

***Pholcus gomeræ* Wunderlich, 1980**

Wunderlich, J. 1980. Zur Kenntnis der Gattung *Pholcus* Walckenaer 1805 (Arachnida: Araneae: Pholcidae). Senckenb. biol. 60(3/4): 219-227.

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***Pholcus gomeræ* n. sp.**

Abb. 14-22.

Holotypus: ♂ (SMF 29976), Kanarische Inseln, Gomera, El Cedro, an einem Bach im Talgrund, in sehr feuchter Halbhöhle, J. WUNDERLICH leg. IV. 1977.

Paratypen: 2♀ (SMF 29977), zusammen mit Holotypus.

Diagnose: ♂-Palpus: Paracymbium (Procursus) distal-ventral mit einem langen, gegabelten Zähnchen (Z in Abb. 16, 19) und mit einer etwa kugelförmigen, nicht sklerotisierten Struktur an dessen Basis. Epigyne: Abb. 21, Vulva: Abb. 22.

Beschreibung (♂♀). — Maße (in mm): Gesamt-Länge 7, Prosoma-Länge ♂ 2·1, ♀ 2·4, Prosoma-Breite ♂ 2·1, ♀ 2·4; Femur I ♂ 15·5, ♀ 14·4.

Färbung und Zeichnung (Abb. 14): Prosoma mit einer dunkelbraunen, etwas variablen Zeichnung dorsal, die aboral zwei helle Flecken einschließt; vor dem Augenfeld mit einem dunklen Fleck; Opisthosoma dorsal mit drei gegabelten, dunklen Flecken, dahinter ein kleineres Paar, aboral undeutlich verdunkelt. Sternum hellgrau, medial ± verdunkelt. ♀-Palpus einfarbig mittel- bis dunkelgrau. Beine gelbbraun, Patellen ganz, Femora distal, Tibien basal und distal verdunkelt.

Prosoma (Abb. 15): Beim ♂ frontal stark erhöht, sonst flach. Zahl der Haare frontal beim ♂ jederseits etwa 22. Augen: Hintere Mittelaugen um knapp den 2·5fachen Durchmesser voneinander getrennt, hintere Reihe leicht recurv, vordere Seitenaugen am größten. Clypeus vorstehend. ♂-Cheliceren wie bei *ornatus* (Abb. 23), basales Zähnchen aber etwas stumpfer, distales Zähnchen-Paar vorstehend. ♀-Cheliceren distal mit einem langen Zähnchen. Sternum breiter als lang, Länge : Breite = 0·82.

Opisthosoma dicht mit kurzen Haaren bedeckt.

Genital-Organ: ♂-Palpus (Abb. 16-20): Trochanter mit langem, schlanken Sporn, Femur lang, mit großem Auswuchs, Tibia sehr dick, Tarsal-Organ groß, stark konvex (Abb. 16), Appendix zweiteilig, ein Teil krallenförmig, prolateral mit winzigem Zähnchen (nicht abgebildet), der zweite distal stark verbreitert, schaufelförmig. Paracymbium (Procursus) distal-ventral mit einem langen, gegabelten Zähnchen (Z in Abb. 16, 19) und an dessen Basis mit einer etwa kugelförmigen, nicht sklerotisierten Struktur. Embolus groß, distal verbreitert, zweiteilig. — Epigyne (Abb. 21) konvex, mit großem, vorstehendem „Köpfchen“; Länge : Breite (mit „Knöpfchen“) = 1·7; Vulva: Abb. 22.

Beziehung: Sie bestehen am ehesten zu *Pholcus ornatus* BÖSENBERG 1895; *ornatus* ist kleiner (Prosoma-Länge bis 1·8 mm, Gesamt-Länge bis 5·5 mm), auch ist die dorsale Zeichnung anders (vgl. Abb. 14 und 29), der Sporn am

