

NEW RECORDS OF PSEUDOSCORPIONS FROM THE MADEIRAN ISLANDS.

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With 1 table

ABSTRACT: *Calocheirus mirus*, *Geogarypus minor* and *Apocheiridium ferum* are reported as new for the island group. For several other species supplementary data about their distribution are given.

RESUMO: NOVOS ASSINALAMENTOS DE PSEUDO-ESCORPIÕES NO ARQUIPÉLAGO DA MADEIRA. *Calocheirus mirus*, *Geogarypus minor* e *Apocheiridium ferum* são assinalados como novos para o Arquipélago. Para outras espécies são fornecidos dados acerca das respectivas distribuições.

Several years ago I published (PIEPER, 1981) a review of Madeiran pseudoscorpions. In doing so, it became clear that these animals were rather well known on the main island and in Porto Santo, but not so on the smaller islands. It was therefore very gratifying to learn that Dipl. - Biol. K. GROH / Darmstadt, first in 1983, but specially in 1985 paid attention also to pseudoscorpions, while studying the snails of Madeiran Islands. He was kind enough to let me see his material for identification.

Complementary specimens were supplied by several friends and colleagues mentioned in the text. Information in letter was given by Drs. H. ENGHOFF / København, V. MAHNERT / Genève as well as C. P. WHEATER / Manchester. Dr. G. ANDERSSON / Göteborg and Dr. M. J. BISCOTTO / Funchal kindly loaned material from their respective museums. To all of them I want to express my sincerest thanks for their help during my studies.

The above mentioned paper (PIEPER, 1981) included a table showing the distribution of all species of Madeiran pseudoscorpions. This table is shown here in a revised version with one change in nomenclature: LEGG (1987) has transferred *Allochernes dubius* to the genus *Pselaphochernes*. (See table I).

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All species recorded for the first time from the island group are marked with an asterisk; those which are new to a specified individual island are provided with a cross. These taxa are discussed below.

	Madeira	Porto Santo	Desertas
<i>Chthonius dacnodes</i>	x		
<i>C. ischnocheles</i>	x		
<i>C. tetrachelatus</i>	x	x	
<i>Paraliochthonius hoestlandti</i>	x		
<i>Neobisium sp.</i>	x		
<i>Microcreagrella caeca</i>	x	x	+DG
<i>Microcreagrina hispanica</i>	x	+IC	+DG
<i>Amblyolpium franzi</i>		x	+B
* <i>Calocheirus mirus</i>			+DG
<i>Geogarypus canariensis</i>		x	
* <i>G. minor</i>	x		
<i>G. nigrimanus</i>	x		
<i>Garypus levantinus</i>	x	+IFA	+B +DG
* <i>Apocheiridium ferum</i>	x		
<i>Pselaphocheernes dubius</i>	x		
<i>P. scorpioides</i>	x		
(<i>Withius piger</i>)		(x)	
<i>Dactylochelifer latreillei</i>	x		
<i>Pseudorhacochelifer coiffaiti</i>	x		DG

Tab. I - Revised version from paper by Pieper (1981) showing the distribution of Madeira pseudoscorpions.
(Abbreviations: B = Bugio, DG = Deserta Grande, IC = Ilhéu de Cima, IFA = Ilhéu da Fonte d'Areia).

There is of course also a considerable amount of additional material of the remaining species, mainly that from Madeira proper, which will help to improve the knowledge of their distribution. Data referring to these are not given in this paper.

Microcreagrella caeca (SIMON, 1884)

This species has previously been recorded from Madeira and Porto Santo. One male was found by M. HOUNSOME on Deserta Grande (19.8.1981). This specimen is in the Mus. Hist. Nat. Genève and was communicated by V. MAHNERT.

Microcreagrina hispanica (ELLINGSEN, 1910)

The genus was already known from Madeira but not the specific identity of the tritonymph mentioned by VACHON (1961). On Madeira proper ENGHOFF & MARTIN collected 2 females (28.11.1980) on Ponta de São Lourenço and WALDÉN one specimen (sex. indet.) in Curral das Freiras (27.3.1983). Finally GROH found the species on Ilhéu de Cima near Porto Santo (1 female, 17.8.1985) and Deserta Grande (1 female, 1.-4.8.1985). The species is widely distributed on the Iberian Peninsula, North Africa etc.

Amblyolpium franzi BEIER, 1970

So far only known from Porto Santo, but GROH found a female on Bugio (29.-31.7.1985).

Calocheirus mirus MAHNERT, 1986

MAHNERT (1986) discussed the nomenclatorial problems connected with this genus and described in the same paper the new species *mirus* from Gomera (Canary Islands). GROH recorded 1 female from Deserta Grande (1.-4.8.1985), WALDÉN 1 female *ibid.* 1.6.1984 and 1 male, 2 females and 1 tritonymph were collected by myself on this island (23.-25.9.1988). The specimens are slightly different from the Gomera material, e.g. in being smaller.

C. mirus occurs also on Fuerteventura (Canary Islands): *leg.* WUNDERLICH 1989. The genus is new to the Madeiran Islands. Apparently it has undergone a remarkable speciation in the Canaries: *C. canariensis* (BEIER, 1970) lives on most of the islands, *C. gigas* MAHNERT, 1980 is known from Gran Canaria.

