

On Some Noteworthy Marine Gastropoda from Southwestern Japan (II)

By

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After publishing the first report of this article, the writer could obtain further interesting specimens from Ensyu-nada, the sea off Kôchi Prefecture, and from Kikai Island, Miyako Island, Okinawa Island, etc. The specimens were offered to him for study from Mr. S. HAYASHI, Mr. K. NAKAYASU and the late Mr. E. KAWANISHI. The writer was given valuable suggestions and help from Dr. T. KURODA, Dr. T. HABE and Dr. A.J. KOHN during the course of this study. Here he expresses his cordial thanks to these gentlemen.

Gyriscus hayashii, sp. nov. ハヤシグルマ (新)

(Pl. 1, figs. 1-3)

Diagnosis: Shell small sized, trochoid, a little higher than wide, with deep suture and round whorls. Protoconch of one volution has smooth surface and teleoconch of five volutions becomes gradually larger toward aperture. There are many radial ribs which are finely granulated; about 10 ribs are seen on spiral surface of penultimate whorl. Umbilicus narrow and deep. Aperture subquadrate and with semicircular outer margin. Columella thin, a little twisted and lustred. Surface of shell light yellow and lustred.

Holotype: Stored in HAYASHI collection, gained by S. HAYASHI from Ensyu-nada; 11.0 mm high and 10.1 mm wide.

Remarks: In size and shell construction this species is very close to *jeffreysiana* TIBERI, the type species of *Gyriscus*, but distinguished from it by relatively low spire and more finely granulated ribs. *G. jeffreysiana* is known from the Mediterranean Sea.

Lampusia kikaiensis, sp. nov. クロフサツマボラ (新)

(Pl. 1, figs. 4, 5)

Diagnosis: Shell medium sized, similar to that of *aquatilis* REEVE in general outline and mode of colour band, but distinct from it by black blotches on inner lip, thick brown colour bands on varix, and by more nodulous radial ribs, etc. Spire high, turrated with 6 volutions and rugosely constructed. Protoconch depressed by erosion. Suture deep and shoulder not angulated.

Radial ribs moderate, 4 in penultimate volution and about 14 in ultimate one. There is an intermediate rib running between main radial ribs. Nodules on radial ribs more numerous than in *aquatilis*, but growth line obsolete as compared with that of *aquatilis*. Axial ribs relatively few and not so much distinct as in many species of *Septa*. Sutural line between penultimate and ultimate whorls undulated and a little oblique to axial line. Varix dense, rugose, finely tessellated, carrying two distinct brown bands on penultimate varix and four on ultimate one. Surface of shell lustred, rather smooth, white with light brown tint and with irregular blotching brown colouration. Outer lip sharply crested with fine crenulation and about 8 teeth which are divided into two parts by a median groove. There are about six inner teeth series inside of the marginal teeth series. Inner surface of aperture light yellowish orange and rather thick coloured between both teeth series. There are many white ridges on inner lip and groove between them on posterior half thick brown. Fasciole long and stout. Anterior canal deep and long, while posterior canal shallow and short.

Holotype: Stored in the writer's collection in the Geological Institute, Yokohama National University, gained from off Kikai Island, Amami-Oshima Group; 44.2 mm high and 22.7 mm wide.

Remarks: This species is closely related to *aquatilis* but smaller in size and distinct from it by several characteristics mentioned above.

Murex (s.s.) *kiiensis* KIRA forma *nagaidesu* SHIKAMA

オキナワツブリ (新)

(Pl. 1, figs. 6, 7)

Diagnosis: Spire relatively high as compared with typical form of *kiiensis*. Shell moderate in size, fusiform, turrated and with 8.5 volutions. Protoconch very small. Suture deep and shoulder whorl rather angulated. Varix distinct, rugose and thick with six short spines on last and penultimate ones. Spine of varix on shoulder long and runs upwardly. Three axial ribs between varices nodulous on shoulder. Brown radial striations running parallel to each other on whorl, about seven on penultimate and eleven on ultimate whorls. Between radial striations run many accessory radial striations of broken line with light brown colouration. Four spines project from proximal portion of siphonal tube. Inner and outer lips crested and very sharp.