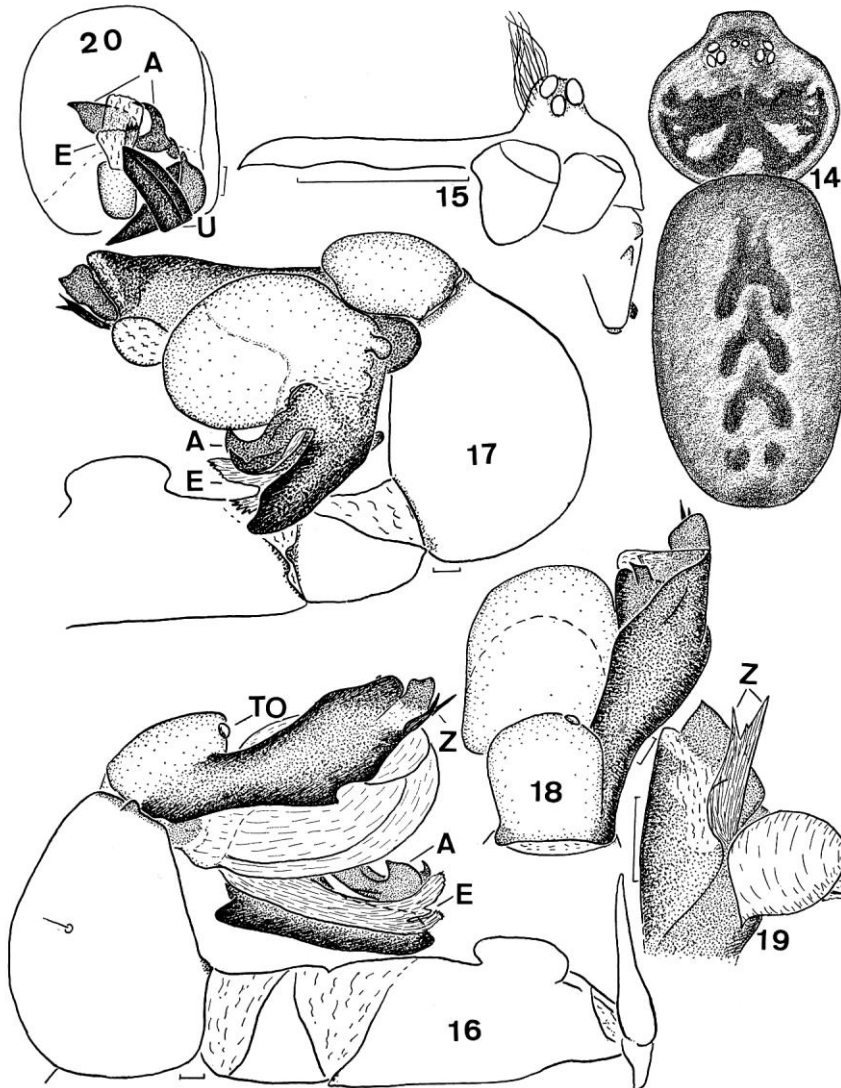


Abb. 14-20. *Pholcus gomeræ* n. sp. — 14) ♀, Pro- und Opisthosoma von dorsal; 15) ♂-Prosoma von lateral; 16) rechter ♂-Palpus von retrolateral; 17) rechter ♂-Palpus von prolateral; 18) rechter ♂-Palpus: Paracymbium von dorsal; 19) rechter ♂-Palpus: Spitze des Paracymbium von ventral; 20) rechter ♂-Palpus: Uncus, Appendix und Embolus von ventral-distal. — U = Uncus, A = Appendix, TO = Tarsal-Organ, Z = Zähnen des Paracymbium. — Maßstäbe in Abb. 14-15 = 1 mm, in Abb. 16-20 = 0·1 mm.

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Trochanter des ♂-Palpus ist viel kürzer, das Paracymbium (Procursus) besitzt dorsal-distal spornähnliche Dornen und distal andere Apophysen; das „Knöpfchen“ der Epigyne ist kleiner.

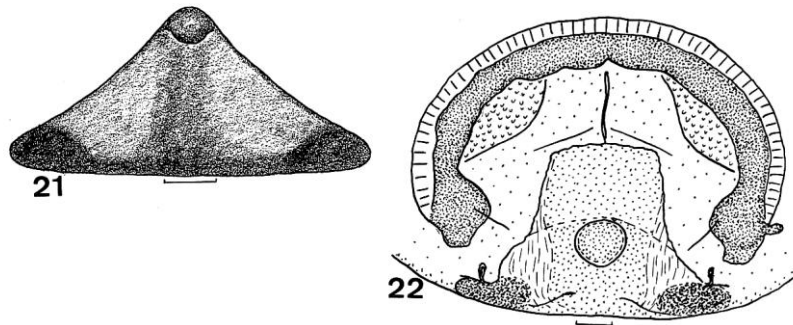


Abb. 21-22. *Pholcus gomeræ* n. sp., ♀. — 21) Epigyne; 22) Vulva von dorsal.

Maßstab =

0.1 mm.

Wunderlich, J. 1987. Die Spinnen der Kanarischen Inseln und Madeiras. Triops Verlag. Pp. 1-435.

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Pholcus gomeræ Wunderlich 1980 (Abb.102-112)

1980 *Pholcus gomeræ* Wunderlich, *Senckenbergiana biol.*, 60(3/4): 223, Abb.14-22.

Material: La Gomera, El Cedro, an einem Bach im Talgrund, in sehr

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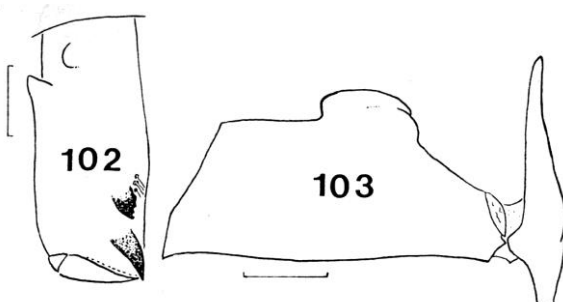
feuchter Halbhöhle unter großen Felsbrocken; 1♂ 2w JW leg. in IV; Holotypus (♂) SMF 29976, 2♀ (Paratypoiden) SMF 29977.

