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On Ibero - Canarian *Phytocoris* subgen. *Compsocerochoris* with description of a new species from Canary Islands (Heteroptera, Miridae)

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Abstract: The subgenus *Compsocerochoris* REUTER 1876 of the Mirinae genus *Phytocoris* FALLÉN 1814 is represented in the Ibero - Canarian region by 9 species including *P. riegeri* sp. n. from Canary Islands which is described below. A key is given for these species and antennae, male and female genitalic structures are illustrated except for *P. perangustus* WAGNER 1961.

Key Words: Heteroptera, Miridae, *Phytocoris*, *Compsocerochoris*, new species, Spain, Canary Islands.

Introduction

The genus *Phytocoris* FALLÉN 1814 is one of the largest genera of Miridae, of cosmopolitan but predominantly holarctic distribution, and represented e.g. by 248 species in the Palaearctic region (KERZHNER & JOSIFOV 1999) and by 283 species in North America (STONEDAHL 1988), of which only six species are recorded from both regions.

No comprehensive studies on species relationship have been made to date, however infrageneric groups have been defined at least at the level of Western Palaearctic fauna by European authors, which were subsequently used by WAGNER (1974) in his important work on Mediterranean Miridae.

In this work, the genus *Phytocoris* has been divided into 10 subgenera, distinguished primarily on head morphology, colour pattern of the hemelytra and antennae and characters of male genitalic structures. Later on, RIEGER (1989) synonymized two of them: *Exophytocoris* WAGNER 1961 = *Ribautomiris* WAGNER & WEBER 1964.

Compsocerochoris was first erected as genus by REUTER 1876 for the Nearctic species *C. annulicornis*, later synonymized with *Phytocoris* by REUTER 1909, however reestablished as subgenus of *Phytocoris* by WAGNER & WEBER 1964. It is distinguished from other Palaearctic subgenera by the distinct angular notch between apically declivous frons and convex tylus. Although it is still not proved that these subgenera really define monophyletic groups, they are so far in use for practical reasons.

The Ibero - Canarian *Phytocoris* of the subgenus *Compsocerochoris* comprise to date 8 species, for which a key is given based on colour pattern of antennae (which is fading, thus the annuli are not clearly delimited in subteneral specimens), male and the mostly

unknown female genitalic structures, which are also illustrated. A new species, *P. riegeri* sp. n. from Gran Canaria of Canary Islands, is added now and described below.

Material and Methods

The present study is based upon specimens from Spain and Canary Islands in the collections of the authors (JR, EH and Ch. Rieger, Nürtingen: CR). *P. viberti* is from coll. M. Baena, Córdoba. No specimens were available of *P. perangustus* WAGNER 1961, originally described from Sierra Nevada. Formerly dry mounted male genitalic structures were embedded in DMHF (dimethyl-budan-toma-formaldehyd), those of the females dissected, stained with chlorazol black, treated with lactophenol and afterwards mounted in DMHF or Lompe solution.

Material examined:

P. retamae REUTER: San Roque (Cádiz), 24 VII 1971, JR (cit. J. RIBES 1974).

P. ribesi WAGNER: Type series of WAGNER 1969 from Els Torms (Garrigues, Lleida) JR, CR, EH. Additional material: Catalonia: El Pinetell (Conca de Barberà, Tarragona) 17 VII 1979, JR; Aragon: Fraga (Baix Cinca, Huesca) 7 IX 1993, F. Vallhonrat leg. JR, (cit. J. RIBES et al. 1997, J. RIBES & GOULA 1997); Valencia: Benissa (Marina Alta, Alacant) 18 IV 1990, Meier leg. coll. Rieger; Murcia: Totana 7 IV 1971, JR.

P. sanctipetri CARAPEZZA: Catalonia: Llorà (Gironès, Girona) 17 VI 1981, J.J. Pérez De-Gregorio leg. JR; Andalusia: Algeciras (Cádiz) 20 IV 1988, J. de Ferrer leg., JR; San Roque (Cádiz) 13 III 1989, J. de Ferrer leg., JR; Orgiva Granada) 4 VI 1971 leg. Aspöck, det. Wagner, EH; Orgiva (Granada) 2 VI 1971 leg. Hölzel, det. Wagner, EH.

