Discus (Canaridiscus) laurisilvae sp. nov., a species from the laurel forest of La Gomera, Canary Islands (Gastropoda: Pulmonata: Discidae)

CHRISTOPH ALLGAIER 1,3 & MATTHIAS KLEMM 2

1 Institute of Evolution and Ecology, Evolutionary Biology of Invertebrates, University of Tübingen, Auf der Morgenstelle 28, D-72076 Tübingen, Germany. E-mail: christoph.allgaier@uni-tuebingen.de
2 Grabenstrasse 40, D-72070 Tübingen, Germany. E-mail: klemm@bioplan-tuebingen.de
3 Corresponding author

A new endemic land snail species of the family Discidae, Atlantica (Canaridiscus) saproxylophaga Alonso, G. Holyoak & Yanes 2011, was recently described from La Gomera, Canary Islands (in Yanes et al. 2011). According to Rähle & Allgaier (2011) it is provisorily considered as belonging to the genus Discus. This species lives in the laurel forest and has the largest shell of all the Discidae hitherto known from Macaronesia. In the same habitat where D. saproxylophagus lives, we found individuals of similar size belonging to a second species of the taxon Canaridiscus. These two species show clear differences with respect to both shell morphology and genital anatomy, as described herein.

Material and methods

The holotype and nine paratypes were hand-collected at the type locality from the litter and from within the soil. Three more paratypes were hand-collected from another site in the same natural forest. The material on which this study is based is kept in the collections listed under the following abbreviations: SMNS, Staatliches Museum für Naturkunde Stuttgart, Germany; SMF, Forschungsinstutit und Naturmuseum Senckenberg, Frankfurt am Main, Germany; RAE, W. Rähle private collection, Tübingen, Germany; KLE, M. Klemm private collection, Tübingen, Germany. Quantitative shell characters were measured on the basis of large scaled, digital macrophotographs using standard GIS-software (ArcView GIS 3.2a). The statistical analysis was performed with SPSS for Windows, version 10.0.07. Abbreviations for shell characters and calculations are shown in the legend of Table 1. The number of whorls was counted according to Kerney et al. (1983). A comparison of quantitative shell characters included 8 shells from D. laurisilvae sp. nov., and 7 shells from D. saproxylophagus (2 shells collected by M. Klemm, 17th February 1992; KLE and 5 shells collected by W. Rähle and T. Beck, 4th March 2005; RAE). Due to the small sample size, the mean values of the shell parameters of both species were tested with the Mann-Whitney-U-Test. The significance levels were calculated according to the Holm-Bonferroni-method (Holm, 1979). The live specimens were fixed in 70% ethanol and dissected under a stereomicroscope. Digital photographs of the genital tract were taken through a macroscope (Leica M420 with an apozoom 1:6 lens).

Systematics

Class Gastropoda

Subclass Pulmonata

Order Stylommatophora

Family Discidae

Genus Discus Fitzinger, 1833