

## Predators of *Gonipterus platensis* (Marelli, 1926) (Coleoptera: Curculionidae) larvae in Antioquia, Colombia

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### Introduction

The eucalyptus snout beetle, *Gonipterus* spp. are a pest of eucalyptus worldwide (Figure 1). *Gonipterus platensis* was first reported in Colombia in 2016, threatening and causing economic losses in more than 60.000 ha of *Eucalyptus* spp. planted in the country. Classical biological control of these species has been effective in some countries with *Anaphes nitens* (Girault) and *A. inexpectatus* Huber & Prinsloo, 1990 (Hymenoptera: Mymaridae), and complemented with different natural enemies (NE) (Nascimento *et al.* 2017).

### Goal

The goal of this work was to survey natural enemies of *G. platensis* larvae and adults in its current distribution in Antioquia (Colombia), as first steps for an integrated pest management program (IPMP).

### Methods

Larvae of *G. platensis* were surveyed from 24<sup>th</sup> January 2019 to 27<sup>th</sup> March 2019 for the presence of parasitoids and predators in isolated eucalyptus trees (San Pedro de los Milagros, Don Matías and Rionegro municipalities) and plantations (Santa Rosa de Osos, Medellín and Caldas municipalities) in Antioquia, Colombia. Caldas and Rionegro were sampled twice. 165 larvae of different stages were collected from shoots and youngest leaves, 20.6 on average/locality, where NE were also surveyed. Larvae were maintained at room conditions (26–30 °C, 70–80% HR) for fourteen days.

### Results and discussion

Adults of *Harmonia axyridis* (Pallas) (Coccinellidae: Coccinellinae) (Figure 2), the multicolored Asian lady beetle is an invasive species, were observed drumming larvae and egg capsules with antennae in Caldas and Rionegro municipalities, but in the laboratory five collected specimens fed on exposed eggs and small larvae of *G. platensis*. *H. axyridis* is a generalist predator of soft-bodied insects, utilized in biological control programs around the world. It is perhaps most well-known for its non-desired impacts as displacement of native coccinellids through resource competition, intraguild predator and its impact on non-target arthropods (Koch and Galvan 2008).

Adults and nymphs of *Podisus congrex* (Stål, 1862) (Pentatomidae: Asopinae) (Figure 3, Figure 4), possible first Colombian report, were observed in Caldas and Rionegro municipalities preying on larvae of different stages. Eleven nymphs were reared feeding on larvae of different development. No parasitoids emerged or visible evidence of parasitism was noticed. *P. congrex* is a predator with generalist feeding behavior. *Podisus nigrispinus* Dallas (Hemiptera: Pentatomidae), species native to Brazil, which feeds primarily on insect larvae (Torres *et al.* 2006), was reported preying on larvae and adults of *G. platensis* in Brazil (Nascimento *et al.* 2017). These authors also indicate that laboratory evidence indicates that this species is an efficient native predator of *G. platensis* larvae, what constitutes an important step in the development of IPMP for *G. platensis*. As both *Podisus* species are native species, have minimal side-effects on other native species compared to exotic species (Torres *et al.* 2006), as *H. axyridis*, also found preying on *G. platensis* in this research.

*Podisus congrex* has potential to be used as biological agents to control *G. platensis*. However, the of these species for *G. platensis* population control should be assessed in order to be included in an IPMP.