P. rosmarini WAGNER: Catalonia: Gallifa (Vallès Occidental, Barcelona) 4 I 1959; Costes de Garraf (Garraf, Barcelona) 12 X 1959; L' Avellà (Alt Penedès, Barcelona) 30 IV 1983, F. Vallhonrat leg.; Montblanc (Conca de Barberà, Tarragona) 2 X 1977; El Pla de Cabra (Alt Camp, Tarragona) 15 X 1967; Farena (Alt Camp, Tarragona) 22 VI 1969, all JR; L' Ampolla (Brais Ebre, Tarragona) 13 IV 1974 and Els Torms (Garrigues, Lleida) 18 III 1973, JR, (cit. WAGNER 1976, WAGNER & WEBER 1978); L' Albagés (Garrigues, Lleida) 9 VI 1988, JR; Valencia: Torrèblanca (Plana Alta, Castelló) 20 IV 1972, JR.

P. juniperi FREY-GESSNER: Numerous localities: Catalonia (prov. Girona, Lleida, Barcelona, Tarragona); Aragon (prov. Huesca, Zaragoza, Teruel); Valencia (prov. València, Alacant); Andalusia (prov. Málaga, Cádiz), JR; Extremadura (prov. Badajoz), CR (cit. J. RIBES & E. RIBES 1999).

Key to Ibero - Canarian *Compsocerochoris*

- 1(6) Antennal segment II with only one basal pale annulus (fig. 46, 51, 52)
- 2(5) Antennal segment II with a narrow pale basal annulus followed by a broad darker and a smaller apical blackish annulus (fig. 51, 52). Male: Shaft of left paramere with scattered teeth, sclerotized process (spiculum) of vesica with a double arched dentate rim of about 40 or more teeth
- 3(4) Body length 4.4-4.7 mm (specimen from Cádiz); ocular index 1.5-1.6 (♂) or 2.0 (♀); dentate arched spiculum of male vesica nearly symmetrical (fig. 36, 37).....
.....*P. retamae* REUTER (fig. 34-39, 51)
- 4(3) Body length 6.6 mm; dentate arched spiculum asymmetrical (fig. 42-44)
..... *P. vallhonraii* J. RIBES & E. RIBES (fig. 40-44, 52)

- 5(2) Antennal segment II with a narrow pale basal annulus followed by a narrow dark, a broad, only slightly darkened and a dark apical annulus (fig. 46). Male: Left paramere without teeth, spiculum of male vesica straight, comb like with 10-11 teeth (fig. 9)..... *P. rosmarini* WAGNER (fig. 7-11, 46)
- 6(1) Antennal segment II with a basal or subbasal pale annulus and one or two additional pale annuli (fig. 45, 47-50)
- 7(10) Antennal segment II with two pale annuli (fig. 49)
- 8(9) Antennal segment II with two pale annuli contrasting sharply to the black ones. Male: Spiculum of male vesica as of *P. vallhonrati*, right paramere slender, elongate with truncate apex *P. juniperi* FREY-GESSNER (= *catalanicus* WAGNER) (fig. 22-26, 49)
- 9 (8) Antennal segment II with two pale annuli only slightly contrasting to the darker ones. Male: Spiculum of male vesica short, with 6 large teeth; right paramere more stout, fusiform with small acute apex (after WAGNER 1974, species not seen) *P. perangustus* WAGNER
- 10(7) Antennal segment II with three pale annuli (fig. 45, 47, 48, 50)
- 11(14) Antennal segment II with a contrasting dark annulus between second and third pale annulus. Male: Comb like spiculum of male vesica twisted, with less than 20 teeth (fig. 31) or spiculum with numerous teeth (fig. 4). Female: Structure C of posterior wall of the vagina wing shaped
- 12(13) Body length 6.3-6.5 mm (δ macr.), 5.15 mm (ϕ brach.); antennal segment II about 1.7 \times as long as III. Male: Right paramere of usual shape (fig. 3), left paramere with pilose sensory lobe and small acute apex (fig. 2); spiculum of vesica as in fig. 4. Female: Sclerotized rings of superior wall of vagina large and transverse, lateral oviducts asymmetrical, structure C of posterior wall of the vagina as in fig. 6..... *P. riegeri* sp. n. (fig. 1-6, 45)
- 13(12) Body length 5.0-5.5 mm (δ ϕ macr.); antennal segment II shorter, about 1.35 \times as long as III. Male: Right paramere with enlarged laminate distal portion, apex blunt (fig. 28-30), left paramere with hook like apex (fig. 27); spiculum of vesica with about 20 teeth (fig. 31). Female: Sclerotized rings of superior wall of vagina very small, lateral oviducts symmetrical (fig. 32), structure C of posterior wall as in fig. 33..... *P. viberti* HORVATH (fig. 27-33, 50)
- 14 (11) Antennal segment II with a dark but less contrasting annulus between second and third pale annulus. Male: Comb like spiculum with about 30 teeth (fig. 14, 19). Female: Structure C of posterior wall of vagina circular or semicircular
- 15(16) Male: Body length δ : 5.4-6.2 mm; ϕ : 5.0-5.6 mm; genitalic structures as in fig. 17-19, with curved spiculum. Female: genitalic structures as in fig. 20..... *P. ribesi* WAGNER (fig. 17-19, 48)
- 16 (15) Male: Body length δ : 7.0-7.9 mm; ϕ : 6.3-7.3 mm; genitalic structures as in fig. 12-14, with straight spiculum. Female: Genitalic structures as fig. 15-16..... *P. sanctipetri* CARAPEZZA (= *femoralis* FIEBER = *femoratus* KERZHNER & JOSIFOV) (fig. 12-14, 47)