Specimen described: Stored in the writer's collection in the Geological Institute, Yokohama National University, gained from South China Sea and brought via Formosa; 57.9 mm high and 26.9 mm wide; distal portion of siphonal tube broken off.

Remarks: This form is distinguished from the typical form of Japanese *kiiensis* by relatively higher spire, broken-lined accessory radial striations and unvaulted proximal portion of siphonal tube as seen in *kiiensis* (s.s.). *M.*

rectirostris SOWERBY may be allied to this species but is distinct from it by more slender and keel-like axial ribs and more straight siphonal tube.

Murex (Haustellum) gallinago SOWERBY, 1903 オガサワラツブリ

(Pl. 1, figs. 8, 9)

1903. *Murex gallinago* SOWERBY. Ann. Mag. Nat. Hist., vol. 12, p. 496.
 1906. *Murex gallinago* SOWERBY, BULOW. Nach. Bl. Deutschh. Mal. Ges., vol. 38, p. 199, pl. 4a, figs. 1a, b.
 1908. *Murex gallinago* SOWERBY, HIRASE. Conch. Mag. Jap., vol. 1, p. 19, pl. 1, fig. 5.
 1957. *Murex (Haustellum) gallinago*, SOWERBY, OYAMA. The Molluscan Shells, I, *Murex* (2).
 1958. *Murex (Haustellum) gallinago* SOWERBY, OYAMA. The Molluscan Shells, II, *Murex* (4).
 1965. *Murex gallinago* SOWERBY, KURODA. Chiribotan, vol. 3, no. 5, pp. 120-122, pl. 1, fig. A.

Original description: "Testa subclavaeformis, antice rostrata, postice conica, albida, transversim fulvo trifasciata; apira elata, acute coniba; anfractus 7, convexi, spiraler subacute lirati, longitudinaliter crassiplicati, trivaricosi, varicibus crassis elevatis rotundatis, hic illic brevissime spinosis; anfractus ultimus mediocriter convexus, varicibus inferne imbricato squamosis; rostrum elongatum, angustum, rectiusculum vel leviter recurvum; apertura rotunde ovalis, intus noduloso plicata; labrum acutum, crenulatum, columella tenuiter callosa. Long. 49, maj. diam. 22 millim. Hab. Hahajima Ogasawara."

Specimen described: Stored in the writer's collection at the Geological Institute, Yokohama National University, gained from off Miyako Island by coral net; adult specimen, unbroken, 80.8 mm high and 36 mm wide.

Shell moderate in size, with relatively low spire, large sized and stout last whorl and with long siphonal tube which is gently curved. Protoconch very small and teleoconch carries 8 volutions; apex cancellated, suture deep and shoulder angulated. Varix dense and thick with one short spine on shoulder. Anterior portion of varix of last whorl thin lamellated and finally crenulated. There are running 2 axial ribs. There are about 10 brown radial striations on penultimate whorl and about 16 striations on ultimate one. Dorsal side of proximal portion of siphonal tube a little vaulted. Aperture suboval. Outer and inner lips crescent-shaped and sharp and the former a little crenulated with many brown blotches. Surface of whorl rather rugose but that of distal portion of siphonal tube very smooth with brown bands. Shell white with light brownish tint; there are 3 brown coloured bands on last whorl and one brown colour band on penultimate whorl.

