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Facicoris fax Kiritshenko & Scudder, a genus and species new for Cyprus and Europe (Heteroptera: Rhyparochromidae)

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Abstract. *Facicoris fax* Kiristshenko & Scudder, 1973 is recorded for the first time in the island of Cyprus. It is also the first record of this genus and species from Europe. Some details of the morphology, habitus photographs, and distribution maps are given. Details of the places where this species was captured are also included.

Key words: Hemiptera, *Facicoris fax*, female genitalia, distribution, biology, new country record, new continent record.

Introduction

The main works about the Cyprian fauna of Heteroptera are the publications of Håkan Lindberg based on the expeditions made to Cyprus in the year 1939 by the Finnish entomologists Harald, Håkan and P. H. Lindberg (Lindberg 1948a, b). The interest in the fauna of Cyprus has continued until now and there are several papers describing new species, mainly Miridae (Wagner 1953, 1961, 1967, 1968a, 1968b, 1974; Önder 1974; Carapezza 1998; Pagola-Carte & Matocq 2018;), or dealing about new records from the island (Hoberlandt 1952; Linnavuori 1992; Carapezza 1998; Protić 2007; Quetglas et al. 2012; Gözüaçik & Konuksal 2019).

The alien species have also attracted the attention of the entomologists who have been informed about the colonisation of Cyprus by many of the alien species detected in Europe (Hadjiconstantis & Davranoglou 2018; Davranoglou et al. 2021; Demetriou et al. 2023; John & Kolokotronis 2023; van der Heyden 2023). The most recent catalogue of the Heteroptera of Cyprus, currently outdated, was published by Georghiou (1977).

In this paper, a poorly known genus and species of Rhyparochromidae, *Facicoris fax* Kiritshenko & Scudder, 1973, so far known only in four localities from Central Asia and one from the Near East, is recorded for the first time in Cyprus and Europe. A colour figure of habitus, distribution maps of the species, details of female genitalia and biological notes are also included.

Material and methods

The maps from Google Earth (https://www.google.pl/intl/pl/earth/) were used for preparing the distribution maps of *F. fax* (Figs. 3A–B).

Female genitalia were immersed in a commercial dishwasher, cleaned with distilled water and mounted in DMHF on an acetate label. The photos were taken using a Nikon Labophot microscope with a Nikon DS Fi1 Digital camera with a Nikon Ds U2 Control Unit, using Imaging Software NIS-Elements F 2.20.

Figure 1. Original illustration of the female holotype of *Facicoris fax* (drawing by Arthur Smith). Drawing courtesy of the Spencer Entomological Collection, Beaty Biodiversity Museum, UBC.

Results

Facicoris fax Kiritshenko & Scudder, 1973 (Figs 1–2)

The genus *Facicoris* Kiritshenko & Scudder, 1973 is a member of the tribe Gonianotini close to *Pionosomus* Fieber; it can be easily separated by its habitus and other anatomical characters (Péricart 1999). It is a monotypic genus with a single species, *F. fax* Kiritshenko & Scudder 1973 that was described on the basis of a short series of specimens collected in Armenia, Tajikistan and Turkmenistan (Kiritshenko & Scudder 1973). Gidayatov (1982) added a new record from Azerbaijan and Linnavuori (1986) recorded the species from Jerusalem (Israel).

The complete description of *F. fax* has included an excellent figure of habitus (Fig. 1) but no details of the male or female genitalia. Linnavuori (1986) figured only the paramere; however, the female genitalia have been undescribed to date. The spermatheca of this species is S-shaped, and the distal part of the spermathecal duct widens to the end where its diameter is more than twice that of the proximal part; the bulb is hemispherical, somewhat narrower than the end of the spermathecal duct (Fig. 2B). The shape of the ovipositor is presented in Fig. 2C.