***Phytocoris (Compsocerochoris) riegeri* sp. n. (fig. 1-6, 45)**

H o l o t y p e : δ Canary Islands, Gran Canaria, San Bartolomé de Tirajana, Barranco de los Palmitos, at light, 15 IV 1989, leg. van der Heyden, coll. Ch. Rieger. Paratypes: 2 δ δ from same locality as HT, 24 XII 1988, coll. Ch. Rieger and J. Ribes; 1 δ locality as before, 25 II 1989, coll. E. Heiss; δ ϕ Canary Islands, Gran Canaria, Ayacata 800m (Centr.), 13 III 1996 lg. Sprick, coll. E. Heiss and A. Melber.

D i a g n o s i s : Larger dimorphic species with macropterous males and brachypterous females. It is distinguished from other Ibero-Canarian species of the subgenus by the combination of characters given in the key.

D e s c r i p t i o n : Macropterous male. Dorsal vestiture consisting of two types of

setae, sparse suberect black ones intermixed with pale setae, which are more dense and less erected.

General coloration whitish-grey tinged with yellow. Head with brown or fuscous markings on tylus, juga, genae and bucculae, striate on frons and vertex. Antennal segment I whitish with sparse irregular black spots, II black with three pale annuli of different size, III greyish with three indistinct paler annuli, IV greyish with darker base. Pronotum with irregular dark or reddish spots, posterior submargin with a band of about 6 dark bullae. Basal angles of scutellum blackish, a yellow midline connected to the yellow apex is flanked by 1+1 parallel dark stripes. Hemelytra with fuscous markings, which are darker and more conspicuous on apex of clavus, inner margin and posterolateral angles of corium and inner margin of cuneus. Membrane with irregular dark markings, veins dark.

Ventral side. Median portion of xyphus black; pro-, meso- and metapleura black, partly yellowish. Mesosternum black except a lateral yellow band. Coxae with a prebasal dark spot. Femora pale with dark markings mostly on distal half, tibiae pale with three or four distinct dark annuli, tarsal segments I and distal portion of III dark.

H e a d : In frontal view $1.2 \times$ as wide as high and about as long as high in lateral view. Frons apically very convex, distinctly separated from projecting tylus by an angular notch. Genae produced. Rostral segment I surpassing posterior margin of head, apex reaching hind coxae. Eyes subglobular. Ocular index variable 1.29-1.39. Antennae long and slender, $1.3 \times$ as long as body length. Antennal segment I long and curved basally, $1.82-1.85 \times$ as long as width of head across eyes and $1.11-1.14 \times$ as long as anterior width of pronotum. Length of antennal segments $1.65 / 2.85 / 1.65 / 1.35$ mm, total length 7.5 mm.

P r o n o t u m : Trapezoidal, $2.08-2.16 \times$ as wide as long (without collar). Width of pronotal collar equal to diameter of fore tibia. Lateral margins straight anteriorly, sinuate on posterior $1/3$. Anterior margin straight, posterior margin slightly convex. Disk with indistinct callosities.

S c u t e l l u m : $1.17-1.25 \times$ as wide as long, disk raised and convex at base, declivous apically.

H e m e l y t r a : Long, surpassing the abdomen. Cuneus large, reaching posterior cell of membrane.

L e g s : Long and slender. Fore- and middle femora cylindrical, hind femora tapering towards apex. Length of hind femur 2.9-3.0 mm; hind tibia 4.5-4.8 mm, tarsal segments I / 0.17, II / 0.25-0.28, III / 0.30-0.32 mm, claw 0.13 mm.

