



A new species of *Lauria* (Gastropoda, Lauriidae) from the Canary Islands

Una nueva especie de *Lauria* (Gastropoda, Lauriidae) de las Islas Canarias

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ABSTRACT

A new species of *Lauria* is described from La Gomera, Canary Islands, where it coexists with *L. fanalensis* (R.T. Lowe, 1852) on trunks of trees in the laurel forests. The differences in their adult and especially juvenile shells are described and figured.

RESUMEN

Se describe una nueva especie de *Lauria* de La Gomera, Islas Canarias, en donde coexiste con *L. fanalensis* (R.T. Lowe, 1852) en troncos de árboles de la laurisilva. Se detallan e ilustran las diferencias en su morfología adulta y particularmente en sus conchas juveniles.

INTRODUCTION

Three species of the genus *Lauria* are recognised in Macaronesia and three in Europe (PILSBRY, 1922-1926; ZILCH, 1985; FALKNER, BANK AND VON PROSCHWITZ, 2001; BANK, GROH AND RIPKEN, 2002). Of these, the rather variable *L. cylindracea* (Da Costa, 1778) occurs not only in the Canary Islands, Madeiran Islands and the Azores, but also over much of western and southern Europe and in north-west Africa. The Macaronesian endemic *L. fanalensis* (R.T. Lowe, 1852), known from Madeira and the Canary Islands, resembles a small form of *L. cylindracea*, with weak apertural teeth and less thickened peristome. The Azores endemic *L. fasciolata* (Morelet, 1860) is more distinctive, so that it is now segregated in subgenus *Senilauria* Pilsbry, 1928. *L. sempronii* (Charpentier, 1837) occurs in western and southern

Europe, eastwards to Iran and southwards to northern Algeria. The poorly known *L. reischuetzi* Falkner, 1985 has been found only in river floodline debris in Istra (Slovenija); it is apparently allied to *L. sempronii* and it may be a localised endemic species that lives underground (FALKNER, 1985). WOLLASTON (1878) noted that *fanalensis* 'may be only a depauperated state' of *L. cylindracea*, but he treated it as distinct because of differences in their shells and habitats, with *fanalensis* occurring mainly on tree trunks in laurel forests at intermediate to high elevations ('damp sylvan districts of a high altitude') whereas *cylindracea* 'is emphatically an inhabitant of the dry and cultivated districts, abounding more and more as we descend to the level of the sea'. Nevertheless, several populations we have

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studied from the Canary Islands (La Palma, 2; La Gomera, 1) are intermediate in shell size and morphology between *L. fanalensis* and *L. cylindracea* and they appear to intergrade rather than coexist. During fieldwork in the Canary Islands in February 2006 numerous specimens of *Lauria* were collected from tree trunks at two localities in laurel forest at 1100-1250 m elevation on La Gomera. These were assumed to all be of *L. fanalensis*, until later microscopic study revealed that two rather similar species were present in approximately equal numbers, living together at both

localities. One of these is typical *L. fanalensis*, the other which is apparently undescribed is named in this paper. Its adult shells show only rather subtle differences from those of *L. fanalensis*, but the juvenile shells are markedly different. A recent molecular study (RENKER, 2007) has revealed a pattern of genetic differentiation in European *L. cylindracea* that is not reflected in shell differences. A fuller study involving molecular techniques may therefore be necessary to elucidate the relationships of Macaronesian *L. cylindracea*, *L. fanalensis* and the new species.

TAXONOMIC PART

Family LAURIIDAE Steenberg, 1925

Genus *Lauria* J.E. Gray, 1840

Subgenus *Lauria*

Type species: *Pupa umbilicata* Draparnaud, 1801 = *Turbo cylindraceus* Da Costa, 1778.

Remarks: Allocation of the genus *Lauria* to the Lauriidae rather than Pupillidae and recognition of subgenera follows BANK, BOUCHET, FALKNER,

GITTENBERGER, HAUSDORF, VON PROSCHWITZ AND RIPKEN (2001), BANK ET AL. (2002) and FALKNER ET AL. (2001).

