

SCIENTIFIC NOTE

New Records of Plants Fed upon by the Uncommon Heteropterans *Cyrtocoris egeris* Packauskas & Schaefer and *C. trigonus* (Germar) (Hemiptera: Cyrtocoridae) in South America

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Novos Registros de Plantas Utilizadas Pelos Percevejos Raros *Cyrtocoris egeris* Packauskas & Schaefer e *C. trigonus* (Germar) (Hemiptera: Cyrtocoridae) na América do Sul

RESUMO - Durante o mês de março de 2000, foram coletados adultos dos percevejos cirtocorídeos *Cyrtocoris egeris* Packauskas & Schaefer e *C. trigonus* (Germar) em duas espécies de plantas e em dois locais distintos. No Brasil (Londrina, PR) adultos de *C. trigonus* foram observados alimentando-se em hastes de guanxuma, *Sida rhombifolia* L. (Malvaceae). Apesar de as fêmeas terem ovipositado em laboratório, as ninfas não sobreviveram nesse alimento. Na Argentina (Reconquista, Província de Santa Fé), adultos e ninfas de *C. egeris* foram observados alimentando-se em vagens imaturas de soja, *Glycine max* (L.) Merrill. Nas condições de laboratório utilizadas, as ninfas não conseguiram se desenvolver além do terceiro instar.

PALAVRAS-CHAVE: Heteroptera, *Sida rhombifolia*, *Glycine max*, soja, ecdise, distribuição geográfica

ABSTRACT - During March 2000, nymphs and adults of the cyrtocorid bugs *Cyrtocoris egeris* Packauskas & Schaefer and *C. trigonus* (Germar) were observed on two different plants at two different localities. In Brazil (Londrina, Paraná State) adult *C. trigonus* were found feeding on stems of the weed plant arrow leaf sida, *Sida rhombifolia* L. (Malvaceae). Despite egg deposition in the laboratory, nymphs did not develop on this plant. In Argentina (Reconquista, Santa Fé Province), nymphs and adults of *C. egeris* were observed feeding on immature soybean [*Glycine max* (L.) Merrill] pods. Under laboratory conditions, nymphs of neither species could be reared beyond the third instar.

KEY WORDS: Heteroptera, *Sida rhombifolia*, *Glycine max*, soybean, ecdysis, geographical distribution

The pentatomoid Cyrtocoridae, a small family comprised of only four genera and 11 species, is distributed throughout the neotropics, from Mexico south into Argentina (Packauskas & Schaefer 1998). Small and oddly shaped, with a prominent and more or less pointed hump on the scutellum, the bugs are not commonly found. Because of this and because of their minor economic importance, little is known about their biology.

The nymphs of the most widespread species, *Cyrtocoris egeris* Packauskas & Schaefer, have been described [Brailovsky *et al.* 1988 - as *C. trigonus* (Germar), Schaefer *et al.* 1998]; Brailovsky *et al.* also included some notes on the biology and habitat preference of this species and of *C.*

trigonus (as *C. obtusus*).

During March 2000, living specimens of *C. trigonus* were collected in Brazil (by ARP), and of *C. egeris* in Argentina (by MCC), the former feeding on the weed arrow leaf sida, *Sida rhombifolia* L. (Malvaceae), and the latter on soybean, *Glycine max* (L.) Merrill (Leguminosae).

The Brazilian population (*C. trigonus*) was from Londrina, Paraná State, in southern Brazil. This is the southernmost record of this species, and is a new state record (see Packauskas & Schaefer 1998). The bugs (4 adults) were found feeding on the stems of arrow leaf sida, near a soybean field; the bugs clustered on the stem (Fig. 1), and remained there for long periods, apparently feeding. Although females laid



Figure 1. Adults of *C. trigonus* feeding on the lower stem of the weed, arrow leaf sida, *S. rhombifolia*.

some eggs, laboratory rearing of nymphs without controlled incubators was unsuccessful, a failure which suggests that arrow leaf sida is an unsuitable host. Nymphs, after reaching the third instar, all died. Attempts to rear nymphs on immature soybean pods replaced every other day, in the laboratory, also failed. It might be that immatures primarily feed on roots and then move to feed on the entire plants.

The Argentine population (*C. egeris*) is from Reconquista, Santa Fé Province, in northern Argentina. This is the second set of Argentine specimens of *C. egeris* that has been examined. The first set (part of the paratype series) is from Misiones Province (place undetermined), also a northern province (Packauskas & Schaefer 1998). These two populations are near the southernmost part of the family's range.

