

The Taiwan Inquisitors (Gastropoda: Turridae)

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Chen-Kwoh Chang and Wen-lung Wu (2000) The Taiwan Inquisitors (Gastropoda: Turridae). *Bulletin of Malacology, Taiwan, ROC*, 24:13-26. Twenty nine species of Genus *Inquisitor* from Taiwan Waters are reported with synonymy, diagnosis, distribution, dimension, remarks and colored pictures. Among them, one new species, *Inquisitor taivaricosa* and 22 species are new records of the Taiwan Inquisitors.

Key Words: *Inquisitor*, *Brachytoma*, Turridae, new record, n. sp., Taiwan.

INTRODUCTION

Inquisitor and *Brachytoma* of turrids are distributed in Indo-Pacific. *Inquisitor* are mainly found in West Pacific from Australia to Japan and South African Waters. *Brachytoma* are mainly found in Tropical Indian Ocean from Oman, India to South China Sea. Taiwan is located at the middle of the West Pacific Link and near the end of the Tropical Indian Ocean Link. Taiwan is also located in the subtropical zone between the Philippines and Japan. Hence, a lot of *Inquisitor* and some *Brachytoma* from both temperate zone and tropical zone are available in Taiwan Waters.

The separation of *Inquisitor* and *Brachytoma* is the first problem to be solved when Family Turridae is separated into Families Turridae, Clavidae, Pseudomelatomidae and Mangeliidae (Chang 1995). *Inquisitor* and *Brachytoma* have similar protoconch and shell morphology, both Thiele (1929-1935) and Powell (1966) put them as synonymy.

Some *Brachytoma* like *suturalis* (Gray) have radulae, awl-shape without barbs with two nearly equisize limbs joined to form a central channel. Kilburn doubted that the teeth may be modified wishbone teeth (Taylor *et al.* 1993). If so, both *Inquisitor* and *Brachytoma* should be combined together into a single group.

There are many genera such as *Inquisitor*, *Funa*, *Pseudoinquisitor*, *Brachytoma*, *Ptychobela* and *Compsodrillia* (*Mammilaedrillia*) used for the group of shells whose conchological features are listed as follows:

1. Shell, medium sized, 11-65mm, elongate fusiform with tall spire of comparatively light built,
2. Sculpture of strong axials crossed by spiral cords and threads below a concave shoulder sulcus. Subsutural cord, strong, weak or obsolete.
3. Aperture, narrowly ovate-pyriform contracted narrowly below to a short to moderately long anterior canal. Outer lip, thin with more or less a stromboid notch at the lower part,
4. Sinus, U-shaped on shoulder slope with a parietal callus pad. A dorsal varix, apart, near or at the sinus,
5. Protoconch, conical of up to 5 smooth whorls, usually 2-3 whorls,
6. Color, white, yellow to chocolate, mostly yellow, and
7. Operculum, leaf-shaped with terminal nucleus.

The type of radula of these species may be modified duplex or tubular, toxoglossate-like. Thiele (1929) located these shells under subfamily Brachytominae (now belonging to Mangeliidae). Powell (1966) put them under subfamily Clavinae (now Clavinae + Crassispirinae). In 1988, Kilburn put those having modified duplex radula into subfamily Crassispirinae and in 1989, he found that the tubular radula of some shells are formed from two components, a form of modified duplex type, not true

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Toxoglossate type (Kilburn 1988, 1989). Hence, Taylor *et al.* (1993) placed this group of shells under subfamily Crassispinae of Family Turridae but not under his Conidae (Mangeliidae + Conidae).

It is so hard to separate those above mentioned genera that many different genera have been used for a single species usually by the previous authors. In this paper, we prefer use *Inquisitor* for all the other genera (*Funa*, *Pseudoinquisitor*, *Brachytoma*, *Ptychobela*, *Compsodrillia* and *Mammilaedrillia*).

MATERIALS and METHODS

After detail checking and comparison the shell collections and literature in the Malacology Lab., the Institute of Zoology, Academia Sinica, Dr. C. K. Chang and some members of the Malacological Society of Taiwan, ROC, 29 species of Genus *Inquisitor* from Taiwan Waters are reported with synonymy, diagnosis, distribution inventory, dimension remarks and colored pictures.

RESULTS and DISCUSSION

Only 5 species of *Inquisitor* were recorded from Taiwan area, such as *flavidula*, *jeffreysii*, *kurodai*, *kawamurai* and *vexillum* (Kuroda 1941, Habe and Kosuge 1966). In this paper, we reported 22 new records and one new species of *Inquisitor* from Taiwan area, totally, 28 species of *Inquisitor* could be found in the Taiwan waters.

The list of Taiwan *Inquisitor*

1. *Inquisitor flavidula* (Lamarck, 1822) 玉米捲管螺 (Fig. 1a)

Synonym and Records:

Pleurotoma flavidula Lamarck, 1822 in Reeve (1843):66.

Brachytoma flavidula (Lamarck, 1822) in Kuroda (1941):126; in Kira (1959):91.

Inquisitor flavidula (Lamarck, 1822) in Powell (1966):80.

Ptychobela flavidula (Lamarck, 1822) in Springsteen and Leobrera (1986):268.

Diagnosis: Shell, fusiform with a tall spire and a moderately long anterior canal; 11+ mature whorls, sculptured with longitudinally rather obliquely rounded axials, 12-14 axials on penultimate whorl, spiral cords knobbed on axials, subsutural cord, weak and beaded. Color, usually yellow. A variation form of *I. flavidula* from Ta-li, I-land Co., Northeast Taiwan in Fig. 1b having wider aperture and weaker spirals but not forming knobs on axials.

Distribution: off Kaohsiung City, southwest Taiwan at depth of about 50m and Ta-li, I-land Co., northeastern Taiwan. It is common found from Japan, Taiwan, the Philippines to Australia.

Dimension: 45x13.5mm and 41x11mm (variation form).

