Description of two new species of *Chicoreus* (*Siratus*) (Gastropoda, Muricidae) from Honduras and Nicaragua

Roland HOUART
Research Associate
Institut royal des Sciences naturelles de Belgique
Rue Vautier, 29, 1000 Bruxelles
roland.houart@skynet.be

KEYWORDS. Gastropoda, Muricidae, *Siratus*, Honduras, Nicaragua, new species.

ABSTRACT. Two new species of *Chicoreus (Siratus)* are described from Honduras and East Nicaragua. *C. (S.) hennequini* n.sp. from Honduras is compared to *C. (S.) articulatus* (Reeve, 1845), *C. (S.) beaui* (Fischer & Bernardi, 1857), and *C. (S.) caudacurta* Houart, 1999. *C. (S.) bessei* n.sp. from Honduras and Nicaragua is compared to *C. (S.) consuela* (Verrill, 1950), *C. (S.) cailleti* (Petit de la Saussaye, 1856), and *C. (S.) motacilla* (Gmelin, 1791).

RESUME. Deux nouvelles espèces de *Chicoreus (Siratus)* sont décrites du Honduras et du Nicaragua. *C. (S.) hennequini* n.sp. du Honduras est comparée à *C. (S.) articulatus* (Reeve, 1845), *C. (S.) beauii* (Fischer & Bernardi, 1857) et *C. (S.) caudacurta* Houart, 1999. *C. (S.) bessei* n.sp. du Honduras et du Nicaragua est comparée à *C. (S.) consuela* (Verrill, 1950), *C. (S.) cailleti* (Petit de la Saussaye, 1856) et *C. (S.) motacilla* (Gmelin, 1791).

INTRODUCTION

Siratus is highly represented in the Western Atlantic with a total of 18 Recent taxa (only two in the Indo-West Pacific), and a large number of fossils (Vokes, 1963, 1990). Some of these species have been recently discovered (Garcia, 1999; Houart, 1999) while another one will be described soon (Merle et al, in press). The large number of synonyms (36 names for 18 valid taxa) is representative of the polymorphic shell morphology (see also Vokes, 1980) and from a wrong analysis of the shell structure.

The descriptive method used here for the spiral sculpture and the aperture is based on Merle (1999).

P :	**Primary cord**
s :	**secondary cord**
t :	**tertiary cord**
ad :	**adapical (or adapertural)**
ab :	**abapical (or abapertural)**
IP :	Infrasutural primary cord (primary cord on shoulder)
adis :	adapical infrasutural secondary cord (shoulder)
abis :	abapical infrasutural secondary cord (shoulder)
P1 :	Shoulder cord
P2-P6 :	Primary cords of the convex part of the teleoconch whorls
s1-s6 :	secondary cord of the convex part of the teleoconch whorls
s1 : secondary cord between P1 and P2; s2 : secondary cord between P2 and P3, etc.	
ADP :	adapertural primary cord on the siphonal canal
MP :	median primary cord on the siphonal canal
ABP :	abapertural primary cord on the siphonal canal
EABP :	extreme abapertural primary cord on the siphonal canal
ads :	adapertural secondary cord on the siphonal canal
ms :	median secondary cord on the siphonal canal
abs :	abapertural secondary cord on the siphonal canal
eabs :	extreme abapertural secondary cord on the siphonal canal
APERTURE	
ID	Infrasutural denticle
D1 to D6	Abapical denticles

Table 1 : text conventions (based on Merle, 1999)

Other abbreviations.

IRSNB : Institut royal des Sciences naturelles de Belgique, Bruxelles, Belgium.
MNHN : Muséum national d'Histoire naturelle, Paris, France.
MORG : Museu Oceanografico de Rio Grande, Brazil.
RH : collection of the author.
lv : taken alive.
dd : empty shell.

SYSTEMATICS

Family **MURICIDAE** Rafinesque, 1815
Subfamily **MURICINAE** Rafinesque, 1815
Genus ***Chicoreus*** Montfort, 1810
Subgenus ***Siratus*** Jousseaume, 1880
Type species : *Purpura Sirat* "Adanson" Jousseaume, 1880 (= *Murex senegalensis* Gmelin, 1791), Recent, Brazil, by original designation.

