

Acetropis stysi, a new species from Spain (Hemiptera: Heteroptera: Miridae)

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Abstract. *Acetropis stysi* sp. nov. is described from Sierra de Gredos of Ávila province in Central Spain. The new species is most similar to *A. longirostris* Puton, 1875, but in some respects is also similar to *A. carinata* (Herrich-Schaeffer, 1841). Males are macropterous, females macropterous and submacropterous. The new species is clearly distinguished from *A. longirostris* and *A. carinata* by the structure of the pygopore and from *A. carinata* and all other *Acetropis* species by the shape and partly by the numbers of vesical spiculae. It differs from the remnant species, *A. gimmerthalii* (Flor, 1860), *A. sinuata* Wagner, 1951, and *A. atropis* Reuter, 1895, by many characters.

Key words. Heteroptera, Miridae, *Acetropis*, taxonomy, new species, Spain

Introduction

The mirid genus *Acetropis* Fieber, 1858 is currently represented in the Western Palaearctic by five species. Research on the Iberian Peninsula has led to the discovery of a sixth species in the Spanish mountains, Sierra de Gredos. This species is herewith described as *Acetropis stysi* sp. nov. Externally it is most similar to *A. longirostris* Puton, 1875 from Southeast Europe, but the short rostrum, several other external characters, and the male genitalia are distinctly different from all congeners to necessitate this new description.

Results

Acetropis stysi sp. nov.

(Figs. 1-4)

Type material. HOLOTYPE: ♂, Central SPAIN: ÁVILA: Northern side of Sierra de Gredos, south of Hoyos del Espino, 1700 m a.s.l., 26.vii.1972 (coll. R. Remane, FB Biologie, Universität Marburg). PARATYPES: 1 ♂ 4 ♀♀, the same locality as holotype; 2 ♂♂ 4 ♀♀, Central SPAIN: ÁVILA: Northern side of Sierra de Gredos, near Venta del Obispo, 1000 m a.s.l., 23.vii.1983 (coll. R. Remane and coll. Naturhistorisches Museum Mainz).

Description. Rather large (like *A. longirostris*) and pale coloured *Acetropis* species, sexually dimorphic (Fig. 1). Body length: ♂ 8.2-8.3 mm; ♀ (macropterous) 8.0-8.3 mm; ♀ (submacropterous) 7.8 mm. Further measurements see in Table 1.

Colouration. Body yellowish, with longitudinal stripes, pale brown in female, pale yellowish-grey in male. Head yellow with median brown longitudinal line, dark behind eyes. Antennae dark, first segment brown to dark brown in male, yellow in female; segments two to four dark brown to black. Rostrum yellow, fourth segment dark. Pronotum with brown lateral lines. Hemelytron pale yellowish with longitudinal pale brown stripes, membrane shiny, veins white. Ventral aspect yellowish, with brown lateral line. Legs yellowish, first tarsal segment brown, second and third black.

Vestiture. Head, pronotum and wing without setae. Antenna with short, appressed setae, third and fourth segment with short, semierect spines, shorter than diameter of segment. Femur and tibia with short, appressed setae, tibia also with short pale spines on medial side.

Structure. Head with flat pit on vertex beside each eye. Vertex with short furrow, more or less distinct in single specimens. Frons with prominent triangular process anteriorly (Fig. 2b). Rostrum reaching to end of mesocoxa.

Pronotum nearly twice as broad as long; width 0.9-1.0 mm (anterior margin) and 1.9-2.1 mm (posterior margin). Anterior margin with distinct collar in males, less distinct in some submacropterous females. Lateral margins semierect, narrowing to base bulge and flat depression posterior to collar, posterior to depression with thin, continuous carina.

Male genitalia. Aperture of pygophore without erect tubercles (Fig. 3b). Parameres as in Fig. 4c. Vesica with three spiculae (Fig. 4b).

