Pholcus roquensis Wunderlich, 1992

Wunderlich, J. 1992. Die Spinnen-Fauna der Makaronesischen Inseln. Taxonomie, Ökologie, Biogeographie und Evolution. Beitr. Araneol. 1: 1-619.

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91. Pholcus roquensis n.sp. (Abb. 170-177)

Material: Teneriffa, Las Cañadas, etwa 200m, cueva (= Höhle) los Roques, 1♂ 1♀ J.L. MARTIN leg. 1.III. 1985, Holotypus (♂) ULT no. T-CR-55, ♀ SJW; 1♂ 1♀ leg. 19.II.1985, ♀ ULT no. T-CR-54, ♂ SJW; 1♀ J.L. MARTIN leg. 11.VIII. 1986 (det. per err. P. ornatus), ULT no. T-CR-67.

Diagnose: ♂-Pedipalpus (Abb.170-175): Procursus mit 2 unscheinbaren kurzen Börstchen in deutlichem Abstand schräg hintereinander, (sie zeigen nach hinten), distal mit mehreren Zähnchen, davon einer lang, schlank und nach medial zeigend. Appendix mit 2 fast gleich-langen Ästen. Geschlechtsfeld (Abb.176-177) hinten breit stärker sklerotisiert, mit kleinem, fast kreisförmigem "Knöpfchen".

Beschreibung:
Maße, Färbung, Körper sowie Trochanter und Femur des ♂-Pedipalpus

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wie bei P. knoeseli n.sp..

Beziehungen: Es bestehen enge Beziehungen zu P. knoeseli und P. tenerifensis (beide von Teneriffa); bei knoeseli sind die Börstchen des Procursus aber in anderer Position, die distalen Zähnchen des Procursus sind anders, weiterhin lassen sich die ♂ nach dem Appendix in Apical-Ansicht gut unterscheiden, vgl. die Abbildungen; das ♀-Geschlechtsfeld ist kürzer und das "Knöpfchen" ist schmaler. Bei tenerifensis sind ebenfalls die Strukturen des ♂-Pedipalpus anders und das Geschlechtsfeld ist weniger stark pigmentiert.

Ökologie: Nach den großen Augen und der deutlichen Pigmentierung von Körper und Beinen handelt es sich nicht um eine echt cavernicole Art, sondern wohl eher um eine Art der Halbhöhlen.

Verbreitung: Teneriffa (cueva los Roques).