Diagnose: Procursus mit 2 sehr kurzen Börstchen prodorsal (Abb.104-106). Krallenförmige Apophyse des Appendix dorsal mit kleinem Zahn (Abb.104). Epigyne (Abb.111) medial dunkler, mit sehr großem "Knöpfchen" (Durchmesser quer 0.12mm). Verhältnis von Länge zu Breite 1.6. Vulva: Abb.112. Gesamt-Länge etwa 7mm.

Beziehungen: Sie bestehen zu *P. tenerifensis* n.sp., *P. sveni* n.sp. und *P. gomeroides* n.sp. (siehe dort). Von *P. sveni* unterscheidet sich *P. gomeræ* nach der Apophyse des Appendix, der Position der Börstchen und der Lamella des Procursus sowie nach der Epigyne.

Verbreitung: La Gomera.

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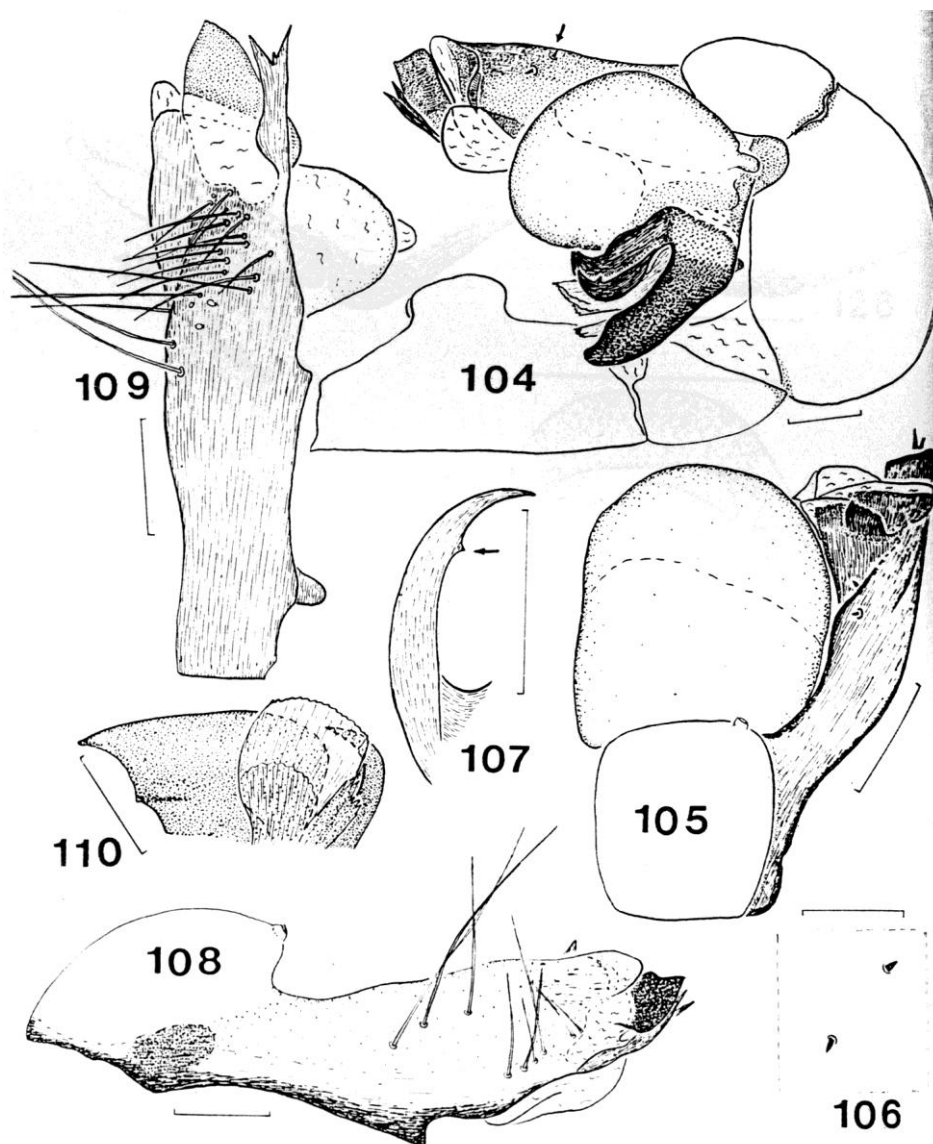
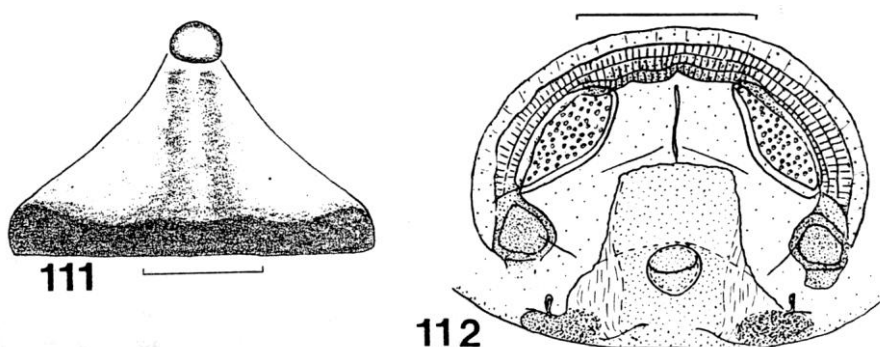


