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# THE GENUS *ALVANIA* ON THE CANARY ISLANDS AND MADEIRA (MOLLUSCA: GASTROPODA), PART 2 [final part]

**R. G. Moolenbeek & H. J. Hoenselaar**

Key words: Mollusca, Rissoidae, *Alvania*, Canary Islands, Madeira.

**ABSTRACT**

Five *Alvania* species from the Canary Islands and the Madeira Archipelago are revised. A new species to science, *A. johannae* is described and for three species lectotypes are designated. Altogether 13 littoral alvaniids are presently known from this area. Doubtful records are enumerated and a list of deepwater species is added.

## INTRODUCTION

In part 1 of this revision Moolenbeek & Hoenselaar (1989) revised eight species: *Alvania canariensis* (D'Orbigny, 1839); *A. guancha* Moolenbeek & Hoenselaar,1989; *A. euchila* (Watson, 1886); *A. cancellata* (Da Costa, 1778); *A. leacocki* (Watson, 1873); *A. piersmai* Moolenbeek & Hoenselaar, 1989; *A. macandrewi* (Manzoni, 1868); *A. aurantiaca* (Watson, 1873).

In this second and final part of our revision of the littoral species of the genus *Alvania* from the Canary Islands and the Madeira Archipelago we are discussing five species, of which one new to science (*Alvania johannae* n. sp.). Lectotypes are designated for *A. watsoni* (Watson, 1873), -its type locality is restricted to Funchal Bay-, for *A. subcalathus* Monterosato in Dautzenberg & Fischer, 1906 and for *A. venter* (Nordsieck, 1972). We also refer to some doubtful records and add a list of deepwater species.

To the list of collectors (see part 1) we add Mr. R.M.L. Ates (the Netherlands), Dr. W. Engl (Germany), Mrs. M. Saul (Tenerife, Spain), Mr. F. Swinnen (Belgium), the late Prof. J.H. Stock and Dr. R. Vonk (ZMA, the Netherlands). Mr. A. Zorn (Belgium) and Mr. & Mrs. H. Huneker (the Netherlands) kindly donated part of their samples to the Zoological Museum Amsterdam.

Type specimens and other material for study were received from the Natural History Museum, London (BMNH), Muséum national d'Histoire naturelle, Paris (MNHN) and the Forschungsinstitut Senckenberg, Frankfurt (SMF), the Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussel (KBIN) and the Nationaal Natuurhistorisch Museum, Leiden (NNM).

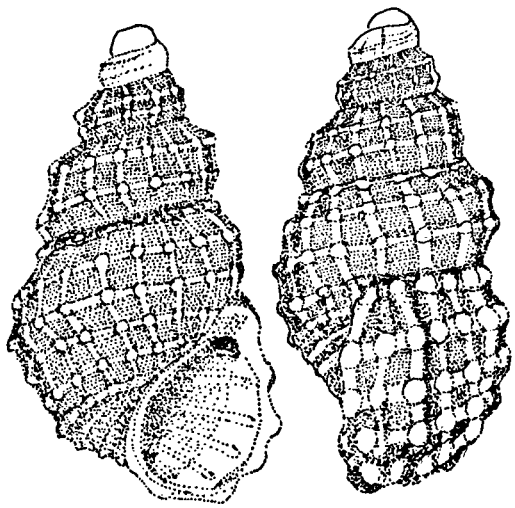
All material mentioned is deposited in the collection of the Zoological Museum Amsterdam, unless otherwise stated.

## DESCRIPTIVE PART

Caenogastropoda
Rissoacea
Rissoidae

### *Alvania johannae* n. sp.
(Figs. 1-2, 9-10)

*Acinopsis cancellina*; Nordsieck & Talavera, 1979: 70, pl. 13 fig. 39 (non *Alvania cancellina* Locard, 1892).



Figs.1-2. *Alvania johannae* n.sp. (ZMA 3.98.005), Gran Canaria, Las Canteras, length 2.4 mm. 1. apertural view; 2. dorsal view.

**Description of the holotype** (Figs. 9-10)
Shell ovate-conic, solid, slightly stepped in outline, with clathrate sculpture forming small nodules at points of intersections.

Protoconch (Fig. 10): About 1.5 whorls with 5 strong, sharp spiral keels. Interstices between spirals with many, irregular minute granules .

Four postnuclear whorls. First and second postnuclear whorl with 2 spirals. Third postnuclear whorl with a hardly visible spiral of minor nodules just below and above the sutures. Body whorl with 7 strong spirals, the upper 6 crossed by 13 even stronger ribs, forming strong nodules on the crossings. Axial ribs slightly prosocline. Aperture subcircular, inside pyriform with 4-5 slender denticles. Peristome simple. Outside outerlip with strong varix.
Colour: white.

**Material examined**
Holotype (length 3.0 mm, width 1.6 mm; ZMA Moll. 3.98.005) and 21 paratypes (ZMA Moll. 3.98.006), Canary Islands.

FUERTEVENTURA, El Cotillo, tidal pools, IV.1986, leg. T. Piersma.

Four paratypes (ZMA Moll. 3.98.007) from El Cotillo, XII.1984, leg. J. Punselie.

Other material examined [non paratypes]. GRAN CANARIA, Las Canteras (44), III.1985, leg. H. Strack; Las Canteras (6), 1973, leg. H. van Haren, coll. A. Zorn; Las Isletas (2), X.1976, coll./leg H. Huneker; Sarolina (9), 15 m, VI.1987, coll. J. Swinnen.

