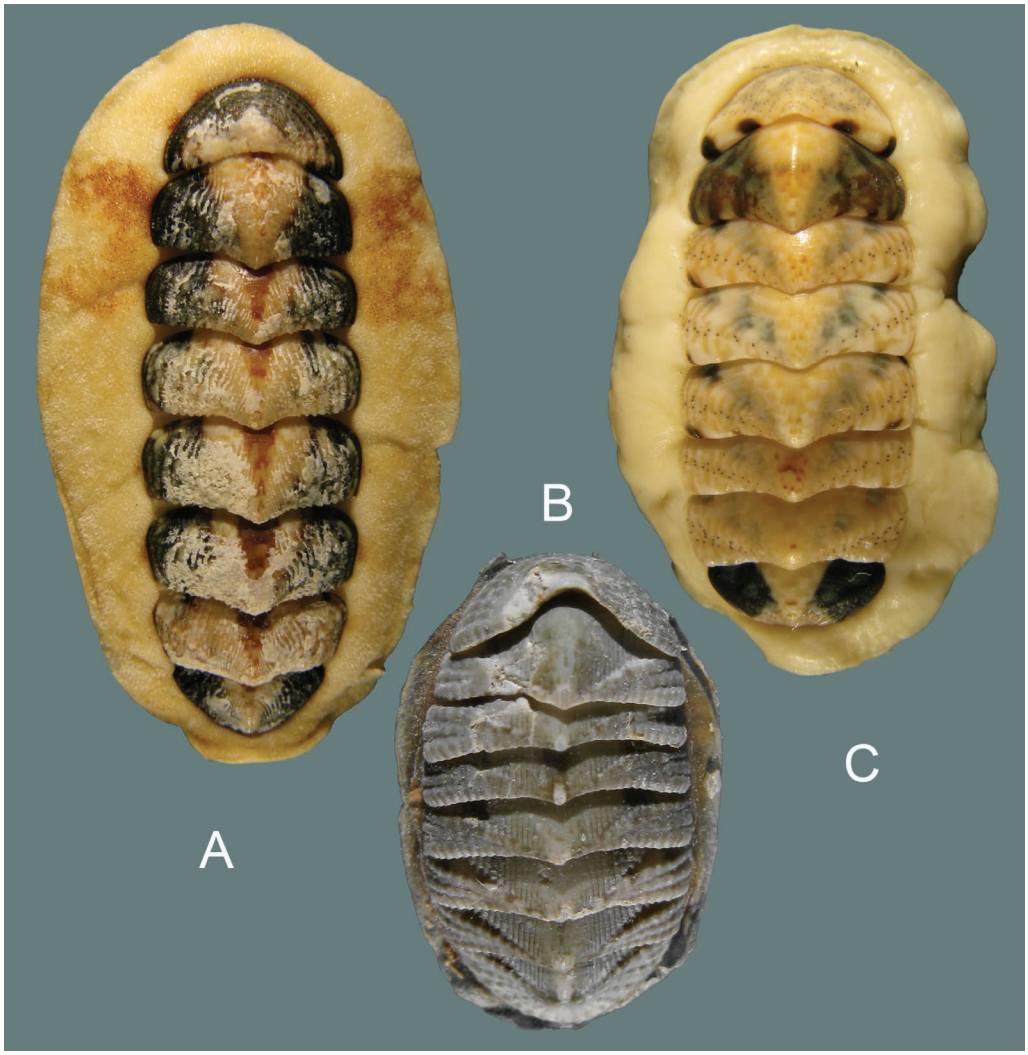

Fig. 12. Color images of species of genera *Onithochiton*, *Rhyssoplax* and *Lucilina*. **A** – *Onithochiton maklayi*, **holotype** (ZISP 2305), Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks, BL 36.0 mm; **B** – *Rhyssoplax venusta* (ZISP 2302), Papua New Guinea, Bismarck Archipelago, Manus Island, 1 m, BL 14 mm; **C** – *Lucilina insueta*, **holotype** (ZISP 2303), Papua New Guinea, Astrolabe Bay, Bilibili Island, intertidal, rocks, BL 20 mm.

