

STUDIES ON THE FAUNA OF CURAÇAO AND OTHER
CARIBBEAN ISLANDS: No. 152.

CARIBBEAN LAND MOLLUSCS: BULIMULIDAE
II. PLEKOCHAILUS AND NAESIOTUS

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INTRODUCTION

The second part of this series on the Bulimulidae deals with the genera *Plekocheilus* Guilding and *Naesiotus* Albers, two and six species of which are recognized respectively.

The following new synonymy is proposed: *Bulimulus chrysaloides* Pilsbry = *Naesiotus chrysalis* (Pfeiffer). *Bulimulus* (*Protoglyptus*) *sanctaeluciae* var. *luciae* Pilsbry is considered to be a valid species.

Finally some zoogeographical remarks are given.

To the introduction of part I (BREURE 1974, p. 8) the following abbreviations for museum collections can be added:

MHNG – Muséum Histoire Naturelle, Genève.

NMW – Naturhistorisches Museum, Wien.

Number of specimens studied:

Plekocheilus aulacostylus 19, – *aurissileni* 64.

Naesiotus chrysalis 84, – *luciae* 7, – *martinicensis* 28, – *mazei* 2, – *pilosus* 7, – *sanctaeluciaae* 1.

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SYSTEMATICS

Plekocheilus Guilding, 1828

GUILDING 1828a, p. 532. Type species, by monotypy: *Carychium undulatum* Leach = *Plekocheilus* (*Plekocheilus*) *aurissileni* (Born).

Diagnosis – Shell ovate-acuminate, solid and opaque; zigzag streaked, dappled or variegated, rarely unicoloured. Surface wrinkled, striated or granulous. Protoconch small, wrinkled or granulated. Aperture ovate or protracted. Peristome reflexed, expanded or blunt. Columella with or without a spiral fold.

Distribution – St. Lucia, St. Vincent, Barbados, ?Trinidad, Venezuela, ?Guyana, ?Guyane Française, Brasil, Bolivia, Perú, Ecuador, Colombia.

KEY TO THE SUBGENERA AND SPECIES OF *Plekocheilus*

(based on the material dealt with in this paper)

- a Shell solid. Surface with irregular axial riblets and malleation. Columella with a strong lamella at the transition to the parietal region *Plekocheilus*
 *P. (P.) aurissileni*
 St. Vincent, Barbados, ?Guyane française.

- b Shell thin. Surface smooth with superficial spiral striae. Columella with a crescent-shaped channel at the transition to the parietal region *Eurytus*
 *P. (E.) aulacostylus*
 St. Lucia, St. Vincent, ?Trinidad.

Subgenus *Plekocheilus* s.s.

Diagnosis – Surface wrinkled and malleated. Protoconch granulated. Peristome reflexed. Columella dilated, with a spiral fold.

Distribution – St. Vincent, Barbados, Venezuela, ?Guyana, ?Guyane française, Colombia.

Plekocheilus (Plekocheilus) aurissileni (Born, 1780)

Pl. VI fig. 5–10.

- Voluta auris Sileni* BORN, 1780, p. 212, pl. 9 fig. 3–4. [Description, measurements; no type locality, holotype: NMW]
Voluta Auris Sileni, SCHRÖTER 1783 [1783–6], p. 285. [Descr. (Born), references]
Voluta Auris Sileni, GMELIN 1791 [1788–92], p. 3436. [Descr., refer.]
Bulimus auris Sileni, BRUGUIÈRE 1792 [1789–92], p. 345. [Descr., refer., remarks]
Voluta Auris Sileni, CHEMNITZ 1795, p. 15, pl. 176 fig. 1701–1702. [Descr. (Born), refer., remarks]
Carychium undulatum LEACH, 1814, p. 84, pl. 37. [Descr.; no type locality]
Voluta auris Sileni, DILLWYN 1817, p. 502. [Descr., refer.]
 ? *Helix auris Sileni* Von Born, FÉRUSSAC 1821, p. 57. [Refer., "partie espagnole de Saint-Domingue?"]
Auricula caprella LAMARCK, 1822, p. 140. [Descr., refer., no type locality]
 ? *Bulimus auris sileni*, BOSC 1824, p. 106. [Descr., refer., St. Domingue]
Caprella undulata, GUILDING 1824, p. 341. [Descr., refer.]
Pupa caprella, J. E. GRAY 1825, p. 412. [Refer.]
Pupa Auris Sileni, J. E. GRAY 1825, p. 412. [Refer.]
Cochlogena Auris-Sileni, SOWERBY 1825, p. 39. [Refer.]
Plekocheilus undulatus, GUILDING 1828a, p. 533. [Descr., refer., remarks, St. Vincent]
Plekocheilus undulatus, SWAINSON 1832–3, pl. 103 + legend [Descr., refer., remarks]
Plekocheilus Sileni, BECK 1837, p. 55. [Refer.]
Bulimus auris Sileni Br., KÜSTER 1843 [KÜSTER & PFEIFFER, 1840–65], pl. 14 fig. 3–4.
Bulimus auris Sileni Chemnitz, KÜSTER 1844 [KÜSTER & PFEIFFER, 1840–65], p. 46. [Descr., refer.]
Auricula caprella, SOWERBY 1846, fig. 522–523.
Auricula Chevrotin CHENU, 1847, p. 163, fig. 531. [Indication; no type locality]
Bulimus auris Sileni, REEVE 1848 [1848–50], pl. 25 fig. 164.

- Bulimus auris Sileni* BORN, PFEIFFER 1848, p. 87. [Descr., refer.]
Bulimus (Pelecococheilus) auris Sileni v. BORN, ALBERS 1850, p. 151.
Bulimus auris-sileni BORN, JAY 1852, p. 190. [Refer.]
Bulimus (Plecococheilus) auris Sileni BORN, MÖRCH 1852, p. 28.
Bulimus auris Sileni BORN, PFEIFFER 1853, p. 316. [Refer.]
Bulimus auris Sileni Br., PFEIFFER 1853 [KÜSTER & PFEIFFER, 1840-65], pl. 22 fig. 9.
Bulimus (Plecococheilus) auris-Sileni BORN, ADAMS & ADAMS 1855, p. 147.
Plecococheilus auris Sileni BORN, CHENU 1859, p. 435, fig. 3201.
Bulimus auris Sileni BORN, PFEIFFER 1859, p. 380. [Refer.]
Bulimus auris-Sileni BORN, BLAND 1861, p. 359.
Bulimus auris Sileni BORN, PFEIFFER 1865? [KÜSTER & PFEIFFER, 1840-65], p. xv. [Refer.]
Bulimus auris Sileni BORN, PFEIFFER 1868, p. 23. [Refer.]
Bulimus auris Sileni BORN, PAETEL & SCHAUFUSS 1869, p. 79.
Bulimus auris-sileni BORN, BLAND & BINNEY 1873, p. 222. [Jaw, radula]
Bulimus auris-Sileni BORN, PAETEL 1873, p. 98.
Plecochilus undulatus, M. E. GRAY 1874, pl. 74* fig. 1.
Bulimus auris Sileni BORN, PFEIFFER 1877, p. 37. [Refer.]
Bulimus auris Sileni BORN, KOBELT 1880, p. 284.
Bulimulus (Plecococheilus) auris Sileni BORN, PFEIFFER & CLESSIN 1881, p. 220. [Refer.]
Bulimus auris-Sileni BORN, PAETEL 1883, p. 140. [Cayenne]
Bulimus (Plecocochilus) auris-sileni (BORN), SMITH 1895, p. 306. [Refer.]
Plecococheilus (Plecococheilus) aurissileni BORN, PILSBRY 1895 [1895-6], p. 65, pl. 22 fig. 57-58. [Descr., refer., remarks]
Plecocochilus (Plecocochilus) aurissileni (BORN), THIELE 1931, p. 652.
Plecococheilus aurissileni (BORN), ZILCH 1960 [1959-60], p. 475, fig. 1672.
Plecococheilus auris silenii BORN, S. G. A. JAECKEL 1969, p. 1 fig. 19.