LA GOMERA, San Sebastian (1), VI.1991, leg. R.G. Moolenbeek; Valle de Rey (1), San Sebastian (8), IV.1997, both coll./leg. H. Huneker.

**Variability**
Both paratypes and other material show little variation in colour pattern. Life collected specimens are from (transparent) white to brown, often with a white band on the middle of the body whorl and a white varix. Length of fullgrown specimens ranges from 2.5-3.2 mm.

**Discussion**
Due to its resemblance with *Alvania cancellata*, Nordsieck & Talavera (1979) identified this species as *Acinopsis cancellina*, a junior synonym of the former. It differs from *A. cancellata* (with a planktotrophic protoconch) by having a direct development protoconch (see Moolenbeek & Hoenselaar, 1989: figs. 24-25). If differs from *A. leacocki* in having only 2 instead of 3 spirals on the penultimate whorl and in having a simple periostome.

We have examined material from Lanzarote and La Palma in the NNM collection (Hoenselaar & Goud, 1998).

**Etymology**
This species is dedicated to Mrs Jos Hoenselaar to thank her for sorting out sediment samples from the Macaronesian Islands.

### *Alvania multiquadrata* Van der Linden & Wagner, 1989
(Figs. 3, 11-12)

*Alvania multiquadrata* Van der Linden & Wagner, 1989: 35-37, figs. 1-3.

**Description**
The most discriminating characters are: shell inflated, finely reticulated. Length 1.5-2.0 mm, width about 1.2-1.3 mm. Colour yellowish white to pale brown. Protoconch of 1.5 whorls. Initial whorl smooth, gradually 6-8 close set spiral rows of small tubercles appear. Teleoconch of 3 whorls with many spiral- and axial ribs forming squares. On the

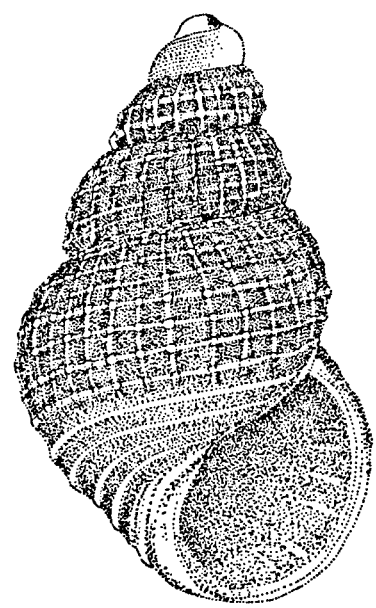


Fig. 3. *Alvania multiquadrata*, Gran Canaria, Maspalomas, length 1.8 mm, apertual view.

crossings they form small nodules. Just below periphery the axial ribs end and only 6 spirals are visible there. First post nuclear whorl with 2 spirals. Penultimate whorl with sometimes 4, often 5 spirals. Body whorl with 12 or 13 spiral ribs and about 24 axials. Whorls convex, body whorl about 70% of total height. Aperture nearly circular to slightly oval. No umbilicus. Peristome thin. Outer lip with a somewhat elevated labial rib, inside with about 8 list-like teeth.

### Material examined

Holotype (ZMA Moll. 3.89.012, length 1.8 mm, Canary Islands, "Gran Canaria, Maspalomas", leg. F. Swinnen.

Canary Islands: EL HIERRO, Puerto de las Estaca (3), Restinga (12), Punta Arenas Blanco (8), Puerto de Orchilla (12), Pozo de las Calcosas (1), all VI.1989, leg. R.G. Moolenbeek & L. Duiveman.

FUERTEVENTURA, El Cotillo (14), Puerto del Rosario (7), Las Salinas (2), all IV.1986, leg. T. Piersma; El Cotillo (5), XII.1984, leg. J. Punselie; Corralejo (24), III.1990, leg. A.C. & W.N. Ellis.

GRAN CANARIA, Mas Palomas (10), IV.1987, leg. A.C. & W.N. Ellis.

LA GOMERA, San Sebastian (4), IV.1991, leg. R.G. Moolenbeek; San Sebastian (6), IV.1997, leg./coll. H. Huneker.

LANZAROTE, Arecife (9), La Santa (4), Puerto del Carmen (5), Playa Matagorda (5), Playa del Pozo (21), Punta de Mujeres (21), near Orzola (4), Las Crusitas (2), all VIII.1984, leg. R.G. Moolenbeek; Puerto del Carmen (5), 1996, leg. W. Engl; Puerto del Carmen, 30 m(>25), III.1995, leg. R. Ates.

LA PALMA, Punta Las Salineras (13), IV.1987, leg. A.C. & W.N. Ellis; Puerto de Mogan (1), Las Canteras (10), both VI.1991, leg. R.G. Moolenbeek.

TENERIFE, El Socorro (>100), XI.1983, leg. G. Dionis; El Caletin (12), Punta Tano (1), both X.1988, leg. J.H. Stock; Playa de las Americas (8), IV.1981, leg. G.J. Gulden; Los Christianos (1), X.1984, leg. L. Dix-Bunck; Puerta de la Cruz (1), VI.1986, leg. E. van der Heijden; Poris de Abona (70), La Caleta de Adeje (2), Puerto del Buen Jezus (6), all VI.1989, leg. R.G. Moolenbeek & L. Duiveman; Playa Fanabé (28), II.1998, leg. A. Zorn.