Remarks: The specimen with variation (Fig. 1b) of *I. flavidula* belongs to Mrs. HT Sun-Chang's collection. This variation form could be a new species.

2. *Inquisitor angustus* Kuroda et Oyama, 1971 高塔玉米捲管螺 (Fig. 2)

Synonym and Records:

Inquisitor angustus Kuroda et Oyama, 1971 in Kuroda (1971):pl. 56.

Diagnosis: Shell looks like *I. flavidula* but having (a) taller spire with 13+ mature whorls and shorter aperture proportionally, (b) axials raised leaving broader interspace.

Distribution: North coast of Taiwan at depth of 120m. Its fatherland is Sagami Bay, Japan.

Dimension: 60.4x16.4mm.

Remarks: New record of Taiwan.

3. *Inquisitor jeffreysii* (Smith, 1875) 傑氏玉米捲管螺 (Fig. 3)

Synonym and Records:

Pleurotoma (Drillia) jeffreysii Smith, 1875 in Smith (1875):417.

Brachytoma jeffreysi (Smith, 1875) in Kuroda (1941):126.

Inquisitor jeffreysii (Smith, 1875) in Shikama (1964):127; in Habe and Kosuge (1967):100.

Diagnosis: Shell looks like *Inquisitor flavidula* but having (a) shorter axials, stronger at periphery, about 10 axials on penultimate whorl, (b) spiral cords not forming knobs on axials, (c) no subsutural cord. Color, yellow or white.

Distribution: off Kaohsiung City, southwest Taiwan at depth of about 50m. It is common from Japan, the Philippines to Australia.

Dimension: 57x19mm.

Remarks: *Inquisitor jeffreysii* in Okutani (1975) could be *I. flavidula*.

4. *Inquisitor latisinuata* (Smith, 1877) 中華玉米捲管螺 (Fig. 4)

Synonym and Records:

Pleurotoma (Drillia) latisinuata E. A. Smith, 1877 in Smith (1877):494.

Diagnosis: Shell with subturreted spire; 10 mature whorls, with shoulder, angulate and sulcus, concave, broad, irregularly streaked; sculptured of rounded axials and spiral cords and threads with two prominent, whitish spiral cords on each whorls; 10-11 axials on penultimate whorl. Color, light brown with two whitish spiral cords.

Distribution: It is common in southwest Taiwan at about 50m depth. Its fatherland is China and it is also found in New Guinea.

Dimension: 54x19mm.

Remarks: New record of Taiwan. This common shell was not recorded in Japanese literature. Thanks for Dr. Kilburn's identification.

5. *Inquisitor laterculoides* (Barnard, 1958) 南非玉米捲管螺 (Fig. 5)

Synonym and Records:

Drillia laterculoides Barnard, 1958 in Barnard (1958):129.

Funa laterculoides (Barnard, 1958) in Kilburn (1988):269.

Diagnosis: Shell with tall spire and short anterior canal, obliquely truncate; protoconch, 3+ convex smooth whorls and 9 mature whorls, convex with sutures, impressed; sculptured of rounded axials, stronger at shoulder overriding spiral cords and threads bearing two whitish transverse nodules on axials each whorl; about 10 ribs on penultimate whorl; no distinct subsutural cord. Aperture narrowly pyriform; outer lip, thin with varix at the U-shaped sinus. Color, yellow.

Distribution: off Ta-li, I-land Co., northeast Taiwan. It occurs in South Africa at 50-200m in depth.

Dimension: 23x6.5mm.

Remarks: New record of Taiwan Malacofauna.

6. *Inquisitor parculathrata* Kuroda, 1981 肥粗玉米捲管螺 (Fig. 6)

Synonym and Records:

Inquisitor parculathrata Kuroda, 1981 in Eisenberg (1981):pl.132.

Diagnosis: Shell, light brown, broad fusiform. It is distinguished from *Inquisitor flavidula* by (a) its broad form with subturreted spire, (b) axials raised, not so oblique as *I. flavidula*, (c) no subsutural cord, (d) aperture, broader. The immature shell in Fig. 6b is similar to this shell but with shorter body whorl contracted to a narrow anterior canal. Its sinus, dorsal varix and pariental callus pad are not developed well yet.

Distribution: off Kaohsiung City, southwest Taiwan at depth of 80m and Ta-li, I-land Co., northeast Taiwan. This shell was found in Japan (Eisenberg 1981).

Dimension: 58x20mm and 48x15.5mm (immatured specimen).

Remarks: New record of Taiwan Malacofauna. This shell is scarcely found in Japanese literature.

7. *Inquisitor vulpionis* Kuroda et Oyama, 1971 角玉米捲管螺 (Fig. 7a)

Synonym and Records:

Inquisitor vulpionis Kuroda et Oyama, 1971 in Kuroda (1971):pl. 56.

Diagnosis: Shell, fusiform with a tall subturreted spire; 12 mature whorls, with broad concave sulcus irregularly streaked; sculpture of raised axials, stronger at periphery, not reaching bottom; about 10 ribs on penultimate whorl; crossed by spiral cords; subsutural cord, not conspicuous. Aperture, narrow with a short, truncated anterior canal; inner lip, heavily calloused. Color, yellow with brown spots and streaks. A variation of *Inquisitor vulpionis* as Fig. 7b has a similar shape and sculpture but glossy and colored white with reddish brown band on each whorl.

Distribution: off Kaohsiung City, southwest Taiwan at depth of 50m and Ta-li, I-land Co., northeast

Taiwan. This species original reported in Sagami Bay, Japan (Kuroda 1971).

Dimension: 44x15mm and 40x14mm (variation form).

Remarks: New record of Taiwan Malacofauna. The specimen with variation belongs to Mrs. HT Sun-Chang's collection.

8. *Inquisitor nodivaricosus* Kuroda et Oyama, 1971 單帶玉米捲管螺 (Fig. 8)

Synonym and Records:

Inquisitor nodivaricosus Kuroda et Oyama, 1971 in Kuroda (1971):pl. 56.