***Chicoreus (Siratus) hennequini* n.sp.**
Figs 1-3

Type material.

Honduras, Roatan Island, Mangrove Bight, 16°16.70' N, 86°34.77' W, 220 m, holotype (lv). MNHN.
Paratypes : 2 IRSNB IG 29094 (1 lv, 1 dd), 2 coll. R. Houart (2 lv).

Other material examined.

East Honduras, Roatan Island, 200 m, coll. R. Houart (1 lv).

Distribution.

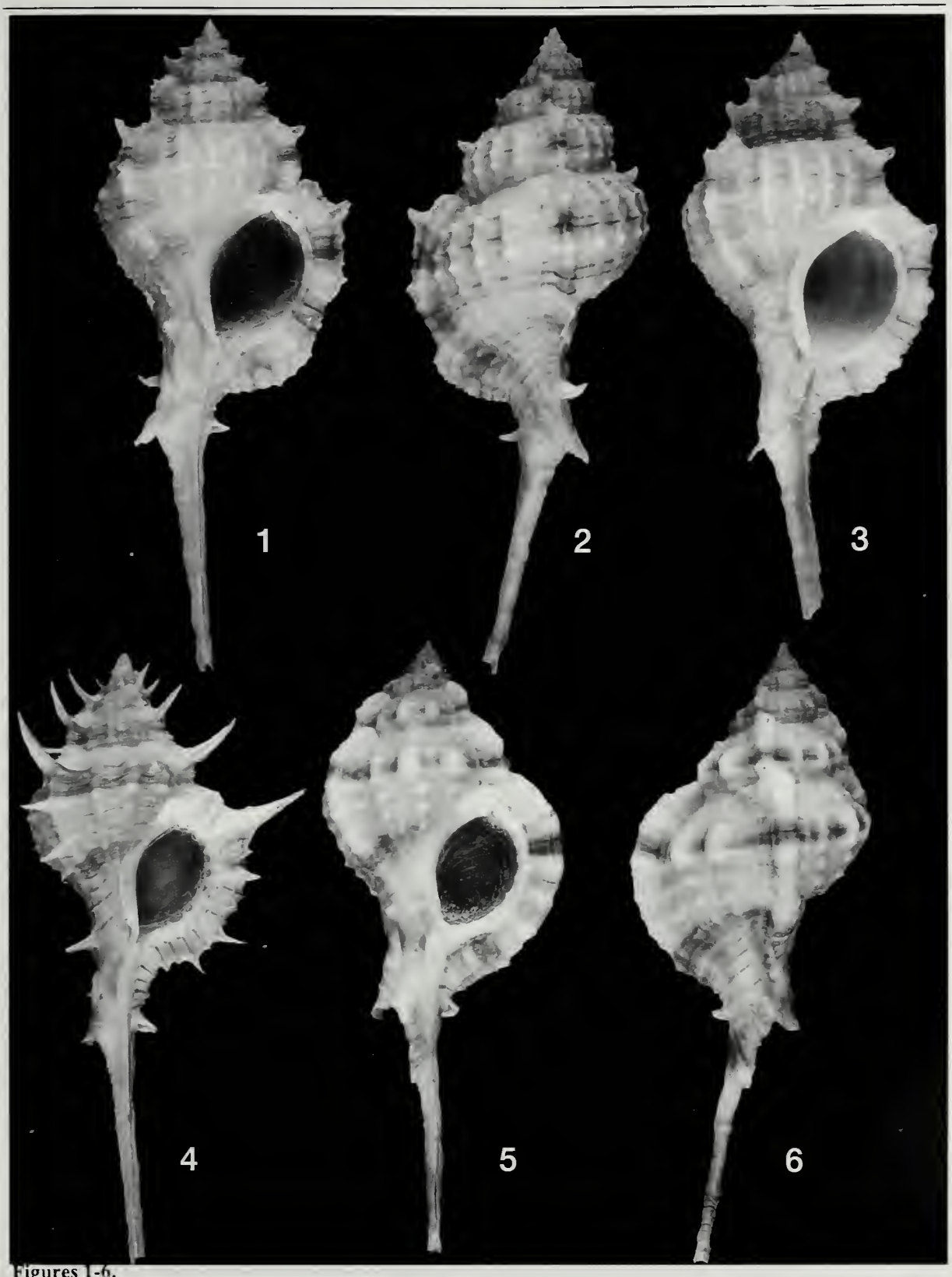
East Honduras, Roatan Island, living at 200-220 m.