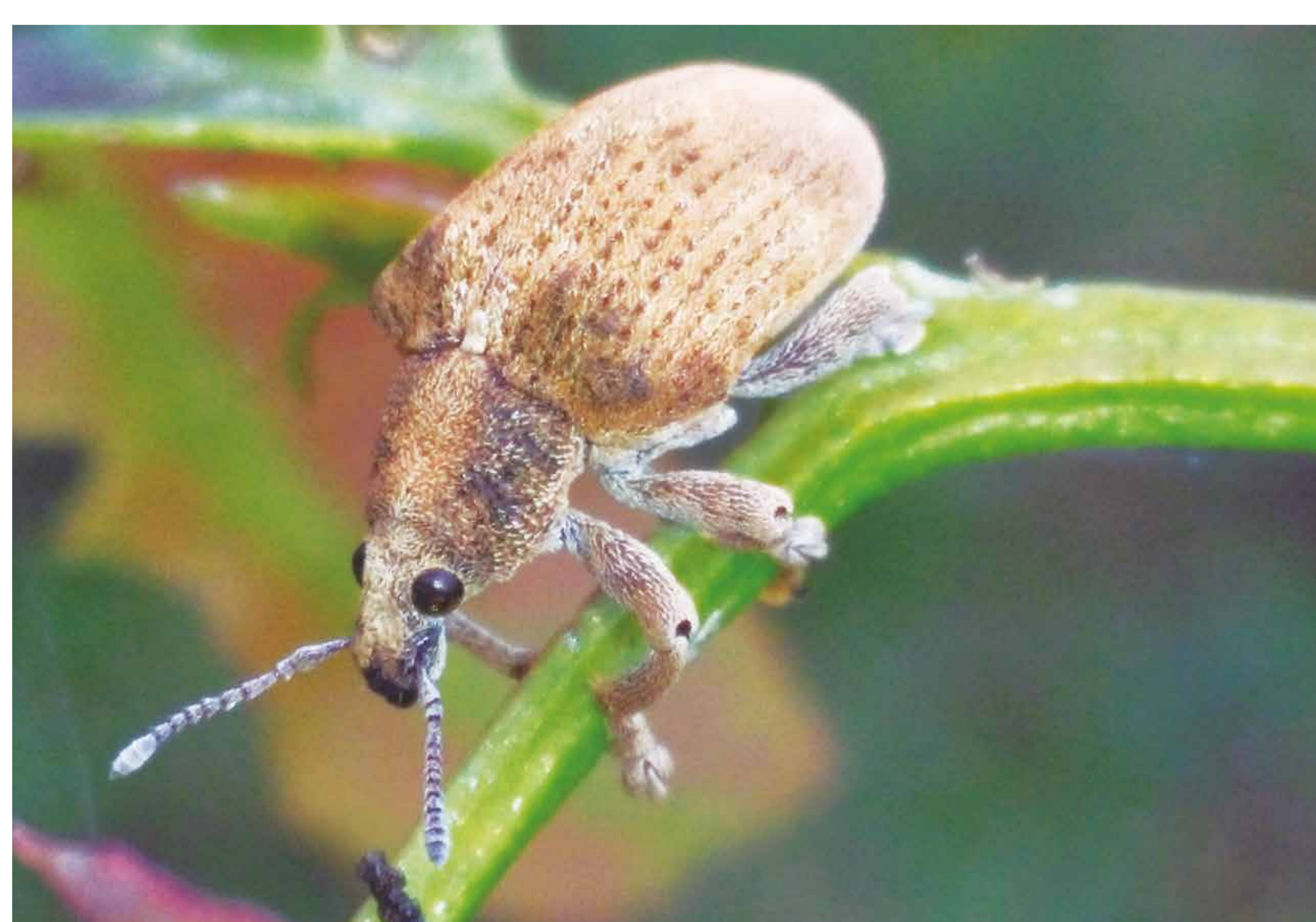


Figure 1. *Gonipterus platensis* (Marelli, 1926) (Coleoptera: Curculionidae) the eucalyptus snout beetle.



Figure 2. *Harmonia axyridis* (Pallas) (Coccinellidae: Coccinellinae), the multicolored Asian lady beetle.