Remarks: SOWERBY distinguished this species from *malabaricus* SMITH by smaller size and few stronger axial ribs, and from *rectirostris* SOWERBY by unspined varix. The type specimen was gained in 1903 from the Bonin Islands and since then no specimen has been known from there except a

young shell illustrated by OYAMA. It was rather related to *hirasei* in outline. The shell illustrated by HIRASE was also a juvenile specimen. *M. kiiensis* is generally smaller in size, without colour bands of whorls and lamellated portion of varix. This species is nearer to *hirasei* than to *kiiensis* and carries spines on proximal portion of siphonal tube. KURODA illustrated an adult shell (68 mm high and 35 mm wide) from Okinawa and mentioned its close relationship with *kiiensis* KIRA. This species is nearer to *hirasei* than to *kiiensis* in general outline and proximal portion of siphonal tube without spines, but is nearer to the latter than the former in number of axial ribs, spined varix and colour bands of whorls. Both *kiiensis* and *hirasei* do not have lamellated portion of varix. *M. rectirostris* SOWERBY is also distinguished by more axial ribs (nearly 4 in last whorl) and unlamellated portion of varix. This specimen may be one of the finest specimens ever known.

Latiaxis (Baberomurex) spinaerosae, sp. nov. パライロカセン (新)

(Pl. 1, figs. 18-21)

Diagnosis: Shell small sized, subrhomboidal in outline and with long spines. In general aspect and construction, shell is rather like those of some form of *pagodus* A. ADAMS. Protoconch very small and white, with 2.5 volutions; teleoconch 5 in volution. Shoulder eminently angulated with long shoulder spines. Many fine radial striations on whorl surfaces and 2 rows of short spines seen between shoulder of last whorl and fasciole. Eight shoulder spines of last whorl very narrow, long, curved and projecting upward. Shell surface light orange in colour, while all spines and fasciole light purplish red. Columella rather long and fasciole narrow with small and deep umbilicus. Aperture subtriangular and canal long, narrow and curved.

Types: Stored in the writer's collection at the Geological Institute, Yokohama National University, gained from a coral fisherman of Kashiwajima Island, SW Kôchi Prefecture; larger shell 20.4 mm high and 21.8 mm wide; smaller one 18.2 mm high and 21.6 mm wide.

Remarks: This species is similar to *pagodus* A. ADAMS in external appearance, but is distinguished from it by rugose surface of shell, its orange colouration and purplish red spines of fasciole. *L. ricinuloides* SCHEPMAN known from the SIBOGA Expedition Station 257 (Kei Island) may be allied to this species in external appearance, but is distinguished from it by 4 distinct radial ribs between shoulder and fasciole. This beautiful species is rather rare.

Latiaxis (Baberomurex) nakayasui, sp. nov. ナカヤスカセン (新)

(Pl. 1, figs. 10-13)

Diagnosis: Shell medium sized, rhomboidal, with relatively large last whorl. Spire turrated, and suture rather deep; shoulder distinctly angulated

with many narrow shoulder spines. Many distinct radial ribs with short spines. Seven to ten radial ribs seen between fasciole and shoulder. Nine to eleven shoulder spines of last whorl narrow and acutely projected. Shell surface white or orange in colour while shoulder spine and marginal spines of fasciole purplish red. Fasciole not broad but umbilicus relatively wide and deep. Aperture subquadrate; canal deep and narrow.

Types: Stored in the writer's collection at the Geological Institute, Yokohama National University, gained from a coral net fisherman of Kashiwajima Island, SW Kôchi Prefecture. Larger one of white colouration, 31.6 mm high and 21.3 mm wide. Smaller one of orange colouration 23.3 mm high and 18.8 mm wide.

Remarks: This beautiful species is closely related is *tosanus* HIRASE in general aspect and construction, but is distinguished from it by narrower shoulder spines, wider umbilicus and red coloured marginal spines of fasciole, etc. In *tosanus* there are intermediate accessory radial ribs running between main radial ribs of the region between shoulder and fasciole, but in this species they are absent or very obsolete. In the respect of numerous sharp spines between shoulder and fasciole *L. echinata* AZUMA may come near this species, but the spines are more eminent and longer than in this species. This species is rather rare.