Diagnosis: Shell, elongate fusiform with a tall, subturreted spire; 10 mature whorls, flatly convex with concave sulcus below a narrow, beaded subsutural cord; sculpture of rounded axials overriding spiral cords and threads; about 12 axials on penultimate whorl. Color, light brown with a whitish spiral cord below shoulder on each whorl. It differentiates from *Inquisitor vulpionis* in having (a) more and longer axials, (b) a conspicuous narrow subsutural cord, (c) a whitish spiral cord below shoulder.

Distribution: off Kaohsiung City, southwest Taiwan at depth of 50m. Its fatherland is Sagami Bay, Japan.

Dimension: 46x17.5mm.

Remarks: New record of Taiwan Malacofauna.

9. *Inquisitor interrupta* (Lamarck, 1822) 皺頸玉米捲管螺 (Fig. 9)

Synonym and Records:

Pleurotoma interrupta Lamarck, 1822 in Reeve (1843):51.

Pleurotoma (Drillia) interrupta Lamarck, 1822 in Kobert and Weinkauff (1887):129.

Diagnosis: Shell, slender biconic with a tall subulate spire; protoconch of 3 convex smooth whorls; 9 mature whorls, flat with a shallow concave sulcus below a weakly nodulous subsutural cord; sculpture of raised whitish axials, stronger at periphery with broad, brown interspace; about 10 ribs on penultimate whorl; spirals, weak but becoming stronger from the middle of body whorl to the bottom.

Distribution: off Ta-li, I-land Co., northeast Taiwan and its fatherland is Molucca.

Dimension: 28x8.7mm.

Remarks: New record of Taiwan Malacofauna.

10. *Inquisitor tuberosa* (Smith, 1875) 強頸玉米捲管螺 (Fig. 10)

Synonym and Records:

Pleurotoma tuberosa Smith, 1875 in Smith (1875):418.

Brachytoma tuberosa (Smith, 1875) in Habe (1961):76.

Inquisitor tuberosa (Smith, 1875) in Habe and Kosuge (1967):97.

Diagnosis: Shell with a tall spire and short anterior canal; apex, domed and 11 mature whorls, sculpture of strong axials overriding spiral threads; 11 ribs on penultimate whorl; subsutural cord, strong, nodulous. Color, whitish with brown intervals and an apparent white band below the middle of body whorl.

Distribution: off North Taiwan at depth of 10-20m. Its fatherland is Japan.

Dimension: 25x7.5mm.

Remarks: New record of Taiwan Malacofauna.

11. *Inquisitor aesopus* (Sculpman, 1913) 長脊玉米捲管螺 (Fig. 11)

Synonym and Records:

Drillia aesopus Sculpman, 1913 in Powell (1966):158.

Crassispira aesopus (Sculpman, 1913) in Powell (1966):76.

Inquisitor aesopus (Sculpman, 1913) in Shuto (1970):63; in Kilburn (1988):261.

Diagnosis: Shell, fusiform with tall spire and moderately long anterior canal; 11-12 mature whorls, with a strong subsutural cords of sharp nodules; sculpture of crested axials from concave sulcus to sutures and bottom overriding spiral threads; about 12 ribs on penultimate whorl. Outer lip, thin with dorsal varix apart from sinus. Color, whitish ribs, nodules but reddish brown at the interspace;

an additional whitish band below the middle of the last whorl. This shell looks like *I. nodicostatum*, but having (a) longer anterior canal, (b) weaker spirals and 1-2 secondary spiral between primary spirals, (c) parietal tubercle smaller, not overhanging the outer lip.

Distribution: off Kaohsiung City, southwest Taiwan at depth of 50-100m. It is distributed in South Africa, Taiwan and Solomon Is.

Dimension: 34x11.5mm.

Remarks: New record of Taiwan Malacofauna.

12. *Inquisitor gracilispira* (E. A. Smith, 1879) 長尾玉米捲管螺 (Fig. 12)

Synonym and Records:

Defrancia gracilispira E. A. Smith, 1879 in Smith (1879):pl. XIX.

Diagnosis: Shell, elongate fusiform with body whorl and anterior canal as tall as the spire; sculpture of vertical axials, weaker towards bottom overriding numerous spiral cords and threads; about 12 axials on penultimate whorl; no subsutural cord but numerous spiral threads on the sloping sulcus. Aperture, narrow with a short, oblique notched anterior canal; outer lip, thin, tooth-like with a strong, dorsal varix at sinus. Color, yellow. It looks like *Inquisitor parculathrata* but having (a) longer slender body whorl, (b) narrower aperture, and (c) more spiral cords and threads.

Distribution: off Ta-li, I-land Co., northeast Taiwan.

Dimension: 30x9mm.

Remarks: New record of Taiwan Malacofauna. This is an uncommon shell. The specimen is kept in Mr. YC Lee's collection.

13. *Inquisitor* sp. A 白玉玉米捲管螺 (Fig. 13)

Diagnosis: Shell having a tall spire and a short, truncated anterior canal. It looks like *Inquisitor vexitamina* shell but it has a rather large parietal callus pad under the end of suture. It has protoconch of 2-3 smooth whorls; 10 mature whorls, convex; subsutural cord, weak on the last two whorls but distinct on earlier whorls; sculpture of short oblique axials below sulcus; 10-11 axials on penultimate whorl; nearly smooth between axials but with microscopical spiral striae on the last two whorls. Aperture, narrowly ovate; outer lip, thin with a strong dorsal varix near the apex of the U-shaped sinus; anterior canal, short, notched, oblique to right. Color, white. It looks like *I. dampieria*, but (a) shell has a taller and more slender spire, (b) shell is nearly smooth while the *I. dampieria* has apparent spiral grooves in sculpture, and (c) this shell is off white while the *I. dampieria* is livid-brown.

Distribution: off Ba-dou-tze, Keelung City, north Taiwan at depth of 80m.

Dimension: 22x7mm.