Shell up to 48 mm, 1.6-1.7 times as long as wide; narrowly perforate, acute with convex sides; solid and strong. Colour yellowish or yellow-brown with darker brown, undulating, zebra-stripes, as wide as the intervals between them. Sometimes with a greenish hue.

Surface shining, sculptured with distinct, rather irregular axial riblets, which are interrupted at irregular distances by shallow spiral furrows, thus forming puckery bands. Ultimate whorl and part of penultimate whorl sculptured with malleation.

Protoconch with extremely fine granulation.

Whorls about 4.1, rather convex; ultimate whorl compressed at base. Suture shallow at upper whorls, well-marked and obliquely descending at ultimate whorl.

TABLE 8

MEASUREMENTS IN *Plekocheilus aurissileni* (BORN)

in mm, average values in italics.

Localities & Spec. measured	H \pm cl R	D \pm cl R	HA \pm cl R	DA \pm cl R	W \pm cl R
ST. VINCENT					
FMNH 62365 4	<i>43.5</i> 45.0—42.0	<i>26.5</i> 28.0—25.5	<i>27.3</i> 29.0—25.5	<i>17.5</i> 18.5—16.0	<i>4.1</i> 4.2—3.9
FMNH 77052 4	<i>44.8</i> 46.5—43.5	<i>26.5</i> 27.5—25.0	<i>27.6</i> 29.0—26.0	<i>17.5</i> 18.0—17.0	<i>4.0</i> 4.1—3.7
USNM 394036 19	<i>44.7</i> \pm 0.9 48.0—42.0	<i>26.6</i> \pm 0.5 28.5—24.5	<i>27.8</i> \pm 0.6 30.0—25.0	<i>17.6</i> \pm 0.3 18.5—16.5	<i>4.1</i> \pm 0.1 4.3—3.8
BARBADOS					
FMNH 146430 1	44.0	25.5	28.0	17.5	4.2

Aperture 1.5–1.7 times as long as wide, 6/10 shell height; ear-shaped, whitish inside.

Peristome thickened, *white*; well-expanded; margins joined by a thin callus. Columellar margin expanded, dilated above. Adult with a *strong lamella* at the transition to the parietal region.

Distribution – St. Vincent [type locality], Barbados!, Guyane française.

Plekocheilus aurissileni is distinguished from the mainland species of the genus by the strong columellar lamella and the white peristome.

The species is limited to St. Vincent, now selected as type locality, and Barbados; the records from Hispaniola (Saint-Domingue, FÉRUSAC 1821, and BOSC 1824) are probably erroneous. PAETEL (1883) listed this species from Cayenne, which is confirmed by three specimens. However, all these originate from ancient sources and

the occurrence of *Plekocheilus aurissileni* in French Guyana needs further confirmation.

The measurements are given in Table 8.

ST. VINCENT. Mt. St. Andrews, 15.VIII.1929, 4 sp. FMNH 62365, 4 sp. FMNH 77052, 33 sp. USNM 394036, P. Bartsch leg. – Jamaica, 1 sp. USNM 316401 ex Henderson ex Evezard. – St. Vincent, 4.I.1903 leg., 1 sp. FMNH 82056 ex Billups; 2 sp. FMNH 95258 ex Nelson; 24.III.1965, 2 sp. FMNH 159956, J. Boos leg.; 2 sp. MNHN ex Jousseau; 1 sp. NMB 8244a ex Bohny ex Boissier ex Petit; 1 sp. RMNH; 2 sp. USNM 37644, Rawson leg.; 2 sp. USNM 57828 ex Stearns ex Bland; 1 sp. USNM 151256 ex Chamberlain ex Salle; 2 sp. USNM 316426 ex Henderson ex Evezard; 1 sp. USNM 366584; 1 sp. USNM 492625 ex Henderson ex Webb; 1 sp. USNM 492626 ex Henderson; 2 sp. USNM 492627 ex Henderson ex Prime; 1 sp. USNM 492629 ex Henderson; 1 sp. UZMK ex Dietz.

BARBADOS. Barbados, Porter's Wood, 1 sp. FMNH 146430 ex Solem.

GUYANE FRANÇAISE. Cayenne, 1 sp. IRSN ex Dautzenberg ex Fulton; 1 sp. SMF 21608 ex Moellendorff; 1 sp. SMF 45634 ex Ehrmann ex Sowerby & Fulton.

Subgenus **Eurytus** Albers, 1850

ALBERS 1850, p. 169. Type species, by subsequent designation: *Helix pentadina* d'Orbigny = *Plekocheilus (Eurytus) floccosus* (Spix).

Diagnosis – Shell ovate to elongate, thin to solid; with patterns of dots and/or irregular streaks. Surface granulated or striated, seldom smooth. Peristome reflexed to unexpanded. Columella with or without a fold.

Distribution – St. Lucia, St. Vincent, ?Trinidad, Guyana (REDFIELD 1853), Brasil, Bolivia, Perú, Ecuador, Colombia.

Plekocheilus (Eurytus) aulacostylus (Pfeiffer, 1853)

Pl. VI fig. 1–4.

Bulimus aulacostylus PFEIFFER, 1853, p. 316. [Description, measurements, reference to PFEIFFER 1854; St. Lucia – type locality!]

Bulimus lentiginosus REDFIELD, 1853, p. 14. [Descr., remarks: "also found ... at the junction of the Massaroon and Essequibo rivers, Demerara" [Guyana]; Trinidad, distr. San Fernando, 400 feet – type locality!]

Bulimus aulacostylus, PFEIFFER 1854, p. 59. [Descr.]