Fig.102-112) *Pholcus gomeræ* Wunderlich 1980. 102) right δ -cheli-cera frontal; 103-110) right δ -pedipalpus: 103) trochanter and femur retrolateral; 104-105) pedipalpus prolateral and dorsal; 106) small bristles ("Börstchen") of the procursus; 107) claw-like apophysis of the left appendix dorsal (the arrow point at the small tooth); 108-109) procursus retrolateral and ventral; 110) appendix apical, with claw-like apophysis (right) and transparent embolus-structure); 111-112) φ , epigynum ventral and vulva dorsal. - M: Fig.106= 0.1mm, 112) 0.5mm, the others 0.2mm.



Wunderlich, J. 1987. Die Spinnen der Kanarischen Inseln und Madeiras. Triops Verlag. Pp. 1-435.

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Pholcus gomeroides n.sp. (Abb.113-117)

Material: La Gomera, Nordosten, künstliche kleine Höhle im Lorbeerwald bei Caserio Epina, links der Straße nach Arure; 3♂ 2 subad. ♂ 1 subad. ♀ JW leg. in VII; Holotypus (♂), 2♂, 2 subad. ♂ 1 subad. ♀ (Paratype) SMF.

Diagnose (♂ ; ♀ unbekannt): Procursus mit 2 kurzen Börstchen, die nur 0.035mm getrennt sind (Abb.113) und distal mit gegabelter Lamella wie bei *P. gomeræ*. Krallenförmige Apophyse lang, stark gebogen, mit kleinem Höcker (Abb.114).

Beschreibung:

Maße (♂ in mm): Gesamt-Länge 6.0, Prosoma: Länge 1.8, Breite 1.9; Bein I: Femur 12.5, Patella 0.7, Tibia 12.7, Metatarsus 22.0, Tarsus 2.8.

Färbung und ♂ -Cheliceren wie bei *P. gomeræ* Wunderlich 1980.

♂ -Pedipalpus: Siehe die Diagnose. Lamella gegabelt, mit 1 bis 3 Zähnen in variabler Position (Abb.115-117). Appendix und distale häutige Strukturen wie bei *P. gomeræ*, Embolus-Strukturen variabel.

Beziehungen: Es bestehen sehr enge Beziehungen zu *P. gomeræ* Wunderlich 1980, und ich möchte nicht ausschließen, daß es sich um Subspecies handelt. Bei *P. gomeroides* fehlt aber ein ausgeprägtes Zähnen der krallenartigen Apophyse; hier ist lediglich ein Höcker ausgebildet, vgl. Abb.107 und 114, und die Börstchen des Procursus sind wesentlich näher beisammen: 0.035mm gegenüber 0.08mm bei *P. gomeræ*, vgl. Abb.106 und 113.

Verbreitung: La Gomera.

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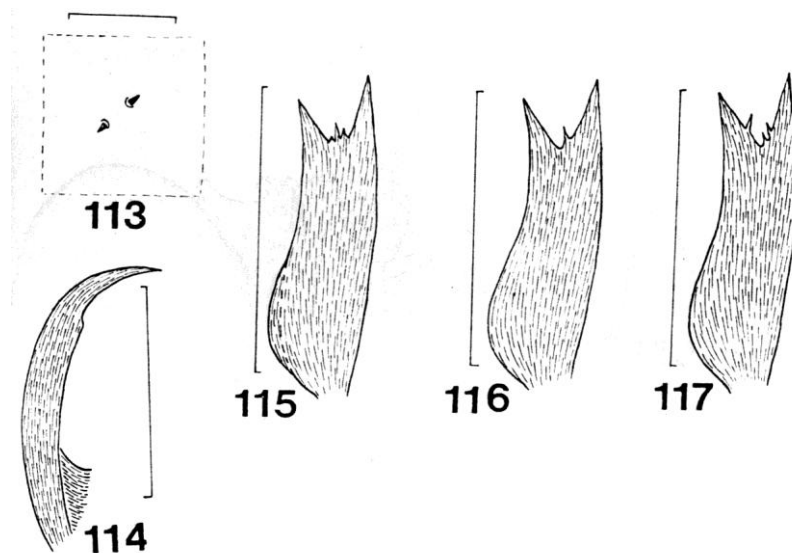


Fig.113-117) *Pholcus gomeroides* n.sp.; 113) small bristles of the right procurus prolateral; 114) claw-like apophysis of the left appendix dorsal; 115-117) lamella of the left procurus ventral (variability). - M: Fig.113) 0.1mm, 114-117) 0.2mm.

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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Wunderlich, 1987) and the positioning of the procurus' dorsal spines are visible in the rest of the *Pholcus* species.

