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DESCRIFTION OF *DYSDERA GOLLUMZ* (ARANEAE, HAPLOGYNAE), A NEW TROGLOBITIC SPECIES FROM TENERIFE, CANARY ISLANDS, WITH SOME COMMENTS ON CANARIAN *DYSDERA*(1)

by

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1 - INTRODUCTION

The genus ***Dysdera*** Latreille, **1804** is the most species-rich genus of the family Dysdendae, a paiaeoarctic haplogynae family with its distribution centre in the Mediterranean region. **About** 200 species of ***Dysdera*** have been described to date. Their distribution ranges from the Atiantic Islands (Azores, Madeira and Canary Islands) to the first slopes of the Himalayas and from Central Europe to the African region above the Sahara and Arabian deserts, with the exception of ***Dysdera crocota*** a sianthropic specie with cosmopolitan distribution.

About 50 ***Dysdera*** species have been recognized in the Canary Islands. Comparing this number with the number of species in other regions (e. g. **26** species in Iberian Peninsula) we may conclude that genus has undergone a radiation process in the Canary Islands.

Cavernicolous ***Dysdera*** have been descnbed only from the Westem Mediterranean region, up to now: ***D. vivesi*** Ribera and Ferrández. **1986; *D. espanoli*** Ribera and Ferrández, **1986** and ***D. bicornis*** Fage, **1931** from Iberian Peninsula; ***Dysdera*** n. sp. from Balearic Islands; ***D. drescoi*** Ribera, **1983** and ***D. caeca*** Ribera, **1993** from Morroco and ***D. kabïliana*** (it was described as ***Stalitochara*** by SIMON, **1913)** from Algeria. Nevertheless, six ***Dysdera*** species with ocular reduction have been found in the lava tubes of the Canaries: ***D. esquiveli*** Ribera and Blasco, **1986; *D. ungimmanis*** Ribera, Blasco and Ferrández, **1985; *D. ambulotenta*** Ribera, Blasco and Ferrández, **1985; *D. labradaensis*** Wunderlich, **1991; *D. chioensis*** Wunderlich, **1991** from Tenerife and ***D. ratonensis*** Wunderlich, **1991** from La Palma. Therefore, there are as rnany troglobitic species of ***Dysdera*** in Canary Islands as in the rest of their distribution area.

Canarian cavemicolous ***Dysdera*** display some outstanding features. There are giant forms (***D. ambulotenra*** and ***D. labradaensis)*** as well as dwarf ones (***D. esquiveli).*** Most were collected in the same lava tube and, in some cases, at the same time. This raises some important evolutionary and ecological questions.

In an overall program dealing with the phylogenetic relationships of the Canarian ***Dysdera*** species, epigean as well as hypogean, we carried out several collection campaigns in order to prospect unknown or slightly known Canarian regions. These prospects are yielded the discovery of a new troglobitic ***Dysdera*** species from Cueva de Los Roques, in the Cañadas del Teide. as well as other troglobitic ***Dysdera,*** known from other localities, ***D. chioensis*** and ***D. ambulotenta.***

11 - DESCRIPTION

Dysdera gollumi n. sp.

Material.

1♀, Holotype, **from Cueva de los Roques,** Las Cañadas del Teide, Tenerife, **Canary Islands. 27/10/91. C. Ribera leg. Colecció** Aracnids **Dpt. Biología Animal, Universitat de Barcelona n° 2567/105.**

1 juvenile, Paratype, from **same locality. 28/13/82. J. L. Martin Leg. Colecció Aracnids Dpt. Biología Animal, Universitat de Barcelona n° 2537/103.**

♂ **unknown.**

Diagnosis.

- Carapace denticles
- Spermatheca location : completely under the Dorsal Arch (fig. 1)
- Spineless legs (shared with other species)
- Spermatheca shape **(fig. 2)**
- Eye reduction : **AME** vestigial, reduced to small points; PLE **and** PME are missing.