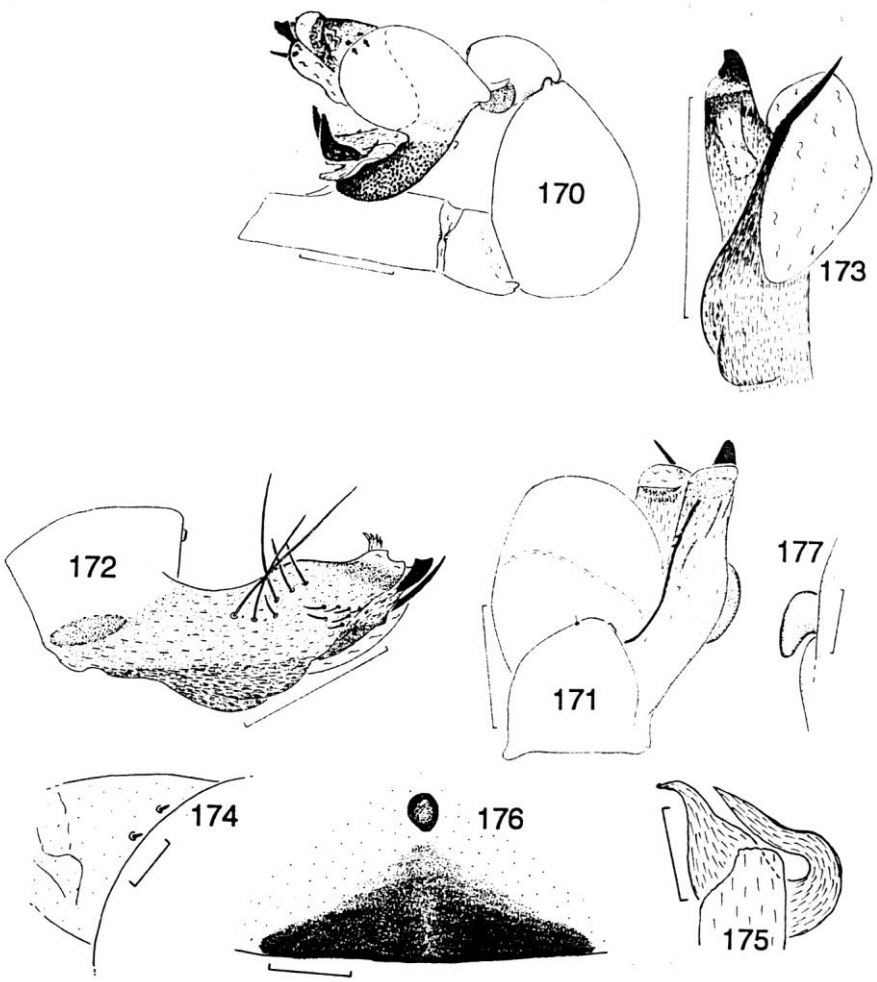

Fig.170-177: Pholcus roquensis n.sp., 170-175) r. ♂-pedipalpus, 170-171) pedipalpus prolat. and dorsal, 172-173) procursus retrolat. and ventral, 174) tiny spines of the procursus dorsal, 175) appendix apical, 176-177) ♀, genital area and its "knob" lateral; M in fig. 174, 177) 0.1, 175-176) 0.2, the others 0.5.

Dimitrov, D., Ribera, C. 2007. The genus *Pholcus* (Araneae, Pholcidae) in the Canary Islands. Zool. J. Linn. Soc. 151: 59-114.

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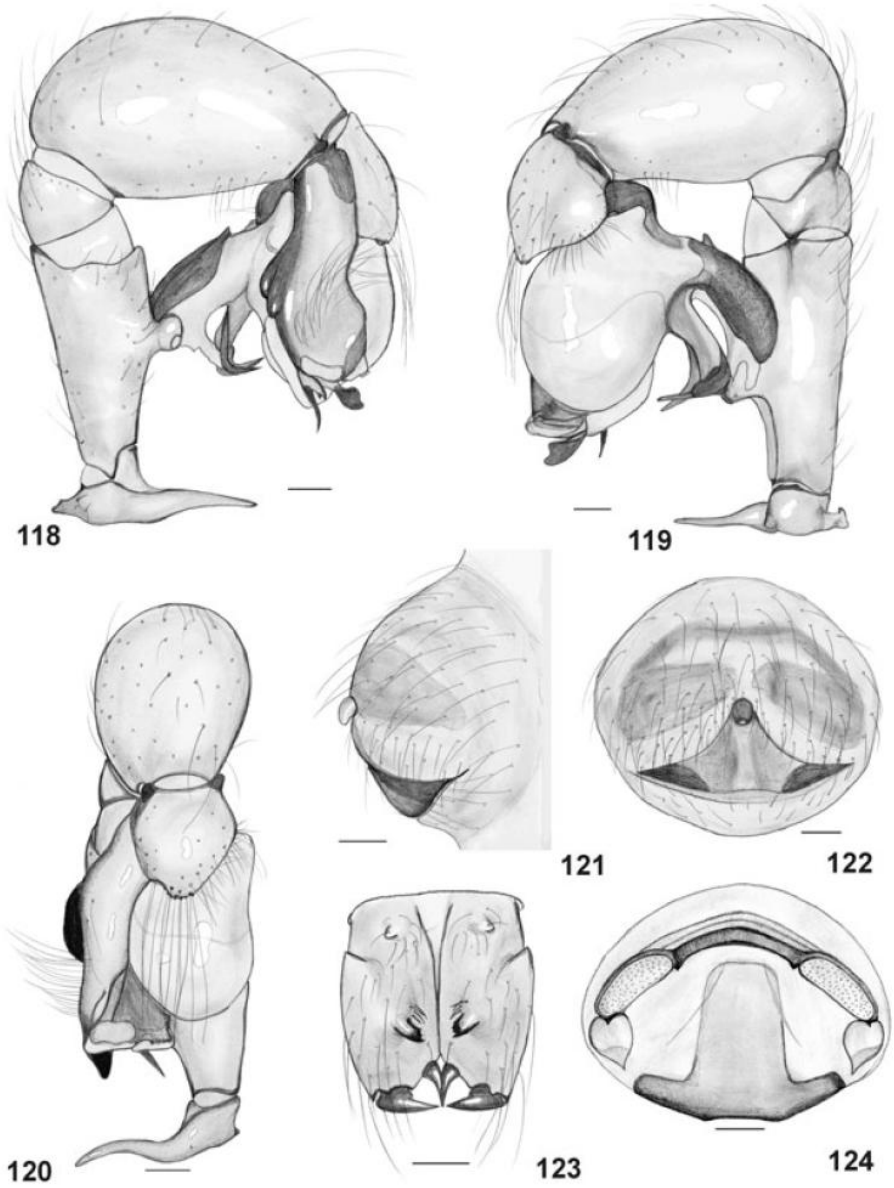
PHOLCUS ROQUENSIS WUNDERLICH, 1992
(FIGS 118–138)

Pholcus roquensis Wunderlich, 1992: 322, figs 170–177.