Remarks: New record of Taiwan Malacofauna. This is probably a new species. It is published here as *Inquisitor* sp. A because it is immature with the sinus is not well developed yet. This shell is kept in Mr. KH Chang's collection.

14. *Inquisitor rufovaricosa* (Kuroda, 1964) 花脊玉米捲管螺 (Fig. 14)

Synonym and Records:

Drillia rufovaricosa Kuroda, 1964 in Shikama (1964):127.

Inquisitor rufovaricosa (Kuroda et Oyama, 1971) in Springsteen and Leobrera (1986):269.

Diagnosis: Shell, elongate fusiform with a tall spire and anterior canal, moderately long; sculpture of rounded axials from concave sulcus to sutures and bottom overridden by spiral cords; about 12 ribs and 6 spiral cords on penultimate whorl; subsutural cord, undulate; varices on spire, about 2 each whorl. Aperture, narrow; anterior canal, oblique to right; inner lip, heavily calloused; outer lip, thin; dorsal varix apart from sinus. Color, greenish white with bottom, brown and varices, brown.

Distribution: off Heng-chuan, Ping-tong Co., south Taiwan at depth of 140m. It is distributed from Japan, and Taiwan to the Philippines.

Dimension: 45x13mm.

Remarks: New record of Taiwan Malacofauna.

15. *Inquisitor intertincta* (Smith, 1877) 白脊玉米捲管螺 (Fig. 15a)

Synonym and Records:

Pleurotoma (Drillia) interincta E. A. Smith, 1877 in Smith (1877) 19:497.

Inquisitor cf interincta (E. A. Smith, 1877) in Springsteen and Leobrera (1986):272.

Diagnosis: This shell looks like *Inquisitor rufovaricosa* but (a) whorls, more convex, (b) less ribs and spirals, 7 axials and 4 spiral cords on penultimate whorl, (c) white ribs with interspace stained brown. A variation form of this shell from Ta-li, I-land Co., northeast Taiwan in Fig. 15b having a ridged fasciola at anterior end.

Distribution: off Heng-chuan, Ping-tong Co., South Taiwan at depth of 140m and Ta-li, I-land Co., northeast Taiwan. It is distributed in the China Seas and the Philippines.

Dimension: 35x12mm and 40x12mm (variation form).

Remarks: New record of Taiwan Malacofauna. The specimen in Fig. 15b is *Inquisitor habui* (Azuma, 1975) (有躑脊玉米螺). It was reported as *Kurodallia habui* n. sp. in *Venus*, 33(4):157-160.

16. *Inquisitor recurvirostrata* (Kuroda, 1964) 峻脊玉米捲管螺 (Fig. 16)

Synonym and Records:

Drillia recurvirostrata Kuroda, 1964 in Shikama (1964):127.

Diagnosis: This shell looks like *Inquisitor rufovaricosa* but having (a) spire varices about one each whorl while *I. rufovaricosa*, about 2 varices each whorl, (b) axials, crested not rounded as *I. rufovaricosa*, (c) parietal callus pad larger like a spur, and (d) unicolor, brown. while *I. rufovaricosa* is greenish white with bottom, brown.

Distribution: off Heng-chuan, Ping-tong Co., South Taiwan at depth of 180m. It occurs in Japan.

Dimension: 37x10.7mm.

Remarks: New record of Taiwan Malacofauna.

17. *Inquisitor taivaricosa* n. sp. 台灣玉米捲管螺 (Fig. 17)

Synonym and Records:

Pleurotoma varicosa Reeve, 1843 in Reeve (1843):65.

Inquisitor cf varicosa (Reeve, 1843) in Springsteen and Leobrera (1986):270.

Diagnosis: Shell, biconic with rather tall spire and short anterior canal; 10-11 mature whorls, concave sulcus below undulate subsutural cord; sculpture of rounded axials and spiral grooves forming nodulose axials; about 12 axials on penultimate whorl; 2-3 varices on each whorl. Aperture, narrowly ovate; inner lip, heavily calloused; outer lip, thin, serrate with a heavy dorsal varix which is apart from sinus. Color, white with reddish brown maculation on spiral grooves, basal band and left of varices.

Distribution: off Heng-chuan, Ping-tong Co., South Taiwan at depth of 140m. It is distributed Taiwan and the Philippines.

Dimension: Holotype, 41x13mm (Inventory in ASIZ199901, Institute of Zoology, Academia Sinica).

Remarks: New record of Taiwan Malacofauna. Springsteen and Leobrera (1986) named it as *I. cf varicosa*. It is quite different from *Pleurotoma varicosa*. This shell has (a) broader shape, (b) more axials on each whorl, and (c) axials cut by spiral grooves not overridden by spiral cords. Hence, a new name *I. taivaricosa* is given here for this shell.

18. *Inquisitor alabaster* (Reeve, 1843) 白筍玉米捲管螺 (Fig. 18)

Synonym and Records:

Pleurotoma alabaster Reeve, 1843 in Reeve (1843):65.

Pleurotoma (Drillia) alabaster Reeve, 1843 in Kobelt and Weinkauff (1887):132.

Diagnosis: Shell, white, biconic with a tall spire and a short anterior canal; 12 mature whorls, with spire varices, 2-3 each whorl and subsutural cord, strong, undulate; sculpture of rounded axials and numerous spiral cords; about 13 axials and 8 spirals on penultimate whorl. Aperture, narrow; inner lip, heavily calloused; sinus, U-shaped with a large, flat parietal callus pad; anterior canal, short with ridged fasciola anteriorly.

Distribution: off Heng-chuan Ping-tong Co., south Taiwan at depth of 80-100m on sand. It is distributed in Japan, Taiwan and the Philippines.

Dimension: 34.8x10.4mm and 55.5x 15mm (Variation form).

Remarks: New record of Taiwan Malacofauna.

19. *Inquisitor vexillum* (Habe et Kosuge, 1966) 高雄玉米捲管螺 (Fig. 19)

Synonym and Records:

Brachytoma vexillum Habe et Kosuge, 1966 in Habe et Kosuge (1966):336.