Conus (Virroconus) tenuisulcatus SOWERBY, 1870 サザナミイモ (新)

(Textfigs. 1, 2)

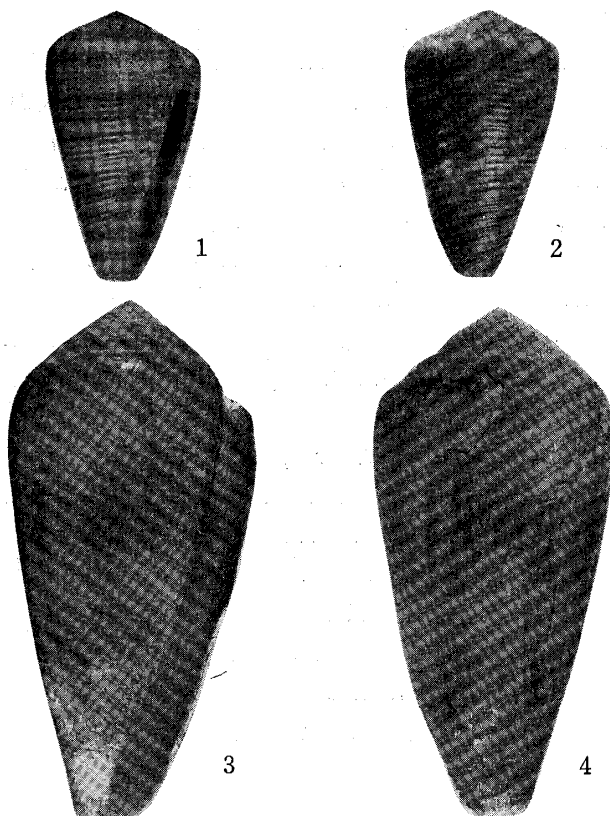
1870. *Conus tenuisulcatus* SOWERBY. P.Z.S. 1870, p. 256, pl. 23, fig. 10.

1964. *C. (Virroconus) tenuisulcatus* SOWERBY, MARSH & RIPPINGALE. Cone Shells of the World, p. 29, pl. 3, fig. 26.

Specimen described: An adult shell stored in the writer's collection at the Geological Institute, Yokohama National University, gained from Amami-Oshima Island; 31.1 mm high and 17.3 mm wide.

Shell medium sized, conical, not elongate, thick, with low spire and tuberculated shoulder. Lateral margin of spire gently curved and apex of spire gently curved and apex of spire not much projected upward. Spire white and with many tubercles on last whorl. Teleoconch has about 5-6 volutions. Surface of last whorl thick brown and have many eminent radial grooves; ridges brown and grooves whitish grey or brownish grey. Radial grooves and ridges undulated near shoulder. Region of tuberculated shoulder white in colouration. Aperture narrow and inside of it violet. Columella region straight.

Remarks: This species is widely distributed from Great Barrier Reef to Mariana Islands, though its type locality of SOWERBY's description is uncertain. Now it became known to be distributed farther westward to Southwestern Japan. *C. imperator* WOOLACOTT may be allied, but it has purplish brown



Textfigs. 1, 2. *Conus (Virroconus) tenuisulcatus* SOWERBY. $\times 1$.

Textfigs. 3, 4. *Conus (Chelyconus) wistaria*, sp. nov. $\times 1$.

spire and surface of last whorl, and stronger and coarser radial ridges. *C. balteatus* SOWERBY may be a junior synonym of this species.

Conus (Chelyconus) wistaria, sp. nov. フジイロイモ (新)

(Textfig. 3, 4)

Diagnosis: Shell elongatoconical, not thick and has round shoulder. Spire moderate in height and with straight lateral line. Teleoconch has 7 volutions. Suture rather deep and surface of spire carries many fine radial striations. Protoconch white in colouration. Surface of last whorl very smooth except growth lines and purely light violet without any blotches. There are 7 radial striations running at regular intervals on whorls surface above fasciole, which is white and a little twisted. Two distinct colour bands run on surface. Aperture narrow, deep and inner surface beautiful purple.

