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Abstracts

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CHARACTERIZATION OF *Suboestophora altimirai* (Ortiz de Zárate, 1962)
 (PULMONATA: HIGROMIIDAE)

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Introduction

The type locality of *Suboestophora altimirai* (Ortiz de Zárate, 1962) was recently sampled in order to catch living specimens. The species genitalia data, unknown so far, are shown. Such study was necessary for the clarification of their taxonomic status.

S. altimirai species was described on the basis of shell characters by Ortiz de Zárate (1962) but he considers it as a "variety" of *Suboestophora tarraconensis* (Aguilar-Amat, 1935). Genitalia and shell data of the two species are compared. Table I shows the shell measurements from the literature.

Table I.

	<i>S. tarraconensis</i>			<i>S. altimirai</i>
	<u>Aguilar-Amat 1935</u>	<u>Altimira 1960</u>	<u>Ortiz de Zárate 1962</u>	<u>Ortiz de Zárate 1962</u>
D	10	10-11	9-10	9-10
H	-	4.5-5	-	-
W	-	5 1/2-6	53/4	53/4
U	-	0.8-1.1	-	1.8

(D= diameter-, H= high; W= whorls; U= umbilicus; data in mm.)

Material and Methods

S. altimirai was found living in three different places of the Castellón province ("Comunidad valenciana"), very near of the type locality. Its habitat was very similar to the *S. tarraconensis* one: pine and oak forests and also in caves.

The two species genitalia measurements were taken on fresh material. The genitalia and shell measurements for these species collected are shown in table II, and the geographic distribution is shown in the figure.

Results and Discussion

The biggest collected specimens of both species are considerable bigger than the reported to the same species so far (D, H, W, U).

S. altimirai shell is smaller than *S. tarraconensis*. Its periphery is much more keeled and its spira is higher. Also there are differences in the size of the male genitalia (see table II).

Both species are distributed through the same area (see figure).

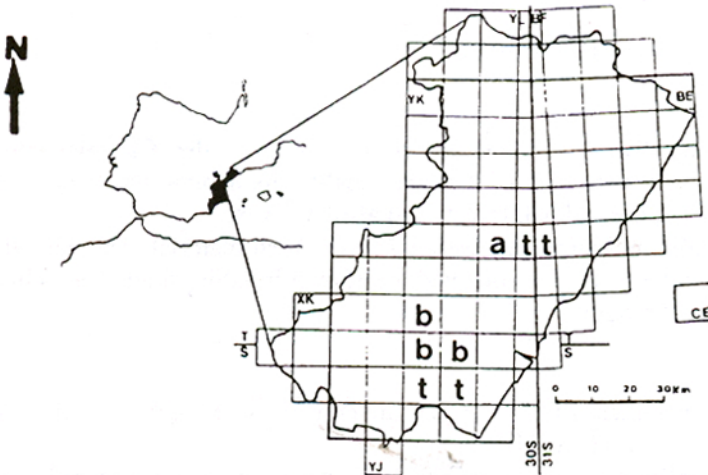
Table II:

	<i>S. tarraconensis</i>	<i>S. altimirai</i>
Genitalia		
F	1.35-1.65	2.2-2.35
E	1.1-3.1	2.5-3.2
Pe	6.05-8.95	2.7-4.35
R	1.1-2	0.6-3.0
S	0.65-1 x 1.5-1.9	0.45-0.5 x 1.05-1.65
SD	2.65-4.25	2.4-2.9
D	-	0,8
DS	1.7-2.15	1-1.6
SA	2.1-3.1	1.25-1.9
O	4.25	3.25-4.85
V	2.4-3.75	2.3-4.35
G	(4)12.5	(4) 7.75-9.1

Shell (maximum size)

D	14	12
H	6.9	5.6
w	63/8	61/4
u	2.5	1.8

(F= flagellum, E= epiphallus, Pe= penis, R= penial retractor muscle, S= spermatheca, SD= spermathecal duct, D= dart, DS= dart-sac, AS= accessory sac, O= oviduct, V= vagina, G= glandulae mucosae; data in mm)



Distribution of the collected material: *S. altimirai* (a) (Onda, type locality, 30SYK32): Ayódar, cueva del Castillo, 30SYK23. Argelita, Barranco (Bco) 1 Km from the village, 30TYK23. Fanzara, 2,1 Km from road to cueva La Mola 30TYK23. Fanzara, cueva de

la Mola, 3OTYK22. Sant Joan de Moró, Bco de la Parra, 3OTYK44. Sueras, manantial de Castro, 3OSYK22. *S. tarraconensis* (t): Ahín cueva del Gat, 3OSYK22. Ahín, Bco de la Caridad, 3OSYK21. Almedijar, Bco de Falaguera, 3OSYK21. Onda, Artesa, 3OSYK32. Benicasim, Desierto de las Palmas, 31TBE44. Eslida, Fuente Matilde, 3OSYK31. Fanzara, Bco de Turio, 3OTYK23. Fondegullia, Bco San Juan, 3OSYK3 l. Fondegullia, Bco del Arquet, 3OSYK3 l. Lucena del Cid, Masía del Moro, 3OTYK23. Vilafarnés. Font del Lleó, 3OSYK54. Both species (b).

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VITRINID SLUGS OF THE AZORES

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The islands of the North Atlantic contain a rich endemic flora and fauna including many relictual taxa having affinities with Tertiary Europe. The Azores archipelago is younger than either the Canaries or Madeira and has a correspondingly less-diverse biota, but still shows levels of endemism of about 50% in its terrestrial mollusc fauna. Important radiations are to be found in the pulmonate families Vitrinidae, Enidae, Helicidae and Zonitidae.

Vitrinid slugs are known from all the Azorean islands except Graciosa, and have also radiated on the Canaries and Madeira. Morelet (1860) first studied the vitrinids of the Azores, describing seven species, all endemic, from four of the islands. The number of species recognised was considerably reduced in most subsequent taxonomic treatments, and all have been placed in the genus *Phenacolimax*. The present study, based on shell, anatomical and external body characters, recognises eleven species, each of which is restricted to a single island. The two oldest islands, Santa Maria and San Miguel, contain three and two species respectively, each of the other islands containing only one. Phylogenetic analysis of these species suggests that the positionally lessapomorphic taxa on the cladogram are restricted to the two oldest and most westerly islands, and at least some of these have arisen by independent dispersal from outside the archipelago. The remaining (younger) islands each contain representatives of an autochthonous radiation