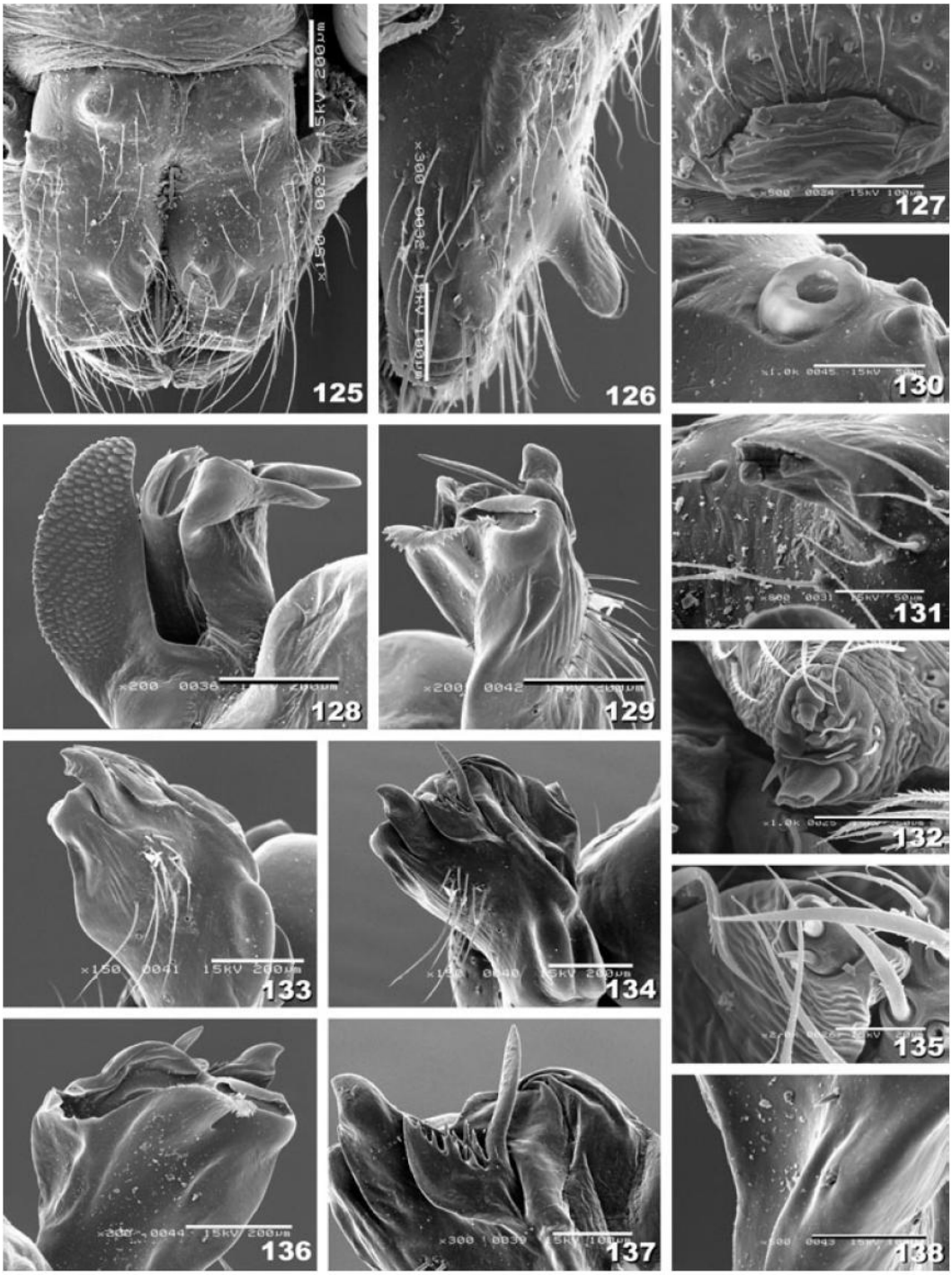
Material examined: 1 m, holotype, from Cueva de los Roques, Tenerife, Canary Islans, Spain (ULL T-CR-55); 2 f, paratypes, same data as for holotype (ULL T-CR-67, T-CR-54); 2 f, same locality as for holotype, 27.ii.2002, Dimitrov & Ribera (CCRUB 4652-173, 4651-173); 1 m, same locality as for holotype, 24.ii.2002, Dimitrov & Ribera (CCRUB 4676–173); 1 f, 1 juv., same locality as for holotype, 24.ii.2002, Dimitrov, De Mas & Ribera (CCRUB 4569–172); 1 f, 1 juv., same locality as for holotype, ix.2003 and 23.x.1999, GIET (Grupo de Investigaciones Espeleológicas de Tenerife) (CCRUB 4527-170-4528-170); 2 ff, same locality as for holotype, September 2003 and 23.x.1999, GIET (ULL CR-C/AÑ-1266); 3 mm, 1 f, 1 juv., same locality as for holotype, 28.ix.2003, DZUL (Departamento de Zoologia, Universidad de La Laguna) (ULL AÑ-1489); 1 m, 3 juv., same locality as for holotype, 28.ix.2003, DZUL (ULL AÑ-1511).