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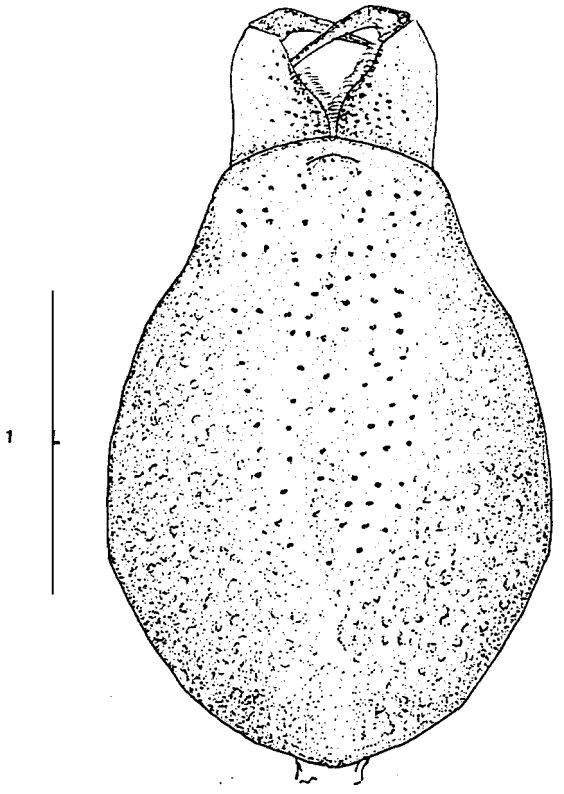

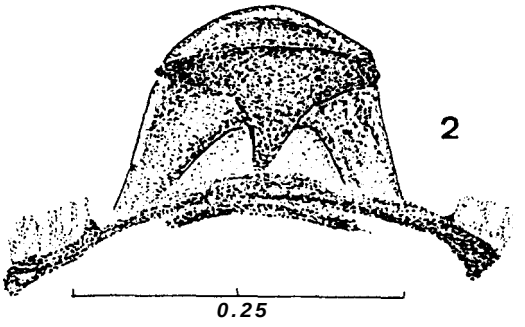

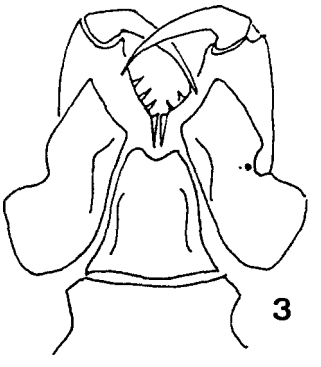

Leas	femur	patella	tibia	tarsus	mtars	total
I	2.10	1.03	1.96	**2.00**	0.51	7.60
II	1.72	1.03	1.68	1.77	0.51	6.71
III	1.44	0.70	1.12	1.49	**0.42**	5.17
N	1.91	0.98	1.58	**2.05**	0.56	7.08
Palp	0.76	0.36	0.41	0.61		**2.14**

IV · CAVERNICOLOUS *DYSDERA* SPECIES COEXISTENCE

The coexistence of different species in the same lava tube is one of the most curious features of troglobitic *Dysdera* in The Canary Islands. Cueva de los Roques lava **tube** is a good example of this but not the only one. Three *Dysdera* species with eye reduction, as well as other hypogean-adapted characters, have been collected to date (in some cases they were collected at the same time): *D. gollumi* n. sp., *D. ambulotenta* and *D. chioetisis. D. gollumi* have only been found in this **tube,** but *D. chioerisis* and *D. ambulotenta* are known from other localities (Tab. 1 and Fig. **5).** These three species are clearly distinguished, since they do not show close affinities. They are clearly segregated because of their size and shape. This could be due to different ecologicai adaptations. Any ecological study about their predatory habits or their activity rythms has not been reported. Therefore, hypotheses about their possible ecological segregation could not be tested. An extensive **work** on *Dysdera* predatory behaviour and activity pattems should be done in order to answer to such questions.