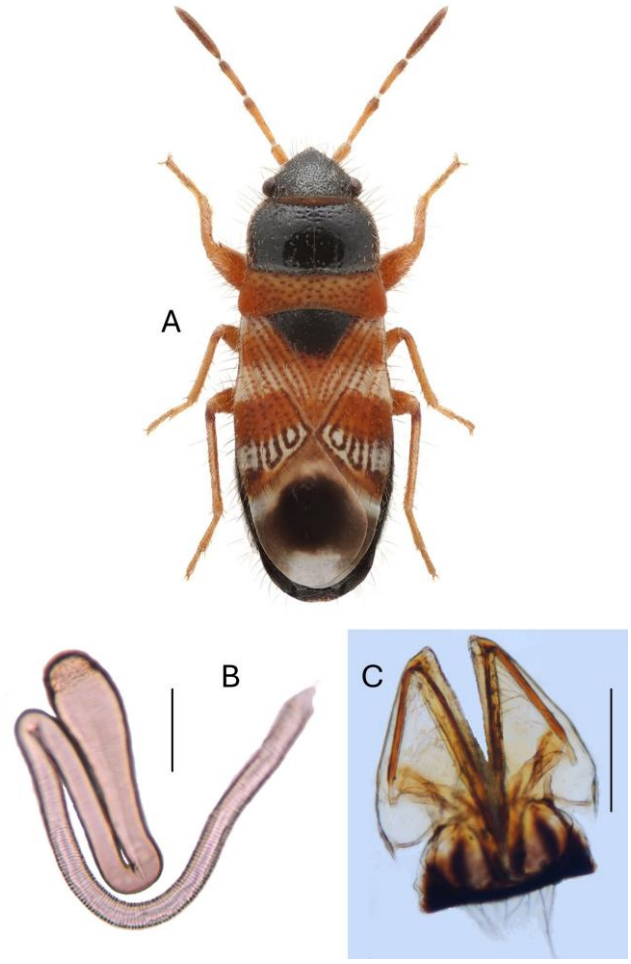

Figure 2. *Facicoris fax*. A. habitus, dorsal view (photograph: Christodoulos Makris). B. spermatheca, scale bar: 0,2 mm.; C. ovipositor, scale bar: 1 mm.

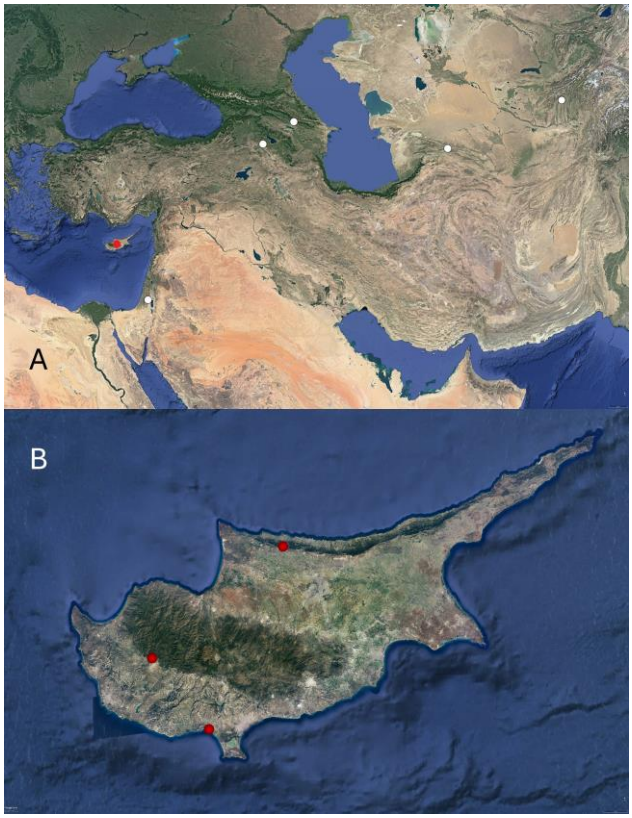

Figure 3. Distribution of *Facicoris fax*. A. world distribution; white points represented literature records; red points represented the new records in Cyprus. B. Cyprian localities.