Lauria gomerensis spec. nov. (Figs. 1-7)

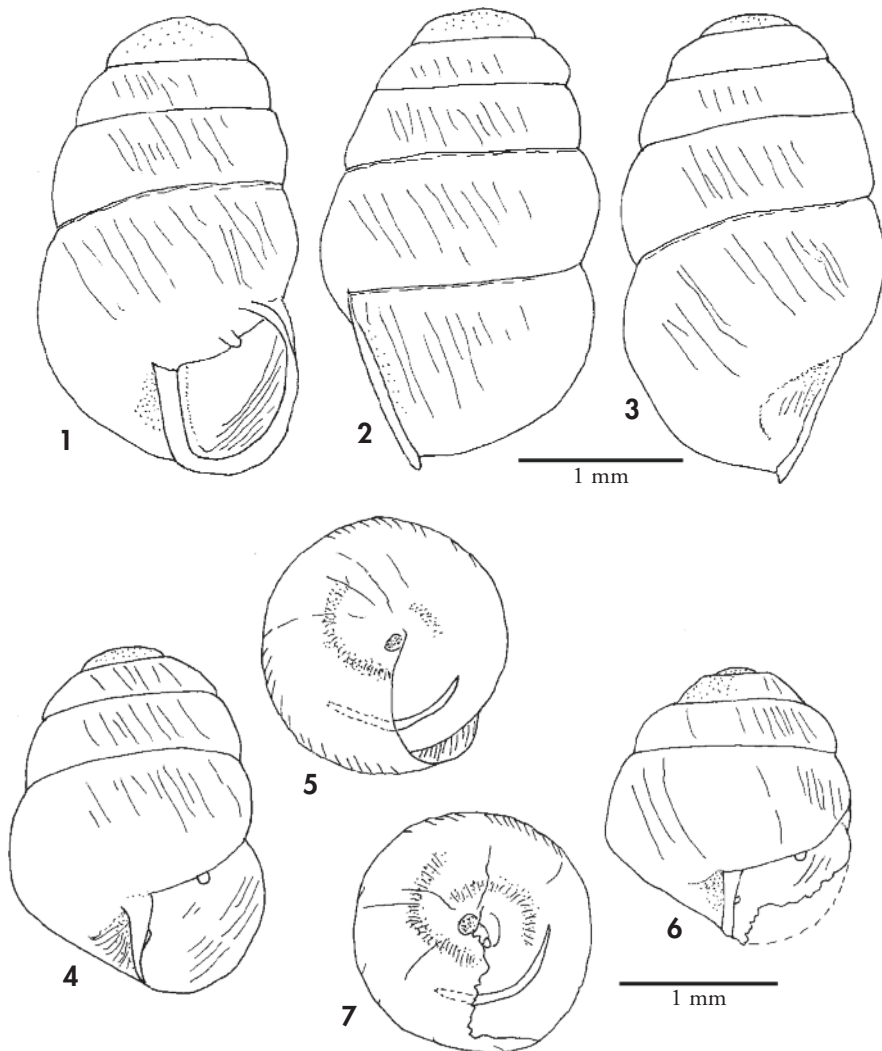
Type material: From type-locality, adult holotype (Figs. 1-3; in the BM, reg. no. 20090224) and two juvenile paratypes (Figs. 4-7; in the BM, reg. nos. 20090225, 20090226); 15 adult and 3 juvenile paratypes in Collection of G.A. Holyoak; 1 adult and 1 juvenile paratypes in Collection of Dr Heike Kappes, University of Cologne, Germany. 9 adult paratypes from different locality (La Gomera: ca 1 km E. of Las Hayas, 28R 02756/31139, ca 1100 m alt., tree trunks in tall old laurel forest, leg. G.A. and D.T. Holyoak, 15 Feb. 2006, site G16) in Collection of G.A. Holyoak

Type locality: La Gomera, Islas Canarias, Spain: Cabezo del Pajarito (E. of Garajonay), 28R 02800/31113, ca 1250 m alt., tree trunks in shallow valley in laurel forest, leg. G.A. and D.T. Holyoak, 13 Feb. 2006, site G9.

Etymology: The specific epithet is derived from the name of the island of La Gomera.