G e n i t a l i c s t r u c t u r e s : Parameres and comb like spiculum of vesica as in fig. 2-4.

F e m a l e : Brachypterous, of pyriform habitus. General colouration as in male, however the general aspect is darker due to the more dense blackish markings on the hemelytra except the cuneus.

H e a d : In frontal view $1.15 \times$ as wide as high. Ocular index 1.81. Antennae relatively longer, $1.52 \times$ as body length. Antennal segment I very long, less curved basally as in male, $1.5 \times$ as long as width of head and $1.34 \times$ as long as anterior width of pronotum. Length of antennal segments I / 1.85, II / 3.0, III / 1.65, IV / 1.35 mm, total length 7.85 mm.

P r o n o t u m : Trapezoidal, $1.45 \times$ as wide as long.

Scutellum : Convex, 0.93 × as wide as long.

Hemelytra : Membrane reduced, reaching middle of exposed tergite VIII. Cuneus enlarged, of equilateral triangular shape.

Genitalic structures : Structure of superior and posterior walls of the vagina are shown in fig. 5, 6. It is unclear, if the vermiform gland has broken during the preparation or is absent in this species.

Measurements : ♂♂ : Body length 6.4-6.6 mm; width across hemelytra 1.75 mm.
♀ : Body length 5.15 mm; width across hemelytra 2.0 mm.

Etymology : This interesting species is dedicated to our friend and esteemed heteropterologist, Christian Rieger, Nürtingen, Germany.

Acknowledgments

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Resumen

El subgénero *Compsoecocoris* REUTER 1876, perteneciente al género *Phytocoris* FALLÉN 1814, está representado en la fauna iberocanaria por 9 especies, incluyendo a *P. riegeri* sp. n. de Gran Canaria, que se describe aquí. Se da una clave de determinación para todas las especies comentadas y se ilustran las antenas y genitales de los machos y las hembras, excepto en *P. perangustus* WAGNER 1961.

Zusammenfassung

Die Untergattung *Compsoecocoris* REUTER 1876 der Mirinae-Gattung *Phytocoris* FALLÉN 1814 ist in der Ibero-Kanarischen Region mit 9 Arten einschließlich *P. riegeri* sp. n. vertreten, welche von den Kanarischen Inseln nachstehend beschrieben wird. Für diese Arten wird ein Bestimmungsschlüssel vorgelegt und die Genitalstrukturen beider Geschlechter, ausgenommen von *P. perangustus* WAGNER 196, abgebildet.

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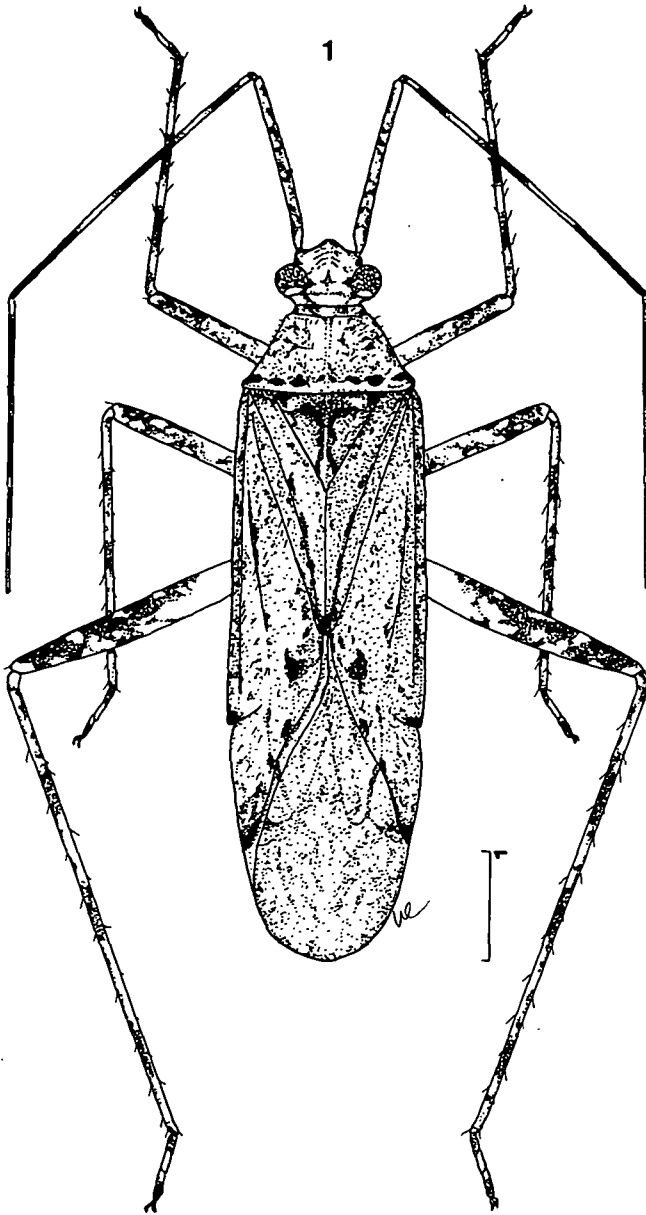