Geogarypus minor (L. KOCH, 1873)

ERBER collected a badly preserved specimen (7.9.1985) on Ponta de São Lourenço, and in July 1984 WUNDERLICH had found the species for the first time in Madeira (1 female, 1 tritonymph), east of Funchal. This material is in the Mus. Hist. Nat. Genève and was communicated by V. MAHNERT.

G. minor is widely distributed in the Mediterranean area and its joint occurrence with *G. nigrimanus* (SIMON, 1879), also on small islands, was established by MAHNERT (1975) in the Maltese Islands and by CALLAINI (1979) on the Aeolian Islands of Salina

and Panarea. On Porto Santo lives an additional species of the genus, i.e. *G. canariensis* (TULLGREN, 1900) (PIEPER, 1981).

Garypus levantinus NAVÁS, 1925

First recorded from Madeira proper by the author in 1980, this species was later also found by GROH (1 male, 2 deutonymphs, 3.7.1983) on Ilhéu da Fonte d'Areia near Porto Santo as well as (1 female, 1 tritonymph, 29.-31.7.1985). Probably to this species belongs a deutonymph which was collected (19.8.1981) by M. HOUNSOME on Deserta Grande; it is in the Mus. Hist. Nat. Genève and was communicated by V. MAHNERT. F. ZINO has provided a protonymph (31.12.1986, MMF 24158), again from Bugio.

Apocheiridium ferum (SIMON, 1879)

The first representative of the family Cheiridiidae on the Madeiran Islands was found by ENGHOFF & MARTIN; they collected 1 female under bark of *Laurus* near Queimadas (21.11.1980) and 2 males, 1 female under bark of *Erica*, 2 km. west of Poiso in the Ribeira das Cales (22.11.1980). This material is in the Mus. Hist. Nat. Genève and the Zool. Mus. København (ENGHOFF *in litt.*). D. ERBER found a deutonymph (18.9.1988) near Ribeiro Frio and C. LANGE collected, under *Erica* bark, 70 specimens of different ages (1.5.1989) at Chão dos Louros; verifying the wide distribution of this species on the main island.

As may be seen from the distribution table, the number of species has been raised (the questionable *Withius piger* (SIMON, 1878) and *Neobisium* sp. included) to 19, of which 15 are mentioned for Madeira proper, 2 of them being new to this island. The species number for Porto Santo (*s. str.*) has not changed, but on its satellite islands were found as new to the "subgroup": *Microcreagrina hispanica* and *Garypus levantinus*. From the Ilhas Desertas hitherto only *Pseudorhacochelifer coiffaiti* VACHON, 1961 was known, but particularly with the help of K. GROH this state of affairs became improved considerably. Unfortunately there are still no records from the small island of Ilhéu Chão. From the ecological point of view it is quite understandable that 4 of its 6 species are established also on Porto Santo and its surrounding islands; *Ps. coiffaiti* and *Calocheirus mirus* have not yet been recorded from there.

The fact that quite a number of species new to the whole archipelago of Madeira or only to individual islands pertaining to this archipelago have come to light during only a small number of years, make us believe that more can be expected in the near future, particularly taking into consideration the taxa involuntarily introduced by

man. Under these circumstances it seems premature to make an elaborate zoogeographical analysis and comparison with other Macaronesian Islands.

It is of interest to mention that among the pseudoscorpions collected by WHEATHER in the course of his search for them on the Ilhas Selvagens there also was *Pselaphochernes lacertus* (L. KOCH, 1873), det. MAHNERT (C. P. WHEATER *in litt.*), new to these islands (see PIEPER, 1980 and WHEATER, 1986).

REFERENCES

CALLAINI, G.:

1979. Osservazioni su alcuni pseudoscorpioni delle Isole Eolie. *Redia*, **62**: 129 - 145. Firenze.

LEGG, V.:

1987. Proposed taxonomic changes to the British pseudoscorpion fauna. - *Bull. Br. arachnol. Soc.*, **7**: 179 - 182. London.

MAHNERT, V.:

1975. Pseudoscorpione von den Maltesischen Inseln. - *Fragm. Entom.*, **11**: 185 - 197. Roma.

1986. Une nouvelle espèce du genre *Tyrannochthonius* Chamb. des îles Canaries, avec remarques sur les genres *Apolpiolum* Beier et *Calocheirus* Chamberlin (Arachnida, Pseudoscorpiones). - *Mém. Soc. r. belge Ent.*, **33**: 143 - 153. Bruxelles.

PIEPER, H.:

1980. Neue Pseudoskorpion-Funde auf den Ilhas Selvagens und Bemerkungen zur Zoogeographie dieser Inselgruppe. - *Vieraea*, **8**: (1978): 261 - 270. Santa Cruz de Tenerife.

1981. Die Pseudoskorpione von Madeira und Nachbarinseln. *Bocagiana*, **60**: 1 - 7. Funchal.

VACHON, M.:

1961. Remarques sur les pseudoscorpions de Madère, des Açores et des Canaries (Première note). *Bull. Mus. Nation. Hist. Nat.*, 2^{ème} Sér., **33**: 98 - 104. Paris.

WHEATER, C. P.:

1986. Cory's Shearwater burrows as habitats for invertebrates on Selvagem Grande. - *Bocagiana*, **102**: 1 - 9. Funchal.