### Distribution

Canary Islands and Madeira Archipelago (Hoenselaar & Goud, 1998).

## *Alvania piersmai* Moolenbeek & Hoenselaar, 1989

*Alvania piersmai* Moolenbeek & Hoenselaar, 1989: 221-222, figs. 9-10, 30-32.

### Material examined

Canary Islands, LA GOMERA, Punta Llana, Playa del Cangrejo, 1-5 m (>25), San Sebastian (6), both VI.1991, leg. R.G. Moolenbeek; San Sebastian-La Gila (28), III.1990, leg. J.H. Stock & R. Vonk; Valle de Rey (14), San Sebastian (10), IV.1997, both coll./leg. H. Huneker.

### Discussion

This species is originally described from El Hierro. Recent collecting activities indicate that this species also occurs on La Gomera.

## *Alvania subcalathus* Monterosato in Dautzenberg & Fischer, 1906

(Figs. 4-5, 13-14)

*Rissoa calathus* ; Manzoni, 1868: 251-252, pl.10 fig. 9 (non *R.calathus* Forbes & Hanley, 1850).
*Rissoa calathus* var. *manzoni* ; Jeffreys, 1884: 111 [n.n.].
*Alvania subcalathus* Monterosato in Dautzenberg & Fischer, 1906: 47-48.
*Turbona calathus manzonii* Nordsieck, 1972: 184, pl. R VII 9.
*Turbona leacocki* ; Nordsieck & Talavera, 1979: pl. 14 fig. 44 (non *Rissoa leacocki* Watson, 1873).
*Alvania manzonii* ; Gofas, 1989: 40 (lectotype selected).

### Original descriptions

*Alvania subcalathus* Monterosato in Dautzenberg & Fischer, 1906: "différente de l'*A. calathus* Forbes et Hanley qui a la spire plus courte, les tours plus convexes et le dernier tour plus obèse". [differs from *A. calathus*, which has a shorter spire, the whorls more bulbous and the last whorl more stout].

*Turbona calathus manzonii* Nordsieck, 1972: " Bei den Kanaren und Madeira kommt neben dem Arttypus die von Manzoni 1868 abgebildete gedrungenere und kleinere Form vor (vgl R VII 9), die benannt werden musste. Sie darf nicht mit *leacocki* (Watson) verwechselt werden. Eine ähnliche Form findet sich übrigens auch in der Aegaeis (Karpathos)". [On the Canary Islands and Madeira occurs apart from the nominal taxon figured by Manzoni in1868 a more bulbous and smaller form, which is in need of a name. It must not been confused with *leacocki* (Watson). A look-a-like form occurs in the Aegean Sea (Karpathos)].

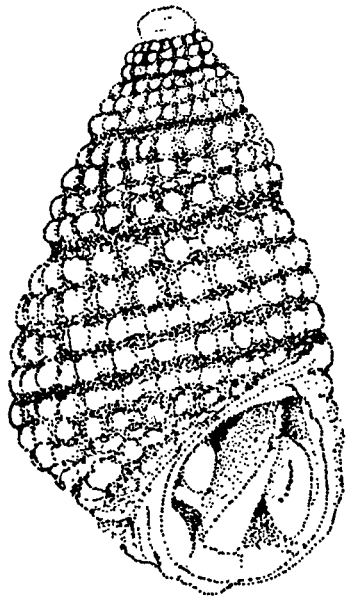
### Redescription

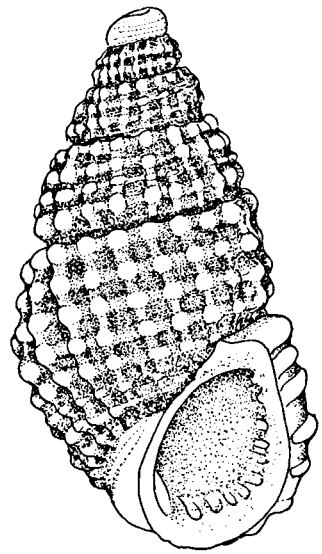
Shell very solid, straight conic, regular tuberculated, tubercles in squares, somewhat transparent. Protoconch 1.25 whorls with 6 sharp spirals, interstices about 5 times as broad as spirals (Fig. 13). Teleoconch straight conical in outline. First postnuclear whorl with 2 spirals, a third spiral appearing subsutural on the 2nd postnuclear whorls. A fourth spiral is gradually appearing between the 2nd and 3rd spiral. Bodywhorl 8 (or 9) spirals all tuberculated except for the 8th (9th) spiral. Four spirals above the aperture. On the bodywhorl these spirals cross 20-22 orthocline riblets. On the crossings nodules which are as broad as the interstices. Mouth broadly oval, peristome simple and a thin callus reflected against the columella. Inside outerlip about 7 listlike teeth. Strong varix.

Colour: light to honey brown, often somewhat darker, narrow lines running over the nodules as well as the interstices. Edge of aperture colourless only the ends of the spirals forming coloured lines. Protoconch semitransparent and colourless.

### Material examined

*Alvania subcalathus* Monterosato in Dautzenberg & Fischer, 1906 (originally as *Rissoa calathus*), coll. Manzoni (figured specimen 1868, pl. 10 fig. 9), also designated lectotype of *Alvania manzonii* (Nordsieck, 1972) by Gofas (1989) in MNHN, "In insulis





Figs 4-5. *Alvania subcalathus*, Tenerife, apertural views. 4. Lectotype of *Turbona manzonii*, length 2.8 mm. 5. *A. manzonii*, Tenerife, La Caleta de Adeje, length 2.8 mm.