Description.

Shell up to 62 mm in length at maturity (holotype), slender, weakly spinose, lightly built. Spire high with 1.75 protoconch whorls and up to 7 convex, nodose teleoconch whorls. Suture impressed. Protoconch small (c. 1.2 mm broad x 1 mm high), whorls rounded, smooth, with a narrow, strong, single keel abapically. Terminal varix eroded in all examined specimens.
Axial sculpture of teleoconch whorls consisting of high, narrow, webbed varices, each with a single, short, acute, shoulder spine, and webbed expansion abapically. Other axial sculpture of low, strong, narrow, nodose, rounded intervarical ribs. First whorl with 12 axial ribs, second with nine ribs followed by 1 varix and three additional ribs, third to penultimate whorl with 3 varices and 4 intervarical ribs, last whorl with 3 varices and 5, occasionally 6 ribs. Presence of small nodules at intersection of axial ribs and spiral cords.
Spiral sculpture of low, strong, narrow, primary, secondary and tertiary cords, and occasional weak threads. First whorl rounded with 4 primary cords (IP, P1-P3), second whorl weakly shouldered with 1 primary cord on shoulder (IP) and 3 on convex part of whorl (P1-P3), third to penultimate whorl with identical shoulder sculpture : 1 primary cord between 2 secondary cords (adis, IP, abis). Convex part of the whorl : third whorl with 3 primary cords and one secondary cord between first and second primary cords (P1, s1, P2, P3); fourth with 3 primary cords and one secondary cord between first and second primary cords, occasionally between second and third cord and between third cord and suture of whorl (P1, s1, P2, P3) or (P1, s1, P2, s2, P3, s3), fourth to penultimate with 3 primary cords and one secondary cord between each pair of primary cords (P1, s1, P2, s2, P3, s3). Convex part of last whorl with 6 primary cords with secondary cord between each pair (P1, s1, P2, s2, P3, s3, P4, s4, P5, s5, P6, t6d, s6, t6b), and an occasional low thread between P1 and s1; P4, s4 and P5. Shoulder of last whorl with one primary cord, 2 secondary cords (adis, IP, abis), and an occasional additional thread between suture and adis, and between abis and P1.
Aperture broad, ovate. Columellar lip narrow, with 3 weak, elongate knobs abapically and strong, elongate, parietal tooth. Anal notch narrow, deep. Outer lip weakly erect, denticulate, with 1-3 crenulations and weak denticles within : ID on shoulder; D1-D6 splitted. Occasional additional, small denticle between s6 and t6 . Denticles occasionally obsolete. Siphonal canal long, narrow, weakly dorsally recurved, abaxially bent, narrowly open, with 3 cords adaperturally (ADP, ads, MP). MP cord ending as an acute, weakly adaperturally curved, open spine at varix.
Light tan with some dark brown spiral cords, usually P1, s1, P2, P4, s4, P5, P6, s6, t6. Operculum light brown, ovate with terminal nucleus.

Remarks.

Chicoreus (Siratus) hennequini n.sp. is most similar to *C. (S.) articulatus* (Reeve, 1845), *C. (S.) beaui* (Fischer & Bernardi, 1857), and *C. (S.) caudacurta* Houart, 1999. *C. articulatus* (Fig. 4) is a species with a polymorphic shell structure, although a careful study of the different forms, currently considered as synonyms, would be interesting. Notwithstanding, all these forms are separable from *C. (S.) hennequini* n.sp. *C. articulatus* has 3 high, nodose, intervarical axial ribs from third to last whorl instead of 4-6 narrow ribs in *C. hennequini*. *C. articulatus* has approximately the same spiral sculpture although with stronger, higher, more widely spaced cords. The sculpture of the siphonal canal consists of 5 cords (instead of 4 in *C. hennequini*). Fourth cord ending as



Figures 1-6.