Fig. 1. *Phytocoris (Compsocerocoris) riegeri* sp. n., holotype ♂, dorsal view. Scale 1 mm.

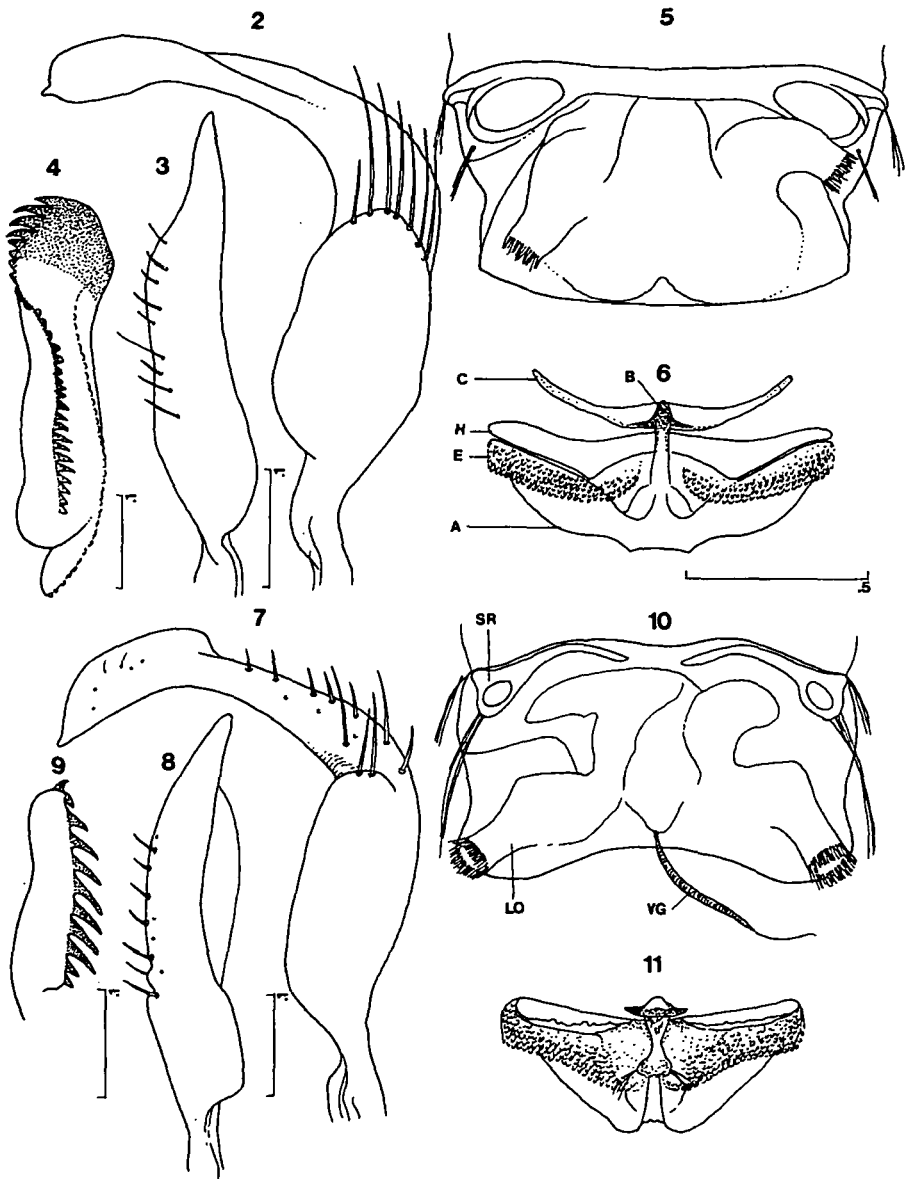


Fig. 2-6. *Phytocoris (Compsocerochoris) riegeri*, sp. n., paratypes. Fig. 7-11. *Phytocoris (Compsocerochoris) rosmarini* (♂ L' Albagés; ♀ Els Torms, Lleida). 2, 7, left paramere; 3, 8 right paramere; 4, 9, sclerotized spiculum of male vesica; 5, 10, superior wall of female vagina; 6, 11, posterior wall of female vagina. Abbreviations: A, B, C, E, H different structures of posterior wall; LO Lateral oviduct; SR Sclerotized ring; VG Vermiform gland. Scales in mm.