Tabl. 1 - List of the species of troglobitic *Dysdera* collected in Cueva Los Roques, with all the localities where they have been found.

Species	Localities	Situation
D. gollumi	Cueva de Los Roques	Central Tenerife
D. chioensis	Cueva de Los Roques	Central Tenerife
	Cueva Grande del Chío	Western Tenerife
D. ambulotenta	Cueva de Los Roques	Central Tenerife
	Cueva del Viento-Sobrado	Northem Tenerife
	Cueva del Bucio	Eastem Tenerife
	Cueva Labrada ?	Eastem Tenerife

Nevertheless, the fact that lava tubes are relatively nutrient-poor habitats, as well as the high ***Dysderu***-species richness and the *Dpsdera* distribution, suggests that lava tubes are not their speciation center and their usual habitat. We think that troglobitic *Dysdera*, as well as other arthropod genera, live and speciate in the volcanic MSS (Mesocavernous Shallow Stratus). Thus their appearance in the lava **tubes** would be accidental, although some species could subsequentiy become adapted to that environment.

Many volcanic M.S.S. fauna were collected in the course of a study on Canarian M.S.S. (MEDINA, 1991). About 60 *Dysdera* specimens were found in that habitat, but none of them showed troglobitic adaptations, and most of them belong to species that have been found in epigean environments. *Dysderu* are nocturnal wandering spiders, inhabitants of the soil that usually excavate the ground. Probably, because of the kind of samplinp, all the *Dysdera* collected in the M.S.S. belong to epigean species that have hollowed deep in the ground. Species with hypogean-adapted characters should be sought in the deeper M.S.S.

SUMMARY

A new species of troglobitic *Dysderu* frorn volcanic tubes frorn Tenerife, Canary Islands, is described. Sorne comments about **its** relationships with epigean species are given. Moreover. the coexistence of severai *Dysdera* species **in** the same lava tube is discussed.

RESUME

Une nouvelle espèce de *Dysdera* troglobie. d'un tube de lave de Ténénfe (Iles Cananes). est décnte. Les relations avec les autres espèces sont discutées. De plus, la coexistence de plusieurs espèces de *Dysdera* dans le même tube de lave est décnte et discutée.

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Etymology.
The specific epithet refers to J. R. R. Tolkien's character Gollum (The Hobbit, The Lord of the Rings) a 'hobbit' who would live in caves.

111 - DISCUSSION

D. gollumi n. sp. shares some morphological characters-states with other Canarian ***Dysdera: D. minutissima*** Wunderlich, 1991; ***D. levipes*** (♀ unknown) Wunderlich, 1987; ***D. multipilosa*** (♂ unknown) Wunderlich, 1991 from Tenerife, and ***Dysdera*** nsp. (♀ unknown) a new epigean species from **Gran** Canaria (Fig. **4).** They form a morphologically homogeneous group, easily distinguishable from the remainder of ***Dysdera.***

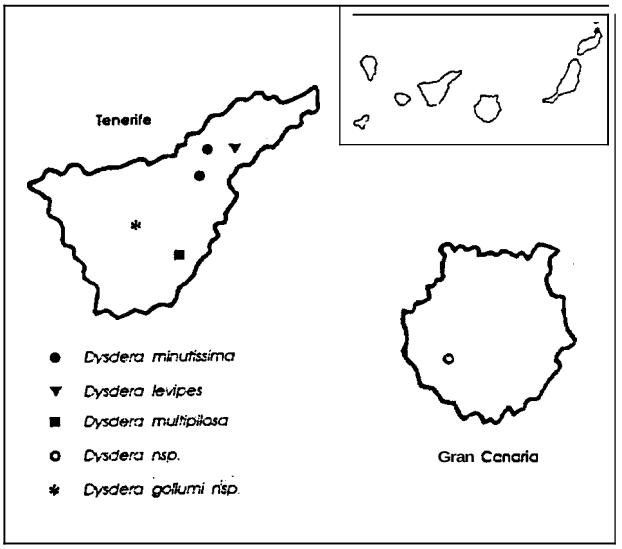

Fig. 4 - Distribution map of the set of species similar to *Dysdera gollumi* n. sp.