- Bulimus aulacostylus* Pfr., PFEIFFER 1854 [KÜSTER & PFEIFFER 1840-65], p. 114, pl. 35 fig. 5-6. [Descr., refer.]
- Bulimus aulacostylus* Pfr., BLAND 1855, p. 153. [Remarks]
- Bulimus aulacostylus* Pfr., PFEIFFER 1859, p. 380. [Refer.]
- Bulimus (Eurytus) aulacostylus* Pfr., MARTENS 1860, p. 195.
- Bulimus aulacostylus* P., BLAND 1861, p. 359.
- Bulimus aulacostylus* Pfr., PFEIFFER 1868, p. 23. [Refer.]
- Bulimus aulacostylus* Pfr., TATE 1869, p. 356. [Remarks]
- Bulimus aulacostylus* Pfr., BLAND & BINNEY 1873, p. 222. [Jaw and radula]
- Bulimus aulacostylus* Pfr., PFEIFFER 1877, p. 37. [Refer.]
- Bulimus (Eurytus) aulacostylus* Pfr., PFEIFFER & CLESSIN 1881, p. 227. [Refer.]
- Bulimus aulacostylus* Pfr., PAETEL 1883, p. 140.
- Bulimus (Eurytus) aulacostylus* Pfeiffer, SMITH 1889, p. 403. [Refer., remarks]
- Plekocheilus (Eurytus) aulacostylus* Pfeiffer, PILSBRY 1895 [1895-6], p. 72, pl. 27 fig. 98. [Descr., refer., remarks]
- Eurytus aulacostylus* Pfr., S. G. A. JAECKEL 1969, p. 802. ["Guiana"]

Shell up to 39.5 mm, 1.6-1.8 times as long as wide; broadly perforate, acute with rather convex sides; thin. Colour light yellow-brown to dark chestnut-brown, with irregular chestnut spots.

Surface slightly shining to lustreless, *smooth*, sometimes with numerous, very faint striae.

Protoconch with extremely fine granulation.

Whorls about 4.6, rather convex; ultimate whorl about 9/10 shell height. Suture shallow at upper whorls, well-marked and slightly obliquely descending at ultimate whorl.

Aperture 1.5-1.8 times as long as wide; 7/10 shell height elongate-ovate, brownish inside.

Peristome thin, white or whitish-purple; well-expanded; margins usually joined by a thin callus. Columellar margin slightly dilated above, a *crescent-shaped channel* at the transition to the parietal region.

Distribution - St. Lucia [type locality], St. Vincent!, ?Trinidad.

To be distinguished from other species of *Eurytus* by the smooth surface and the crescent-shaped channel in the aperture.

Plekocheilus aulacostylus was not previously recorded from St. Vincent. As all specimens originate from ancient sources, this locality needs confirmation.

The specimen in the Naturhistorisches Museum Basel was ac-

TABLE 9

MEASUREMENTS IN *Plekocheilus aulacostylus* (PFEIFFER)

in mm, average values in italics.

Localities & Spec. measured	H R	D R	HA R	DA R	U R	W R
ST. LUCIA						
ANSP 66410 2	<i>38.0</i> 39.5-36.5	<i>21.5</i> 23.0-20.0	<i>23.8</i> 24.0-23.5	<i>14.4</i> 14.7-14.0	<i>31.8</i> 32.5-31.0	<i>4.6</i> 4.7-4.5
FMNH 31111 1	35.0	19.5	22.0	13.1	30.0	4.7
FMNH 95257 1	34.5	20.5	21.0	13.4	29.0	4.6
USNM 492630 2	<i>33.5</i> 35.0-32.0	<i>19.8</i> 20.5-19.0	<i>21.3</i> 22.0-20.5	<i>13.0</i> 13.1-12.8	<i>28.5</i> 30.0-27.0	<i>4.4</i> 4.6-4.2
USNM 492631 1	35.5	22.0	23.5	15.5	31.5	4.2
ST. VINCENT						
USNM 57827 1	33.0	20.0	22.0	13.5	28.5	—
TRINIDAD						
NMB 8243a 1	36.0	20.0	22.5	12.5	30.0	5.0

accompanied by a label "Trinidad, angebl. [= angeblich (supposed) ?]" Also the label of the specimens from the USNM-collection expresses doubt about their origin. Therefore, I suppose that *Plekocheilus aulacostylus* does not occur on Trinidad. The localities given by REDFIELD (1853) are probably erroneous as they are not confirmed by any material.

The measurements are given in Table 9.

ST. LUCIA. St. Lucia, 3 sp. ANSP 66410 ex Brown; 1 sp. FMNH 31111 ex Webb ex Sowerby & Fulton; 1 sp. FMNH 95257 ex Nelson; 2 sp. FMNH 100657 ex Button,

Anthony leg.; 2 sp. IRSN ex Dautzenberg ex Crosse; 1 sp. IRSN ex Dautzenberg ex Dupuy; 1 sp. MNHN ex Letellier; 1 sp. RMNH ex Sowerby & Fulton; 1 sp. USNM 151255 ex Chamberlain ex Salle; 2 sp. USNM 492630 ex Henderson ex Webb; 1 sp. USNM 492631 ex Henderson.

ST. VINCENT. St. Vincent, 4 sp. USNM 57827 ex Stearns, Rawson leg.; 2 sp. USNM 316427 ex Henderson ex Evezard.

TRINIDAD. "Trinidad, angebl.", 1 sp. NMB 8243a ex Bohny ex Boissier ex Petit. - "Trinidad", 2 sp. USNM 492632 ex Henderson.

Naesiotus Albers, 1850

ALBERS 1850, p. 162. Type species, by subsequent designation: *Bulinus nux* Broderip = *Naesiotus nux* (Broderip).

Diagnosis - Shell thin to solid, conic to cylindrical; white or coloured, usually corneous. Protoconch generally with vertical, straight costulae but sometimes undulating often confluent costulae, as broad as the interstices between them, may be observed. Dense, fine spiral striae are always present between the costulae. Aperture ovate to somewhat angular, sometimes with denticles. Peristome not or slightly expanded, sometimes thickened; columellar margin reflexed and dilated, occasionally with a lamella inside.

Distribution - Guadeloupe, Martinique, St. Lucia, Trinidad, Brasil, Argentina, Bolivia, Perú, Ecuador, Galápagos.

Naesiotus is considered a synonym of *Bulimulus* Leach, 1814 by VAN MOL (1972). However, the present author prefers to treat *Naesiotus* as a distinct genus, awaiting a thorough revision of this family on (sub)generic level.

