

(RESEARCH ARTICLE)



Occurrence of *Stenopoda spinulosa* Giacchi, 1969 (Hemiptera, Reduviidae, Stenopodainae) in Brazil

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Abstract

The Reduviidae family is economically important, as many species are used in the biological control of agricultural pests. Many species in the Stenopodainae subfamily are endemic to tropical forests, and some smear their front paws with sticky plant-derived resin to help capture prey. The genus *Stenopoda* Laporte, 1833, has 14 species in Brazil. *Stenopoda spinulosa* Giacchi, 1969 (Reduviidae: Stenopodainae) has so far only been reported for the State of Rio Grande do Sul. They have wings that serve to protect the second pair of membranous wings and the body against crushing shocks. They are characterized by rigidity close to the notch of the wing and, at the same time, by the membranous region at the tip of the wing in the distal region. Their bite can cause edema, allergies, pain, and inflammation. To collect insects, a sweeping net or entomological net was used in shrubs and grasses. The objective of this study is to report the first occurrence of *S. spinulosa* in the State of Goiás, Brazil.

Keywords: Inflammation; Natural enemies; Pests; Predators; *Stenopoda*

1 Introduction

The order Hemiptera, with approximately 85,000 species, occurs worldwide and in diverse habitats. The Reduviidae family is well known for presenting predatory insects and hematophagous. Predators play an important role in regulating the population of phytophagous insects. Among the hematophagous, the subfamily of greatest interest to humans is the Triatominae subfamily, as it comprises insects that transmit the protozoan that causes Chagas disease [1-3].

Assassin bugs or ambushing bed bugs have a very diverse morphology, the most varied food preferences, and diverse behavioral habits. The family is economically important, as many species are used in the biological control of agricultural pests [1-4].

Most of these bed bugs are medium to large (1.3 and 1.9cm) long. The head is elongated and narrow with a "distinct" neck behind eyes that are often reddish. The long, curved mouthparts form a beak that, at rest, is kept beneath the body, with the tip properly fitted into a cavity. The middle of the abdomen is widened, so the wings do not completely cover the width of the body. The eggs are laid in groups, one very close to the other, in a vertical position, on the leaves of the plants. Most assassin bugs are generalist predators, meaning they prey on different prey. They often lie in wait and attack even small flying insects [1-5].

The Stenopodainae are characterized by the presence of a large cell, usually pentagonal or hexagonal, in the venation of the hemelytra, formed by the cubital and postcubital veins and the apical, and posterior cubital and postcubital crossveins. The antenniferous tubercles and juga mandibular plates are usually strongly produced anteriorly. The

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elongated and incrassate scapus is also an important subfamily character. Many species of this subfamily are endemic to tropical rainforests, and some smear their forelegs with sticky, plant-derived resin, to aid in prey capture [1-6].

Objective

The objective of this study is to report the stink bug *Stenopoda spinulosa* Giacchi, 1969 (Reduviidae: Stenopodainae).

2 Methods

The experiment was carried out in November 2023. Collections were carried out on the Campus of the Federal University of Goiás, Goiânia (UFG), Goiás, Brazil. To collect insects, a sweeping net or entomological net was used on the bushes and grasses. Subsequently, the flies were placed inside a container containing 70% alcohol for conservation and taken to the laboratory for identification. In addition to the flies, other insects were captured, but what caught our attention was the finding of one specimen like triatomine barbers. They were sent to a professor at the Institute of Tropical Pathology and Public Health at UFG who carried out the identification. The specimen belongs to the family Reduviidae, the subfamily Stenopodainae, and the species *S. spinulosa*.

3 Results and Discussion

To collect insects, a sweeping net or entomological net was used in shrubs and grasses. The one specimen belongs to the family Reduviidae, and subfamily Stenopodainae, of the species *S. spinulosa*.

Stenopoda Laporte, 1833 (Hemiptera, Reduviidae, Stenopodainae).

Body and appendages with dense, adpressed pubescence and numerous tiny, erect bristles. Margins of the head nearly parallel-sided in dorsal view, abruptly constricted at the neck. Two medians dorsal carinae (1+1) are elevated. It is an insect that can be useful to control the dreaded barnacles. They are not safe but can cause edema, allergy, pain, and inflammation, and it is recommended that you wash when you get a bite so that you do not [1-7].

The genus *Stenopoda* comprises in Brazil 14 species described being the most important *Stenopoda cinerea* Laporte, 1833, and *Stenopoda guaranitica* Giacchi, 1969, are new records for the state Rio Grande do Sul [1-8].

3.1 Distribution Geographic

Espírito Santo, Mato Grosso do Sul and Rio Grande do Sul.

Stenopoda spinulosa

Length 22 mm general color is dark grey. long hairs inserted into a conical tubercle. Head of the general color. Antennal formula 121,420,452 0.30. The width of the eyes is slightly more than half the interocular distance. Face: first article of the general color, the remaining two dark brown. Pronotum lateral edges with simple setiferous processes of conical shape, with hairs generally shorter than the tubercle [1-9].

Before reaching the posterior disc of the pronotum, at the edge, some tubercles fused at the base, two by two and divergent. Anterior femurs veined with chestnut; medium femurs, with a ring of that color at the apical end, occupying the third part of their length; the later light brown veins. Tibiae of the first and second pairs. With dark brown annulations at the apex, middle portion, and basal; the medians are clearer, and the cancellation is smaller [9-12].

Hemelliters according to sheet; pentagonal cell spot dark brown, almost black. Very colored ribs. Abdomen de subparallel sides, last abdominal segment; abdomen length 12 mm, width 5 mm. Phallus, morphology, and chaetotaxy of the parameres [9-12].

3.2 Medical Importance

They are not safe but can cause edema, allergy, pain, and inflammation, and it is recommended that you wash yourself when you get a bite so that you do not.

3.3 Distribution Geographic

Mexico and USA (Figure 1).



Figure 1 *Stenopoda spinulosa* Giacchi, 1969

4 Conclusion

This study is to report the first occurrence of the stink bug *Stenopoda* in the State of Goiás, Brazil.

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