Differential diagnosis. *Acetropis stysi* sp. nov. is placed, based on external structures and male genitalia, in the subgenus *Acetropis* s. str. and is most similar in size, shape, proportions, and colouration to the East European species, *A. longirostris* (Fig. 1). In some characters it resembles also *A. carinata* (Herrich-Schaeffer, 1841), the latter species being distinctly smaller.

Acetropis stysi sp. nov. has a yellowish ground colour, whereas *A. longirostris* is more intensively coloured and males of *A. carinata* are generally darker (some individuals are nearly black). *Acetropis stysi* sp. nov. differs from *A. longirostris* by the shape of its frons, which in *A. stysi* sp. nov. is extended to a triangular, slightly raised process. By this feature it is more similar to *A. carinata* than to *A. longirostris*, in the latter species the frons is directed ventrally, in some males the apex of the frons is even rounded instead of angular. The labium of *A. stysi* sp. nov. is shorter than that of *A. longirostris*, it reaches to the end of the middle coxa only (as in *A. carinata*), whereas in *A. longirostris* the labium distinctly surpasses the hind coxa, reaching at least the second abdominal sternite or even the fourth in some specimens. The lateral pronotal carina of *A. stysi* sp. nov. is more distinct and continuous than that of *A. longirostris*, but less elevated than that of *A. carinata*.

The aperture of the pygophore is smooth and without erect tubercles in *A. stysi* sp. nov. – unlike that in *A. longirostris* which bears two distinct tubercles dorsal to the paramere insertions (Fig. 3). Both parameres of *A. stysi* sp. nov. are similar to those of *A. longirostris*, those of *A. carinata* are smaller (Fig. 4). Significant differences exist in the structure of the vesical spiculae of the three species (see Fig. 4): The aedeagus of *A. stysi* sp. nov. and *A. longirostris* each have three spiculae but of different shape, in *A. stysi* sp. nov. they are straight to S-shaped, but in *A. longirostris* the spiculae are distinctly curved (median spiculum twisted and sharply bent apically). Three spiculae (but of different shape) are also known in *A. sinuata* Wagner, 1951 (JOSIFOV 1993), while *A. carinata* possesses only two spiculae (ŠTYS 1973).

Etymology. On the occasion of his seventyfifth birthday, we dedicate the new species to our friend and colleague Pavel Štys who contributed important facts to the knowledge of *Acetropis*.

Bionomics. *Acetropis stysi* sp. nov. was caught on tufts of a tall Poaceae (cf. *Festuca* sp.), growing in open rocky mountain slopes at altitudes reaching from 1000 to 1600 m a.s.l.

Distribution. *Acetropis stysi* sp. nov. is known only from two localities on the northern side of the Sierra de Gredos Mountains in Central Spain (province of Ávila). Further collecting may perhaps indicate that *A. stysi* sp. nov. is an endemic species of the Iberian peninsula or specifically of the sierras of Central Spain only.