Canariis et Madera". We herewith restrict the type locality to Tenerife, Playa de las Americas.

Five paralectotypes, "Stn. 1152, 52 m, Santa Luzia, Cap-Vert" [material not seen, probably an other species].

Six paralectotypes, ex. Manzoni and Monterosato, coll. Dautzenberg (KBIN).

May be additional specimens are stored in the Monterosato collection in Rome, but this needs further investigation.

*Turbona calathus manzonii* Nordsieck, 1972, lectotype (fig. 4), figured specimen ex. coll. Manzoni (1868, pl. 10 fig. 9) and 3 paralectotypes (all in MNHN) and 5 possible paralectotypes (=*Alvania leacocki*) in SMF, "Bei den Kanaren und Madeira".

## Distribution

Canary Islands

## Material examined

FUERTEVENTURA, El Cotillo (29), Puero del Rosario (10), Puerto de Lajas (10), Las Salinas (2), Punta del Burra (2), all IV. 1986, leg. T. Piersma; El Cotillo (108), XII. 1984, leg. J. Punselie; Corralejo (5), XI.1992, leg. A.C. & W.N. Ellis.

GRAN CANARIA, Las Canteras (70), III.1985, leg. H. Strack; Mas Palomas (5), IV.1987, leg. A.C. & W. N. Ellis; Las Canteras (17),Punta Salinas (3), both V.1991, leg. R.G. Moolenbeek.

LA GOMERA, Punta Llana, Playa del Cangrejo, 1-5 m (1), San Sebastian (4), both VI.1991, leg. R.G. Moolenbeek; San Sebastian (>10), Valle de Rey (>10), IV.1997, leg./coll. H. Huneker.

LANZAROTE, La Santa (131), Las Crusitas (10), Punta Pechiguera (40), Punta de Mujeres (20), Playa de Montana Roja (5), Orzola (8), Playa del Pozo (40), Playa del Pozo, near Punta Papagayo (50), Matagorda beach (1), all. VIII.1984, leg. R.G. Moolenbeek & W.C.M. van der Hijden.

LA PALMA, Playa del Hoyo (1), Las Salineras (40), both IV.1987, leg. J.H. Stock.

TENERIFE, Puerto de la Cruz (13), VI.1986, leg. E. van der Heyden; Playa de las Americas (150), II.1985, leg. J. van Beusekom; Playa de las Americas (>4500), IV.1981, leg. G.J. Gulden; Los Christianos (3), X.1984, leg. L. Dix-Bunck; La Caleta (116), Las Galletas (50), III.1984, both leg. J. Verstraeten; La Caleta (110), III, 1984, leg. H. P. Menkhorst; Poris, 6-15m (>100), 1989, leg. R.G. Moolenbeek; Palm-Mar (19), Playa de Arena (3), V.1991, both leg. R.G. Moolenbeek; Las Galletas (7), III.1991, leg. M. Saul.

## Discussion

Jeffreys (1884) noticed the difference between the Atlantic / Mediterranean form and the Canarian one and named it *Rissoa calathus* Forbes & Hanley var. *manzoni*. However, it must be considered a nomen nudum since there is no figure nor reference.

In the Dautzenberg collection (KBIN) we found a sample ex. Manzoni (6 specimens) which originate from the Monterosato collection. On a label, the latter author named it "*Acinus subcalatus* Monts = *calathus* (non Forb. e Hanley) Manzoni, Canarie et Madère".

We have not been able to find this statement published by Monterosato. However, Dautzenberg & Fischer (1906) validated this taxon, based on these specimens and a ms by Monterosato and referring to Manzoni (1868). For this reason it becomes the oldest available name. For stability in nomenclature we designate the shell (fig. 3) figured by Manzoni (1868: pl. 10 fig. 9) to be the lectotype of *Alvania subcalathus* Monterosato in Dautzenberg & Fischer, 1906. The 6 specimens from the Dautzenberg collection become paralectotypes.

Moolenbeek & Hoenselaar (1989: 221) studied 5 possible syntypes of *Turbona calathus manzonii* from the SMF and concluded that they were all specimens of *Alvania leacocki* (Watson, 1873). A mixture of labels might be the cause of this change, or Nordsieck misidentified both taxa. Gofas (1989) selected the figured specimen from the Manzoni collection (now in MNHN, Paris) being the lectotype of *Alvania manzonii* (Nordsieck, 1972) but did not figure the type specimen (Fig. 3).

*Alvania subcalathus* is constant in shape, colour and decoration. Rarely specimens have only three rows of tubercles above the aperture.

It is related to *Alvania mediolittoralis* Gofas, 1989 from the Azores. Gofas (1989) enumerated some minor differences and its conspecificy needs additional research.

### *Alvania tenera* (Philippi, 1844)

(Figs. 6, 15-16)

*Rissoa tenera* Philippi, 1844: 128-129, pl. 23 fig. 15 [14?].