KEY TO THE SPECIES OF *Naesiotus*

(based on the material dealt with in this paper)

- 1a Surface with rows of hairs or little knobs. 2
- 1b Surface smooth or with traces of spiral striae 4
- 2a Shell height up to 16 mm, sides slightly convex . . . *N. pilosus*
Trinidad
- 2b Shell height more than 16 mm, sides straight 3

- 3a Whorls rather convex. Aperture subtruncate below, whitish inside *N. sanctaeluciae*
St. Lucia
- 3b Whorls hardly convex. Aperture ovate, pale brown inside *N. luciae*
St. Lucia
- 4a Shell elongate. Colour dirty dark brown. Apex obtuse. Aperture elongate-ovate, purplish-brown inside. Peristome not expanded *N. mazei*
Martinique
- 4b Shell slightly elongate. Colour pale brown to russet-coloured. Apex not obtuse. Aperture ovate, pale brown inside. Peristome slightly expanded 5
- 5a Peristome white inside, yellowish outside. *N. martinicensis*
Martinique
- 5b Peristome flesh-coloured inside *N. chrysalis*
Guadeloupe, Martinique

Naesiotus pilosus (Guppy, 1871)

Pl. VIII fig 1-4.

- Buliminus pilosus* GUPPY, 1871, p. 310, pl. 17 fig. 9. [Description, measurements, remarks; Trinidad – type locality!]
- Bulimus pilosus*, GUPPY 1875a, p. 319, 312, 323.
- Bulimus pilosus* Guppy, PFEIFFER 1877, p. 186. [Descr., refer.]
- Bulimus pilosus* G., GUPPY 1877, p. 109.
- Bulimus pilosus* Guppy, KOBELT 1880, p. 285.
- Bulimulus pilosus* Guppy, CROSSE 1890, p. 43, pl. 2 fig. 3. [Refer., remarks]
- Bulimulus pilosus* Guppy, GUPPY 1893, p. 218. [Descr.]
- Bulimulus* (*Leptomerus*) *pilosus* Guppy, SMITH 1896, p. 241.
- Bulimulus* (*Protoglyptus*) *pilosus* (Guppy), PILSBRY 1897 [1897-8], p. 85, pl. 13 fig. 8-9, 20. [Descr., refer., remarks]
- Bulimulus* (*Protoglyptus*) *pilosus* (Guppy), THIELE 1931, p. 655. [type-species of sectio *Protoglyptus* Pilsbry, 1897]
- Bulimulus* (*Protoglyptus*) *pilosus* (Guppy), ZILCH 1960 (1959-60), p. 485. [selected as type-species of *Protoglyptus* Pilsbry, 1897]

Shell up to 15.8 mm, 1.6-1.9 times as long as wide; perforate, acute with slightly convex sides; rather thin. Colour pale brown.

TABLE 10
 MEASUREMENTS IN *Naesiotus pilosus* (GUPPY)
 in mm, average values in italics.

Localities & Spec. measured	H R	D R	HA R	WA R	U R	P R	W R
TRINIDAD							
BMNH 4	<i>12.4</i> 15.1-10.3	<i>7.3</i> 8.2-6.5	<i>4.9</i> 5.6-4.1	<i>3.3</i> 3.8-2.8	<i>7.8</i> 9.3-6.6	<i>4.8</i> 6.0-3.9	<i>5.7</i> 6.3-5.5
NMB 4971a 2	<i>14.7</i> 15.8-13.5	<i>8.2</i> 8.3-8.0	<i>5.6</i> 5.9-5.3	<i>3.8</i> 4.0-3.5	<i>9.1</i> 9.6-8.6	<i>5.6</i> 5.9-5.2	<i>6.1</i> 6.3-5.9

Surface slightly shining, with numerous rows of very small knobs and corresponding rows of epidermal hairs.

Protoconch with straight axial costulae and spiral striae between.

Whorls about 6, rather convex; ultimate whorl 6/10 shell height. Suture *rather deeply impressed*.

Aperture subovate, pale brown inside, 1.5 times as long as wide, 4/10 shell height.

Peristome thin, basal margin slightly expanded. Columellar margin reflexed and dilated above.

Distribution - Trinidad.

Naesiotus pilosus, characterized by its size and rather deeply impressed suture, has no morphological resemblance to any other West-Indian *Naesiotus* species. All material collected were empty shells. Further field data will have to prove whether this species is extinct or not.

The measurements are given in Table 10.

TRINIDAD: "SO Trinidad, Trockenhänge am White Sandriver", I. 1914, 2 sp. NMB 4971a, H. G. Kugler leg. - Trinidad, 4 sp. BMNH, R. J. L. Guppy leg.; 1 sp. FMNH 77541 ex AMNH ex Croke; 1 sp. IRSN ex Dautzenberg; 1 sp. IRSN ex Dautzenberg ex Marie.

Naesiotus sanctaeluciae (Smith, 1889)

Pl. VII fig. 7.

Bulimus (*Leptomerus*) *sanctaeluciae* SMITH, 1889, p. 403. [Description, measurements; St. Lucia – type locality¹, holotype: BMNH]

Bulimulus (*Protoglyptus*) *sanctaeluciae* (Smith), PILSBRY 1897 [1897–8], p. 86. [Descr. (Smith), refer., remarks]

Shell up to 21 mm, 2.2 times as long as wide; perforate, acute with straight sides; rather thin. Colour pale tawny brown, *a paler band on the middle of the ultimate whorl*.

Surface shining, with numerous rows of very small knobs and corresponding rows of short, dark brown, epidermal hairs.

Protoconch with straight axial costulae and spiral striae between.

Whorls 7.3, *rather convex*; ultimate whorl 6/10 shell height. Suture well-impressed.

Aperture subovate, *subtruncate below*, dirty white inside, 1.5 times as long as wide, 4/10 shell height.

Peristome thin, white, hardly expanded at basal margin. Margins joined by a thin, transparent callus. Columellar margin reflexed and well-dilated above.

Measurements of holotype: shell height 21.0 mm, diameter 9.7 mm; height of aperture 8.3 mm, diameter 5.4 mm; height of ultimate whorl 12.7 mm, penultimate whorl 6.8 mm; whorls 7.3.

Distribution – St. Lucia.

Known by the holotype only, this species differs from *Naesiotus luciae*, also occurring on St. Lucia, by the colour, the pale band on the ultimate whorl, the rather convex whorls and the form of the aperture.

ST. LUCIA: Fonds St. Jacques, 1 sp. BMNH (holotype).

Naesiotus luciae (Pilsbry, 1897)

Pls. VII fig. 8-12, VIII fig. 13.

Bulimulus (Protoglyptus) sanctaeluciae var. *luciae* PILSBRY, 1897 [1897-8], p. 86, pl. 12 fig. 43. [Description, measurements, remarks; St. Lucia - type locality!, lectotype: ANSP 25667]

Shell up to 22.5 mm, 1.7-2.0 times as long as wide; perforate, acute with straight sides; rather thin. Colour pale, dirty brown to russet-coloured.

Surface slightly shining, with numerous rows of small knobs and corresponding rows of epidermal hairs.

Protoconch with straight axial costulae and spiral striae between.