Material examined: *Pholcus gomeroides*: 1 m, holotype from La Gomera, Canary Islands, Spain (SMF 35557); 2 mm, 2 mm subad., 1 f subad., paratypes from La Gomera (SMF 35558). *Pholcus gomeræ*: 1 m, holotype from La Gomera (SMF 29976); 2 ff, paratypes from La Gomera (SMF 29977); 3 mm, 4 ff, 2 juv., from La Gomera, El Cedro, 27.ii.2002, Dimitrov & De Mas (CCRUB 4544-171, 4538-171, 4537-171, 4645-173, 4617-173, 4603-173, 4602-173); 5 mm, 8 ff, from La Gomera, Epina, 28.ii.2002, Dimitrov & De Mas (CCRUB 4539-171-4543-171, 4600-173, 4615-173); 1 m, La Gomera, Epina, 28.ii.2002, Dimitrov & De Mas (ULL AÑ-2149); 2 mm, 1 juv., La Gomera, Chorro de Epina, 19.viii.2004, Dimitrov & Antón (4544-171); 3 mm, 2 ff, La Gomera, Las Mimbreras, 17-28.ii.2002, Dimitrov & De Mas (CCRUB 4536-171, 4604-173); 1f La Gomera, Las Mimbreras, 17-28.ii.2002, Dimitrov & De Mas (ULL 4646-173); 1 m, 1 f, La Gomera, Las Mimbreras, 20.viii.2004, Dimitrov & Antón (CCRUB 4546-171); 3 mm, 1 f, 2 juv., La Gomera, near Las Mimbreras, 20.viii.2004, Dimitrov & Antón (CCRUB 4547-171, 4545-171).

Diagnosis: *P. gomeræ* is distinguished from its most similar congener, *P. sveni*, by the following characteristics: longer spines over the retrolateral side of the procurus (Fig. 39); two apical outgrowths, nearly equal in length, on the apical apophysis of the procurus (Fig. 37); and the less curved apophysis of the trochanter. Other distinctive characteristics of the male include the shape of the bulb's appendix, the shape of the uncus (Figs 26, 41), and the apophyses of the chelicerae (Figs 30, 32, 33, 40). The diagnostic characteristics of the female include a less elevated triangular plate and the shape of the valval ridge, which in *P. gomeræ* is less arched (Fig. 28).

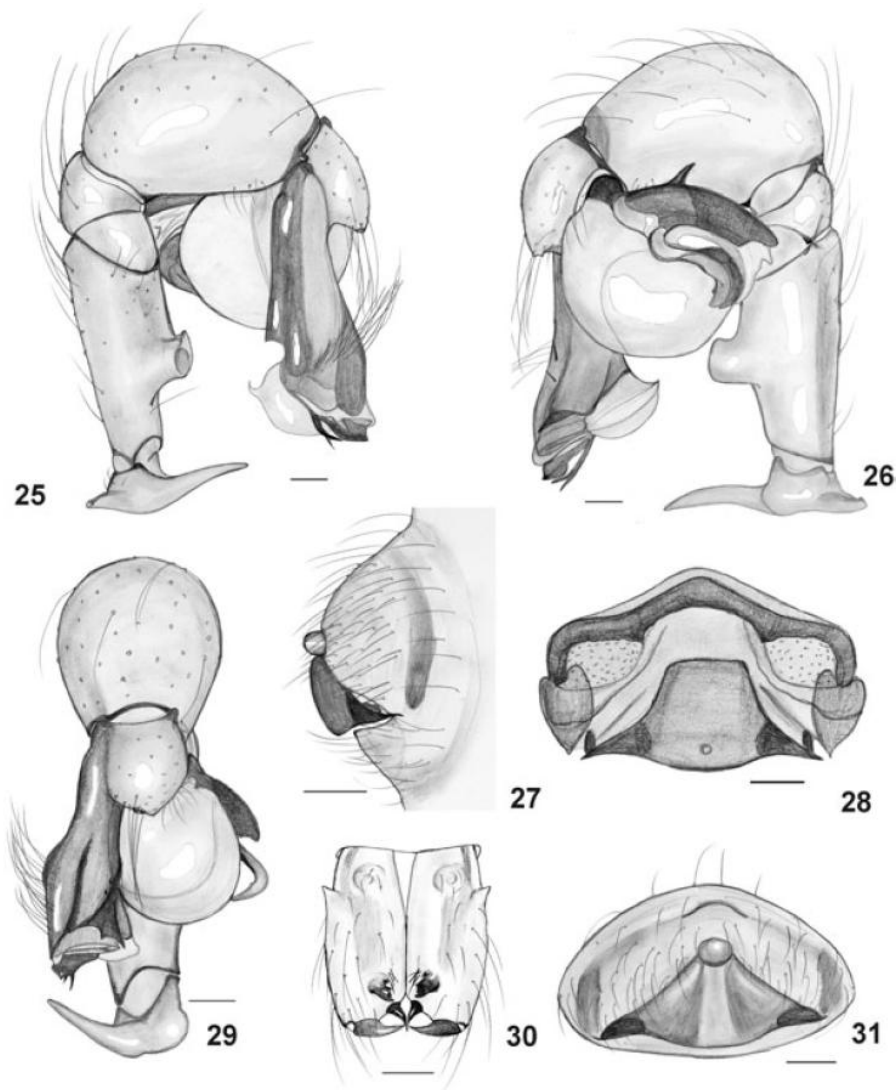
Description: Male: yellowish prosoma with brownish dorsal marking over thoracic area. Dorsal marking divided into two parts by the fovea, which is yellowish in colour like the rest of the prosoma. Both parts contain a yellowish spot more or less oval in shape. Borders of the dorsal marking irregular and not extending to the prosoma's exterior margin. The eyes, on an ocular elevation, with the same colouring as the prosoma except for the interocular area, which has dark brown pigmentation. Frontal part of ocular elevation with a brownish marking. Distance between lateral triads three times the diameter of ALE. Diameter of AME half the diameter of ALE, while distance between them nearly equal to the ALE diameter. Dorsally, the ocular area with hairs considerably longer than those of the prosoma. Sternum