1-3. *Chicoreus (Siratus) hennequini* Houart, n.sp. Honduras, Roatan Island, Mangrove Bight, 16°16.70' N, 86°34.77' W, 220 m.

1-2. Holotype MNHN, 62.2 mm.

3. Paratype R. Houart, 52 mm.

4. *Chicoreus (Siratus) articulatus* (Reeve, 1845). Honduras, Puerto Cortés , 120 m, mud, 54.2 mm, RH.

5-6. *Chicoreus (Siratus) bessei* Houart, n.sp. Honduras, Roatan Island, Pulpitt Rock, 170 m, holotype MNHN, 72.6 mm.

a long, acute, open spine on the canal, fifth as a small spine. The aperture is smaller and the columellar lip bears 4-7 folds abapically and irregular folds adapically. *C. (S.) caudacurta* (Fig. 13-14) from off Vera Cruz, eastern Mexico, has an approximately similar, although lower, spiral sculpture. However, it differs in having a broader protoconch without any keel and with fewer whorls, a comparatively much higher spire, a stouter last teleoconch whorl with a broader aperture, lower, narrower varices, and fewer, broader axial intervarical ribs, lower on last whorl. Some forms of *C. (S.) beauii* (Fig. 15) resemble *C. (S.) hennequini*, however *C. beauii* is definitively separated in having a multispiral, conical protoconch. It also has more numerous primary, secondary and tertiary spiral cords, and a broader siphonal canal.

Etymology.

Named for Mr. F. Hennequin, Velines, France.

***Chicoreus (Siratus) bessei* n.sp.**
Figs 5-9

Type material.

Honduras, Roatan Island, Pulpitt Rock, 170 m, holotype MNHN.
Paratypes : 1 IRSNB IG 29094, 2 coll. R. Houart; Honduras, North coast, 200 m, 2 coll. D. Pisor [1] (all taken alive).

Other material examined.

East Honduras, South coast of Roatan Island, 250 m, coll. R. Houart (1); Honduras, North coast, 200 m, coll. D. Pisor (2); off East Nicaragua, Banco Quita Sueña, coll. R. Houart (2), coll. B. Besse (2) (all taken alive).

Distribution.

North Honduras, Roatan Island, and East Nicaragua, living at 170-250 m.

Description.

