

## SCIENTIFIC COMMUNICATION

## Record of two species of *Orius* Wolff (Hemiptera, Anthocoridae) in Brazil.

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**ABSTRACT.** The genus *Orius* Wolff, 1811 comprises predatory species, with approximately 70 known species. Informations about the genus in Brazil are scarce. Therefore, the aim of this investigation was to identify *Orius* species present in four localities in the southeastern Brazil. Samples were taken from several plants, and the material screened in laboratory. The genitalia of both sexes were studied and illustrated. Two species were identified, *Orius insidiosus* (Say, 1832) and *Orius thyestes* Herring, 1966. *O. insidiosus*, the most common species, was collected in all of the localities sampled [Lavras (MG), Holambra, Pindorama and Campinas (SP)]. *O. thyestes*, registered for the first time in Brazil, occurred only in Lavras (MG) and Pindorama (SP). Some morphologic aspects of these two species are also presented.

**KEYWORDS.** Biological control; occurrence; predators; taxonomy.

## INTRODUCTION

The genus *Orius* Wolff, 1811, belonging to the family Anthocoridae, comprises about 70 species distributed throughout all zoogeographical regions, of which 15 species are found in South America (PÉRICART 1972).

RIUDAUVETS (1995), in a review of *Orius*, mentioned several species that prey on *Frankliniella occidentalis* (Pergande, 1895) and *Thrips tabaci* Lind, 1888, e. g., *Orius albidipennis* (Reuter, 1884), *Orius insidiosus* (Say, 1832), *Orius laevigatus* (Fieber, 1860), *Orius majusculus* (Reuter, 1879), *Orius minutus* (L., 1758), *Orius niger* (Wolff, 1811) and *Orius tristicolor* (White, 1879). Other species are also associated with thrips, such as *Orius limbatus* (Wagner, 1952) in the Canary Islands (CARNERO *et al.* 1993), which prey on *F. occidentalis* and in Japan, *Orius sauteri* (Poppus), *Orius strigicolis* (Poppus) and *Orius tantillus* (Motschlsky), which prey on *Thrips palmi* Karny, 1925 (YANO, 1999).

In Brazil, the most abundant species is *O. insidiosus* (BUENO 2000); however, other species were mentioned by HERRING

(1966): *Orius pallidus* (Poppus, 1909), collected in Corumbá, MT, and in Salvador, BA, *Orius perpunctatus* (Reuter, 1884), in Seara (Nova Teutônia), SC and in Ouro Preto and Sabará, MG, and *O. tristicolor*, for which no collection locality was cited. According to LATTIN (2000), little is known about the regional fauna of *Orius* species, especially in Africa and Central and South America, including Brazil.

Therefore, the aim of this study is to give some characteristics to differentiate the two species of *Orius* collected in Southeastern Brazil, and also to present some aspects of their morphology.