## Original description

*"R. testa minuta, ovato-conoidea; anfractibus parum convexis, transversim cingulatis; cingulis anfractuum superiorum tribus, ultimo 9-10; interstitiis enuissime longitudinali-*

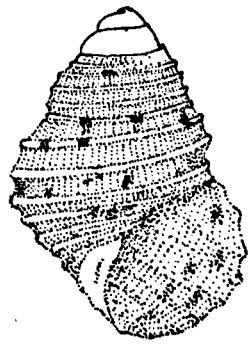


Fig. 6. *Alvania tenera*, Gran Canaria, Las Canteras, length 1.5 mm, subadult specimen, apertural view.

*ter striatis; apertura ovata, simplici...* Peninsula Thap-sum" [near Syracusa, Sicily, Italy]

**Description**

Shell length 1.9 mm, width 1.3 mm. Whorls convex with spiral ribs, in between 2 ribs concave with many fine axial riblets. Protoconch multispiral (2 whorls), smooth (Fig. 16). Teleoconch 2.5-3 whorls. First post nuclear whorl with 3 spiral ribs. Body whorl with 8 spirals of which 3 above aperture. Area between two spirals about 4 times the width of the spirals with numerous orthocline riblets in between. Body whorl about 75% of height. Outerlip thin, no varix, peristome entire. Aperture semi-oval. A very small umbilical chink is sometimes visible. Colour yellow brown, base lighter. Spirals with a pattern of brown striped lines.

**Distribution**

Mediterranean; eastern Canary Islands.

**Material examined**

Canary Islands: FUERTEVENTURA; Corralejo (6), III.1990, leg. A.C. & W.N. Ellis; El Cotillo (1), V.1997, coll. A.Zorn; El Cotillo (1), XII.1989, leg./coll. H. Huneker.

GRAN CANARIA; Las Canteras (5), III.1985, leg. H. Strack; Las Canteras (3), 1973, leg. H. van Haren, coll. A. Zorn.

LANZAROTE; La Santa (1), Playa Mujeres (1), Playa de Montana Roja (4) all VIII. 1984, leg. R.G. Moolenbeek.

**Discussion**

*A. tenera* seems to be a rare species on the Canary Islands. After studying Philippi's description and figures we have doubts about the correct numbering of the figures on plate 23. We suggest that the figure numbers 14 and 15 should be reversed (not the indications representing the size). For a definite solution a study of the types of *Rissoa cingulata* Philippi, 1836 and *R. tenera* seems necessary.

### *Alvania watsoni* (Watson, 1873)

(Figs. 7, 17-19)

*Rissoa watsoni* Watson, 1873: 375, pl. 35 fig. 11.
*Rissoa watsoni*; Weinkauff, 1885: 174, pl. 22 figs. 10-11.
*Rissoa watsoni*; Watson, 1886: 599.
*Rissoa watsoni*; Watson, 1898: 312.
*Alvinia watsoni*; Nordsieck, 1972: 180, pl. R VI 15.
*Alvania (Alvania) watsoni*; Ponder, 1983: 151, fig. 102 C-D.
*Alvania watsoni*; Verduin, 1984: 66, fig. 32.
*Alvinia lamellata*; Nordsieck & Talavera, 1979: pl. 13 fig. 35 (non Dautzenberg, 1889).
*Alvinia watsoni*; Nordsieck & Talavera, 1979: pl. 13 fig. 36 [doubtful figure].

**Description**

Watson's original description is excellent and very detailed. We will give the most discriminating characters. Shell conic-oblong, thin, transparent, glossy, whorls rising somewhat in steps. Body whorl with 9-10 spiral threads. Interstices between the spiral threads crossed longitudinally at unequal intervals by 20-25 faint ribs, which die away at the periphery. Whorls regularly increasing and below suture somewhat sloping. Suture strong but shallow. A rather broad labial lip somewhat remote from the lip. Aperture rounded. Colour generally yellowish white, flecked along the spiral threads and in the interstices with opaque white and brilliant ruddy brown patches.

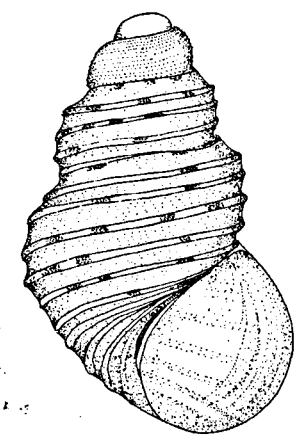


Fig. 7. *Alvania watsoni*, El Hierro, Restinga harbour, length 1.6 mm, apertural view.