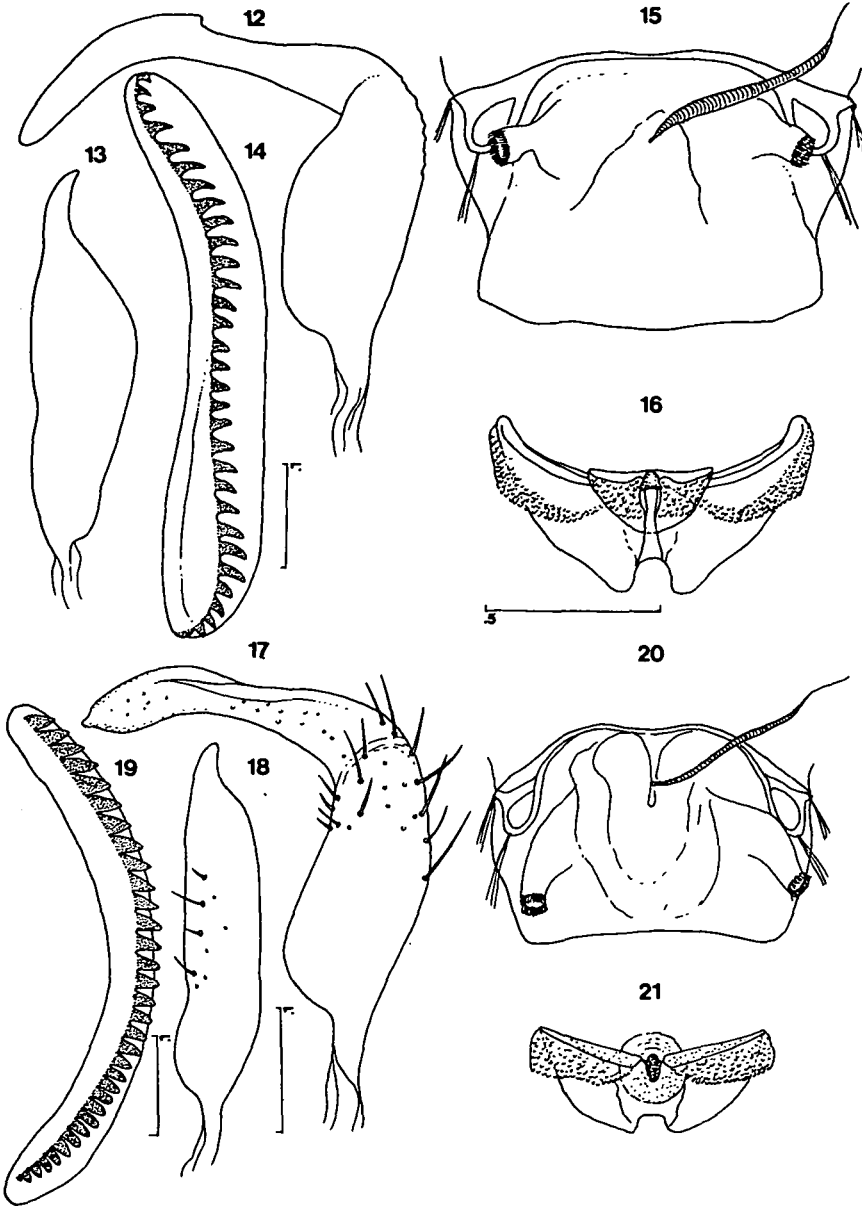


Fig. 12-16. *Phytocoris (Compsocerochoris) sanctipetri* (♂ Llorà, Girona; ♀ Algeciras, Cádiz). Fig. 17-21. *Phytocoris (Compsocerochoris) ribesi* (♂ Paratype Els Torms, Lleida; ♀ Totana, Murcia). 12, 17 left paramere; 13, 18 right paramere; 14, 19 spiculum of vesica; 15, 20, superior wall of vagina; 16, 21, posterior wall of vagina. Scales in mm.