Figures 118–124. *Pholcus roquensis*: 118, male palp, prolateral; 119, male palp, retrolateral; 120, male palp, frontal; 121, epigynum, lateral; 122, epigynum, ventral; 123, male chelicerae, frontal; 124, vulva, dorsal. Scale bars 0.2 mm.

Diagnosis: This species, although very similar to *P. tenerifensis*, is easily distinguished by several characteristics: the shape of its procursus, whose base is nearly as thick as the apical part; the shape of the apical apophysis of the procursus, having irregular in placement and size shorter ventral outgrowths (Figs 134, 137). The shapes of the bulb's appendix and uncus are also different, and are useful traits in identifying this species (Figs 119, 128). The female is distinguished by the shape of the triangular plate of the epigynum and the morphology of the vulva (Figs 122, 124).

Description: Male: prosoma oval yellowish in colour. Dorsally, the area over the thorax is brownish in colour. Well-marked fovea dividing this brownish pigmentation in two parts. Eyes above an elevated ocular area; eye distribution typical of this genus – AME in



Figures 125–138. *Pholcus roquensis*: 125, male chelicerae, frontal; 126, male chelicerae, lateral; 127, male gonopore, ventral; 128, projections of the bulb, retrolateral; 129, procursus, dorsal; 130, male tarsal organ; 131, distal apophysis of male chelicerae; 132, anterior lateral spinnerets; 133, procursus, prolateral; 134, procursus, ventral; 135, posterior median spinnerets; 136, distal part of the procursus, retrolateral; 137, apical apophysis of the procursus, ventral; 138, small retrolateral teeth of the procursus, retrolateral. Scale bars: 125, 126, 128, 129, 133, 134, 136, 200 μm; 127, 137, 138, 100 μm; 130–132, 50 μm; 135, 20 μm.

the centre of the frontal ocular area, the rest in two lateral triads. All eyes surrounded by dark brown pigmentation. Diameter of ALE two-fold greater than that of AME. Distance between ALE and AME equal to the diameter of ALE. Between the lateral triads the ocular area features a small prominence. Sternum yellowish with darker margins. Chelicerae as in Figures 123, 125, 126. The distal cheliceral apophyses dark brown in colour with typical bristles near the base and two modified hairs at the tip (Fig. 131). Upper margin of proximolateral apophyses does not extend to the base of the frontal prominences. Legs yellowish with femurs appearing darker ventrally. Palps as in Figures 118–120. Distally, procursus wider, with terminal apophysis and a well-developed conical outgrowth (Figs 129, 133–135). Procursus carries two small retrolateral spines (Fig. 138). Between these spines passes a small ridge. Tarsal organ as in Figure 130. Opisthosoma cylindrical with brownish-yellow in colour. Dorsally, darker spots are visible, the first placed centrally in the shape of an inverted V, followed by four oval spots placed in two parallel lines. Ventrally, a darker line over the genital area is visible. Gonopore as in Figure 127. Spinnerets darker at their bases. Spinnerets ultrastructure as in Figures 132, 135.