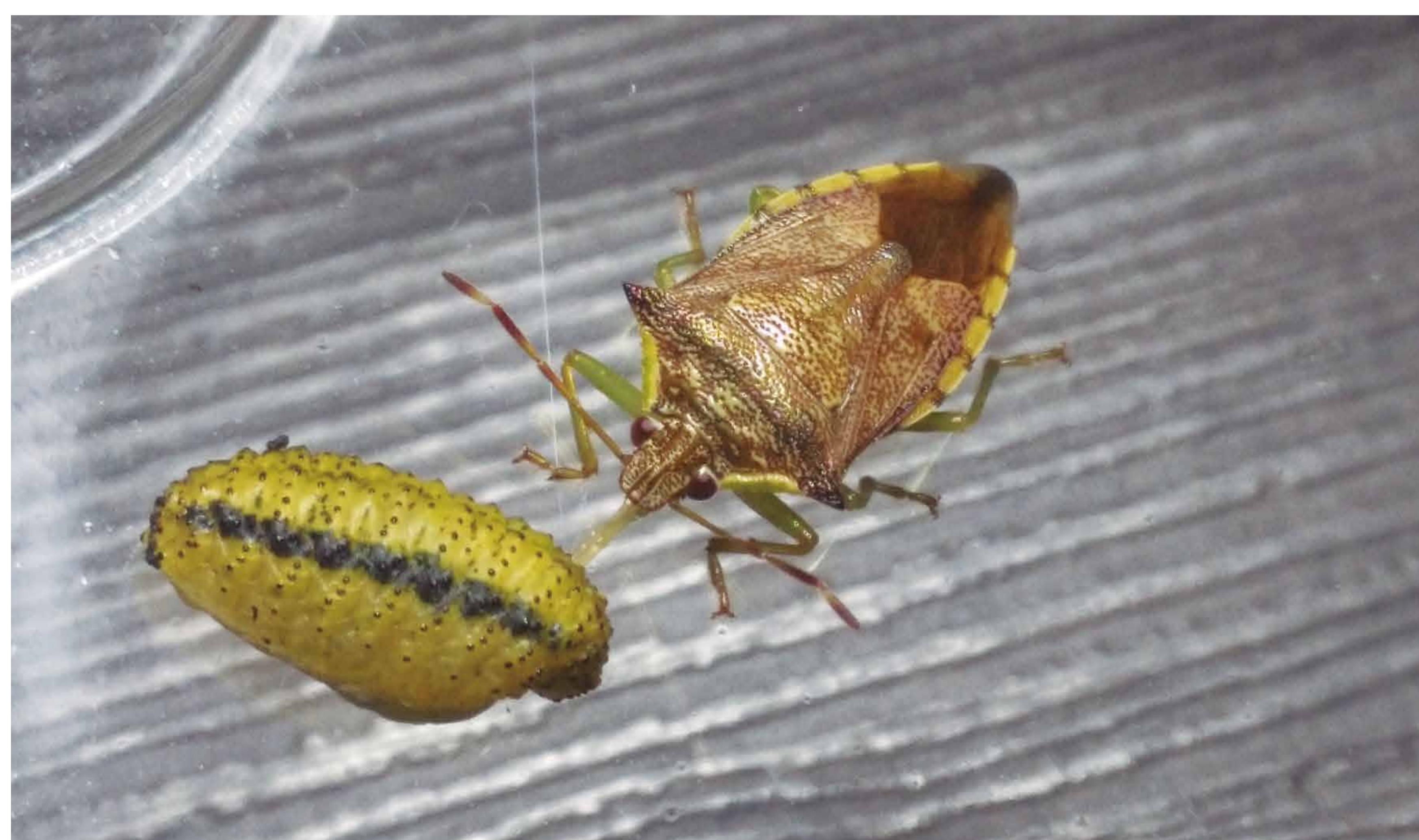


Figure 3. *Podisus congrex* (Stål, 1862) (Pentatomidae: Asopinae) preying on *Gonipterus platensis* (Marelli, 1926) (Coleoptera: Curculionidae) larvae.