Whorls about 6.5, *hardly convex*. Ultimate whorl 7/10 shell height. Suture slightly impressed.

Aperture *ovate*, pale dirty brown inside, 1.5 times as long as wide, 1/2 shell height.

Peristome thin, basal margin fairly expanded, palatal margin hardly expanded. Columellar margin reflexed and dilated above.

Distribution - St. Lucia.

When PILSBRY described this species, *Naesiotus sanctaeluciae* was known to him by description only. After having compared the material of both *Naesiotus sanctaeluciae* and *N. luciae*, I consider the latter to represent a distinct species. It must be mentioned, however, that both the original and present descriptions of *Naesiotus luciae* are based on few specimens, nearly all immature.

Naesiotus luciae differs from *N. sanctaeluciae* by its flat or hardly convex whorls, its ovate aperture and its uniform colour.

The measurements are given in Table 11.

ST. LUCIA: Gros Islet, Mongrioud, 11.VII.1967 (Sta. 853), 1 sp. - St. Lucia, 4 sp. ANSP 25668 ex Swift (paralectotypes); 1 sp. ANSP 325062 ex Swift; 1 sp. FMNH 78786 ex ANSP ex Swift.

TABLE 11
MEASUREMENTS IN *Naesiotus luciae* (PILSBRY)
in mm, average values in italics.

Localities & Spec. measured	H R	D R	HA R	WA R	U R	P R	W R
ST. LUCIA							
ANSP 25668 3	<i>16.3</i> 17.0-15.5	<i>9.6</i> 9.9-9.2	<i>7.7</i> 8.0-7.3	<i>5.2</i> 5.4-5.0	<i>11.1</i> 11.7-10.5	<i>5.4</i> 5.6-5.0	<i>6.1</i> 6.4-6.0
FMNH 78786 1	22.5	11.5	10.0	6.6	14.5	7.2	6.8

Naesiotus mazei (Crosse, 1874)

Pl. VIII fig. 11.

- Bulimulus Mazei* CROSSE, 1874a, p. 118. [Description, measurements; Martinique, Massif des Pitons, 730 m - type locality¹, holotype: MNHN]
Bulimulus Mazei CROSSE, MAZÉ 1874, p. 165, pl. 4 fig. 3. [Reference]
Bulimulus Mazei CROSSE, CROSSE 1874b, p. 202, pl. 4 fig. 3. [Descr. (Crosse), refer.]
Bulimulus Mazei CROSSE, PFEIFFER 1877, p. 184. [Descr. (Crosse), refer.]
Bulimulus Mazei CROSSE, KOBELT 1880, p. 283.
Bulimulus (Leptomerus) Mazei CROSSE, PFEIFFER & CLESSIN 1881, p. 234. [Refer.]
Bulimulus Mazei CROSSE, PAETEL 1889, p. 228. [Refer.]
Bulimulus mazei CROSSE, PILSBRY 1897, p. 48, pl. 9 fig. 57-58. [Descr. (Crosse), refer., remarks]

Shell up to 19 mm, elongate, 2.7 times as long as wide; *rimate*, acute with *straight sides*; rather thin. Colour dirty dark brown, somewhat paler towards the apex.

Surface slightly shining, with numerous delicate striae.

Protoconch with straight axial costulae and spiral striae between.

Whorls 6.8, very slightly convex. *Apex obtuse*. Ultimate whorls 6/10 shell height; subangular, disappearing towards the peristome. Suture slightly impressed.

Aperture elongate-ovate, purplish brown inside, 1.7 times as long as wide, 3/10 shell height.

Peristome thin. Columellar margin whitish, reflexed and hardly dilated above.

Measurements of holotype: shell height 19 mm, diameter 6.9 mm; height of aperture 6.4 mm, width 3.7 mm; height of ultimate whorl 10.6 mm, penultimate whorl 6.6 mm; whorls 6.8.

Distribution - Martinique.

This species differs from *Naesiotus martinicensis*, also occurring on Martinique, by the absence of a pale band at the peristome, the more obtuse apex, and by being more elongate. *Naesiotus chrysalis* is more stout and less elongate than *N. mazei*, with a flesh-coloured peristome.

Both available specimens originate from MAZÉ. The species may prove to be extinct.

MARTINIQUE: Massif des Pitons, 730 m, 1873 leg., 1 sp. MNHN ex Mazé (holotype) - Martinique, 1 sp. IRSN ex Dautzenberg ex Crosse ex Mazé [probably from the same locality].

Naesiotus martinicensis (Pfeiffer, 1846)

Pl. VIII fig. 5-10, 12, 14.

- Bulimus Martinicensis* PFEIFFER, 1846a, p. 40. [Description, measurements; Martinique - type locality!, lectotype (now): BMNH]
- Bulimus Martinicensis* Pfr., PFEIFFER 1846, p. 55. [References]
- Bulimus martinicensis* Pfr., PFEIFFER 1848, p. 120. [Refer.]
- Bulimus martinicensis*, REEVE 1849 [1848-50], pl. 63 fig. 434. [Refer.]
- Bulimus Martinicensis* Pfr., PFEIFFER 1853, p. 353. [Refer.]
- Bulimulus (Ena) Martinicensis* Pfeiff., ADAMS & ADAMS 1855, p. 160.
- Bulimus Martinicensis* Pfr., PFEIFFER 1855 [KÜSTER & PFEIFFER, 1840-65], p. 238, pl. 63 fig. 9-10. [Descr., refer.]
- Bulimus Martinicensis* Pfr., PFEIFFER 1859, p. 417. [Refer.]
- Bulimus Martinicensis* P., BLAND 1861, p. 358.
- Bulimulus Martinicensis* Pfr., PFEIFFER 1868, p. 60. [Refer.]
- Bulimus Martinicensis* Pfeiffer, MAZÉ 1874, p. 164.
- Bulimulus Martinicensis* Pfr., PFEIFFER 1877, p. 80. (Refer.)
- Bulimulus martinicensis* Pfr., KOBELT 1880, p. 283.
- Bulimulus Martinicensis* Pfr., PFEIFFER & CLESSIN 1881, p. 233. [Refer.]
- Bulimulus Martinicensis* Pfr., PAETEL 1889, p. 228. [Refer.]
- Bulimulus martinicensis* (Pfeiffer), PILSBRY 1897 [1897-8], p. 47, pl. 9 fig. 47-49. [Descr., refer., remarks]

TABLE 12

MEASUREMENTS IN *Naesiotus martinicensis* (PFEIFFER)

in mm, average values in italics.