Female: prosoma coloured as in male except for the smaller size of the brownish pigmented area over the thorax. Ocular area less elevated with the eyes closer together; chelicerae without sexual modifications. Sternum yellowish. Opisthosoma as in male but lighter in tone. Epigynum and vulva as in Figures 121, 122, 124.

Measurements: Male: Prosoma 1.5 long, 1.9 wide. Opisthosoma 3.6 long, 1.7 wide. Total body length 5.1. Leg I, femur 10.3, patella 0.7, tibia 10.4, metatarsus 16.6, tarsus 1.5, total 39.4. Palp femur 0.9, patella 0.4, tibia 1.2, procursus 1.2. Female: Prosoma 1.7 long, 1.9 wide. Opisthosoma 4.5 long, 2.5 wide. Total body length 6.2. Leg I, femur 10.7, patella 0.7, tibia 10.3, metatarsus 16.1, tarsus 2.2, total 40.0.

Distribution: *P. roquensis* is only known to inhabit the Cueva de Los Roques cave on Tenerife Island (Fig. 276).

Natural history: *P. roquensis* lives under large stones in the entrance of Cueva de Los Roques. This cave is situated in the Cañadas del Teide on the slopes of the Teide volcano at an altitude over 2200 m. The surrounding area has low vegetation cover with dominating small subalpine xerophytic shrubs. As in *P. mascaensis*, *P. roquensis* prefers to build its webs near the ground.

Comments: *P. roquensis* is a member of the Tenerifean *Pholcus* endemic complex. While this species has only been detected in the Cueva de Las Roques cave, it does not possess troglomorphic characteristics and it is possible that *P. roquensis*' actual distribution is wider. To confirm this, further sampling in similar areas is required.

Dimitrov, D., Arnedo, M.A., Ribera, C. 2008. Colonization and diversification of the spider genus *Pholcus* Walckenaer, 1805 (Araneae, Pholcidae) in the Macaronesian archipelagos: Evidence for long-term occupancy yet rapid speciation. Mol. Phyl. Evol. 48: 596-614.

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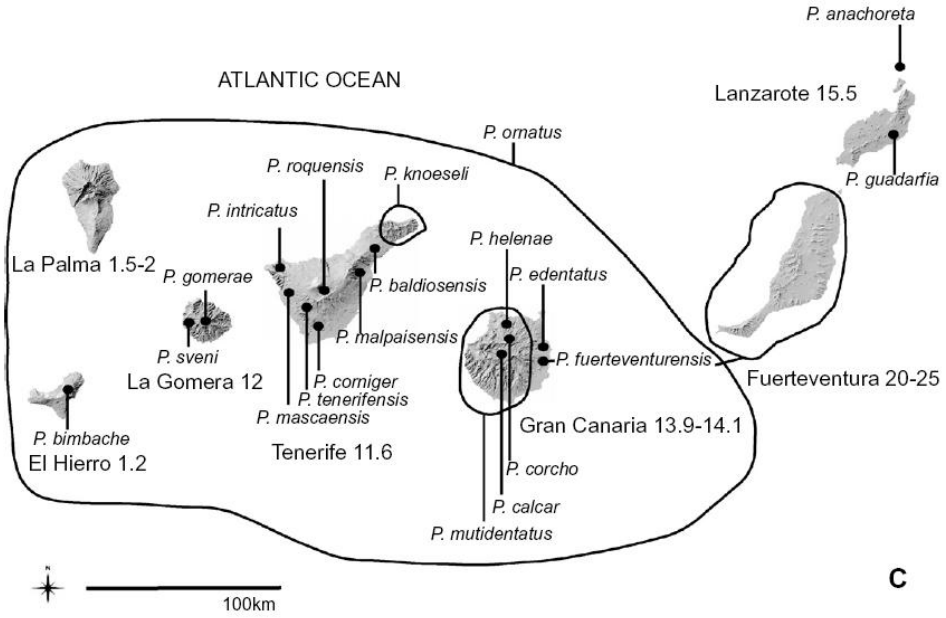

Fig. 1. (A) Map of the Macaronesian biogeographical region. (B) Known distribution of the Madeiran and north-west African *Pholcus* species. (C) Known distribution of the Canarian *Pholcus* species. Numbers following island names denote their estimated maximum age in Mya.