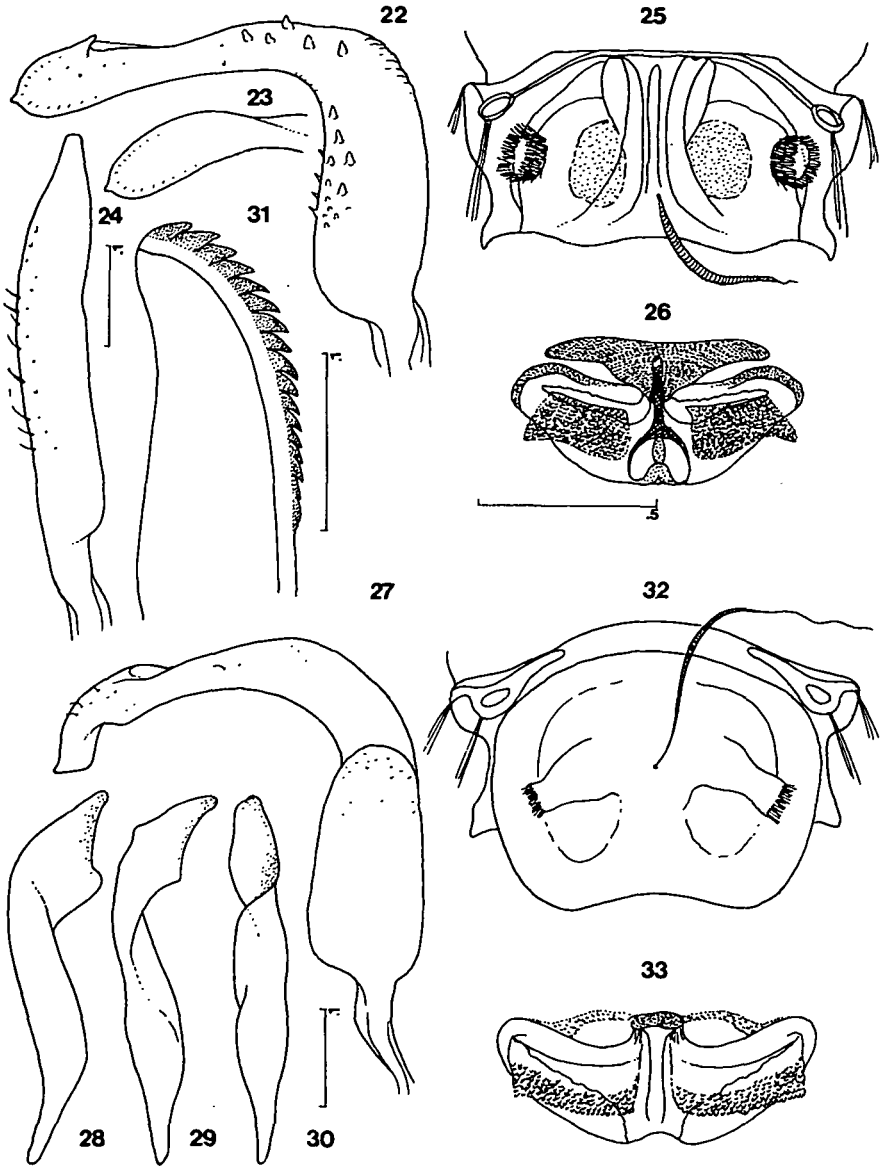


Fig. 22-26. *Phytocoris (Compsocerochoris) juniperi* (♂ Montseny, Sant Marçal, Barcelona; ♀ Valldoreix, Barcelona. Fig. 27-33. *Phytocoris (Compsocerochoris) viberti* (♂ ♀ Granada). 22-23, 27, left paramere; 24, 28-30, right paramere; 31 spiculum of vesica; 25, 32 superior wall of vagina; 26, 33, posterior wall of vagina. Scales in mm.