Holotype: An adult shell stored in the writer's collection at the Geological Institute, Yokohama National University, gained from Bungo Channel; 60.5 mm high and 28.7 mm wide.

Remarks: This form is distinguished from *fulmen* REEVE or *kirai* KURODA by perfect absence of colour blotches, eminent threadlike radial lineation,

white protoconch and by more distinct radial striations on spire, etc. *C. kinoshitai* KURODA also may be allied in spire, white protoconch, eminent radial striation of spire and purple inner surface of aperture, but is separated from this species by distinct brown blotches and more straight fasciole.

Conus (Pionoconus) tosaensis, sp. nov. トサイモ (新)

(Pl. 1, figs. 22, 23)

Diagnosis: Shell medium sized, thick, conical and with high spire. Teleoconch 8 in volution, stepped and with eminently angulated shoulder. Ten radial grooves running in anterior portion of last whorl; groove narrow and deep. Whorl surface smooth and that of last whorl pinkish becoming thicker anteriorly. White colour band running at three-fifth length from shoulder. Just above this white band, there is a thin band of brown dotted blotches. Surface of spire white with light reddish tint. The last and penultimate shoulders have brown spots.

Holotype: An adult shell stored in the writer's collection at the Geological Institute, Yokohama National University, gained from Tosashimizu, Kôchi Prefecture; beach specimen, 29.5 mm high and 15.2 mm wide. Rare.

Remarks: *C. (Pionoconus) suturatus* REEVE may be near this species but is distinct by lower spire, absence of brown spots on spire and by more obsolete radial grooves.

Conus (Rhizoconus) sazanka, sp. nov. サザンカイモ (新)

(Pl. 1, figs. 24, 25)

Diagnosis: Shell medium sized, conical, not elongate, with low spire and acutely angulated shoulder. Lateral margin of spire gently concave, but apex not so much projected. Teleoconch 8 in volution and suture a little depressed. Lateral margin of last whorl almost straight and its surface very smooth. Few obsolete radial ribs seen on fasciole. Aperture relatively narrow. Surface of last whorl light orange in colour with a faint white colour band in the middle. Fasciole and basal tip white. Spire beautiful light pink with orange coloured spots.

Holotype: An adult shell stored in the writer's collection at the Geological Institute, Yokohama National University, gained from SW Kôchi Prefecture; beach specimen, 38.7 mm high and 21.4 mm wide. Rare.

Remarks: *C. (R.) coffea* GMELIN is near this species but is distinct from it by brown spots on spire and many final radial lineation on last whorl. In general, *coffea* has higher spire than in this species. In colouration *C. (R.) pertosus* HWASS may be near this species but is distinct by more rounded shoulder, higher spire and white blotches on last whorl.

Conus (Darioconus) elisae KIENER, 1849-50 エリーゼイモ (新)

(Pl. 1, figs. 26, 27)

1845. *Conus elisae* KIENER. Sp. Gen. Coq. Viv. 2, p. 341, pl. 64, figs. 1, 1a.
 1926. *Conus eumitus* TOMLIN. Ann. Natal Mus., vol. 5, p. 288.
 1962. *Conus elisae* KIENER, KOHN & WEAVER. Haw. Shell News, vol. 1, no. 16.
 1964. *Conus eumitus* TOMLIN, S. BOSWELL. Haw. Shell News, vol. 2, no. 11, p. 7.
 1964. *Conus elisae* KIENER, MARSH & RIPPINGALE. Cone Shells of the World, pp. 104-105, pl. 13, fig. 7.