Ptychobela vexillum (Habe et Kosuge, 1966) in Springsteen and Leobrera (1986):279.

Diagnosis: Shell, elongate biconic; 11 mature whorls, shouldered; sulcus, concave with numerous spiral threads; sculpture of short rounded axials; 9 on penultimate whorl; spiral cords, dominant from the middle of body whorl to the bottom; subsutural cord, angulate. Outer lip, thin with dorsal varix at sinus; inner lip, heavily calloused. Color, dark brown with whitish nodules and spirals.

Distribution: off Kaohsiung City, southwest Taiwan at depth of 100m. Its fatherland is South Taiwan. It occurs in the Philippines, too.

Dimension: 30x12mm.

20. *Inquisitor kurodai* (Habe et Kosuge, 1966) 黑田玉米捲管螺 (Fig. 20)

Synonym and Records:

Brachytoma kurodai Habe et Kosuge, 1966 in Habe et Kosuge (1966):335.

Diagnosis: Shell, biconic; 11 mature whorls, convex and sutures, impressed; subsutural cord, narrow and undulate; sulcus, concave with numerous spiral threads; sculpture of rounded axials from sulcus to sutures and to the bottom, stronger at periphery overriding spiral cords; 11-12 axials and 5 spirals on penultimate whorl. Outer lip, thin with dorsal varix at sinus; Inner lip, heavily calloused. Color, dark brown with a broad whitish band at periphery.

Distribution: off Kaohsiung City, southwest Taiwan at depth of 100m. Its fatherland is South Taiwan.

Dimension: 30x10mm.

21. *Inquisitor subochracea* (E. A. Smith, 1877) 斜肋玉米捲管螺 (Fig. 21)

Synonym and Records:

Pleurotoma (Drillia) subochracea Smith, 1877 in Smith (1877):493.

Ptychobela subochracea (Smith, 1877) in Springsteen and Leobrera (1986):270.

Diagnosis: Shell looks like *I. kurodai* (Habe et Kosuge) but lacking (a)subsutural cord, (b)spiral threads on sulcus, and (c)peripheral white band.

Distribution: off Tong-kang, Ping-tong Co., southwest Taiwan at depth of 100m. It is distributed in Tropical Indian Ocean and South Taiwan.

Dimension: 36.6x13.5mm.

Remarks: Thanks for Dr. J Drivas's identification. New record of Taiwan Malacofauna.

22. *Inquisitor kawamurai* (Habe et Kosuge, 1966) 河村玉米捲管螺 (Fig. 22)

Synonym and Records:

Brachytoma kawamurai Habe et Kosuge, 1966 in Habe et Kosuge (1966):336.

Ptychobela kawamurai (Habe et Kosuge, 1966) in Springsteen and Leobrera (1986):270.

Diagnosis: Shell, biconic with sutures, impressed; 6 mature whorls, convex; subsutural cord, indistinct; sculpture of flexous raised axials from below suture to suture and to bottom overriding spiral threads; 9 ribs on penultimate whorl; Outer lip, thin with raised dorsal varix at the sinus. Color, yellow maculated with orange.

Distribution: off Heng-chuan, Ping-tong Co., south Taiwan at depth of 100m. Its fatherland is south Taiwan and it is found in the Philippines, too.

Dimension: 30x15mm.

23. *Inquisitor carmen* (Sowerby, 1916) 卡門玉米捲管螺 (Fig. 23)

Synonym and Records:

Brachytoma carmen (Sowerby, 1916) in Springsteen and Leobrera (1986):268.

Drilla carmen n. sp. in Sowerby (1916).

Diagnosis: Shell, light brown, biconic with anterior canal, moderately long; 11 mature whorls, no subsutural cord; sculpture of subangulate axials from concave sulcus to suture and to bottom, overriding spiral cords forming transverse nodules on axials; 10 ribs on penultimate whorl. It differentiates from *I. kawamurai* in having (a) more mature whorls, (b) axials not so flexuous as the *I. kawamurai*.

Distribution: off north Taiwan. It is distributed in the China Seas, Taiwan and the Philippines.

Dimension: 31x10.5mm.

Remarks: New record of Taiwan Malacofauna.

24. *Inquisitor insignita* (Melvill, 1922) 歪尾玉米捲管螺 (Fig. 24)

Synonym and Records:

Brachytoma insignita (Melvill, 1922) in Dr. J Drivas' personal communication.

Diagnosis: Shell looks like *I. flavidula* but (a) having shorter spire with less whorls, (b) subsutural cord, obsolete, (c) whorls, more convex, and (d) anterior canal oblique backward.

Distribution: off Tung-kang, Peng-tong Co., southwest Taiwan at depth of 100m. It is distributed in the South China Sea, Taiwan and the Philippines.

Dimension: 39x17.7mm.

Remarks: New record of Taiwan Malacofauna.

25. *Inquisitor zonata* (Gray, 1843) 白骨玉米捲管螺 (Fig. 25)

Synonym and Records:

Pleurotoma zonata Gray, 1843 in Reeve (1843):74.

Diagnosis: Shell looks like *I. subochracea* but having (a) smooth ribs overriding less and finer spiral threads, (b) a white peripheral band, and (c) glossy with whitish ribs and reddish brown interspace.

Distribution: off Ta-li, I-land Co., northeast Taiwan. This species original reported in Malaysia.

Dimension: 42.5x16.5mm.

Remarks: New record of Taiwan Malacofauna. It is an interesting and uncommon shell (Reeve 1843). The specimen is kept in Mrs. HT Sun-Chang's collection.

26. *Inquisitor variabilis* (E. A. Smith, 1877) 南海玉米捲管螺 (Fig. 26)

Synonym and Records:

Pleurotoma (Drillia) variabilis E. A. Smith, 1877 in Smith (1877):495.

Inquisitor (Funa) variabilis (Smith, 1877) in Kilburn (1988):276.