**Distribution**

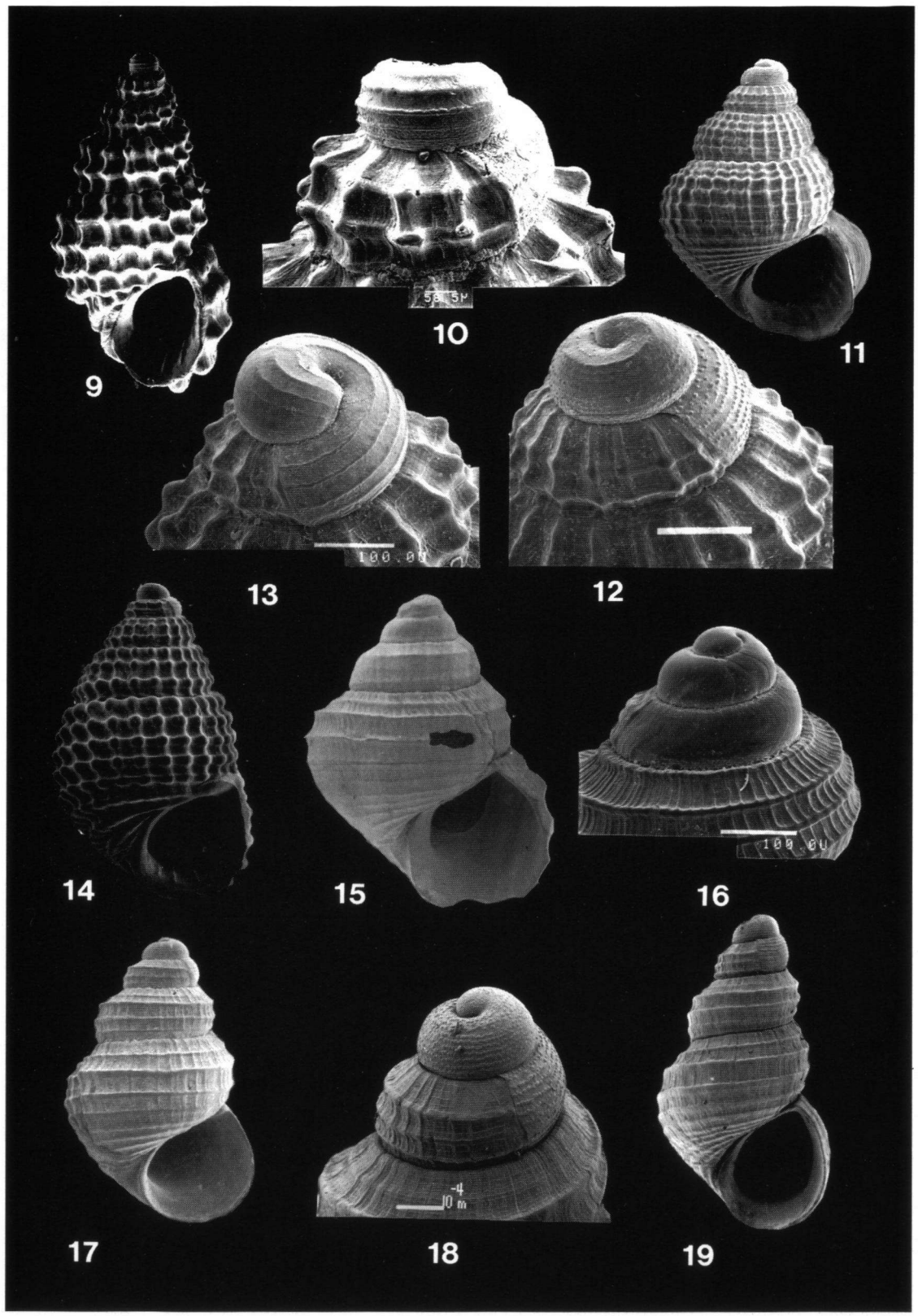
Madeira Archipelago and Canary Islands.

**Material examined**

39 possible syntypes, coll. Norman ex coll. Watson, lectotype designated (BMNH no. 1911.10.26.23348), length 1.7 mm. Syntypes from several localities on Madeira and Porto Santo. We restrict it to Funchal Bay, Madeira.

Madeira Archipelago: MADEIRA; Bay of Funchal, 3-20 m (44), 35-40 m (30), off Lido (22), off Cancela, 6-9 m (12), Ribeira Brava, 2-4 m (3), all VIII.1983, leg. R.G. Moolenbeek & W. van der Hijden.

PORTO SANTO (1), VIII.1983, leg. R.G. Moolenbeek & W. van der Hijden.




Figs. 9-10. *Alvania johannae*, holotype (ZMA Moll. 3.98.005), Fuerteventura, El Cotillo; 9. apertural view, length 3.0 mm; 10. protoconch.
Figs. 11-12. *Alvania multiquadrata*, Tenerife, Poris; 11. apertural view, length 1.9 mm; 12. protoconch, measure bar 0.1 mm.
Figs. 13-14. *Alvania subcalathus*, Tenerife, Playa de las Americas; 14. apertural view, length 2.9 mm; 13. protoconch.
Figs. 15-16. *Alvania tenera*, Gran Canaria, Las Canteras; 15. length 1.1 mm; 16. protoconch, showing its large planktotrophic stage.
Figs. 17-19. *Alvania watsoni*; 17. Fuerteventura, Corralejo, length 1.5 mm; 18-19. Madeira, possible paralectotype (BMNH), apertural view (length 1.6 mm) and protoconch.

Canary Islands: EL HIERRO; harbour Restinga, 2-5 m (24), Puerto de Orchilla (15), Pozo de las Calcosas (1), all VI.1989, leg. R.G. Moolenbeek & L. Duiveman.

FUERTEVENTURA; S. of Puerto del Rosario (5), Las Salinas (1), both IV.1986, leg. T. Piersma; Corralejo (1), III.1990, leg. A.C. & W.N. Ellis.

GRAN CANARIA; Las Canteras (18), III.1985, leg. H. Strack; Las Canteras (4), Puerto de Mogan (1), both VI.1991, leg. R.G. Moolenbeek.

LANZAROTE; Playa Mujeres, 3-4 m (3 ), Playa de Montana Roja, 1-5 m (9), harbour Puerto del Carmen, 2-5 m (4), Playa del Pozo, 5 m (1), Matagorda beach (23), harbour Arrecife (2), all VIII.1984, leg. R.G. Moolenbeek & W.C.M. van der Hijden; Island Alegranza, southcoast (1), I.1986, leg. J.H. Stock; Puerto del Carmen, 30 m (1), III.1995, leg. R. Ates.