Description: Adult shell (Figs. 1-3) ovoid, of 5-6 moderately convex whorls, the body whorl lacking a basal keel, the mouth rounded. Peristome slightly thickened, sharply reflected, flattened and whitish. Parietal area lacking any callus. Angular tooth small, whitish, not joined to peristome and not prolonged into mouth; columellar tooth lacking. Juvenile shells (Figs. 4-7) with only slight

marginal keel; slender angular tooth prolonged inside mouth as low narrow ridge extending for about one-third of whorl; slender columellar tooth prolonged inwards for short distance; largest whorl lacking thickened transverse palatal bars. Shell light brown, translucent, very glossy, with only rather faint growth ridges; protoconch very faintly punctate.



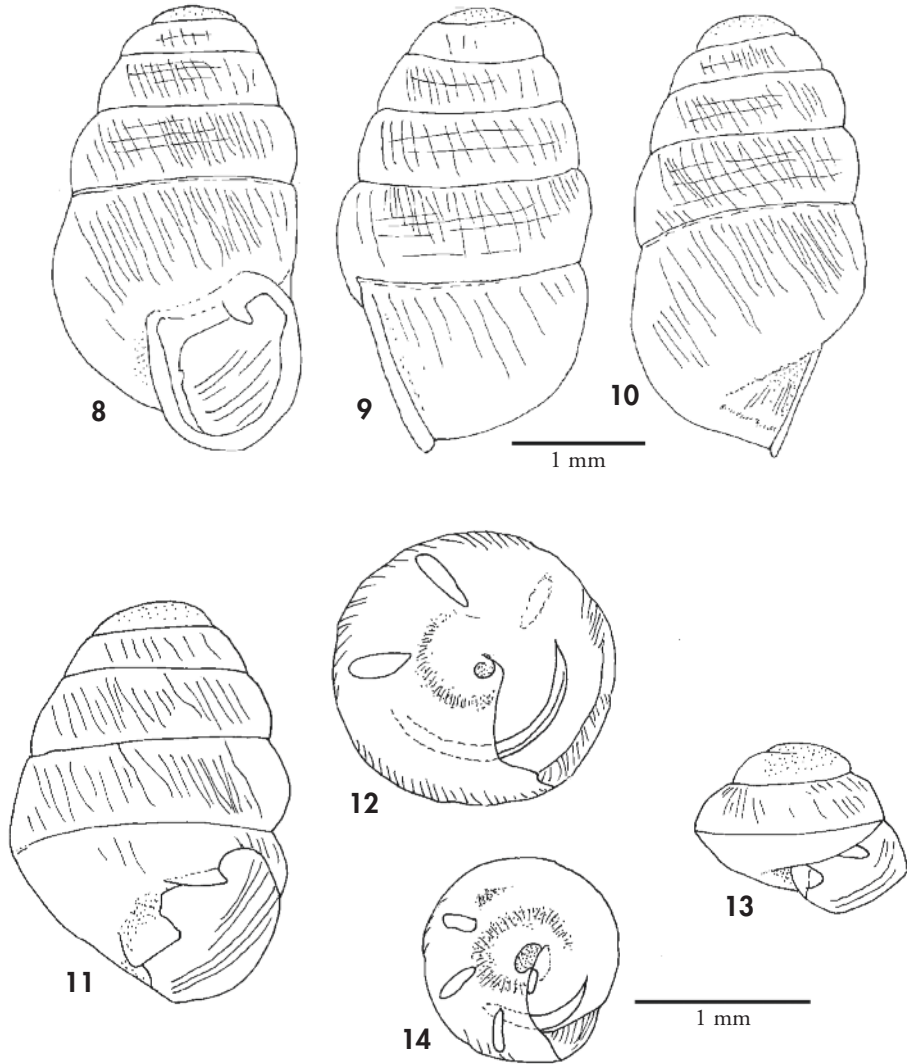
Figures 1-7. *Lauria gomerensis*. 1-3: holotype, adult shell, 2.85 mm (BM 20090224); 4, 5: paratype, juvenile shell, 2.15 mm (BM 20090225); 6, 7: paratype, juvenile shell, 1.7 mm (BM 20090226).