Diagnosis: Shell, biconic with tall acute spire; 10-11 mature whorls, subangulate without subsutural cord; sculpture of rounded axials, nodulose at periphery overriding spiral cords from shoulder to bottom; about 10 axials and 7 spirals on penultimate whorl. Outer lip, thin; dorsal varix, weak near sinus. Color, reddish brown with whitish nodules and spirals.

Distribution: trawled near the Pratas Islands, southwest to south Taiwan at depth of 30m. It is distributed in India, Ceylon and the South China Sea.

Dimension: 43x15mm.

Remarks: New record of Taiwan Malacofauna.

27. *Inquisitor zebra* (Lamarck, 1822) 斑馬玉米捲管螺 (Fig. 27)

Synonym and Records:

Pleurotoma zebra Lamarck, 1822 in Kiener (1840):pl. 23-5.

Pleurotoma (Crassispira) zebra Lamarck, 1822 in Kobert and Weinkauff (1887):106.

Diagnosis: Shell, biconic with protoconch, brown of 2-3 smooth convex whorls; 8 mature whorls, with subsutural cord, narrow, white beaded; sculpture of 9 rounded axials and 4-5 spiral cords on penultimate whorl; a double row of white transverse nodules on the periphery of each whorl. Aperture, narrow; sinus, U-shaped; outer lip, thin with dorsal varix at sinus.

Distribution: off Ba-dou-tze, Keelung City, North Taiwan. It is common in Mauritius, East Africa but uncommon in West Pacific and Taiwan.

Dimension: 17x6mm.

Remarks: New record of Taiwan Malacofauna.

28. *Inquisitor mammillata* (Kuroda et Oyama, 1971) 乳帶玉米捲管螺 (Fig. 28)

Synonym and Records:

Compsodrillia (*Mammillaedrillia*) *mammillata* Kuroda et Oyama, 1971 in Kuroda (1971):pl 55.

Diagnosis: Shell with a tall spire and short anterior canal; 12 mature whorls, convex; subsutural cord, narrow and beaded; sculpture of axial ribs from concave sulcus, stronger at periphery overriding raised spiral cords; 10 ribs and 4 spiral cords on penultimate whorl. Sinus, deep U-shaped with a raised parietal callus pad. Color, grayish white sparkled with brown spots; a white band on the middle of body whorl.

Distribution: off north Taiwan. This species original reported in Japan.

Dimension: 50.5x16mm.

Remarks: New record of Taiwan Malacofauna. *Compsodrillia* is found from Caribbean and West America areas. It has similar conchological feature as *Inquisitor* of Indo-Pacific area, but its radula is of rolled marginals. There are two Pliocene species, *nakamurai* Makiyama, 1931 and *torvita* MacNeil, 1960 from Japan and Okinawa which were ascribed to this genus (*Compsodrillia*) by their authors. They would be better placed in *Inquisitor* (Powell, 1966). Kuroda (1971) placed this taxon under subgenus *Compsodrillia* (*Mammillaedrillia*) without anatomical data. Hence this shell is treated in *Inquisitor* here. The specimen is kept in Mr. KH Chang's collection.