TENERIFE; Playa de las Americas (5), IV. 1981, leg. G.J. Gulden; Puerto de la Cruz (2), VI.1986, leg. E. van der Heijden; Punta de Teno (2), El Caletin (2), both X.1988, leg. J.H. Stock; El Socorro, 98 m (>100), VI.1989, leg. Dionis; Alcala (1), Poris (8), Las Galletas (2), La Caleta de Adeje (1) all VI.1989, leg. R.G. Moolenbeek & L. Duiveman; Palm-Mar (3), V.1991, leg. R.G. Moolenbeek.

**Discussion**

In BMNH (no. 1911.10.26.23348-67) ex. coll Norman is a possible syntype sample which originates from Rev. Watson. This sample consists of 39 shells, of which we identified two specimens as *Alvania aurantiaca* (Watson, 1873) and one specimen as *Manzonia moniziana* (Watson, 1873). No other sample from Watson seems to be available and to prevent confusion with close related species and stability of nomenclature we think it necessary to designate a lectotype from the above mentioned sample. It is a shell with measurements 1.7 x 1.0 mm (BMNH no. 1911.10.26.23348).

Watson (1873) already mentioned the great variability of *Alvania watsoni*. The axial riblets (enlarged growth lines) may vary from absent to very weak or to strong ribs, nearly as strong as the spiral cords. In some specimens the shell is only partly reticulated whereas the other part has the common spiral sculpture. Watson sent material to Schwartz von Mohrenstern for part 2 of his revision of the family Rissoidae. Unfortunately, that part was never published. Later, Watson used the name being convinced that the name was already introduced by Schwartz von Moh-renstern and became in this way author of "his own" spe-cies. Watson explicitly stated that the initial part of the apex never has a black tip, however we rarely found specimens with a black tip

In his list of European *Cingula* species Verduin (1984) gave discriminating characters and some additional information under *Alvania simulans* Locard, 1886. As in many cases, the identifications of rissoids by Nordsieck (1968, 1972) and Nordsieck & Talavera (1979) are doubtful or wrong. This is probably the case with the figure of *Alvinia watsoni* by Nordsieck & Talavera (1979: pl. 13 fig. 36), moreover, the shell incorrectly figured as *Alvinia lamellata* (1979: pl. 13 fig. 35) is in our opinion *Alvania watsoni*.

## GENERAL REMARKS AND DOUBTFUL RECORDS

### *Alvania reticulata beani* (Hanley in Thorpe, 1844)

*Cingula beani* Hanley in Thorpe, 1844: 151.

**Discussion**

Nordsieck & Talavera (1979: 71, pl. 14 fig. 43) mentioned and figured a specimen as *Turbona reticulata beani* (Hanley, 1844) from Tenerife (and the Azores). We do not agree with this identification, but the identity of the figured specimen needs additional research.

### *Alvania calathus* (Forbes & Hanley, 1850)

*Rissoa calathus* Forbes & Hanley, 1850: 82, pl. 78 fig. 3.

**Discussion**

According to Fretter & Graham (1978) this species belongs to the *Alvania beani* complex. Nordsieck & Talavera (1979: 72, pl. 14 fig. 45) mention it from Lanzarote (and the Azores). Their figured specimen is worn and unidentifiable from the plate.

### *Alvania cancellina* Locard, 1892

*Alvania cancellina* Locard, 1892: 157.

**Discussion**

Nordsieck & Talavera (1979: 70, pl. 13 fig. 39) mention and figure a species as *Acinopsis cancellina* from Salvajes, Gomera and Lanzarote. We do not agree with their identification and consider the figured specimen a worn *Alvania johannae* n.sp.

Amati (1987) designated a lectotype of *A. cancellina* Locard, 1892 and considered it a junior synonym of *A. cancellata* (Da Costa, 1779). We studied 33 specimens identified as *A. cancellina* ex coll. Nordsieck (SMF) from Porto Santo, which are indeed *A. cancellata.*

### *Alvania fischeri* (Jeffreys, 1884)

*Rissoa fischeri* Jeffreys, 1884: 113-114, pl. 9 figs. 1-1a.

**Discussion**

Nordsieck & Talavera (1979: 71, pl. 13 fig. 38) mention and figure a species as *Acinopsis* (cf) *fischeri* (Jeffreys, 1884) from the Salvages and Tenerife. We do not agree with this identification, but the identity of the figured specimen needs additional research. *Alvania fischeri* is a Lusitanic and eastern Mediterranean species and its occurrence on Macaronesian islands needs confirmation.

### *Alvania laxa* Dautzenberg & Fischer, 1896

*Alvania (Acinopsis) laxa* Dautzenberg & Fischer, 1896: 62-63, pl. 19 figs. 10-11.

**Discussion**
Dautzenberg & Fischer (1906: 48) record this species from "Ténérife". According to Gofas (1990: 104) it is a jr. synonym of *Alvania cancellata* (Da Costa, 1779).

### *Alvania mutabilis* Schwartz von Mohrenstern in Weinkauff, 1868

*Alvania mutabilis* Schwarz [sic] in Weinkauff, 1868: 311.