Localities & Spec. measured	H±d R	D±d R	HA±d R	WA±d R	U±d R	P±d R	W±d R
MARTINIQUE							
Vauchin FMNH 31307 8	<i>19.6±1.7</i> 22.0—17.0	<i>9.7±0.7</i> 11.1—8.6	<i>8.0±0.7</i> 9.5—7.0	<i>5.4±0.5</i> 6.3—4.7	<i>12.1±1.2</i> 14.0—10.0	<i>6.7±0.8</i> 7.8—5.5	<i>6.8±0.2</i> 7.3—6.5
FMNH 95329 4	<i>20.0</i> 23.5—17.0	<i>9.7</i> 10.8—8.6	<i>7.9</i> 8.5—6.9	<i>4.9</i> 5.5—4.4	<i>12.1</i> 13.4—10.5	<i>6.9</i> 8.1—6.2	<i>6.9</i> 7.6—6.5
USNM 492635 4	<i>20.3</i> 22.5—19.0	<i>9.2</i> 9.8—8.4	<i>7.8</i> 8.0—7.6	<i>5.2</i> 5.5—4.8	<i>12.0</i> 12.6—11.4	<i>7.1</i> 7.8—6.5	<i>7.0</i> 7.5—6.6
BMNH (syntypes) 3	<i>19.2</i> 19.5—18.5	<i>8.2</i> 8.5—7.9	<i>7.0</i> 7.1—6.9	<i>4.4</i> 4.6—4.1	<i>11.0</i> 11.4—10.7	<i>7.0</i> 7.4—6.7	<i>7.0</i> 7.1—6.9
LECTOTYPE	19.5	8.2	6.9	4.6	11.4	7.4	7.1

Shell up to 22.5 mm, 1.9–2.4 times as long as wide; narrowly perforate to rimate, sides straight to slightly convex; rather thin. Colour pale dirty brown to russet-coloured, with a *yellowish* longitudinal band at the peristome.

Surface slightly shining, smooth or with hardly visible spiral striae.

Protoconch with straight axial costulae and spiral striae between.

Whorls about 6.9, slightly convex; ultimate whorl 6/10 shell height. Suture well-impressed.

Aperture ovate, pale brown inside, 1.4–1.7 times as long as wide, 4/10 shell height.

Peristome thin, *white*, basal margin and part of palatal margin slightly expanded. Columellar margin slightly reflexed and dilated.

Distribution – Martinique.

This species closely resembles *Naesiotus mazei* and *N. chrysalis*. *Naesiotus martinicensis* differs, however, from the latter by the white peristome, the yellowish band at the peristome and the more elongated general shape; from the former by the yellowish band at the peristome, the ovate aperture, more acute apex and by being less elongated.

A lectotype has been chosen from the specimens of the BMNH-collection, which were accompanied by a label in L. PFEIFFER'S handwriting (Pl. VIII fig. 14).

The measurements are given in Table 12.

MARTINIQUE: Morne Rouge, 2 sp. SMF 208463 ex Jaeckel - Vauchin, 500 m, 9 sp. FMNH 31307 ex Webb - Martinique, 3 sp. BMNH (lectotype and paralectotypes); 4 sp. FMNH 95329 ex Nelson; 1886, 7 sp. IRSN ex Dautzenberg ex Bordaz; 1 sp. MNHN ex Fischer; 1 sp. MNHN ex Lavezzari; 1 sp. SMF 90242; 1 sp. USNM 105065; 4 sp. USNM 492635.

***Naesiotus chrysalis* (Pfeiffer, 1847)**

Pl. VII fig. 1-6.

- Bulimus chrysalis* PFEIFFER, 1847, p. 14. [Description, measurements; Guadeloupe - type locality!]
- Bulimus chrysalis* Pfr., PFEIFFER 1848, p. 108. [Descr., references]
- Bulimus chrysalis*, REEVE 1848 [1848-50], pl. 57 fig. 382. [Descr.]
- Bulimus (Leptomerus) chrysalis* Pfr., ALBERS 1850, p. 166.
- Bulimus chrysalis* Pfeiffer, DESHAYES 1851 [FÉRUSAC & DESHAYES, 1820-51], p. 71 [? pl. 142 fig. 11-12]. [Descr., refer., remarks]
- Bulimus chrysalis* Pfr., PFEIFFER 1853, p. 345. [Refer.]
- Bulimus chrysalis* Pfr., PFEIFFER 1855 [KÜSTER & PFEIFFER, 1840-65], p. 238, pl. 63 fig. 7-8. [Descr., refer.]
- Bulimus chrysalis* Pfeif., BEAU 1857, p. 492.
- Bulimus chrysalis* Pfr., PFEIFFER 1859, p. 409. [Refer.]
- Bulimus chrysalis* P., BLAND 1861, p. 354, 358. [Martinique]
- Bulimus chrysalis* Pfr., PFEIFFER 1868, p. 54. [Refer.]
- Bulimus chrysalis* Pfeiffer, SCHRAMM 1869, p. 17.
- Bulimulus chrysalis* Pfr., BINNEY 1874, p. 53, pl. 5 fig. 11-13. [Radula]
- Bulimulus chrysalis* Pfeiffer, MAZÉ 1874, p. 164. [Remarks]
- Bulimus chrysalis* Pfr., PFEIFFER 1877, p. 67. [Refer.]
- Bulimulus chrysalis* Pfr., KOBELT 1880, p. 282-283.
- Bulimulus (Leptomerus) chrysalis* Pfr., PFEIFFER & CLESSIN 1881, p. 233. [Refer.]
- Mesembrinus chrysalis* Pfr., BINNEY 1884, p. 122, pl. 14 fig. G, pl. 15 fig. Q. [Jaw, radula]
- Bulimulus chrysalis* Pfr., PAETEL 1889, p. 223.

- Bulimulus chrysaloides* PILSBRY, 1897, p. 20. [Descr., meas.; Martinique – type locality!, lectotype: ANSP 3557. New synonymy]
Bulimulus chrysalis (Pfeiffer), PILSBRY 1897 [1897–8], p. 43, pl. 9 fig. 50–51. [Descr., refer., remarks]
Bulimulus (*Protoglyptus*) *chrysaloides* Pilsbry, PILSBRY 1897 [1897–8], p. 87, pl. 9 fig. 52. [Descr., refer., remarks]

Shell up to 23 mm, 1.8–2.2 times as long as wide; perforate to rimate, sides slightly to rather convex; rather solid. Colour *russet*, somewhat paler towards the apex.

Surface slightly shining, *smooth* or with hardly visible spiral striae.

Protoconch with straight axial costulae and spiral striae between.

Whorls about 7, slightly convex. Ultimate whorl 6/10 shell height. Suture slightly impressed.

Aperture *ovate*, pale brown inside, 1.3–1.6 times as long as wide, 4/10 shell height.

Peristome thin, *flesh-coloured*, basal margin and part of palatal margin slightly expanded. Columellar margin slightly reflexed and dilated above.

Distribution – Guadeloupe [type locality], Martinique.

Differs from *Naesiotus martinicensis* mainly by the flesh-coloured peristome and the less elongated general shape.

The measurements are given in Table 13.