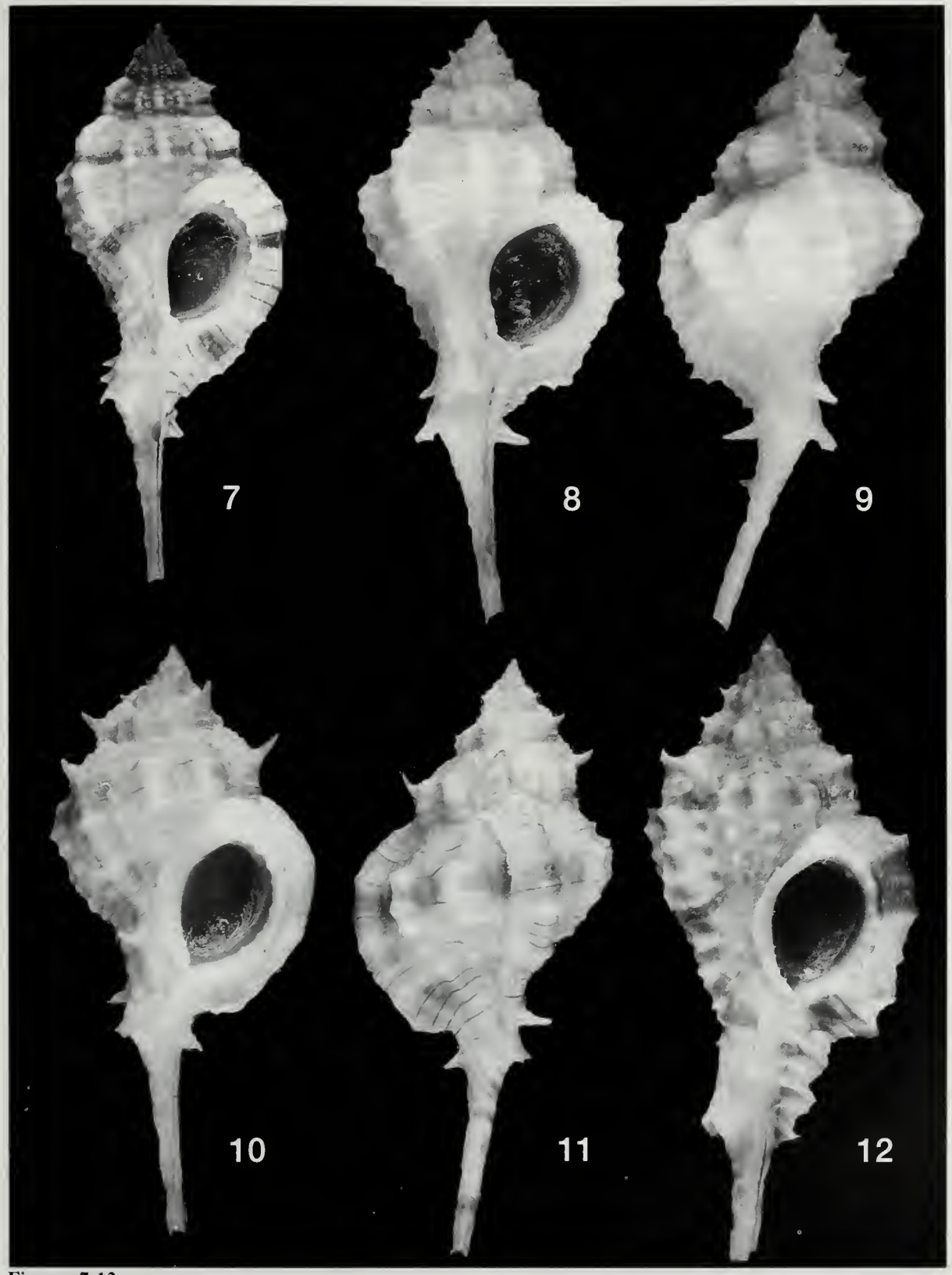
Shell up to 73.8 mm in length at maturity (paratype), slender, heavy, nodose. Spire high with 1.5-1.75 protoconch whorls and up to 7 broad, nodose teleoconch whorls. Suture adpressed. Protoconch small (c. 1 mm broad x 0.8 mm high), whorls rounded, minutely striate. With a narrow, weak keel abapically. Terminal varix heavy, erect, weakly curved.

Axial sculpture of teleoconch whorls consisting of high, strong, narrow, nodose, spineless varices with low webbed expansion abapically. Other axial sculpture of high, strong, rounded intervarical ribs. First whorl with 12 ribs, second with 9, third with 3 varices and 1 or 2 intervarical ribs, fourth with 2, occasionally 3 intervarical ribs, fifth with 2 or 3, occasionally 4, sixth with 3 or 4, last whorl with 3 varices and 2-4, usually 3, intervarical ribs. Spiral sculpture of low, narrow, primary, secondary and tertiary cords. First and second whorls rounded with 4 primary cords (IP, P1-P3), third whorl weakly shouldered with 1 primary cord on shoulder (IP) and 3 on convex part of the whorl (P1-P3), fourth and fifth whorls with identical shoulder sculpture : 1 primary cord between 2 secondary cords (adis, IP, abis); convex part of fourth whorl with P1, P2, P3, s3, fifth and sixth with P1, P2, s2, P3, s3. Shoulder of sixth whorl with 3 cords : adis, IP, abis and an occasional thread (tertiary cord) between suture and adis, and between abis and P1. Convex part of last whorl with 6 primary cords with secondary cord between each pair (P1, s1, P2, s2, P3, s3, P4, s4, P5, s5, P6, s6, t6b), one or more occasional low threads between P1, s1; s1, P2; P2, s2; s2, P3; P3, s3.
Aperture large, ovate. Columellar lip narrow, rim partially erect, adherent at adapical extremity. Strong parietal tooth. Anal notch broad, deep. Outer lip weakly erect with 1-3 crenulations and weak or strong, elongate denticles within : ID on shoulder; D1-D2 rarely splitted, D3-D6 splitted. Occasional additional, small denticle between s6 and t6b. Siphonal canal long, strongly dorsally bent, narrowly open, with 5, approximately similar spiral cords adaperturally. Fourth abapical cord usually with short, open, acute spine on canal. Occasionally with single, narrow, shallow thread between each pair of cords.
Shell tan, yellow-tan or light chestnut-brown with lighter coloured, usually cream, nodules. Erratically brown coloured spiral cords. Dark brown band on and between P1 and P2, between P5 and P6, and on adapertural portion of siphonal canal. Occasionally uniformly creamy-white with faint traces of light brown bands.
Operculum dark brown, ovate, with terminal nucleus. Radula unknown.

