

ニューカレドニア深海産イモガイ類の2新種

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Two New *Conus* Species from Deep Waters off New Caledonia

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**Abstract:** Recent dredgings in waters around New Caledonia revealed two new *Conus* species which are described as *Conus richeri*, n. sp. and *Conus plinthis*, n. sp. Both new species are compared to closely related species and their variability is enumerated.

**Introduction**

The New Caledonian species of the family Conidae were reviewed by Estival (1981). He recognized about 100 species, most of them from shallow waters (0-60 m). Since 1984, deep-sea research was initial by ORSTOM and/or the Muséum National d'Histoire Naturelle, and several dredgings have been conducted in these waters. The results of the dredgings in the central Coral Sea (Chesterfield Islands) were published by Moolenbeek (1986), and preliminary accounts of the New Caledonian material was presented by Richard (1983) and Richer de Forges and Estival (1986). The greater part of the material is deposited in the Muséum National d'Histoire Naturelle and contains many new additions to the New Caledonian molluscan fauna (Richard and Moolenbeek, in prep.). In this paper we will describe two new *Conus* species from these dredgings.

**Descriptions of New Species**

*Conus richeri*, n. sp.

(Plate 1, figs. 1-5, 10)

*Conus* sp. A aff. *gabelishi* Da Motta and Ninomiya, 1982, in Richer de Forges and

Estival, 1986; 15.

*Conus* sp. n°510, in *The Connoisseur*, 15–16: 52, fig. 510.

*Description of the holotype*: Length 47.9 mm; width 22.4 mm; shell elongate, solid, low biconical. Sides of the bodywhorl convex, more prominent towards the shoulder. Spire slightly concave consisting of 13 whorls. Apical angle 90°.

Protoconch white consisting of two smooth shining whorls. The first 5 postnuclear whorls (=pnw) have small nodules which become weaker and are hardly visible on the 6th pnw., and two spiral grooves. Just below the suture a ridge with small axial/opisthocline ridges, which disappear gradually (at about the 7th pnw.). On the 4–8 pnw. one can see 5 spiral grooves which gradually disappear towards the last whorl. The last 3–4 whorls canaliculated (concave). Sutures deep, clearly separating the whorls from each other. Shoulder with a sharp edge. Bodywhorl smooth except the anterior part, which has 8–9 spiral grooves on the dorsal side and 12–13 on the ventral side. Aperture moderately wide, outer lip thin. The colour of the protoconch is white opaque (translucent), and first two pnw. dirty white. On the third pnw. brown axial blotches appear (10–13 on a whorl) on a white ground colour, which gradually grow smaller and on the last whorls are reduced to brown spots on the shoulder edge.

Sides of bodywhorl with about 10 spiral rows of dark brown and white blotches. Between these spiral rows there are dirty white/light brown bands. Base of columella white. Inside aperture porcellaneous/glossy white.

Although probably live taken, the soft parts of the animal are not available. Periostracum thin, translucent and light brown.

*Type locality*: New Caledonia, Lagon nord, 19°04'S–163°30'E, depth 225 m, 04.03.1985, R.V. "Vauban", ORSTOM-St. 500, leg. B. Richer de Forges. The holotype is deposited in M.N.H.N.

*Paratypes*: Paratype 1: MUSORSTOM 4 St. DW207 (220–235 m) 22°39'S–167°07'E; length 12.1 mm, deposited in M.N.H.N.

Paratype 2: MUSORSTOM 4 St. DW185 (230 m) 19°06'S–163°29'E; length 43.4 mm, width 23.3 mm, deposited in Z.M.A. (Moll. n°388017).

Paratype 3: MUSORSTOM 4 St. DW185 (230 m) 19°06'S–163°29'E (same data as Paratype 2), length 52.9 mm, width 24.6 mm, deposited in N.M.N.Z.

Paratype 4: VAUBAN-LAGON St. 378 (70–72 m) 22°40'S–167°11'E (Grand Récif Sud); length 53.4 mm, width 26.0 mm, deposited in M.N.H.N.

Paratype 5: MUSORSTOM 4 St. DW205 (140–160 m) 22°38'S–167°07'E; length 45.9 mm, width 22.6 mm, deposited in A.M.S.