PHOLCUS GOMERÆ WUNDERLICH, 1980 (FIGS 25-43)

Pholcus gomeræ Wunderlich, 1980: 223, figs 14-22; Wunderlich, 1987: 80, figs 102-112.

Pholcus gomeroides Wunderlich, 1987: 81, figs 113-117. New synonymy.

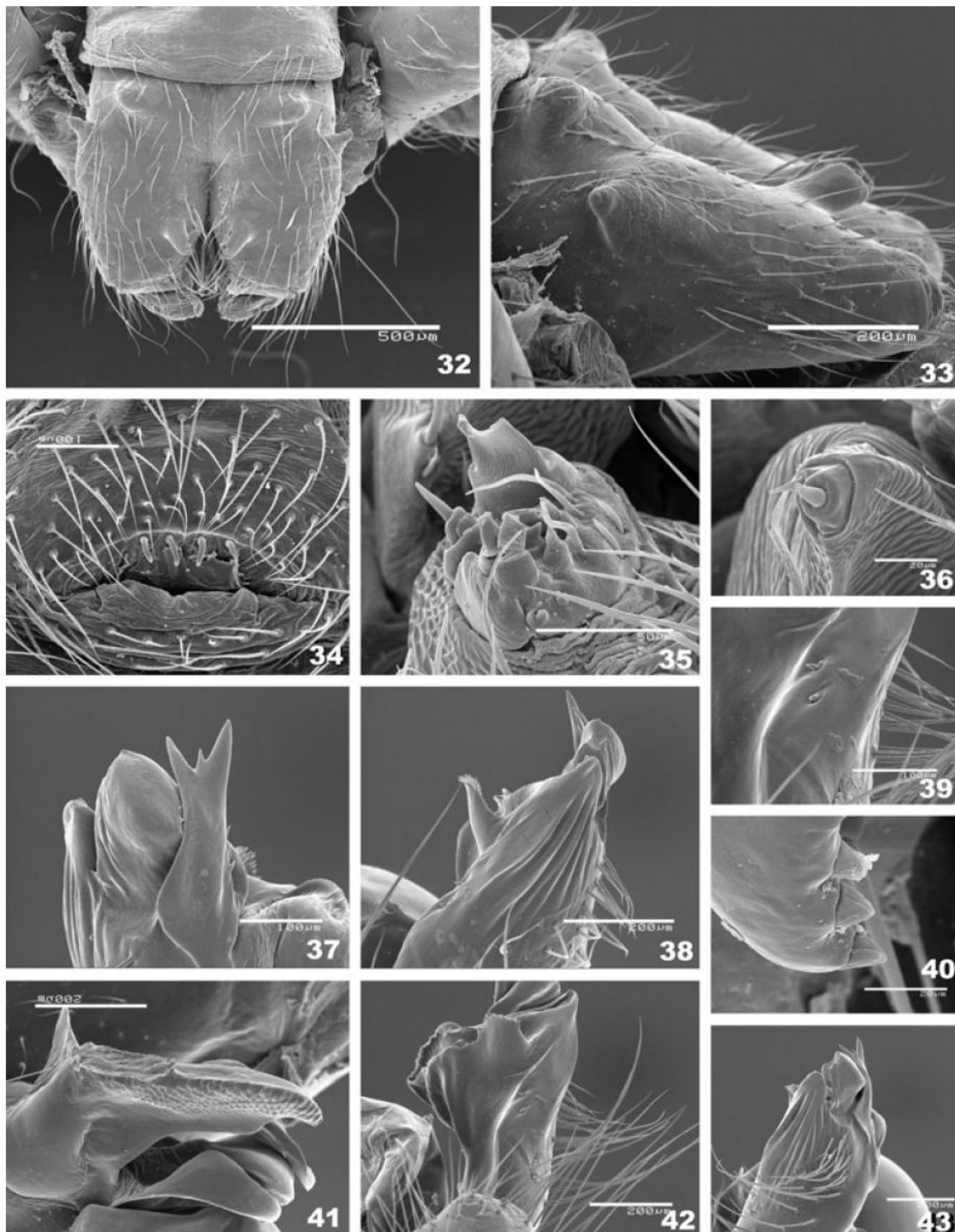
Synonymy justification: Having examined type material of *Pholcus gomeræ* (SMF 29976), as well as various paratypes from both this species and *P. gomeroides* (see below), we could find no significant differences between them. Furthermore, numerous *Pholcus* specimens collected from La Gomera were examined with similar conclusions. The original description of *P. gomeroides* contained very few drawings, and in fact none of the female, a strange omission given that there were then females available. Detailed comparison of the female epigynum and vulva revealed them to be practically identical. The differences noted by Wunderlich (1987) should be regarded as intraspecific variations. Such differences in the apical apophyses of the procurus ('lamella' *sensu*