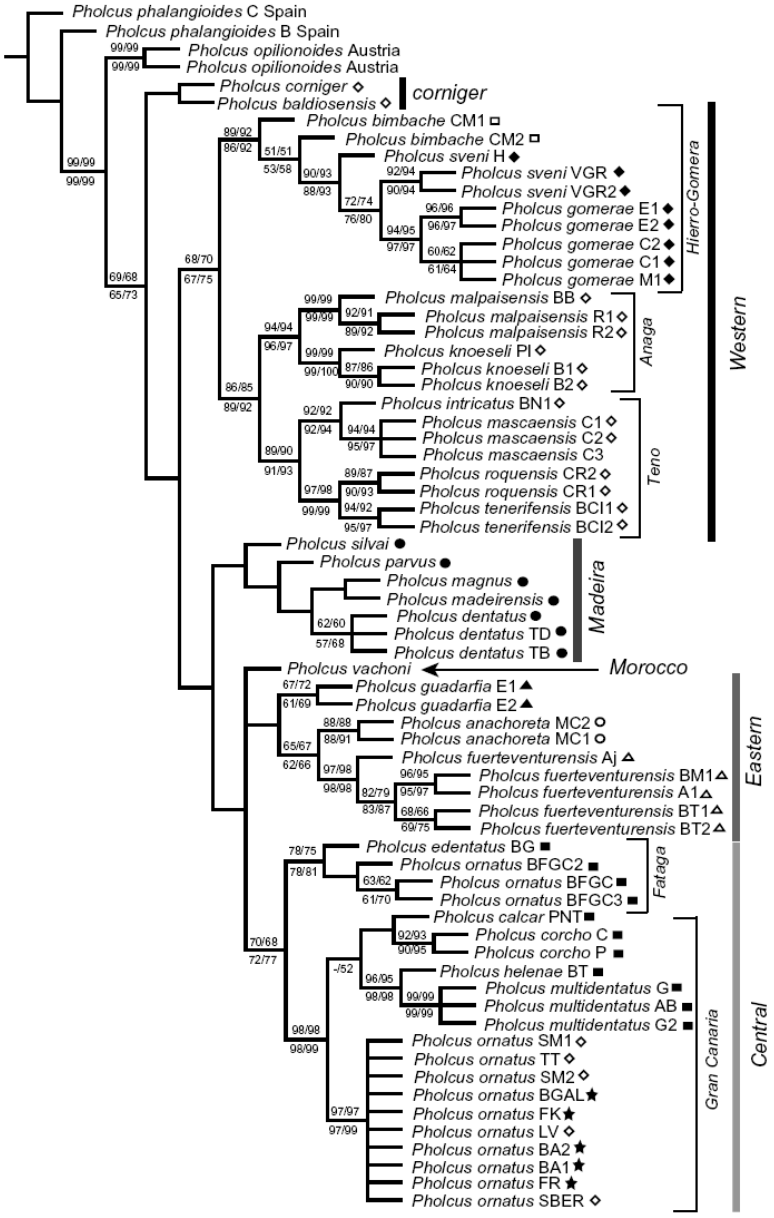

Fig. 5. Strict consensus of the 4 most parsimonious trees (L = 2442, CI = 0.534, RI = 0.881) found by MP analysis of the combined *macaronesia* data set. Support values higher than 50 are given as follows, bootstrap/Poisson bootstrap above branches and jackknife/symmetric resampling below branches. Geographic localities of the Macaronesian species are labeled as follows, Tenerife, rhomb; La Gomera, filled rhomb; El Hierro, square; Gran Canaria, filled square; Fuerteventura, triangle; Lanzarote, filled triangle; Montaña Clara, circle; Madeira, filled circle; La Palma, star.

Huber, B. A. 2011. Revision and cladistic analysis of *Pholcus* and closely related taxa (Araneae, Pholcidae). Bonner zool. Monographien 58: 1-510.

For example, *Ph. roquensis* and *Ph. tenerifensis* are extremely similar both morphologically and in the molecular sequences analyzed by Dimitrov *et al.* (2008). The apical procursus apophyses and female internal genitalia that are said to differ between the species appear practically identical in the figures (figs. 94/137 and 83/124 in Dimitrov & Ribera 2007); the shapes of the unci appear distinct in the drawings (figs. 81/119 in Dimitrov & Ribera 2007), but the SEM photo of the uncus of *Ph. tenerifensis* (fig. 91 in Dimitrov & Ribera 2007) shows that this is simply the result of different angles of view in the drawings. The remaining differences are so minimal that the usefulness of such extreme species splitting should be reconsidered, especially since it has a direct impact on measures like speciation rate which is considered extremely high in Macaronesian *Pholcus* (Dimitrov *et al.* 2008).