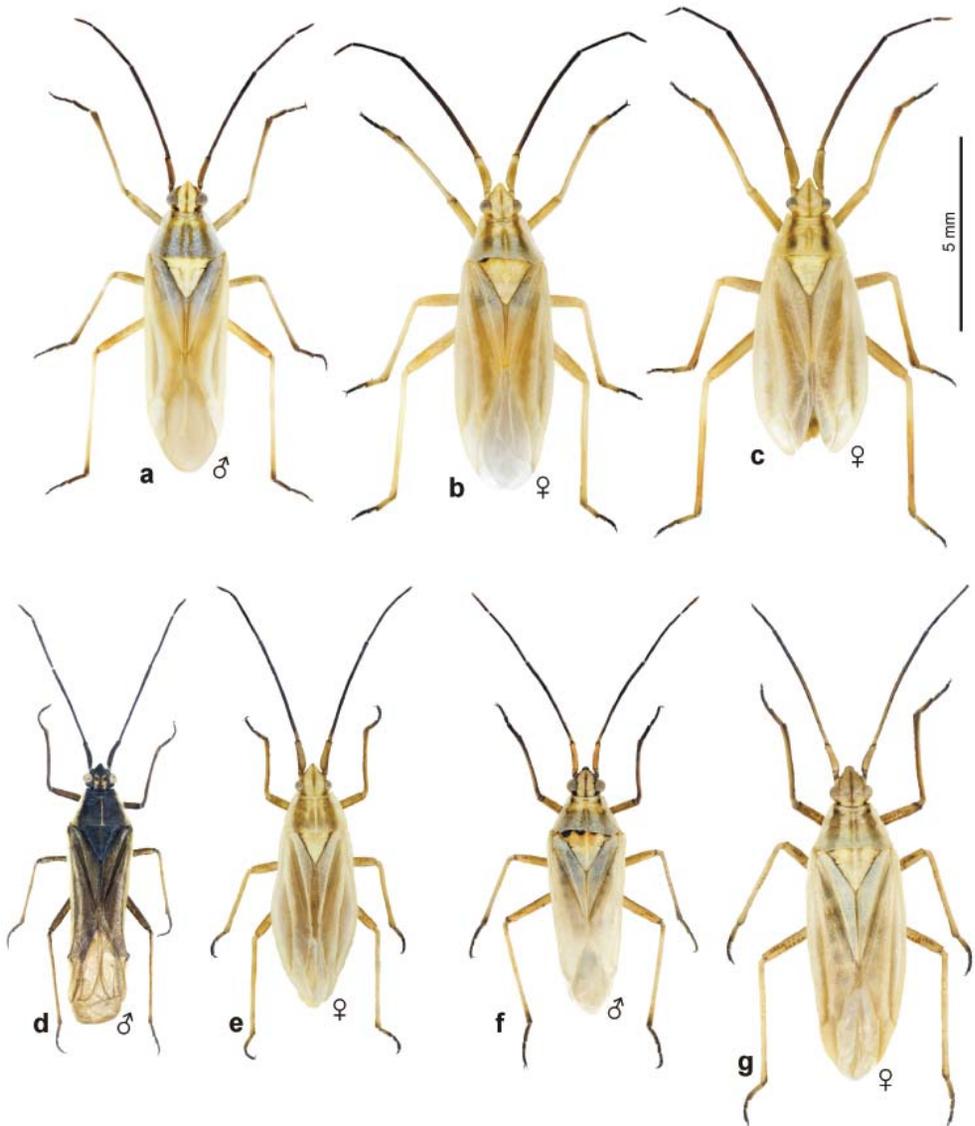


Fig. 1. Dorsal view of *Acetropis* Fieber, 1858 species. a-c: *A. stysi* sp. nov. a – ♂ macropterous; b – ♀ macropterous; c – ♀ submacropterous; d-e: *A. carinata* (Herrich-Schaeffer, 1841); f-g: *A. longirostris* Puton, 1875.

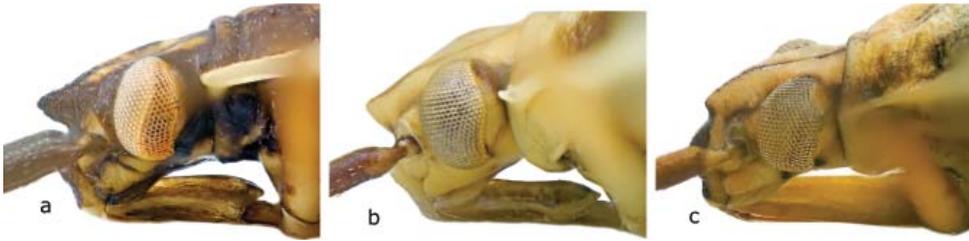


Fig. 2. Lateral view of head and pronotum: a – *Acetropis carinata* (Herrich-Schaeffer, 1841), b – *A. stysi* sp. nov., c – *A. longirostris* Puton, 1875.