GADELOUPE: Guadeloupe, 2 sp. AMNH 41082 ex Jay; 2 sp. AMNH 62529; 5 sp. IRSN ex Dautzenberg ex Marie; 1 sp. FMNH 77542; 2 sp. SMF 22787 ex Moellendorff; 4 sp. UZMK.

MARTINIQUE: Fort de France, 7 sp. MNHN ex Fischer ex Mazé – Martinique, 1 sp. ANSP 325065 ex Brown (paratype of *Bulimulus chrysaloides*); 2 sp. FMNH 94887 ex Nelson; 1 sp. IRSN ex Dautzenberg ex Crosse ex Mazé; 10 + 2 sp. MNHN ex Denis; 2 sp. MNHN ex Fischer ex Mazé; 8 + 1 sp. MNHN ex Mazé; 4 sp. MNHN ex Rang; 1 sp. MNHN ex Vanuxen; 8 + 2 + 2 sp. MNHN; 2 sp. RMNH, S. Petit leg.; 2 sp. SMF 22788 ex Moellendorff; 1 sp. USNM 105065 ex Lea; 3 sp. USNM 492635 ex Henderson ex Johnson; 2 sp. USNM 707511 ex Henderson ex Webb; 3 sp. USNM 707512 ex Henderson ex Webb; 2 sp. UZMK.

WITHOUT LOCALITY: 3 sp. BMNH; 1 sp. MNHN ex Jousseame.

TABLE 13
 MEASUREMENTS IN *Naesiotus chrysalis* (PFEIFFER)
 in mm, average values in italics.

Localities & Spec. measured	H R	D R	HA R	WA R	U R	P R	W R
GUADELOUPE							
AMNH 62529 2	<i>21.5</i> 22.5—20.5	<i>10.9</i> 11.0—10.7	<i>9.4</i> 9.5—9.3	<i>6.6</i> 6.9—6.2	<i>14.0</i> 14.3—13.5	<i>7.2</i> 7.8—6.5	<i>6.8</i> 6.8—6.7
AMNH 41082 2	<i>22.5</i> 23.0—22.0	<i>10.8</i> 11.0—10.6	<i>8.9</i> 9.0—8.7	<i>6.6</i> 6.7—6.5	<i>13.8</i> 14.1—13.5	<i>7.8</i> 8.0—7.5	<i>7.2</i> 7.3—7.1
FMNH 77542 1	22.0	10.3	9.4	6.3	13.6	7.3	7.1
MARTINIQUE							
ANSP 325065 1	19.0	10.1	8.2	5.8	12.5	6.8	6.8
FMNH 94887 2	<i>18.5</i> 19.0—18.0	<i>9.0</i> 9.5—8.6	<i>7.9</i> 8.5—7.2	<i>5.3</i> 5.5—5.1	<i>11.7</i> 12.4—11.0	<i>6.8</i>	<i>6.6</i>
RMNH 2	<i>23.0</i>	<i>10.8</i> 11.0—10.6	<i>9.5</i>	<i>6.6</i> 6.7—6.4	<i>14.5</i> 14.5—14.4	<i>8.1</i> 8.2—8.0	<i>7.0</i>
USNM 105065 1	21.0	10.6	9.0	6.2	13.3	7.0	6.9
USNM 707511 2	<i>21.0</i> 22.0—20.0	<i>10.5</i> 10.9—10.0	<i>9.5</i> 9.8—9.1	<i>5.8</i> 6.1—5.5	<i>13.5</i> 13.9—13.0	<i>7.1</i> 7.7—6.4	<i>6.9</i> 7.0—6.7
USNM 707512 3	<i>21.5</i> 23.0—18.5	<i>10.7</i> 10.9—10.3	<i>9.1</i> 9.9—8.0	<i>6.1</i> 6.4—5.8	<i>13.7</i> 14.6—12.1	<i>7.3</i> 8.1—6.1	<i>6.8</i> 7.0—6.5
WITHOUT LOCALITY							
BMNH 3	<i>22.5</i> 23.0—22.0	<i>11.1</i> 11.5—10.8	<i>9.4</i> 9.7—9.2	<i>6.2</i> 6.6—6.0	<i>14.1</i> 14.5—13.7	<i>7.6</i> 7.8—7.3	<i>7.0</i> 7.1—6.9

ZOOGEOGRAPHICAL REMARKS

After studying the distributional data of the species of *Plekocheilus* and *Naesiotus* treated in this paper (cf. Table 14), the following remarks may be made.

The *Plekocheilus* species, *P. aurissileni* and *P. aulacostylus*, are endemic to the Caribbean Region, although the latter may prove to occur in Guyane française.

Plekocheilus aurissileni resembles other species of the nominate subgenus, which occur mainly in Venezuela. Contrariwise *Plekocheilus aulacostylus* is rather isolated, both in shell characters and distribution, from the other members of the subgenus *Eurytus*.

The Caribbean species of *Naesiotus* also appear to be isolated, being endemic to this Region. The distribution of this genus is rather discontinuous.

Naesiotus pilosus, limited to Trinidad, does not resemble any of the other Caribbean species very closely nor any mainland species.

On St. Lucia two endemic species are found: *Naesiotus sanctaer-luciae* and *N. luciae*.

On Martinique also two endemic *Naesiotus* species occur: *N. martinicensis* and *N. mazei*.

The distribution of *Naesiotus chrysalis* would appear strikingly discontinuous: occurring on Guadeloupe and Martinique, it has not been recorded from the intermediate islands. However, more intensive collecting will be necessary to prove the discontinuous distribution of this species.

The high percentage of endemic *Naesiotus* species in this area is remarkable.

TABLE 14
 DISTRIBUTION OF *Plekocheilus* AND *Naesiotus*
 in the area dealt with in this paper.

Species	Guadeloupe	La Désirade	Marie-Galante	Dominica	Martinique	St. Lucia	St. Vincent	Grenada	Barbados	Tobago	Trinidad	S. American mainland
<i>Naesiotus</i>												
<i>chrysalis</i>	x	—	—	—	x	—	—	—	—	—	—	—
<i>martinicensis</i>	—	—	—	—	x	—	—	—	—	—	—	—
<i>mazei</i>	—	—	—	—	x	—	—	—	—	—	—	—
<i>sanctaeluciaae</i>	—	—	—	—	—	x	—	—	—	—	—	—
<i>luciaae</i>	—	—	—	—	—	x	—	—	—	—	—	—
<i>pilosus</i>	—	—	—	—	—	—	—	—	—	—	x	—
<i>Plekocheilus</i>												
<i>aulacostylus</i>	—	—	—	—	—	x	x	—	—	—	—	x?
<i>aurissileni</i>	—	—	—	—	—	—	x	—	x	—	—	—