Specimen described: Two shells stored in the writer's collection at the Geological Institute, Yokohama National University, gained from Nago, Okinawa, Island; larger one 34.8 mm high and 16.7 mm wide; smaller one 30.3 mm high and 14.1 mm wide. Beach specimens eroded and faded in colouration. Shell rather small, conical and not thin. Spire not high and teleoconch carries 7 volutions. Shoulder of last whorl gently angulated but not nodulous. Aperture relatively wide especially in anterior portion. Surface of whorl smooth but has feeble radial ribs on fasciole. There are many axial lineations of brown colour which are irregularly and minutely crenulated. On the portion near outer lip small scaled tent marking seen instead of axial lineations. Also there are two brown colour bands on last whorl. Not rare.

Remarks: Compared with a shell from East Africa, the shells on hand are relatively narrower, but in other characteristics they are almost undistinguishable from the former. *C. eumitus* TOMLIN may be a junior synonym of *C. elisae* KIENER. K. BARNARD, 1956 regarded *eumitus* as conspecific with *panniculus* LAMARCK which is treated by R.T. ABOTT as a junior synonym of *abbas* HWASS. The axial lineation of *abbas* is irregular or obsolete partially and distinguished from the clear thread like lineation of *elisae*. *C. sindon* REEVE is distinct from this species by brown ground colouration and few wide axial lineation of last whorl. There is no clear distinction between the East African and Hawaiian forms of this species. The occurrence of this species in Okinawa is rather noteworthy, being situated between East Africa and Hawaii.

Hermes kawanishii, sp. nov. カワニシイモ (新)

(Pl. 1, figs. 28, 29)

Diagnosis: Shell elongate cylindrical, becoming gradually narrower forward. Spire very low, trochoidal and teleoconch has 9 volutions. Whorl moderately convex and suture a little deep. Aperture long and narrow. Many radial fine ribs running on whorl surface. Shell surface delicately cancellated by radial ribs and growth lines. Surface pure white and radial ribs greyish in colour. Radial lines dotted with brownish orange colouration, lines of larger dots and smaller dots in alternation. Radial ribs become stronger at

fasciole.

Holotype: Stored in the writer's collection at the Geological Institute, Yokohama National University, offered by KAWANISHI; precise locality unknown; 36.4 mm high and 13.4 mm wide.