Remarks.

All the specimens examined from Honduras have an identical tan coloured shell with sparsely brown coloured spiral cords and dark brown bands. The four specimens of East Nicaragua which I examined are uniformly light cream, occasionally with faint traces of light brown bands.
Three species are more or less similar to *C. (S.) bessei* n.sp.: *C. (S.) consuela* (Verrill, 1950), *C. (S.)*

[1] 10373 El Honcho Place, San Diego, CA 92124



Figures 7-12.

7-9. *Chicoreus (Siratus) bessei* Houart, n.sp.

7. Honduras, Roatan Island, Pulpitt Rock, 170 m, paratype IRSNB, 56 mm.

8-9. off East Nicaragua, Banco Quita Sueña, RH, 55.2 mm.

10-11. *Chicoreus (Siratus) cailleti* (Petit de la Saussaye). St. James, Barbados, 94 m, RH, 51.9 mm.

12. *Chicoreus (Siratus) consuela* (Verrill, 1950). Anses d'Arlets, Martinique, 14 m, sand and coral, RH, 55.3 mm.

cailleti (Petit de la Saussaye, 1856), and *C. (S.) motacilla* (Gmelin, 1791).

C. consuela (Fig. 12) has a narrower, more elongate shell with a shorter and broader siphonal canal with different ornamentation, broader, fewer and stronger spiral cords, and a conical protoconch of 2-2.25 whorls.

C. cailleti (Fig. 10-11) usually has a more spinose shell with a broader, weakly shouldered last teleoconch whorl, usually with fewer spiral cords, broader intervarical ribs, and a stronger folded columellar lip.

C. motacilla also has the particular brown spiral bands, but the last teleoconch whorl is stouter and spiny. The shell is broader with stronger and broader intervarical axial ribs, and higher, stronger spiral cords.

Etymology.

Named for Mr. B. Besse, Puerto Cortés, Honduras.

ACKNOWLEDGEMENTS.

I am very grateful to B. Besse (Puerto Cortés, Honduras) and F. Hennequin (Velines, France) for having given me the opportunity to examine this very interesting material and for the gift of the type material. Thanks also to Didier Merle (dimerle@aol.com) and Jean-Michel Pacaud (Muséum national d'Histoire naturelle, laboratoire de Paléontologie, Paris, France) for the beautiful drawings and to D. Merle for constructive remarks about the descriptive method.

REFERENCES

Garcia, E. F., 1999. Three new gastropod (Mollusca) species from the New World. *Apex* 14 (3-4) : 59-65.

Houart, R., 1999. Two new species of the genus *Chicoreus (Siratus)* (Gastropoda : Muricidae) from the western Atlantic. *Nautilus* 113 (4) : 121-126.