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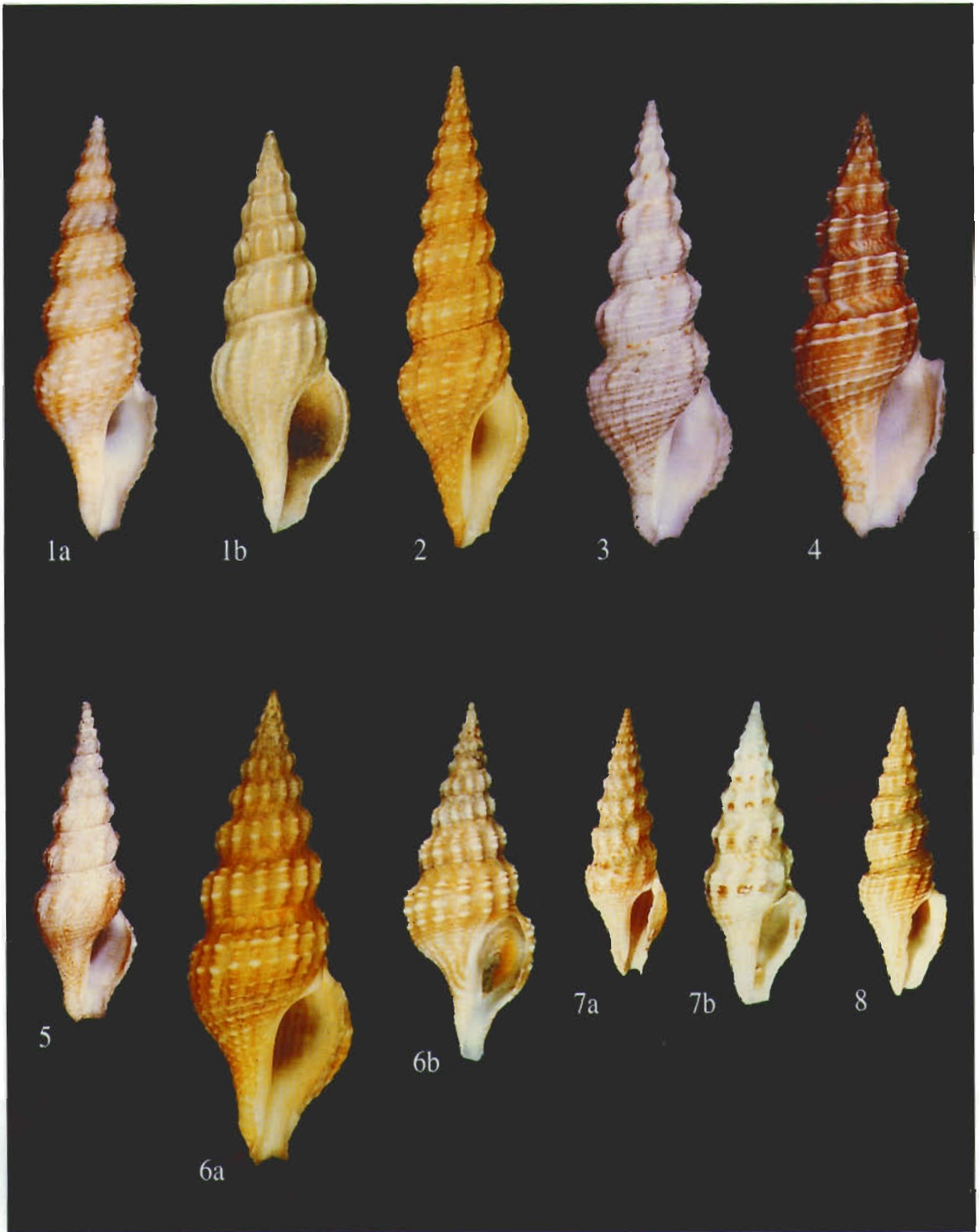
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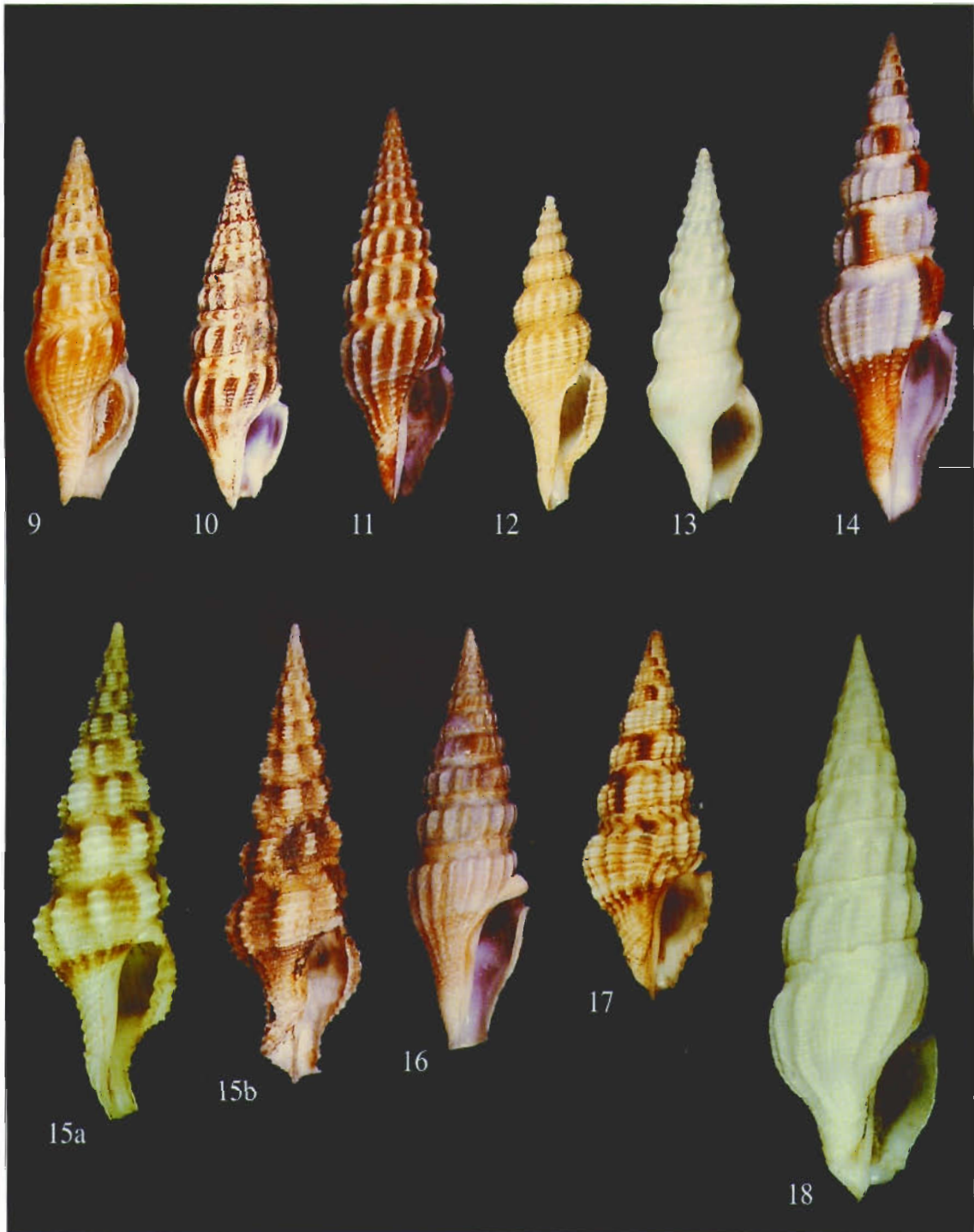
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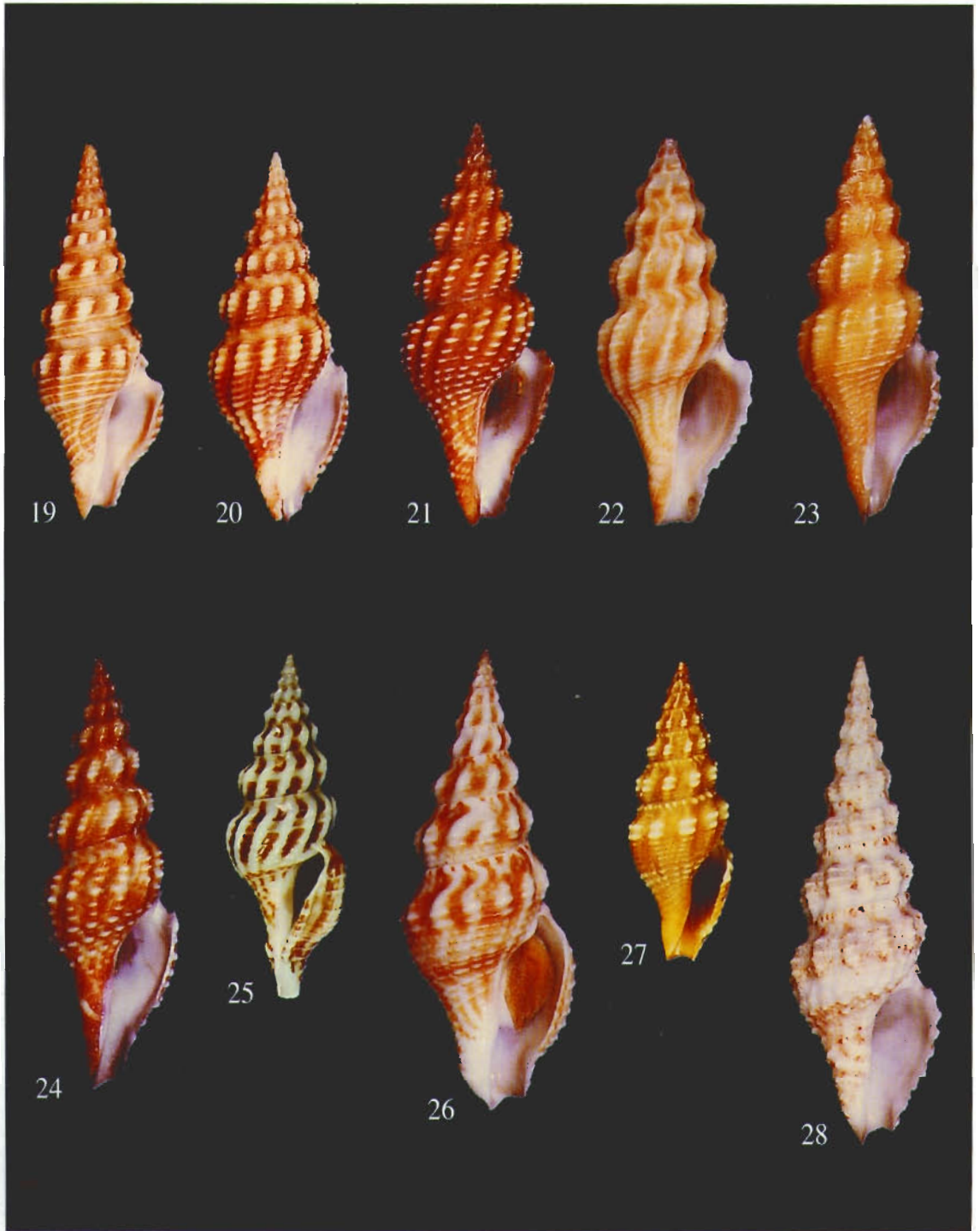
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1a. *Inquisitor flavidula*, 45x13.5mm. 1b. *Inquisitor flavidula*, variation form, 41x11mm. 2. *Inquisitor angustus*, 60.4x16.4mm. 3. *Inquisitor jeffreysii*, 57x19mm. 4. *Inquisitor latisinuata*, 54x19mm. 5. *Inquisitor laterculooides*, 23x6.5mm. 6a. *Inquisitor parculathrata*, 58x20mm. 6b. *Inquisitor parculathrata*, immature, 48x15.5mm. 7a. *Inquisitor vulpionis*, 44x15mm. 7b. *Inquisitor vulpionis*, variation form, 40x14mm. 8. *Inquisitor nodivaricosus*, 46x17.5mm.