## MATERIAL AND METHODS

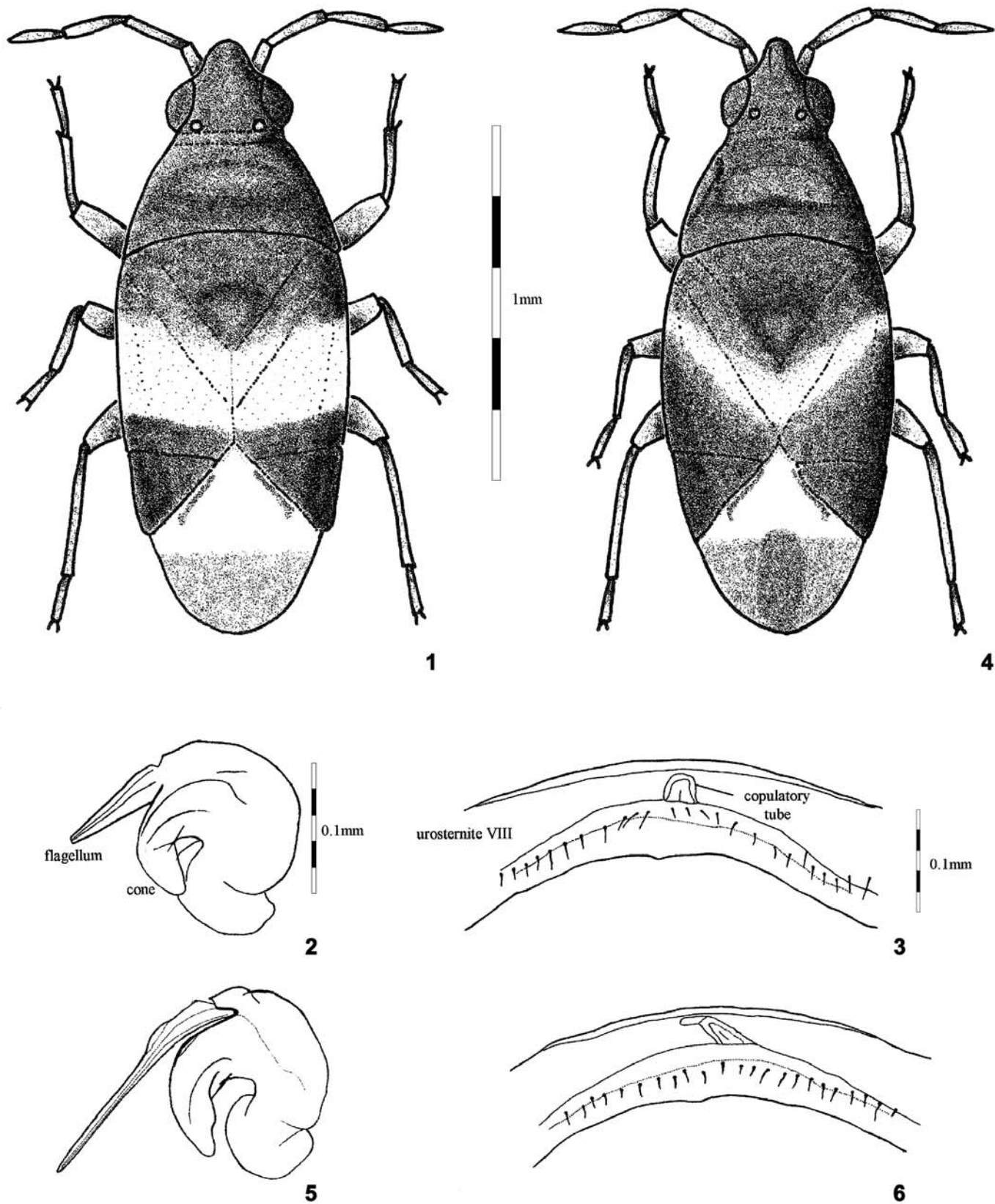
The specimens were collected in various cultivated plants and weeds in four locations in Southeastern Brazil: Lavras (MG) (21°18' S/44°59' W), Holambra (SP) (22°25' S/47°03' W), Campinas (SP) (22°54' S/47°03' W) and Pindorama (SP) (21°10' S/48°54' W).

Transparent plastic bags were utilized for the collection of

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**Figs. 1-6.** *Orius insidiosus* (Say, 1832): 1, adult male; 2, male genitalia; 3, female copulatory tube. *Orius thyestes* Herring, 1966: 4, adult male; 5, male genitalia; 6, female copulatory tube.

the insects, in which plants or parts of plants to be sampled were placed. The predators were stored in flasks containing 70% alcohol for preservation and identification based on patterns of the wings, body and male and female genitalia which, according to some authors, are the most reliable structures for taxonomic determination (KELTON 1963; HERRING 1966; PÉRICART 1972).

The male abdomen was removed, macerated in 10% KOH, and boiled in a water bath for approximately 20 min. Afterwards, transferred to a watch glass with distilled water where the removal of the genitalia was carried out with the use of very fine entomological stylets. The genitalia were placed in clove oil, where remained for 15 min. and they were subsequently mounted on slides with Hoyers solution and sealed with varnish. The female genitalia were prepared following the methodology given by Luciana Tavella (personal communication), who recommends the genital pore (abdominal sternit VIII) as a reliable structure for female identification. Abdominal sternit VIII can be mounted on a slide and observed after preparation of the abdomen with a clearing solution. Specialists confirmed the species, and voucher specimens were deposited at Museu Regional de Entomologia, Universidade Federal de Lavras, Minas Gerais, Brazil. Illustrations of the body, and genitalia of both sexes are also given.