*Other material examined*: Campagne SM1B 1 St. DW2 (415 m) 22°52'S–167°13'E (2 specimens); MUSORSTOM 4 St. DW185 (230 m) 19°06'S–163°29'E (2 specimens); St. DW185 (190 m) 19°07'S–163°30'E (7 specimens + 2 (fragments)); St. DW208 (275–280 m) 22°40'S–167°08'E (1

specimen); VAUBAN-LAGON St. 387 (225 m) 22°39'S–167°07'E (1 juvenile); St. 500 (225 m) 19°04'S–163°30'E (1 fragment); St. 537 (200 m) 19°07'S–163°22'E (1 fragment).

*Variability of the species:* Juvenile specimens are characterized by a bodywhorl pattern of spiral grooves and ridges (ratio 1:4). In the spiral grooves there are fine axial threads, which are more pronounced at the anterior part of the shell. Also the colour is more equal orange than in most fullgrown specimens. Adult specimens are variable in height of the spire (conical to obconical: figs. 1–2, 5 and 3–4) and in the colour pattern of the bodywhorl. In some specimens (particularly in paratype 1), the spiral rows (9–10) are very regular and consist of white spiral lines with more or less square brownish spots.

*Etymology:* This new species is named after Bertrand Richer de Forges, who provided part of the material and paid our attention to this new species.

*Discussion:* *Conus richeri*, n. sp. shows similarities in conchological characters to *Conus timorensis* Hwass in Bruguière, 1792, *Conus floccatus* Sowerby I, 1834, *Conus moluccensis merleti* Mayissian, 1974, *Conus gabelishi* Da Motta, 1982 and to *Conus ciderryi* Da Motta, 1985. *Conus timorensis* is elongated and has fine closely set striae on the anterior part. *Conus vespertinus* Sowerby, 1825 and *Conus euschemon* Tomlin, 1937 (= *Conus gracilis* Wood, 1828) are junior synonyms of *Conus timorensis*. *Conus floccatus* has a multispiral protoconch (planktotrophic development) with a straight spire and many closely set spiral grooves on the anterior part of the bodywhorl. *Conus moluccensis merleti* has strong nodules on the shoulder and is in general more obconical. *Conus gabelishi* was thought to be related (Richer de Forges and Estival, 1986). However, it has a short mammillated protoconch (a little more than one whorl) and full-grown specimens do not grow larger than 30 mm. *Conus ciderryi* is more elongated and obconical. Also the spire whorls are not canaliculated and the whorls have strong spiral grooves.

*Conus plinthis*, n. sp.

(Pl. 1, figs. 6–9, 11)

*Conus* sp. B nec. *flicinctus* Schepman, 1913, in Richer de Forges and Estival, 1986: 15.

*Description of the holotype:* Length 43.9 mm; width 24.0 mm. Shell moderately heavy, obconical, elongate. Sides of the bodywhorl straight, a little convex towards the shoulder. Spire a little convex with a concave apex, consisting of about 10 whorls. Apical angle 140° (with broken protoconch).

Protoconch of the holotype partly broken (see for this part paratype 1). The first 3–4 postnuclear whorls with nodules (14–15 on a whorl), which become gradually weaker and disappear on the 5th whorl, and 2–3 spiral grooves. Gradually more spiral grooves appear on the whorl, with 6–7 on the bodywhorl.

Spire slightly convex only towards the apex concave. Whorls a little concave to straight. Suture clearly separating each whorl. Shoulder sharp; bodywhorl smooth with only a few (2–3) hardly visible striae on the anterior part. Aperture moderately narrow, almost uniform in width.

Colour: the first three postnuclear whorls are white, followed by whorls with narrow, axial light brown lines. These brown lines do not cover an entire whorl except for the bodywhorl where they are also dark brown (23–24 lines). These brown lines continue on the side of the bodywhorl where they are absorbed in an irregular redbrown band (figs. 6–7). On the ventral side are 9 spiral brown lines most of them connected by brown axials. Inside aperture is porcellaneous white.

*Type locality*: New Caledonia, Lagon Sud, 22°44'S–167°09'E, depth 340–345 m, 28.09.1985, R.V. "Vauban", MUSORSTOM St. DW210, leg. P. Bouchet and B. Richer de Forges.

*Paratypes*: Paratype 1: MUSORSTOM 4 St. DW164 (225 m) 18°33'S–163°13'E; length 19.5 mm, width 9.9 mm, deposited in Z.M.A. (Moll. n°388018).

Paratype 2: BIOCAL St. DW64 (250 m) 24°48'S–168°09'E; length 33.9 mm, width 18.1 mm, deposited in A.M.S.

Paratype 3: CHALCAL 2 St. DW70 (232 m) 24°46'S–168°09'E; length 33.5 mm, width 17.7 mm, deposited in N.M.N.Z.