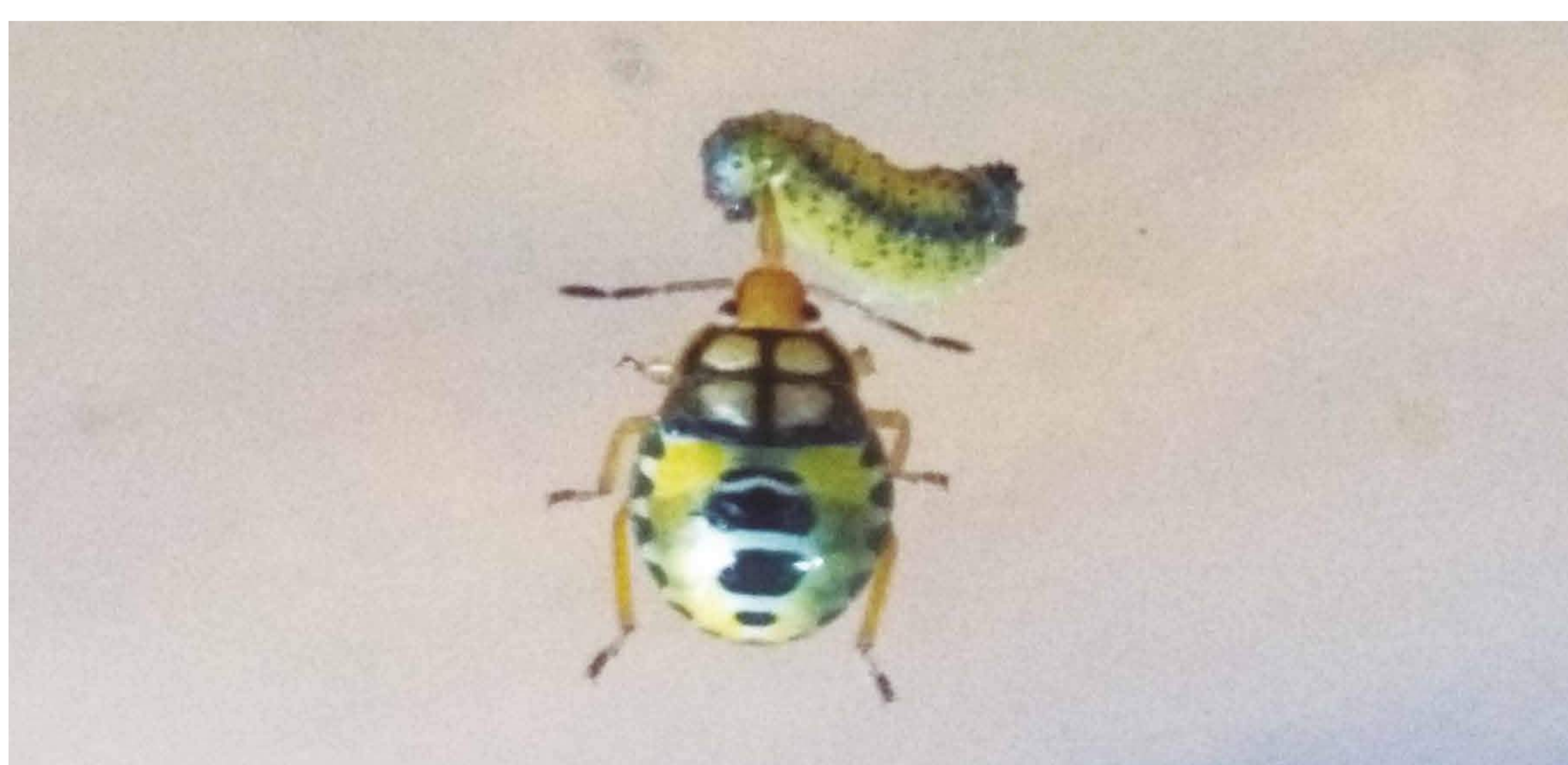


Figure 4. *Podisus congrex* (Stål, 1862) (Pentatomidae: Asopinae) nymphs preying on *Gonipterus platensis* (Marelli, 1926) (Coleoptera: Curculionidae) larvae.

### References

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