Tegmentum of head valve, lateral area of intermediate valves and postmucronal area of tail valve with round or oval, convex pustules (up to 300–400 μm) more or less arranged in radial rows. Central area of intermediate valves and antemucronal area of tail valve with numerous flattish, longitudinal, forwardly converging ribs, interstices half as wide, ribs anteriorly converging, getting more fine and close set towards the very narrow, smooth jugum.

Articulamentum white with light brown in the middle, apophyses well rounded, separated by wide finely pectinated sinus (23 small, short denticles in valve V), insertion plates of head and intermediate plates pectinated. Slit formula 8/1/0 (callus), slit rays slightly indicated.

Girdle about 5.1 mm wide near valve V, dorsally covered with short, thick, sharp-topped spicules with 12–16 longitudinal riblets, 190–200x40 μm, among them randomly dispersed smooth needle 190x26 μm. Marginal spicules the same size. Ventral side of girdle covered with more or less rectangular scales with 18-20 distinct, distally converging riblets 60x28 μm.

Radula of the holotype 11.0 mm long with 42 transverse rows of mature teeth, central tooth somewhat pinched in the middle with rectangular blade, first lateral tooth twice longer than central tooth, cusp of major lateral tooth with two denticles, the outer denticle large, blunt and much rounded, the innermost small and sharp.

The holotype with 45 gills on both sides, extending from valve II to valve VIII.

R e m a r k s. The present new species much resembles Australian *Onithochiton quercinus* (Gould, 1846), South African *O. literatus* (Krauss, 1848) and Vietnamese *O. stracki* Sirenko, 2012, but differs from them by having bidentate cusp of major lateral tooth of radula (vs. tetracuspid in all three), tegmentum of head valve, lateral area of intermediate valves, and postmucronal area of tail valve with round or oval, convex pustules (vs. irregular, flattish, concentric rugosites or transversely elongate, flattish nodules in all three). *O. maclayi* sp. nov. differs also from *O. quercinus* by having less number of longitudinal riblets and wider interstices between the riblets in central areas of intermediate valves.

The new species differs from *O. lyellii* (Sowerby, 1832) and *O. neglectus neglectus* de Rochebrune, 1881 by having bidentate cusp of major lateral tooth of radula (vs. unicuspid cap in *O. neglectus neglectus* and tetracuspid cap in *O. lyellii*)

Discussion

The validity of the removal of subfamily Rapanuinae Dell Angelo, Raines et Bonfitto, 2004 and genus *Rapanui* Dell Angelo, Raines et Bonfitto, 2004 in the younger synonyms of the subfamily *Toniciinae* and genus *Tonicia* respectively [Sirenko, 2016], is confirmed by the finding of one more species of subfamily Toniciinae (*L. nemirkoae* sp. nov.) without pectination in insertion plates. At present time, we know of a few species from subfamily Toniciinae: *Onithochiton helenae helenae* (Mackay, 1933), *O. helenae vietnamensis* Sirenko, 2016, *T. disalvei* and *L. nemirkoae* sp. nov. in which the degree of pectination in the insertion plates varies until its complete absence in the last two species.

An interesting fact is also the presence of the callus rudiment in one of the new species of the genus *Lucilina*, *L. insueta* sp. nov., showing a very close relationship to species of genera *Onithochiton* and *Lucilina*, which differ only by the presence

of insertion plates in *Lucilina* or callus in *Onithochiton* and the location of mucro: posterior in *Lucilina* and terminal in *Onithochiton.*

In the annotated checklist of Polyplacophora of the New Guinea region presented by Schwabe [2006] he mentioned that *Onithochiton* sp. may be a new species, earlier reported for the New Guinea region as *O. lyellii* by Leloup [1981], and as *O undulata* Quoy et Gaimard, 1835 by Nierstrasz [1905a, b]. I agree with Schwabe [l.c.] because *O. undulata* is a younger synonym of *O. neglectus neglectus* that is endemic to the New Zealand region [Kaas et al., 2006], and *O. lyellii* inhabits only French Polynesia where it is a locally common species [Kaas et al., 2006]. It can be expected that many species from genera *Acanthochitona*, *Cryptoplax*, *Notoplax*, *Leptoplax*, *Callochiton*, *Ischnochiton*, *Rhyssoplax* and others will be found and described in the New Guinea region in the near future.

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