Paratype 4: MUSORSTOM 4 St. DW234 (350–365 m) 22°15'S–167°08'E; length 29.0 mm, width 15.8 mm, deposited in N.M.N.Z.

Paratype 5: BIOCAL St. DW65 (245–275 m) 24°48'S–168°09'E; length 17.2 mm, width 9.2 mm, deposited in M.N.H.N.

Paratype 6: Campagne SMIB 3 St. DW9 (265 m) 24°42'S–168°08'E; length 31.2 mm, width 16.5 mm, deposited in M.N.H.N.

*Other material examined*: Campagne SMIB 3 St. DW10 (235 m) 24°42'S–168°07'E (1 specimen + 1 fragment); St. DW14 (246 m) 23°40'S–168°00'E (3 specimens); St. DW17 (238 m) 23°41'S–167°59'E (1 specimen); St. DW18 (338 m) 23°42'S–167°59'E (5 specimens + 1 fragment); St. DW20 (280 m) 23°40'S–168°00'E (16 specimens). VAUBAN-LAGON St. 7 (300–315 m) 22°19'S–167°11'E (2 specimens). From the National Museum of New Zealand Collection—Northern Three Kings Rise (844 m), 28°39.5'S–173°01'E (1 specimen); off Norfolk Island (259 m), 28°45'S–167°45.1'E (1 specimen); Raoul Island (135 m), 29°12.7'S–177°56.1'W (1 specimen); Raoul Island (154 m), 29°11.9'S–177°56.2'W (1 specimen).

*Variability of the species*: All specimens have more or less the same colour pattern as the holotype. Only juveniles are more reddish brown and with more pronounced spiral lines on the body whorl. Paratype 1 (a juvenile) has still a thin translucent light brown periostracum. Its milky white protoconch consists

of at least 2.5 smooth polished whorls (the apex is broken).

The shells from N.M.N.Z. agree in all characters with the type samples.

*Etymology*: The name of this new species is after the Greek word *πλινθίς* suggesting a wall made of bricks like the pattern of the body whorl.

*Discussion*: *Conus plinthis* n. sp. shows relation to *Conus capitaneus* Fulton, 1938, and conchological similarities to *Conus hirasei* Kuroda, 1956 and *Conus kanakinus* Richard, 1983. *Conus hirasei* differs in being more elongated, having many regular spiral lines on body whorl and many dark brown dots on the spire. *Conus kanakinus* has a different kind of protoconch (paucispiral) and is less triangular in shape, caused by the rounded shoulder. *Conus capitaneus* lives sympatric with *Conus plinthis*. It differs only in minor but constant characters. It has two distinct brown bands without the spiral lines. The brown spots on the spire are less numerous (10–14) and when they cross the shoulder they more or less go straight down to the upper brown band (in *Conus plinthis* they are opisthocline). The periostracum is darker with peculiar hairs on the edge of the shoulder.

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## 要 約

ニューカレドニア付近のドレッジ採集によって発見されたイモガイ類2新種につき記載する。

*Conus richeri*, n. sp. (Pl. 1, fig. 1-5, 10) 殻長 47.9mm, 殻幅 22.4mm。胎殻は平滑で2巻き, 殻頂角90°。後生殻の初め5層には顆粒がある。また4～8層には5本の螺溝もあるが何れも体層に向って消失する。体層はやや膨れ, 肩は鋭い。前端に8～9(背面)ないし12～13(腹面)の螺状溝があるほかは平滑。螺層には小褐斑があるほか, 体層側面には暗褐色と白色の斑紋よりなる帯が10条あり, その間に灰色又は褐色条がある。軸端は白色, 殻口内は陶白色。

*Conus plinthis*, n. sp. (Pl. 1, fig. 6-9, 11) 殻長 43.9mm, 殻幅 24.0mm。殻頂角140°。後生殻の初め3～4層には顆粒がある。螺溝はだんだん強くなる。体層は僅かに膨れ, 肩は鋭い。螺層には淡褐色の線条があり, 体層上部に現われる(23～24本)が, 紅褐横帯に遮られる。その下には9本の螺状色帯がある。殻口内は陶白色。

