

**Pupa tabularis Melvill & Ponsonby, 1893, a new synonym of *Lauria cylindracea* (Da Costa, 1787) (Gastropoda Pulmonata: Pupillidae)**

A. C. VAN BRUGGEN

Systematic Zoology section, Leiden university, c/o Rijksmuseum van Natuurlijke Historie,  
P.O. Box 9517, 2300 RA Leiden, the Netherlands

Examination of the type material of *Pupa tabularis* Melvill & Ponsonby, 1893, in the Natural History Museum, London, has shown that this name is a junior synonym of *Lauria cylindracea* (Da Costa, 1787). This automatically adds another alien species from the Palaearctic Region to the South African list, although this is within the natural range of the genus. A summary discussion on the distribution of the genus is appended.

Key words: Gastropoda, Pulmonata, Pupillidae, *Lauria cylindracea*, synonymy, biogeography, alien species, South Africa.

A number of years ago Mr. A. J. de Winter (Wageningen) submitted a sample of *Lauria cylindracea* (Da Costa, 1787) from South Africa: De Wet (NE. of Worcester, Cape Province), "in garden and/or vineyard", VII.1984, leg. Miss Henriette Brümmer. This sample, now incorporated in the collections of the Rijksmuseum van Natuurlijke Historie (Leiden), stimulated the present author to investigate the status of *Lauria tabularis* (Melvill & Ponsonby, 1893), in particular because of Mr. de Winter's expertise on and comprehensive knowledge of western European land snails, which obviates any doubt as regards his identification. Moreover, the identification was performed without recourse to southern African literature. The identity was confirmed by comparison with abundant authenticated material in the Leiden museum.

Various authors had already referred to the close similarity of *L. tabularis* and *L. cylindracea* (e.g. Pilsbry, 1922: 66, "certainly very similar to *L. cylindracea*"; Connolly, 1939: 400, "so nearly resembling ... *cylindracea* ... that it may well be identical with that species"). In addition, *L. cylindracea* appears to be widely dispersed by man, both on a limited scale (such as in the Netherlands, see Gittenberger, Backhuys & Ripken, 1984: 62) and on a much more liberal scale (St. Helena<sup>1</sup>, Réunion, U.S.A.).

In May 1987 the present author was able to compare De Winter's material with the holotype of *Pupa tabularis* in the Natural History Museum, London (BM 1903.3.11.30, Cape Town, specimen glued onto a piece of black paper). It appears that the largest shell in De Winter's sample is only slightly smaller than the type; it agrees well in all details, except for the angular lamella, which is very poorly developed in the type. This

<sup>1</sup> Fide Crowley & Pain, 1977: 542-543. These authors refrain from commenting on the natural distribution or status of *Lauria cylindracea*, except for the almost casual remark "Common on cultivated land." In view of the West Palaearctic distribution of the species, occurrence on St. Helena is here considered to be allochthonous.

makes one conclude that *Pupa tabularis* is a junior synonym of *Lauria cylindracea*, particularly because of the range of variation of the latter. Kerney & Cameron (1979: 93) state "This is a variable species; the angular tooth may be absent, the reflected lip may be poorly developed, and the shape may vary from tall cylindrical to stumpy conical." Pilsbry (1922: 47-54, pl. 6) has adequately covered the range of variation of the species.

This new synonymy adds another alien species, once more from the Palaearctic Region, to the South African list, while at the same time deleting a supposed endemic taxon. This is not the first time *Lauria cylindracea* appears on the South African list. Verdcourt (1963) introduced the species, but his material was obviously not correctly localized and the name had to be expunged from the list after a decade (Van Bruggen, 1973). So far *L. cylindracea* s.n. *L. tabularis* has been found to occur in and around Cape Town (Connolly, 1939: 400), the De Winter locality establishing an extension north-eastward. In South Africa this must be a long-standing alien species. The description of *Pupa tabularis* is dated January 1893, so that the snail in question must have been discovered in or before 1892. Only seven of the c. 30 alien non-marine molluscs in southern Africa were introduced and/or discovered before 1892, viz., *Vallonia pulchella* (Müller, 1774) (1846), *Vitrea crystallina* (Müller, 1774) (1890), *Oxychilus cellarius* (Müller, 1774) (1846), *Milax gagates* (Draparnaud, 1801) (1873, or perhaps even before 1848), *Bradybaena similaris* (Férussac, 1821) (c. 1860), *Theba pisana* (Müller, 1774) (1881), and *Helix aspersa* Müller, 1774 (c. 1854) (vide e.g. Van Bruggen, 1964).

The occurrence of *L. cylindracea* as an alien species within the natural range of the genus *Lauria* Gray, 1840, is in itself interesting. Within its confines South Africa harbours another four species (Connolly, 1939: 399-402), there are a few scattered records from Zaïre (two species), there is one species in East Africa, and another in S. Ethiopia.