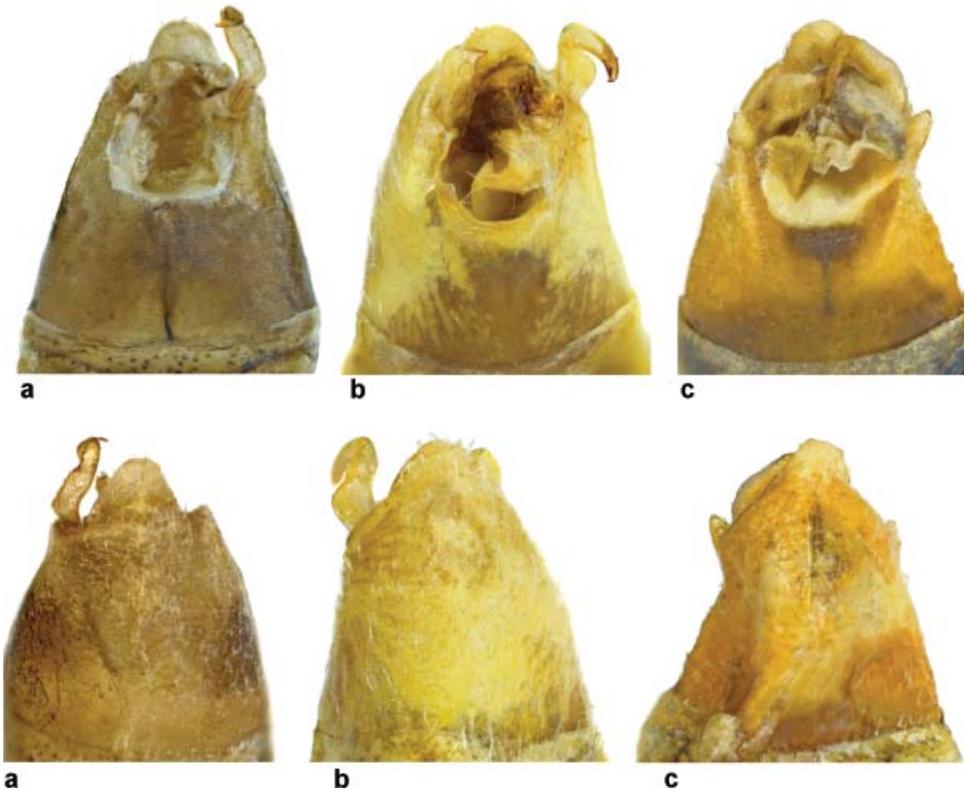


Fig. 3. Pygophore margins in dorsal (top row) and ventral view (bottom row): a – *Acetropis longirostris* Puton, 1875, b – *A. stysi* sp. nov., c – *A. carinata* (Herrich-Schaeffer, 1841).



Fig. 4: Parameres (bottom row) and vesical spiculae (top row): a – *Acetropis stysi* sp. nov.; b – *A. longirostris* Puton, 1875; c – *A. carinata* (Herrich-Schaeffer, 1841).

Table 1. Measurements of *Acetropis stysi* sp. nov.

	male	macropterous female	submacropterous female
Width of head	1.1-1.15 mm	1.1-1.2 mm	1.25 mm
Height of head	1.9 mm	2.0 mm	2.0 mm
Width of vertex	0.5 mm	0.6 mm	0.65 mm
Width of eyes	0.3 mm	0.2-0.3 mm	0.3 mm
Height of eyes	1.0 mm	0.9 mm	0.9 mm
Vertex/eyes	1.67	2.0-3.0	2.17
Length of pronotum	1.2 mm	1.2-1.3 mm	1.2 mm
Width of pronotum	2.0-2.1 mm	1.9-2.0 mm	2.1 mm
Antennae length	5.3 mm	5.9-6.5 mm	6.6 mm
Antennal segment lengths	0.8-0.9/2.6/1.4/0.5 mm	1.0-1.1/3.1-3.4/ 1.3-1.4/0.5-0.6 mm	1.1/3.6/1.4/0.5 mm
Wing width	2.3 mm	2.8 mm	3.1 mm

Discussion

Acetropis, in the western Palaearctic now consists of six species, five of them are placed in the subgenus *Acetropis* s. str., but in contradiction to the characters of the subgenus mentioned by WAGNER (1974), the vertex bears a more or less distinct short furrow, not only in *A. stysi* sp. nov. but at least also in *A. longirostris*, *A. carinata*, and *A. sinuata*.