9. *Inquisitor interrupta*, 28x8.7mm. 10. *Inquisitor tuberosa*, 25x7.5mm. 11. *Inquisitor aesopus*, 34x11.5mm. 12. *Inquisitor gracilispira*, 30x9mm. 13. *Inquisitor* sp. A, 22x7mm. 14. *Inquisitor rufovaricosa*, 45x13mm. 15a. *Inquisitor intertincta*, 35x12mm. 15b. *Inquisitor habui*, 40x12mm. 16. *Inquisitor recurvirostrata*, 37x10.7mm. 17. *Inquisitor taivaricosa* n. sp., 41x13mm. 18. *Inquisitor alabaster*, 34.8x10.4 mm.



19. *Inquisitor vexillum*, 30x12mm. 20. *Inquisitor kuodai*, 30x10mm. 21. *Inquisitor subochracea*, 36.6x13.5mm. 22. *Inquisitor kawamurai*, 30x15mm. 23. *Inquisitor carmen*, 31x10.5mm. 24. *Inquisitor insignita*, 39x17.7mm. 25. *Inquisitor zonata*, 42.5x16.5mm. 26. *Inquisitor variabilis*, 43x15mm. 27. *Inquisitor zebra*, 17x6mm. 28. *Inquisitor mammillata*, 50.5x16mm.

台灣的玉米捲管螺（腹足綱：捲管螺科）

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本文報導台灣海域所產的 29 種玉米捲管螺 (Taiwan Inquisitors, 其中有 22 種為台灣海域的新記錄種, 1 種為新種), 每種均詳細描述其貝殼重要特徵、產地及尺寸大小、並各附有彩色圖像。其中一種為新種, 命名為台灣玉米捲管螺 *Inquisitor taivaricosa* n. sp.。另有下列變種的玉米捲管螺: 玉米捲管螺 *Inquisitor flavidula* (Lamarck)、角玉米捲管螺 *I. vulpionis* Kuroda et Oyama、白脊玉米捲管螺 *I. intertincta* (Smith) 和白玉玉米捲管螺 *I. sp. A* 等四種, 有可能也是新種, 但需要詳加研究及補充更多的資料, 甚至於需要活體, 才能進一步有所定論, 因此本文暫且視為變種。本文的部分標本分別由李彥錚、張昆煌及孫張惠慈等諸位貝友提供, 特此感謝。

關鍵詞: 玉米捲管螺、捲管螺科、新記錄種、新種、台灣。