**Discussion**
According to Van Aartsen (1982) this species is a *nomen nudum*. Bogi, Coppini & Margelli (1983) consider it a junior synonym of the Mediterranean *Alvaniella scabra*. Nordsieck & Talavera (1979: 72, pl. 14, fig. 46) mention and figure a species as *Alvaniella mutabilis* (Schwartz, 1869) [sic] from Tenerife and Porto Santo. We have studied 66 specimens from Porto Santo ex coll. Nordsieck (SMF) which prove to be *Alvania canariensis* (D'Orbigny, 1839). Also the figured specimen (Nordsieck & Talavera 1979, pl. 14 fig.46) most probably represents *A. canariensis*.

### *Alvania parvula* (Jeffreys, 1884)

*Rissoa parvula* Jeffreys, 1884: 114, pl. 9 figs. 2-2a.

**Discussion**
Nordsieck & Talavera (1979: 70, pl. 15 fig. 75) mention and figure a species as *Alvinia* (*Arsenia*) *parvula* (Jeffreys, 1884) from Tenerife and other localities. We have doubts about their identification. *Alvania parvula* is a species restricted to south Portugal and the western Mediterranean (Gofas & Warén, 1982: 8).

### *Alvania punctura* (Montagu, 1803)

*Turbo punctura* Montagu, 1803: 320, pl. 12 fig. 5.

**Remarks**
Nordsieck & Talavera (1979: 69-70, pl. 15 fig. 74) mention and figure a species as *Alvinia* (*Arsenia*) *punctura* (Montagu, 1803) from Tenerife. We have doubts about his identification and probably the shell figured is *A. multiquadrata* Van der Linden & Wagner, 1989. *Alvania punctura* is a northern Atlantic and Mediterranean species (Gofas & Warén, 1982: 8) and its occurence on the Canary Islands needs confirmation.

### *Alvania subcrenulata* Bucquoy, Dautzenberg & Dollfuss, 1884

*Alvania subcrenulata* Bucquoy, Dautzenberg & Dollfuss, 1884: 293-294, pl. 36 figs. 11-13.
*Rissoa subcrenulata* Schwarz [sic] in Weinkauff, 1885: 172, pl. 22 figs. 6-7.

**Discussion**
Nordsieck & Talavera (1979: 71, pl. 13 fig. 42) mention and figure a species as *Acinopsis subcrenulata* (Schwartz, 1889) [sic] from Tenerife. We do not agree with this identification and judging from the figure we identify it as *Alvania leacocki* (Watson, 1873). *A. subcrenulata* Bucquoy, Dautzenberg & Dollfuss, 1884 is a Mediterranean species.

### *Alvania tarsodes* (Watson, 1886)

*Rissoa* (*Alvania*) *tarsodes* Watson, 1886: 595, pl. 44 fig. 2.

**Discussion** Nordsieck & Talavera (1979: 73) mention and figure a species as *Alvaniella tarsodes* from Tenerife. We did not study this material, but we doubt the identification of this record and it needs verification. According to Bouchet & Warén (1993) *Alvania tarsodes* is a non-littoral species restricted to the Azores.

### *Alvania venter* (Nordsieck, 1972)
(Fig. 8)

*Accinopsis venter* Nordsieck, 1972: 188-189, pl. RVII2.

**Remarks**
We agree with Gofas (1990) who considered this species a junior synonym of *Alvania cancellata* (Da Costa, 1779). We have studied syntypes of the Nordsieck collection (now in SMF) and designate a specimen with measurements 3.3 mm from the Azores to be the lectotype (Fig. 7).

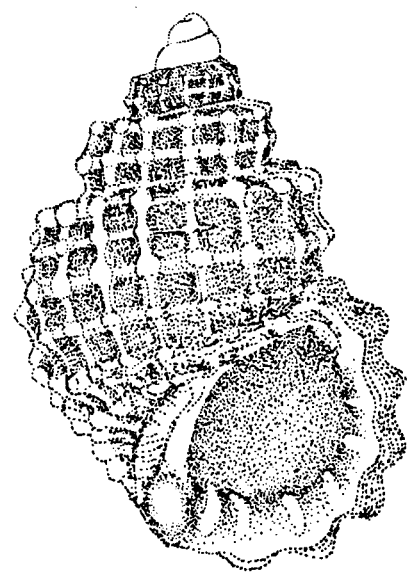


Fig. 8. *Alvania cancellata*, lectotype of *Accinopsis venter*, Azores, length 3.3 mm, apertural view.

## DEEPWATER SPECIES

Watson (1886) recorded several *Alvania* species from the Canary Islands and Madeira. The littoral species mentioned are discussed by Moolenbeek & Hoenselaar (1989).

Only one deepwater species was mentioned from these islands namely *Rissoa* (*Alvania*) *deliciosa* Jeffreys, 1884 from off Palma, 1125 fathoms. Bouchet & Warén (1993) considered it a junior synonym of *Alvania electa* (Monterosato, 1874).

Bouchet & Warén (1993) give a detailed review of the deepwater *Alvania* species from Macaronesia. They discuss the following species: *Alvania dipacoi* Giusti & Nofroni, 1989; *A. electa* (Monterosato, 1874); *A. porcupinae* Gofas & Warén, 1982; *A. cancapae* Bouchet & Warén 1993; *A. subsoluta* (Aradas, 1847).

Recently, Hoenselaar & Goud (1998) described another 5 deepwater species from around the Macaronesian islands; *Alvania microstriata*, *A. dijkstrai*, *A. joseae*, *A. slieringsi*, and *A. renei*.

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