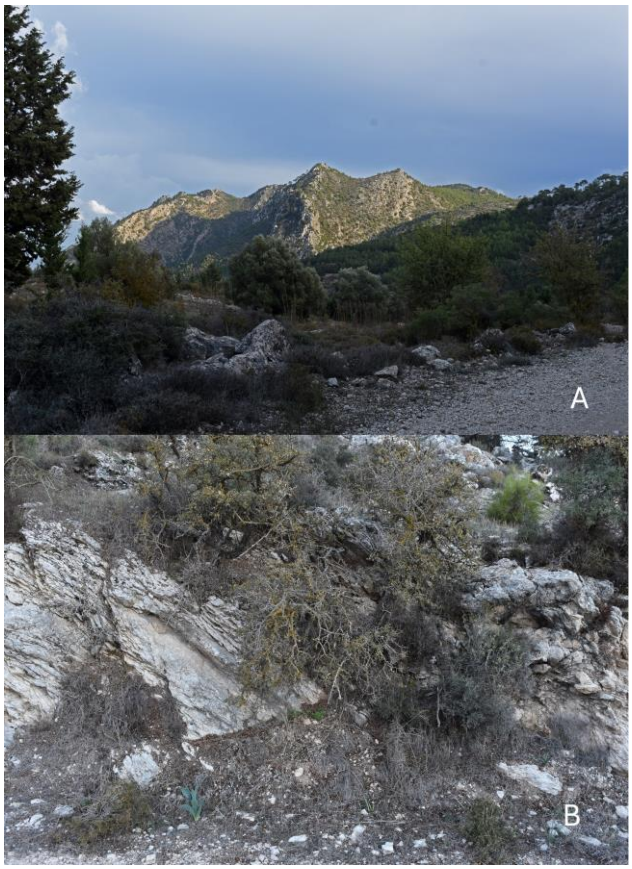

Figure 4. Locality of Kyrenia. A. general view. B. collection site of *Facicoris fax*.

Material studied

CYPRUS: Kyrenia Mountains, dirt road to Palaiosofos (Malatya), 35.315223, 33.202540, 19.11.2023, 1 ex., D. Kolokotronis leg., 612 m., inside a shell of *Eobania vermiculata* (Müller, 1774) (Fig. 4A–B); Kourio, 34.669210°, 32.875403°, 104 m., 24.3.2008, 1 ex., under a piece of wood, C. Makris leg., det. and col.; Panagia, 34.920964°, 32.626315°, 805 m., 24.3.2008, on a winery veranda, C. Makris leg., det. and coll.

Distribution

F. fax is known in the following countries and localities: Armenia (Jrvezh), Tajikistan (Khochildiyor, Gissar district), Turkmenistan (valley Mielmi S.E. from Firyuza) (Kiritshenko & Scudder 1973), Azerbaijan (Šeki) (Gidayatov 1982); Israel (Jerusalem) (Linnavuori 1986) (Fig. 3A). Now it is recorded also from Cyprus (Fig. 3B).

Biology

The biology of the species is poorly known; Gidayatov (1982) mentioned collecting specimens under *Thymus sipyleus* Boissier, 1844 (=*Thymus rariflorus* K. Koch, 1849) (Lamiaceae) and *Stipa* sp. (Poaceae) on a summit with very poor vegetation. The specimen of Kyrenia has been discovered in a diverse and ecologically rich habitat characterised by the region's unique topography and climatic conditions due to its steep elevation and its high humidity due to being near the seacoast with northern exposure. The area is characterized by steep slopes, rocky outcrops, and crevices of mostly crystalline limestone. Still, occasionally, there are small grasslands with old ruins of houses and a church. The climate is typically Mediterranean, with hot, dry summers and mild, wet winters. The trees and shrubs of the zone mainly include *Cupressus sempervirens* Linnaeus, 1753 and *Pinus brutia* Tenore, 1815, together with *Quercus coccifera* Linnaeus, 1753, *Ceratonia siliqua* Linnaeus, 1753, *Pistacia terebinthus* Linnaeus, 1753, *P. lentiscus* Linnaeus, 1753, *Crataegus azarolus* Linnaeus, 1753, *Olea europea europaea* Linnaeus, 1753 and some *Arbutus andrachne* Linnaeus, 1762 in the surrounding area. Low vegetation and bushes would include, *Cistus* spp., *Salvia fruticosa* Miller, 1768, *Calicotome villosa* (Poiret) Link, 1806, *Phagnalon rupestre* (L.) De Candolle, 1836, *Sarcopoterium spinosum* Spach, 1836, and some *Thymbra capitata* (L.) Cavanilles, 1803. The habitat at Kourio is *Juniperus* shrubland with stands of *C. sempervirens* and *P. lentiscus*. The third specimen studied was found in the yard of a winery on the outskirts of the village Panagia next to abandoned crops and shrublands with *Q. coccifera* and *P. terebinthus* . The adults of *F. fax* have been collected in different months of the year: February to April, June, August, and November, and the species hibernates in the adult stage.

Conclusions

Facicoris fax is an interesting and poorly known species that was recorded here for first time on the island of Cyprus and in Europe. The Cyprian and World distribution of the species are mapped and the few data about his biology are compiled. The female genitalia are figured for the first time.

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