Figuras 1-7. Lauria gomerensis. 1-3: holotipo, concha adulta, 2,85 mm (BM 20090224); 4, 5: paratipo, concha juvenil, 2,15 mm (BM 20090225); 6, 7: paratipo, concha juvenil, 1,7 mm (BM 20090226).

Dimensions: holotype 2.85 × 1.7 mm, 25 adult paratypes 2.5-3.1 × 1.5-1.7 mm.

Distribution and habitat: Collected from two localities at 1100-1250 m altitude on the island of La Gomera (see above). At both sites it was found only

on vertical bark of the smooth trunks of a small minority of laurel forest trees (saplings to old trees, of a species of Lauraceae and *Ilex* sp.), mainly 1.0-2.5 m above the ground, on bark overhung by pendent mats or wefts of bryophytes



Figures 8-14. *Lauria fanalensis*. 8-10: *concha adulta*, 3,15 mm (ejemplar en Colección de G.A. Holyoak; from La Gomera, Islas Canarias, Spain: Cabezo del Pajarito (E. of Garajonay), 28R 02800/31113, ca 1250 m alt., tree trunks in shallow valley in laurel forest, leg. G.A. and D.T. Holyoak, 13 Feb. 2006, site G9); 11, 12: *concha juvenil*, 1,4 mm; 13, 14: *concha juvenil*, 1,05 mm (both ejemplares en Colección de G.A. Holyoak; from La Gomera, Islas Canarias, Spain: Cabezo del Pajarito (E. of Garajonay), 28R 02800/31113, ca 1250 m alt., tree trunks in shallow valley in laurel forest, leg. G.A. and D.T. Holyoak, 13 Feb. 2006, site G9).

Figuras 8-14. Lauria fanalensis. 8-10: *concha adulta*, 3,15 mm (ejemplar en colección de G.A. Holyoak; de La Gomera, Islas Canarias, España: Cabezo del Pajarito (E. de Garajonay), 28R 02800/31113, ca 1250 m alt., troncos de árboles en valle poco profundo en la laurisilva, leg. G.A. y D.T. Holyoak, 13 feb. 2006, sitio G9); 11, 12: *concha juvenil*, 1,4 mm; 13, 14: *concha juvenil*, 1,05 mm; barra de escala 2 mm (ambos ejemplares en colección de G.A. Holyoak; de La Gomera, Islas Canarias, España: Cabezo del Pajarito (E. de Garajonay), 28R 02800/31113, ca 1250 m alt., troncos de árboles en valle poco profundo en la laurisilva, leg. G.A. y D.T. Holyoak, 13 feb. 2006, sitio G9).

(particularly robust pleurocarpous mosses including *Neckera* sp.). It was accompanied in the same microhabitat by similar numbers of *L. fanalensis*, frequent *Columella microspora* (R.T. Lowe, 1852) a few individuals of *Hemicycla laurijona* (ALONSO AND IBAÑEZ, 2007) and rare individuals of a *Napaeus* sp. *Remarks:* Shells of *L. gomerensis* have been compared with those of *L. fanalensis* living with it (Figs. 8-14) and from elsewhere in the Canary Islands (in Collection of G.A. Holyoak) and numerous topotypes from Madeira (BM). The adult shells of *L. gomerensis* differ in being smaller with more swollen whorls, stronger gloss on the periostracum, fainter lines of growth, lack of a columellar tooth and lack of any parietal callus. Immature shells of these two species differ more conspicuously because the strong trans-

verse palatal bars inside the largest whorl of *L. fanalensis* (and *L. cylindracea*) visible through the translucent shell wall (Figs. 12, 14) are completely lacking in *L. gomerensis* (Figs. 5, 7). Other differences in the juvenile shells are the much more strongly keeled periphery of the body whorl in *L. fanalensis* and the stronger development of its angular and columellar teeth, which form higher whitish ridges that are prolonged further back inside the mouth.

L. gomerensis might be endemic in the laurel forest of La Gomera. Numerous specimens collected by the authors from similar habitats on La Palma (6 localities) and Teneriffe (3 localities) in 2002 and 2006 are all *L. fanalensis* (or intermediate between that species and *L. cylindracea*), as are museum specimens from Madeira (BM).

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