Figures 25–31. *Pholcus gomerae*: 25, male palp, prolateral; 26, male palp, retrolateral; 27, epigynum, lateral; 28, vulva, dorsal; 29, male palp, frontal; 30, male chelicerae, frontal; 31, epigynum, ventral. Scale bars 0.2 mm.

yellowish with brownish margins. Chelicerae brownish-yellow, distal cheliceral apophyses (Figs 40, 33) brownish with cylindrical shape and three small distal outgrowths (modified hairs). At the base of distal cheliceral apophyses (Figs 30, 32) is placed a group of thick modified hairs – bristles. Upper margin of proximolateral apophyses (proximal teeth) higher than the lower margin of frontal prominences. Proximal prominences with large base, nearly one-third the width of the chelicerae. Chelicerae as in Figures 30, 32, 33. Palp as in Figs 25, 26, 29, with yellowish pigmentation; trochanter with long retrolateral apophysis; procursus heavily sclerotized with

dark brown colouring. Procursus as in Figures 38, 42, 43. Apical apophysis of the procursus carries two nearly equal outgrowths at the tip, the ventral with a shorter conical spine at its base (Fig. 37). Procursus with well-developed terminal apophysis lacking conical elevation and with a small apical depression (Fig. 43). Long legs with yellowish colouring, darker than prosoma. Opisthosoma cylindrical with yellowish pigmentation. Dorsally, four brownish spots in the shape of an inverted V are visible. Size and intensity of spot pigmentation decreases towards the distal part of the opisthosoma. Spinnerets feature darker markings on their basal areas. Spinnerets as in



Figures 32–43. *Pholcus gomerae*: 32, male chelicerae, frontal; 33, male chelicerae, lateral; 34, male gonopore, ventral (Dimitrov & Ribera, 2005a); 35, anterior lateral spinnerets; 36, posterior median spinnerets; 37, apical apophysis of the procursus, ventral; 38, procursus, dorsal; 39, small teeth on the procursus, dorsal; 40, apex of the distal apophysis of male chelicerae; 41, projections of the male bulb, dorso-retrolateral; 42, procursus, retrolateral; 43, procursus, prolateral. Scale bars: 33, 38, 41–43, 200 µm; 34, 37, 39, 100 µm; 36, 40, 20 µm; 35, 50 µm; 32, 500 µm.

Figures 35, 36. Ventrally, the genital area with darker pigmentation. Gonopore as in Figure 34.

Female: prosoma as in male except for the less elevated ocular area and the shorter distance between AME and ALE, which is half the ALE diameter. Chelicerae lack apophyses. Opisthosoma cylindrical with slightly lighter pigmentation than in the male. Elevated epigynum with a brownish band over a strongly sclerotized triangular plate. Epigynum as in Figures 27, 31; vulva as in Figure 28.

Measurements: Male: Prosoma 2.4 wide, 2.7 long; opisthosoma 2.1 wide, 4.9 long. Total body length 7.6. Leg I, femur 15.6, patella 0.9, tibia 15.1, metatarsus 25.4, tarsus 2.8, total 59.8. Palp, femur 0.9, patella 0.3, tibia 1.3, procursus 1.2. Female: Prosoma 2.3 wide, 2.0 long; opisthosoma 3.2 wide, 5.4 long. Total body length 7.4. Leg I, femur 13.6, patella 0.9, tibia 14.6, metatarsus 23.5, tarsus 1.9, total 54.5.

Distribution: This species is endemic to La Gomera Island. Its distribution is restricted to the higher zones of the island (Fig. 276).

Natural history: *P. gomerae* is very common, with quite numerous populations throughout the laurisilva forests of La Gomera. It builds its webs in small excavations near mountain roads or cavities on the hill-sides. The drainage pipes of the road network proved to be one of the best places to collect this species. Several specimens were found in cavities between the roots of large trees. In some of the populations the individuals were very clustered, leaving just a couple of centimetres between each other, and it was practically impossible to distinguish individual webs.

Comments: The morphology of the male palp, particularly the shape of the procursus and the uncus, suggests that this species is very closely related to *P. sveni*. These two species differ not only in their morphology but also in their preferred habitats. In contrast to *P. gomerae*, *P. sveni* is found outside the forest, specifically in ravines in the southern part of the island.

