

Vallonia costata (Müll.) (Gastropoda Pulmonata) in South Africa, with additional notes on other alien species

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Vallonia costata (Müller, 1774) is recorded from Westcliff, Johannesburg, only the second record for South Africa. Additional notes on *Cochlicopa lubricella* (Porro, 1838) in southern Africa are supplied.

Key words: Gastropoda, Pulmonata, Valloniidae, *Vallonia*, Cochlicopidae, *Cochlicopa*, alien species, South Africa.

Recently Mr. J.-P. van Weert (Veldhoven, The Netherlands) submitted for identification a sample of terrestrial snails, obtained by him in September 1996 in a garden on the ground under low vegetation in the Johannesburg suburb Westcliff (Gauteng, South Africa). This lot consisted of four alien species, obviously all originally derived from Europe: *Cochlicopa lubricella* (Porro, 1838), *Vallonia costata* (Müller, 1774), *V. pulchella* (Müller, 1774), and *Oxychilus draparnaudi* (Beck, 1837). Mr. van Weert kindly deposited a number of duplicates as voucher specimens in the National Museum of Natural History (RMNH). Identification of the *Oxychilus* was kindly confirmed by Dr. E. Gittenberger of the Leiden Museum.

The residential district Westcliff is situated in central Johannesburg between the prestigious residential areas Parkview and Parktown. This part of Johannesburg is comparatively old and mainly consists of fine houses on liberal plots, usually with well-tended, mature gardens with plenty of shade in the form of exotic and rarely native trees. These gardens contain large numbers of exotic plants (many from central/western, but also mediterranean, Europe) and are regularly watered so that the impact of the local dry season (March to October) is extensively mitigated. Therefore, these gardens seemingly supply optimum conditions for alien terrestrial snails. The here discussed material was collected in the gardens of no. 16, Valley Road, in front of the house, i.e. in the best watered part of the gardens; the presence of *Helix aspersa* (Müller, 1774) was also established.

Gerber (1996: 161) was the first to report the presence of *Vallonia costata* in South Africa; he recorded specimens in his own collection from "Bedford View". Bedfordview is one of the residential suburbs of south-eastern Johannesburg, situated NW. of Germiston. Apparently *V. costata* flourishes in the above-mentioned Westcliff locality as it was present in significantly greater numbers than its congener *V. pulchella*. The Johannesburg material was compared to specimens from western Europe and found to agree perfectly. The shell of this species is easily recognized by its widely spaced and coarse riblets (fig. 1); various other taxa also have costulae, which, however, are always less conspicuous and more densely arranged. According to Gerber (1996: 164) and Kerney, Cameron & Jungbluth (1983: 126) *V. costata* exhibits a Holarctic distribution, being widely spread over much of Europe (Kerney, Cameron & Jungbluth: 335, map 114; Gerber: 166, fig. 65). Species of *Vallonia* are known to have been extensively transported

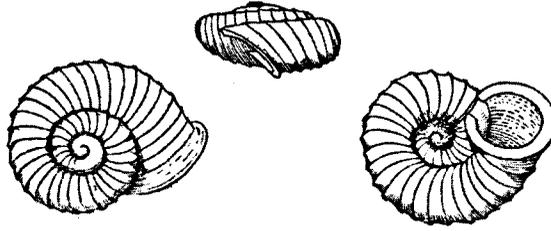


Fig. 1. Shells of *Vallonia costata* (Müll.), after Watson (1920); c. 10x.

by human agency (see e.g., Smith, 1992, who records both *V. costata* and *V. pulchella* from Australia). This has already happened long before efficient overseas transport facilities were available; the first record of *V. pulchella* in southern Africa dates back to 1846 (fide Van Bruggen, 1964: 162). It is surprising that *V. costata* only turned up recently; obviously, the thriving population in Westcliff has been long established and it would be worth the effort to actively search for this species elsewhere.

Incidentally, *V. pulchella* was never before recorded from Johannesburg, the nearest known locality being in the Germiston area. The following records (Van Bruggen, 1980, updated) are now available: Johannesburg (Westcliff), Lambton (Germiston), Pretoria, Pietermaritzburg (see also record in Gerber, 1996: 52), Kingwilliamstown, Grahamstown, Port Elizabeth, Somerset East, Melkbosstrand, Cape Town, Cape Peninsula.

The *Cochlicopa lubricella* material from Westcliff measures 4.7-5.5 x 2.1-2.2 mm, l/d (= ratio length/major diameter) 2.17-2.49 (mean 5.1 x 2.1 mm, l/d 2.33; average 5.0 x 2.2 mm, l/d 2.31; duplicates in RMNH). This compares as follows to other southern African populations (data ex Van Bruggen, 1967, 1980, 1981):

Westcliff (South Africa)	4.7-5.5 x 2.1-2.2 mm, l/d 2.17-2.49, n = 10
Bryanston (South Africa)	4.7-5.1 x 2.0-2.1 mm, l/d 2.35-2.50, n = 7
Grahamstown (South Africa)	5.0-5.6 x 1.9-2.1 mm, l/d 2.38-2.84, n = 8
Mt. Pleasant (Zimbabwe)	4.9-5.4 x 2.0-2.2 mm, l/d 2.32-2.61, n = 12

The Westcliff and Bryanston localities are both in the greater Johannesburg area, while the other two are widely distant. Its congener *C. lubrica* (Müller, 1774) has also been recorded from the Johannesburg area (Northcliff, Van Bruggen, 1980), but is easily distinguished by its slightly larger major diameter resulting in a much less slender contour:

Northcliff (South Africa)	5.0-5.7 x 2.1-2.6 mm, l/d 2.00-2.21, n = 13
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Acknowledgements are due to Mr. van Weert for donating specimens and supplying locality data with regard to the above records.

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