Biogeographically and also otherwise there is reason to regard *L. bourbonensis* Pilsbry, 1922 (p. 62, pl. 8 fig. 19) with some suspicion. First of all it occurs on Réunion Is., far outside what is perceived to be the natural range of the genus (fig. 1) and secondly, it is strikingly similar to *L. cylindracea* (at least as far as the shell is concerned; *L. bourbonensis* has never been dissected). In fact, *L. bourbonensis* may be another synonym of *L. cylindracea*.

Incidentally, it is on the whole quite remarkable that almost all *Lauria* s.s. taxa have similar shells, so that more synonymy with *L. cylindracea* may be expected. Attention is drawn to e.g. *L. bruguieri* (Jickeli, 1875) from southern Ethiopia. Pilsbry (1922: 61) repeatedly remarks on how close this taxon is to *L. cylindracea*.

Fig. 1 depicts the range of the genus *Lauria*, probably the sister taxon of *Leiostylis* Lowe, 1852, which more or less exhibits the same distribution as *Lauria*, except for the African or rather Subsaharan component of the range. As regards *Lauria*, one species (*L. cylindracea*) largely determines the range of the genus. One successful species thus dominates the entire genus by its comparatively very large natural distribution, a phenomenon not unknown among other land molluscs (see e.g. Gittenberger, 1987).

As a pattern, the one shown in fig. 1 is somewhat unusual. While there are some groups that exhibit kindred patterns (such as the pulmonate family Orculidae, see Van Bruggen & Meredith, 1983: 320-321, fig. 4), these usually show considerable differences in total area covered. Of course, shells of *Lauria* are minute to small (maximum length c. 4 mm) and cryptic in colour; the genus may well enjoy a much wider distri-

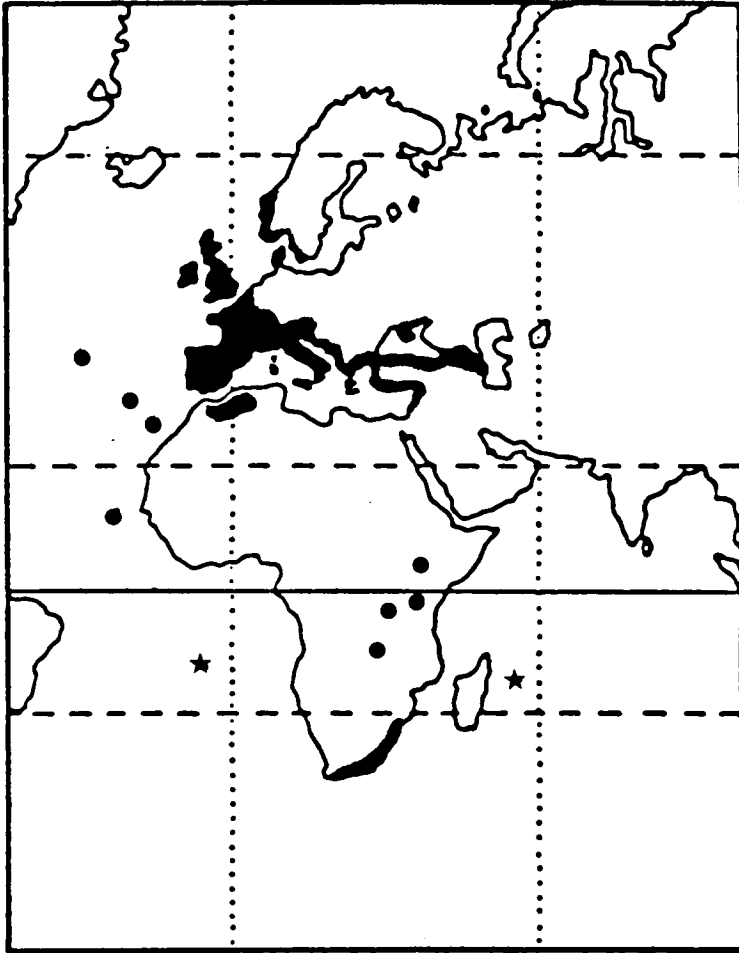


Fig. 1. Distribution of the genus *Lauria*. Distribution in W. and Central Europe after Kerney, Cameron & Jungbluth (1983), other areas from existing literature, unpublished data of Dr. E. Gittenberger and Messrs. H. P. M. G. Menkhorst, Th. E. J. Ripken and A. J. de Winter, and Leiden museum records. Stars indicate alien occurrence outside presumed natural range, i.e. St. Helena W. of Africa and Réunion E. of Madagascar.

bution than shown on the map of fig. 1. As a rule the shells are best obtained by sieving leaf litter, a collecting method so far rarely applied in many parts of or just outside the known range of the genus. Also, *Lauria* may have disappeared from certain parts of Africa and elsewhere in consequence of the post-Pleistocene, progressively drier, climate and concurrent changes in the vegetation.

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