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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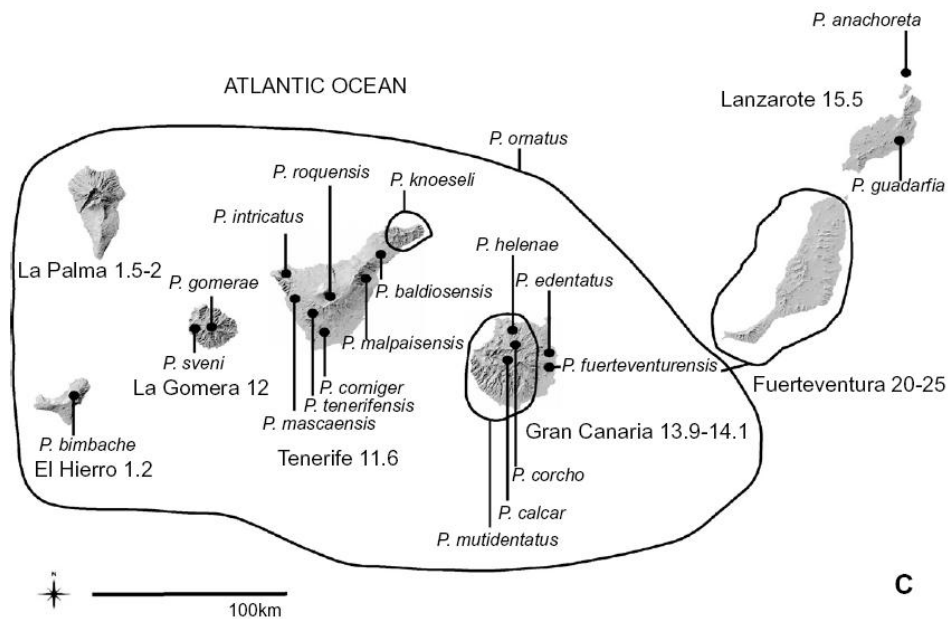


Fig. 1. (A) Map of the Macaronesian biogeographical region. (B) Known distribution of the Madeiran and north-west African *Pholcus* species. (C) Known distribution of the Canarian *Pholcus* species. Numbers following island names denote their estimated maximum age in Mya.

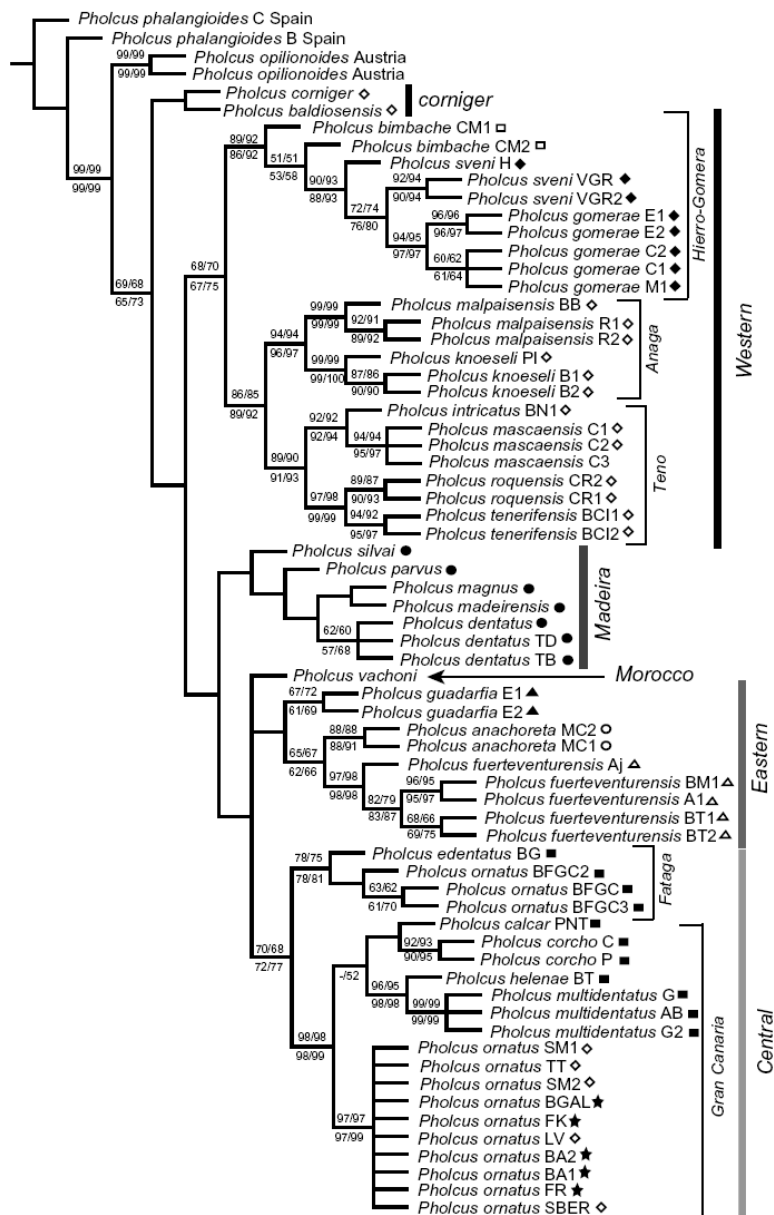


Fig. 5. Strict consensus of the 4 most parsimonious trees ($L = 2442$, $CI = 0.534$, $RI = 0.881$) found by MP analysis of the combined macaronesia data set. Support values higher than 50 are given as follows, bootstrap/Poisson bootstrap above branches and jackknife/symmetric resampling below branches. 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.