The phylogenetic relationships between these six species as well as the question of whether they constitute a monophyletic unit needs to be examined in the future. But given their similarity in size, shape, proportions, colouration, and parts of the male genitalia (e.g., vesica, parameres) a closer relationship between *A. stysi* and *A. longirostris* seems probable.

Furthermore their areas of distribution seem to be strictly allopatric: *A. stysi* sp. nov. on (parts of?) the Iberian Peninsula, with *A. longirostris* ranging from Central Europe (Czech Republic, Slovakia, Austria, Hungary) to the western Ural mountains and the regions north of the Caspian and Black Sea (BRYJA & KMENT 2002, MELBER et al. 1991, STEHLÍK 1988, ŠTYS 1974). The distribution of *A. stysi* sp. nov. is sympatric with those of *A. carinata* and *A. gim-merthalii* (Flor, 1860), both widely distributed (KERZHNER & JOSIFOV 1999). The distribution of *A. sinuata* in Spain needs to be clarified. Records of this species on the Balkan Peninsula are given by JOSIFOV (1993) and RIEGER (2007), that of *A. (Paracetropis) atropis* Reuter, 1895 might be confined to northern Africa (KERZHNER & JOSIFOV 1999).

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References

- BRYJA J. & KMENT P. 2002: New and interesting records of plant bugs (Heteroptera, Miridae) from the Czech and Slovak Republics. *Klapalekiana* **38**: 1-10.
- JOSIFOV M. 1993: Beitrag zur Verbreitung der Heteropteren auf der Balkanhalbinsel samt Bemerkungen über die Synonymie mancher Miridenarten (Insecta, Heteroptera). *Acta Zoologica Bulgarica* **46**: 50-58.
- KERZHNER I. M. & JOSIFOV M. 1999: Miridae Hahn, 1933. Pp. 1-577. In: AUKEMA B. & RIEGER Ch. (eds): *Catalogue of the Heteroptera of the Palaearctic Region, Volume 3. Cimicomorpha II*. The Netherlands Entomological Society, Amsterdam, xiv + 577 pp.
- MELBER A., GÜNTHER H. & RIEGER Ch. 1991: Die Wanzenfauna des österreichischen Neusiedlerseegebietes (Insecta, Heteroptera). *Wissenschaftliche Arbeiten aus dem Burgenland* **89**: 63-192.
- RIEGER Ch. 2007: Neunachweise und Ergänzungen zur Wanzen-Fauna Griechenlands (Insecta: Heteroptera). Pp. 199-207. RENKER C. (ed.): Festschrift zum 70. Geburtstag von Hannes Günther. *Mainzer Naturwissenschaftliches Archiv, Beiheft* **31**: 1-339
- STEHLÍK J. L. 1988: New records of Heteroptera from Moravia. *Acta Musei Moraviae, Scientiae Naturales* **73**: 227-228.
- ŠTYS P. 1973: The taxonomy of *Acetropis longirostris* Put. (Heteroptera, Miridae). *Annotationes Zoologicae et Botanicae* **86**: 1-11.
- ŠTYS P. 1974: Population explosion of *Acetropis longirostris* in Eastern Slovakia (Heteroptera, Miridae). *Biológia* (Bratislava) **29**: 667-670.
- WAGNER E. 1974: Die Miridae Hahn, 1831, des Mittelmeerraumes und der Makaronesischen Inseln (Hemiptera, Heteroptera). Teil I. *Entomologische Abhandlungen* **37** (Supplement) (1971): 1-484.