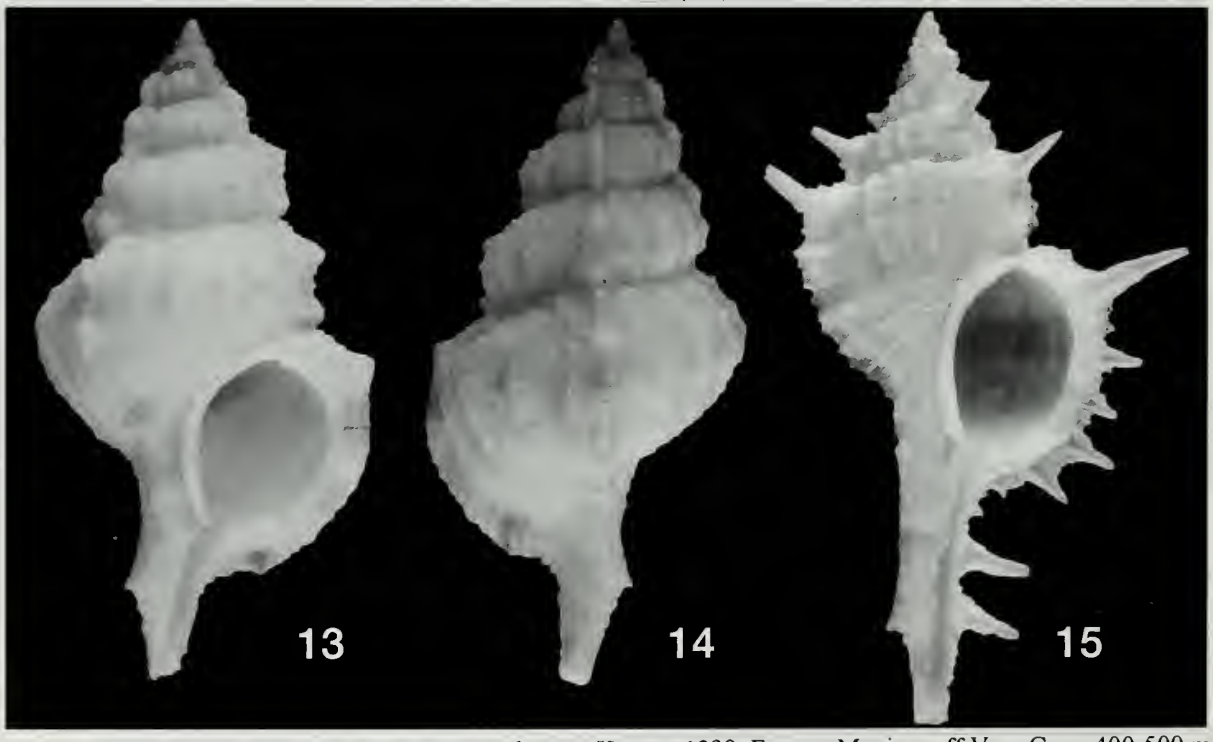
Merle, D., 1999. *La radiation des Muricidae (Gastropoda : Neogastropoda) au Paléogène : approche phylogénétique et évolutive.* Paris. Thèse de doctorat du Muséum national d'Histoire naturelle: i-vi, 1-499.

Merle, D., Garrigues, B, Pointier, J.-P., in press. *Chicoreus (Siratus) guionneti* nov. species from French West Indies (Gastropoda, Muricidae), with comments on the sculptural pattern of six Caribbean *Siratus* species. *Zoosystema.*

Vokes, E.H., 1963. Cenozoic Muricidae of the Western Atlantic region, Part I - *Murex* sensu stricto. *Tulane Stud. Geol.* 1 (2-3): 95-123.

Vokes, E.H., 1980. What is my name? Or, will the real *Murex antillarum* please stand up! Of Sea and Shore 11: 91-92.

Vokes, E.H., 1990. Cenozoic Muricidae of the western Atlantic region, Part VIII - *Murex* s.s., *Haustellum, Chicoreus, Hexaplex*; additions and corrections. *Tulane Stud. Geol. Paleont.* 23 (1-3):1-96.



Figures 13-15. 13-14. *Chicoreus (Siratus) caudacurta* Houart, 1999. Eastern Mexico, off Vera Cruz, 400-500 m, holotype MORG 39520, 45.8 mm.
15. *Chicoreus (Siratus) beauii* (Fischer & Bernardi, 1857). Florida, off Egmont Key, 73 m, RH, 56.5 mm.