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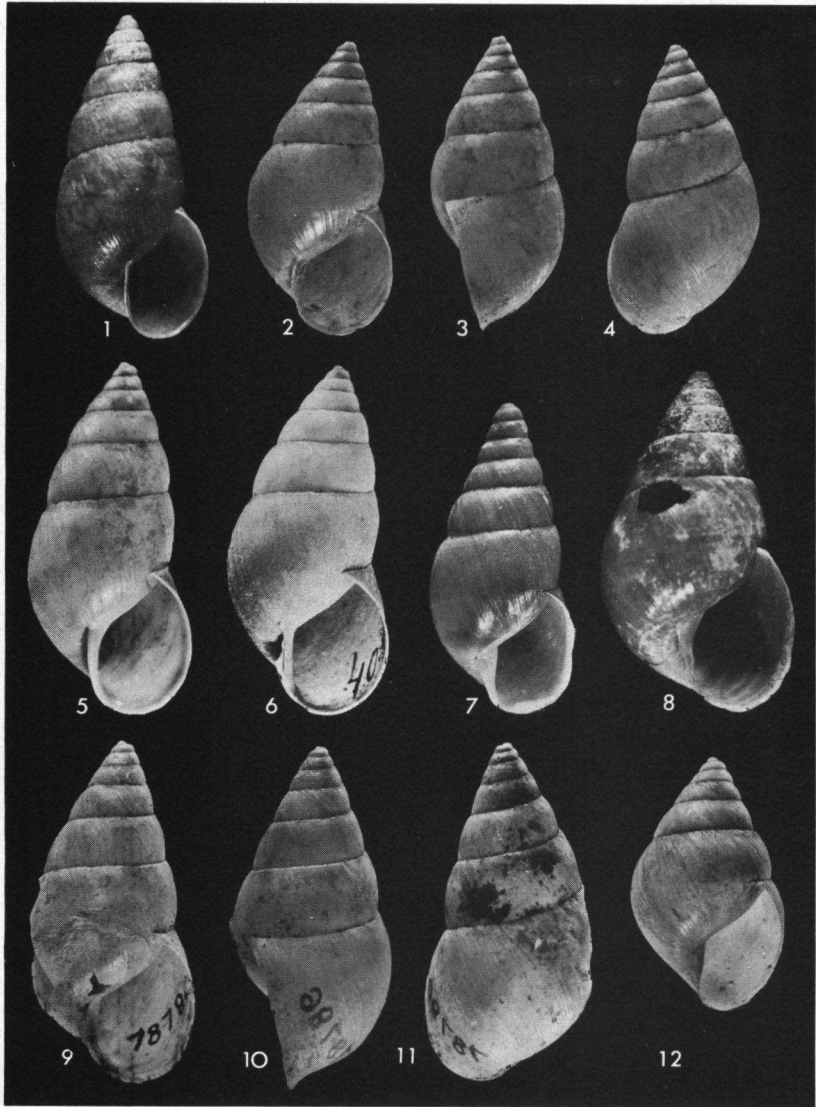
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PLATE VI



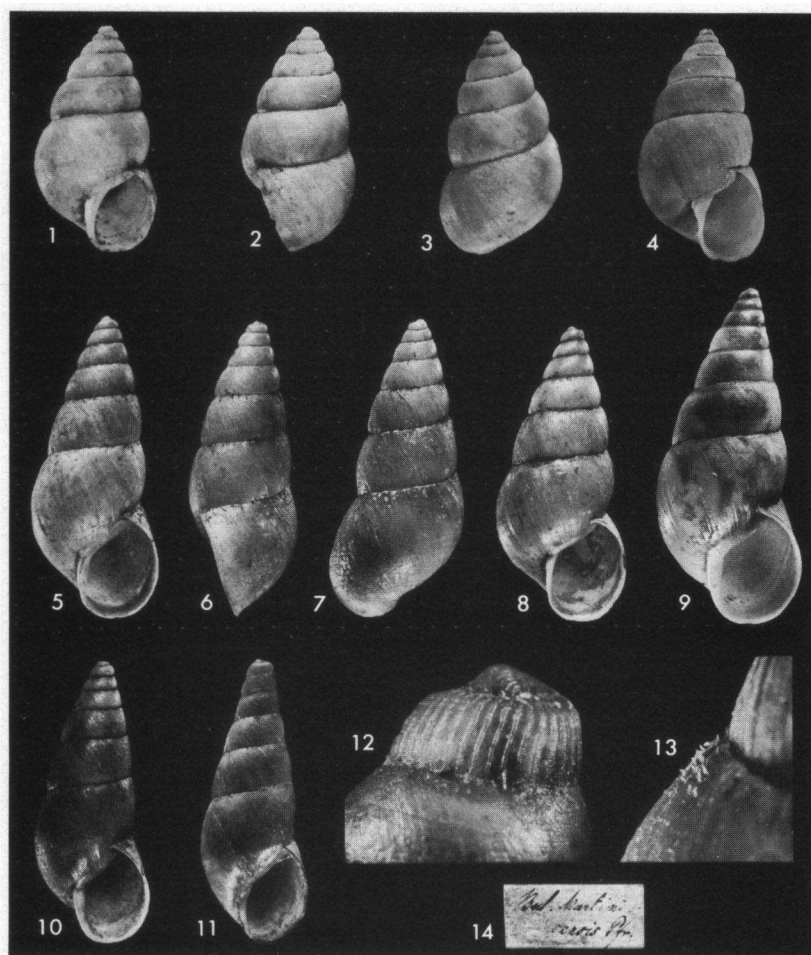
Plekocheilus aulacostylus - 1, St. VINCENT (USNM 316427); 2-4, St. Lucia; 2-3 (USNM 492632); 4 (RMNH).

Plekocheilus aurissileni - 5-10, St. VINCENT; 5-7 (NMW, holotype); 8 (RMNH); 9-10 (USNM 394036).



Naesiotus chrysalis - 1-6, MARTINIQUE; 1 (ANSP 3557, holotype of *Bulimulus chrysaloides*); 2-4 (ANSP 325065, paratype); 5 (USNM); 6 (RMNH).
Naesiotus sanciaeluciae - 7, ST. LUCIA, Fonds St. Jaques (BMNH, holotype).
Naesiotus luciae - 8-12, ST. LUCIA; 8 (ANSP 25667, lectotype); 9-11 (FMNH 787786); 12 (ANSP 25668, paralectotype).

PLATE VIII



Naesiotus pilosus - 1-4, TRINIDAD; 1-3 (BMNH); 4 (NMB).

Naesiotus martinicensis - 5-10, 12, MARTINIQUE; 5-7 (BMNH, lectotype); 8, 10 (BMNH, paralectotypes); 9, 12 (USNM 492635).

Naesiotus mazei - 11, MARTINIQUE, Massif des Pitons (MNHN, holotype).

Naesiotus luciae - 13, detail of shell-surface.

Original label in L. PFEIFFER's handwriting - 14.