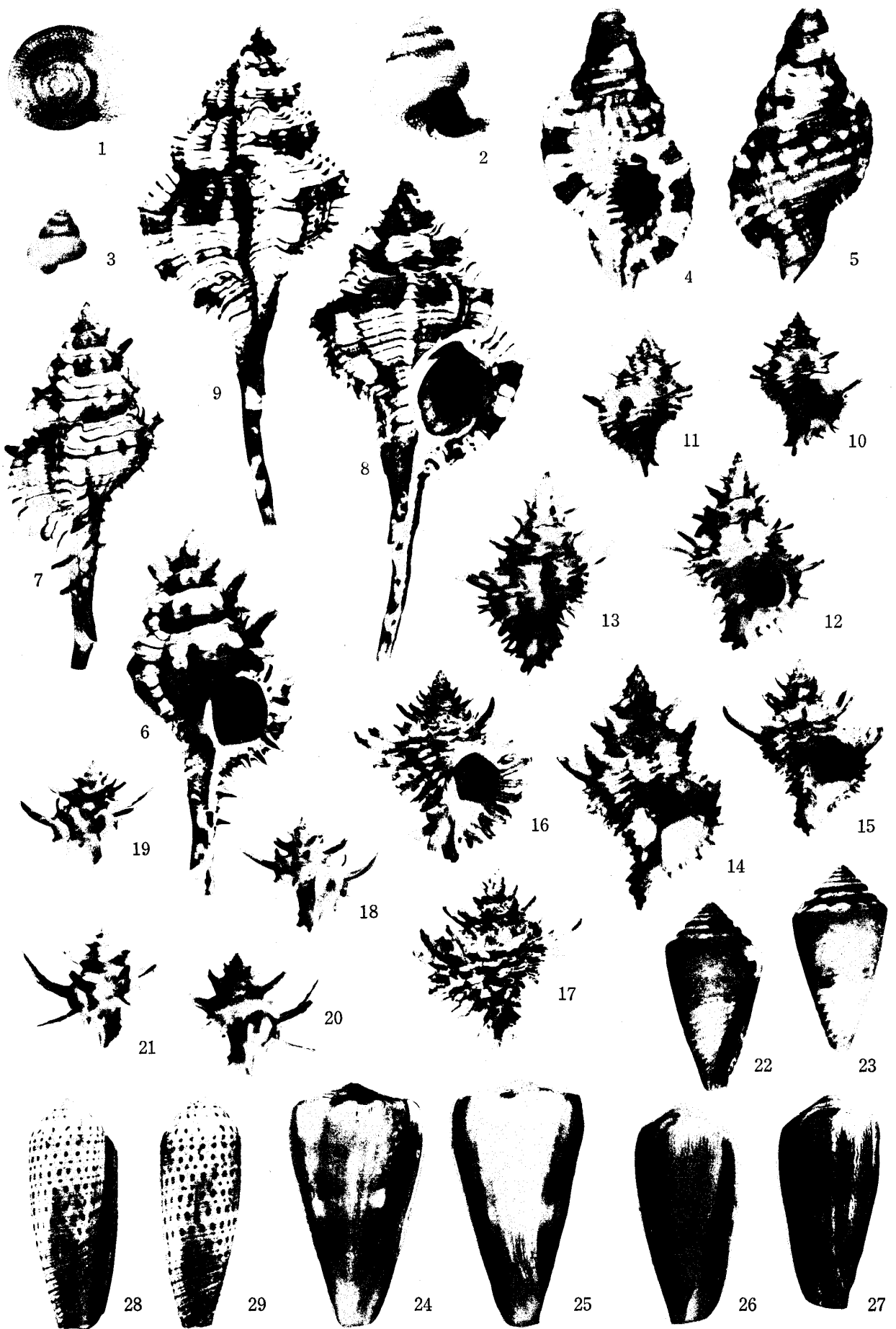
Remarks: This unique species is related to *nussatella* L., but is clearly distinct from it by regular radial ribs, uniform colouration of whorl without irregular colour blotches, and by alternate arrangement of dotted lines, large and small. In *nussatella*, radial ribs are stronger than those of this species.

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Explanation of Plate 1

- Figs. 1-3. *Gyriscus hayashii*, sp. nov. Figs. 1, 2. $\times 2$; Fig. 3. $\times 1$.
Figs. 4, 5. *Lampusia kikaiensis*, sp. nov. $\times 1$.
Figs. 6, 7. *Murex* (s. s.) *kiiensis* KIRA forma *nagaidesu* SHIKAMA. $\times 1$.
Figs. 8, 9. *Murex* (*Haustellum*) *gallinago* SOWERBY. $\times 1$.
Figs. 10, 11. *Latiaxis* (*Baberomurex*) *nakayasui*, sp. nov. $\times 1$.
Figs. 12, 13. Ditto, $\times 1$.
Figs. 14-17. *Latiaxis* (*Baberomurex*) *tosanus* HIRASE. $\times 1$. Figs. 16, 17 are the same shell.
Figs. 18, 19. *Latiaxis* (*Baberomurex*) *spinaerosae*, sp. nov. $\times 1$.
Figs. 20, 21. Ditto, $\times 1$.
Figs. 22, 23. *Conus* (*Pionoconus*) *tosaensis*, sp. nov. $\times 1$.
Figs. 24, 25. *Conus* (*Rhizoconus*) *sazanka*, sp. nov. $\times 1$.
Figs. 26, 27. *Conus* (*Darioconus*) *elisae* KIENER. $\times 1$.
Figs. 28, 29. *Hermes kawanishii*, sp. nov. $\times 1$.



Ozaki photo.