In Argentina, several adult and fifth instars of *C. egeris* were found on soybean, feeding through the mature pods presumably on the seeds within. Each feeding left a feeding puncture (stylet sheath) which became dark.

It is unlikely that *Cyrtocoris* species might become a minor pest of soybean, despite the widespread distribution of the genus in soybean-growing regions of South America (Packauskas & Schaefer 1998). Moreover, the inability to rear *C. egeris* through on soybean in the laboratory suggests this too may not be a wholly suitable host. Another species, *Cyrtocoris gibbus* (F.), is reported to feed on stems of other legume plants such as the trees *Acacia* sp. and "bracatinga" (*Mimosa scabrella* Bentham), in Rio de Janeiro (Costa Lima 1940, Silva et al. 1968). Adults of *C. trigonus* feed on *Syngonium podophyllum* Schott (Araceae), *Acalipha* [as *Acalifa*] sp. (Euphorbiaceae), *Piper* sp. and *Pothomorpha*

[as *Potomorpha*] *umbellatum* (L.) Miquel (Piperaceae) (Brailovsky et al. 1988, who identified this species as *C. obtusus* Horváth). And adult and nymphal *C. egeris* fed gregariously on the stems of *Acalipha* [as *Acalifa*] *diversifolia* Jacquin (Euphorbiaceae) and moved to the leaves when these became available; adults (but not nymphs?) could also feed on *Piper* sp. (Piperaceae) (Brailovsky et al. 1988).

Although complete development of *C. trigonus* did not occur in the laboratory on either arrow leaf sida or on soybean, the possibility that these plants are hosts should not be discarded. The bugs did indeed feed for long periods on these plants in the field. It is possible that the failure to rear the bugs reflects unsuitable laboratory conditions, not unsuitable food. Brailovsky et al. (1988) mention that precipitation (humidity in the laboratory?) seems to be more important in population growth than temperature or photoperiod. The fact that, like us, Brailovsky et al. (1988) also could not rear the bugs in the laboratory beyond the third instar, also suggests the bugs may require an alternate host for the later instars. Some of the Brazilian *C. trigonus* bore the local red soil on their backs. In Ecuador, adults and the last three instars of *Cyrtocoris* were collected on the ground by J. E. Eger (Schaefer et al. 1998). It is likely the bugs are associated with the leaf litter on the ground, and from there climb up onto plants to feed. In Mexico, *C. egeris* overwinters under bark or in the soil (Brailovsky et al. 1988). Just as the bugs seem not to be particularly host specific, so also does the site of feeding vary: on the stems or leaves of *A. diversifolia* (vegetative structures) (in Mexico, Brailovsky et al. 1988), on pods of soybean (reproductive structures), or on stems of arrow leaf sida (vegetative structures). *Sida* is a common weed often found near or on the edges of soybean

fields. Soybean, only recently introduced into South America (especially in Brazil and in Argentina) is not a natural host of *Cyrtocoris*.

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Literature Cited

- Brailovsky, H.L., L. Cervantes & C. Mayorga. 1988.** Hemiptera-Heteroptera de Mexico XL: La familia Cyrtocoridae Distant en la Estacion de Biologia Tropical "Los Tuxtlas" (Pentatomoidea). An. Inst. Biol. Univ. Nac. Auton. Mex. (Ser. Zool.) 58: 537-560.
- Costa Lima, A.M. 1940.** Insetos do Brasil. Escola Nacional de Agronomia, Série Didática n. 3, Rio de Janeiro, 2º Tomo, capítulo XXII, 351p.
- Packauskas, R.J. & C.W. Schaefer. 1998.** Revision of the Cyrtocoridae (Hemiptera: Pentatomoidea). Ann. Entomol. Soc. Am. 91: 363-386.
- Schaefer, C.W., R.J. Packauskas & J.E. Eger. 1998.** Nymphs of *Cyrtocoris egeris* (Hemiptera: Pentatomoidea: Cyrtocoridae). Ann. Entomol. Soc. Am. 91: 452-457.
- Silva, A.G.D.'A., C.R. Gonçalves, D.M. Galvão, A.J.L. Gonçalves, J. Gomes, M.N. Silva & L. Simoni. 1968.** Quarto catálogo dos insetos que vivem nas plantas do Brasil - seus parasitas e predadores. Min. Agric., Rio de Janeiro, Parte II, v. I, 622 p.

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