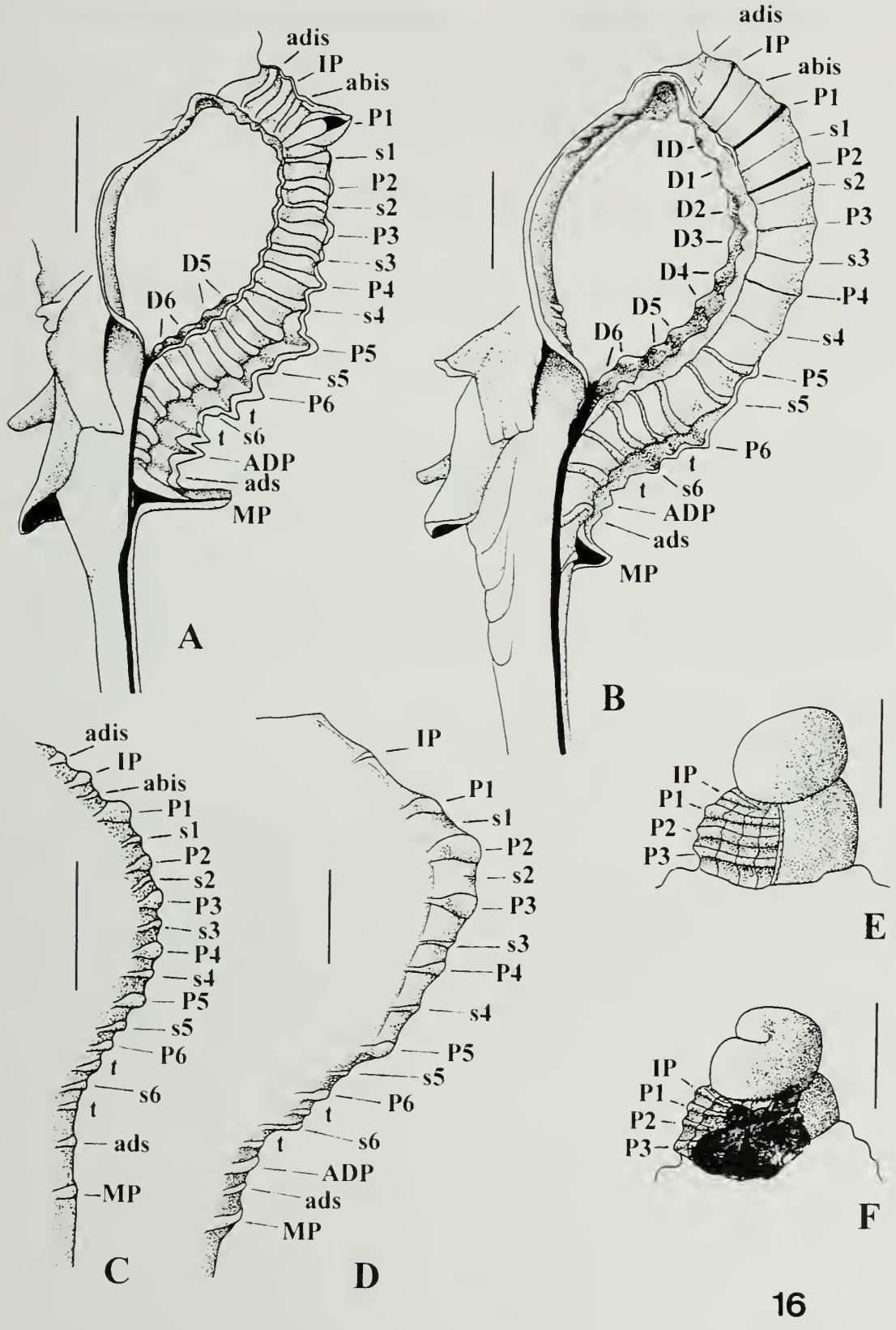


Figure 16. (A-D : scale bars 5 mm; E-F : scale bars 1 mm)

A. Spiral sculpture (apertural view) of *Chicoreus (Siratus) hennequini* n.sp., East Honduras, Roatan Island, 200 m, coll. R. Houart.

B. Spiral sculpture (apertural view) of *Chicoreus (Siratus) bessei* n.sp., East Honduras, South coast of Roatan Island, 250 m, coll. R. Houart.

C. Profile view of the intervarical nodules of *Chicoreus (Siratus) hennequini* n.sp.

D. Profile view of the intervarical nodules of *Chicoreus (Siratus) bessei* n.sp.

E. Protoconch and first teleoconch whorl of *Chicoreus (Siratus) hennequini* n.sp.

F. Protoconch and first teleoconch whorl of *Chicoreus (Siratus) bessei* n.sp.

(drawings D. Merle and J.M. Pacaud)