### References

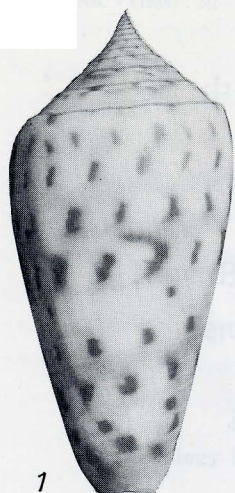
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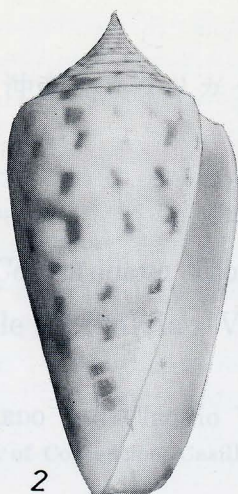
### Plate 1

- 1-5. *Conus richeri*, n. sp., 1-2. Holotype (47.9 mm); 3. Paratype 4 (53.4 mm); 4. St. 500 VAUVAN-LAGON (44.8 mm); 5. Paratype 2 (43.4 mm).
- 6-9. *Conus plinthis*, n. sp., 6-7. Holotype (43.9 mm); 8. Paratype 6 (31.2 mm); 9. Paratype 3 (33.5 mm).
10. *Conus richeri*, n. sp., Paratype 1 (12.1 mm).
11. *Conus plinthis*, n. sp., Paratype 1 (19.5 mm).

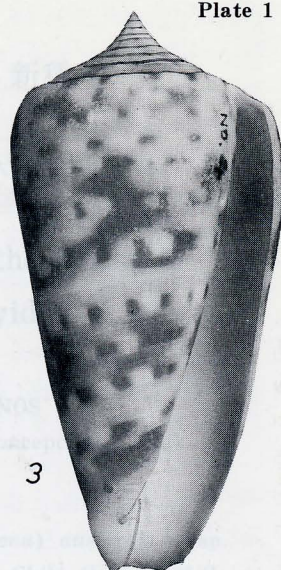
Plate 1



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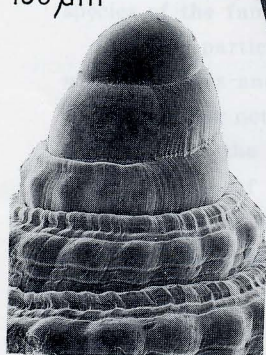


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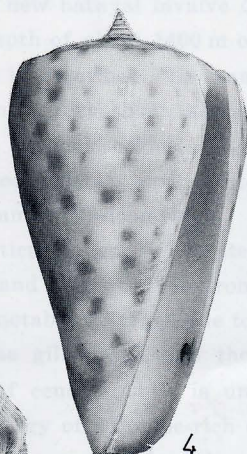


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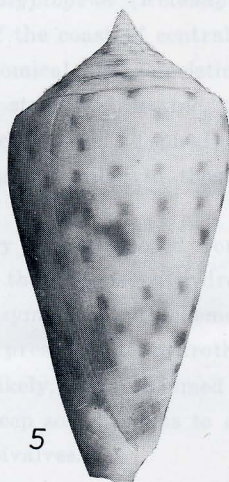
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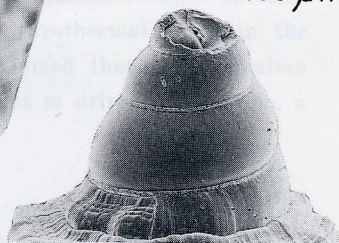


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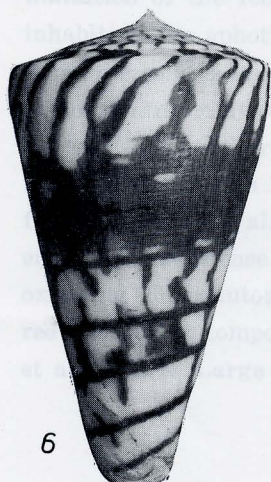


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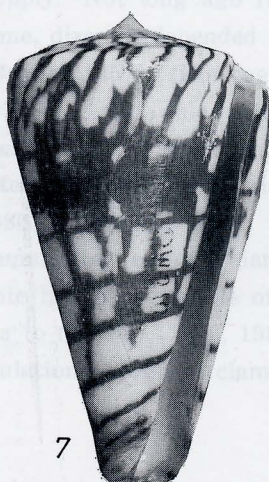
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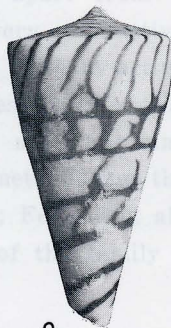
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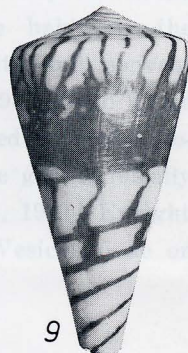
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