The diagnostic features of that group would **be:**

(1) Very small sized species **(4.5-5.5** mm. long). **(2)** Carapace posterior border obtusely rounded behind, without any groove; anterior border markedly narrow but immediately after its lateral edges become wider, there is no any postocular constriction. Carapace and sternum clearly wrinkled. **(3)** Chelicerae basal segment short with a concave inner groove. The three teeth o the inner groove are similar in size and shape and close one to another. Chelicera fang shorter than basal segment. **(4)** Locomotory appendages are thin and usually in two colours. The legs are generally spineless (except ***D. minutissimu.*** spination present **but** clearly reduced). ***(5)*** Endogyne (Fig. **2).** The dorsal arch is trapezoid, **as** long **as** wide at its base, its frontal margin is convex. The transverse bar "arms" lightly inclined backwards **in** relation to its middle point. Spermatheca shape polymorphic.

Dysdera gollumi n. sp. is clearly distinguished as follows: (1) Carapace with small black denticles uniformly distributed, especially in the the middie-dorsal area. The eyes are reduced ***AME*** are vestigial and PLE and PME are missing. Spermatheca is located completely under the Dorsal Arch (Fig. 2) and cup-shaped.

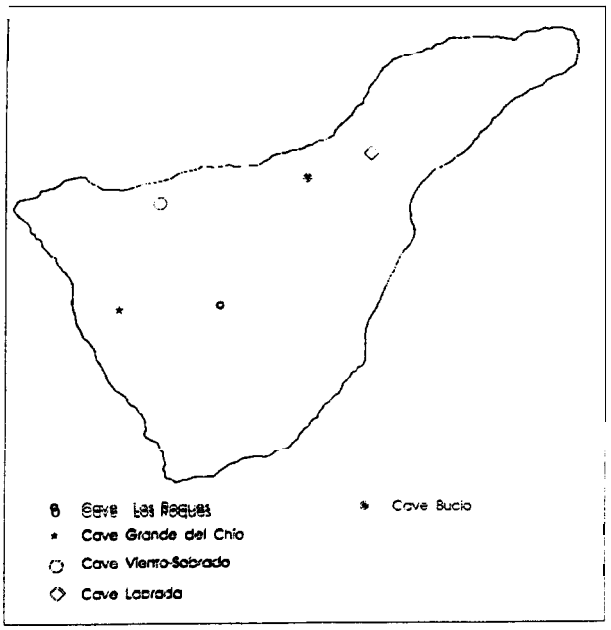

Fig. 5 - Geographical situation of the lava tubes where the cave species of *Dysdera* collected in Cueva de Los Roques have been collected.

Nevertheless, without a more exhaustive material collection (only in *D. minutissima* are both sexs known) to study character state variability and without a well-established cladogram, we could not be sure about the polarity of the characters and, therefore, about the monophyly of that group and their phylogenetic relationships.

A phylogenetic analysis of the Canarian ***Dysdera*** is being performed at present. Morphological features **as** well **as** molecular data are being used.

Preliminary studies on morphological characters show several outstanding features. Male genitalia are very uniform and most ***Dysdera*** could be put in any of three well-defined groups (ARNEDO and RIBERA, in prep.). About 40 species show the same male genitalia pattern. *D. golliimi* set shares that pattern.

Nevertheless, great diversity is seen in other morphological features: female genitalia; carapace shape and ornamentation; chelicera shape and teeth; labium shape and groove; leg spination and so on. Whereas male genitalia patterns could be used to infer different origins or different colonization processes, these variable traits could **be** used to reconstruct the evolutionary history of the genus *Dysdera* in the Canary Islands.

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