## RESULTS AND DISCUSSION

### *Orius insidiosus* (Say, 1832) (Figs. 1-3)

Male (Fig. 1) with a dark-chestnut color predominantly the head, antennae, pronotum, scutellum and abdomen; the latter covered sparsely with a short pubescence. Fore femora armed ventrally, at apex, with a few, very small, black teeth. Pronotum, strongly convex, with a smooth transversal callus on anterior half, almost shiny, clearly delimited and elevated. Scutellum similar to pronotum in pubescence and color, depressed at middle. Hemelytra predominantly pale; clavus at base and corium at base and apex, and cuneus dark-brown or black. Membrane usually translucent, apical half covered diffusely and uniformly with brown spots. The hemelytra at rest bicolored with black and white. Cone only moderately swollen at base and tapered at apex, not toothed (Fig. 2). Flagellum short and bladelike, almost as wide as long as the cone.

Measurements: 1.63-1.96 mm in length and 0.76-0.84 mm in maximum width.

Female. Very similar to male in color, size and pubescence, although more robust. Urosternite VIII (Fig. 3) with cylindrical copulatory tube, as long as wide, dark-brown in the middle.

Measurements: 1.80-2.20 mm in length and 0.79-0.90 mm in width.

Comments. *Orius insidiosus* (Say, 1832) was collected in Lavras (MG), Campinas, Holambra and Pindorama (SP), and it was the only species collected on the crops sampled in all the

localities. This agrees with that reported by BUENO (2000), which considered this species of major importance in the biological control of thrips, when compared to the others. The insects of this species collected in the United States of America and Europe usually have a milky white-colored membrane, according to Luciana Tavella (personal communication). Based on KELTON (1963) and HERRING (1966), since the adults of *O. insidiosus* can undergo variations in color in accordance with the habitat, this characteristic is not reliable for the determination of species, therefore it is necessary to appeal to the male genitalia for such. In *O. insidiosus* the cone and the flagellum are proportional in the size and in the width, and for female, copulatory tube is as long as wide (Figs. 2 and 3).

### *Orius thyestes* Herring, 1966 (Figs. 4-6)

Male (Fig. 4) uniformly black (head, pronotum, scutellum and abdomen), with sparse, short pubescence. Fore femora unarmed. Pronotum very dark brown, almost black, and strongly convex, callus well delimited, somewhat smooth and elevated. Scutellum similar to pronotum in pubescence and color, depressed at middle. Hemelytra castaneous, shallowly rugose-punctate, covered with short, brown pubescence, membrane darker in the center. Cone of left clasper (Fig. 5) moderately long, tapered and not toothed. Flagellum tapered, darker, and longer than the cone.

Measurements: 1.67 mm in length and 0.72 mm in maximum width.

Female. Very similar to male in color, size and pubescence, although larger and more robust. Copulatory tube (Fig. 6) conical, with length about twice the width at base, with a rounded, membranous apex.

Measurements: 1.81 mm in length and 0.87 mm in width.

Comments. *Orius thyestes* Herring, 1966 was found to be present in the localities of Lavras (MG) and Pindorama (SP), and it was collected from a fewer number of hosts, and particularly from invasive plants. HERRING (1966) registered the occurrence of *O. thyestes* only in Colombia and Mexico; *O. thyestes* in Brazil is reported here for the first time. The darker color in this species, in general, points out the differentiation between *O. insidiosus* and *O. thyestes*, and helps in their distinction mainly by the observation of the white "v" patch on the wings (Fig. 4), that is absent in *O. insidiosus*. The male genitalia in *O. thyestes* presents the flagellum longer than cone (Fig. 5). Female copulatory tube is conical, with length about twice the width at base. The characteristics as adult color, but mainly male and female genitalia permitted an easy distinction between *O. insidiosus* and *O. thyestes* in Southeastern Brazil.

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