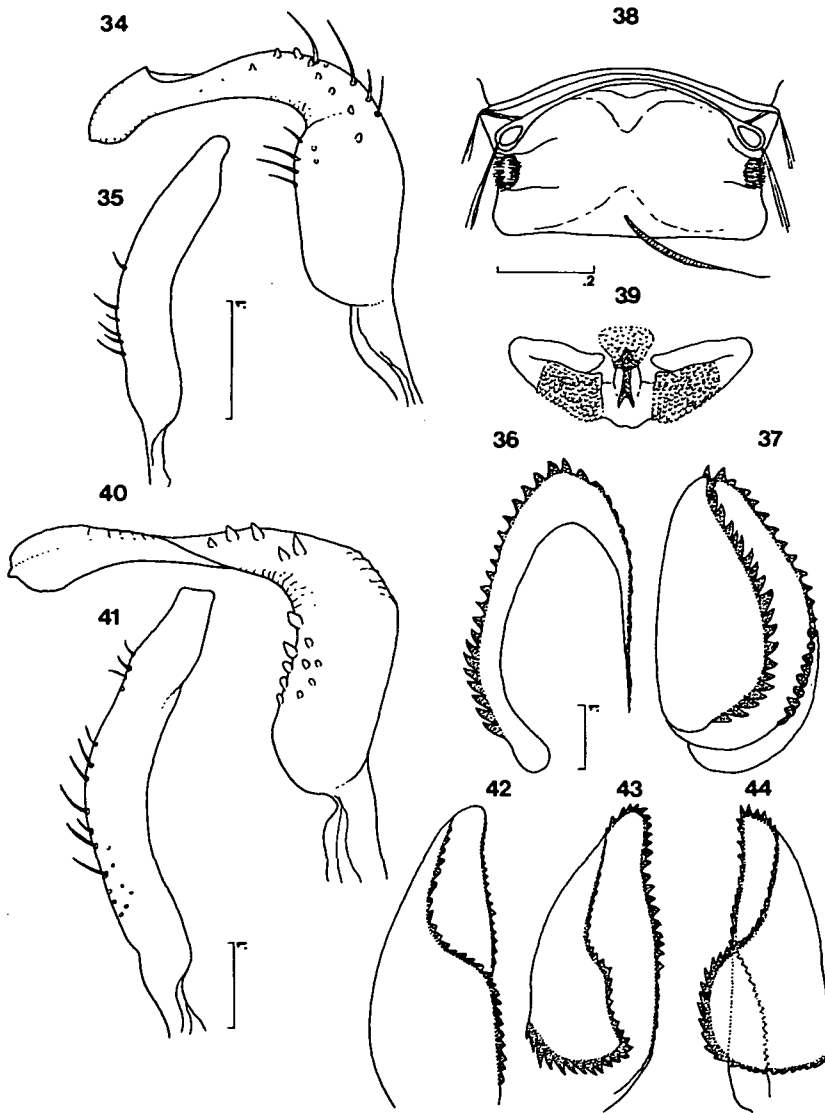


Fig. 34-39. *Phytocoris (Compsocerochoris) retamae* (δ ♀ San Roque, Cádiz). Fig. 40-44. *Phytocoris (Compsocerochoris) vallhonrati* (Holotype ♂ Sanabria, Zamora, after J. RIBES & E. RIBES 1999). 34, 40 left paramere; 35, 41, right paramere; 36-37, 42-44, spiculum of vesica; 38 superior wall of vesica; 39 posterior wall of vesica. Scales in mm.

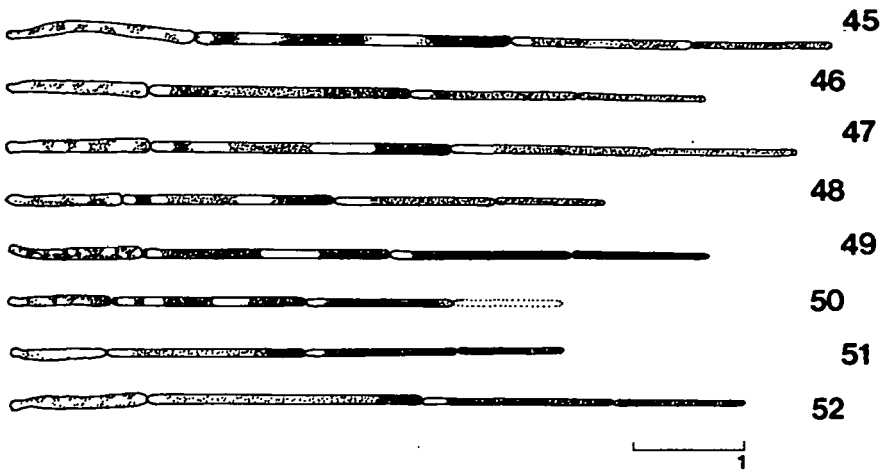


Fig. 45-52. Antennae of *Phytocoris* (*Compsocorocoris*) species (all ♂♂ except fig. 50 = ♀). 45 *P. riegeri* sp. n.; 46 *P. rosmarini*; 47 *P. sanctipetri*; 48 *P. ribesi*; 49 *P. juniperi*; 50 *P. viberti*; 51 *P. retamae*; 52 *P. vallhonrati*. Scale in mm.