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Research Note

New report of *Aulonosoma insignis* Grouvelle (Coleoptera: Passandridae) as a larval ectoparasitoid of *Sinoxylon anale* Lesne (Coleoptera: Bostrichidae)

T. R. DEEPTHI and O. K. REMADEVI

Wood Biodegradation Division, Institute of Wood Science and Technology, 18thCross, Malleswaram, Bangalore 560001, Karnataka, India.
Corresponding author E-mail: okremadevi@icfre.org

ABSTRACT: The powder post beetle, *Sinoxylon anale* Lesne, is an economically important coleopteran pest of plantation timber causing significant reduction in wood biomass. It is a common bostrichid which occurs throughout India within forests, timber depots and saw mills. During a survey in ITC Timber yards, Bhadrachalam, India, in 2007-2008, the larvae of the passandrid, *Aulonosoma insignis* were observed to be ectoparasitic on the larvae of *S. anale* infesting wooden logs of subabul (*Leucaena leucocephala* (Lam.) de wit).

KEY WORDS: *Sinoxylon anale, Aulonosoma insignis*, ectoparasite, Coleoptera, timber, *Leucaena leucocephala*

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Sinoxylon anale Lesne is a polyphagous pest reported in 70 timber species (Beeson, 1941). Both the adults and larvae are serious pests on many economically important timber species. They cause quantitative as well as qualitative losses by making galleries in the bark and wood of partially dried wood. Chemical pesticides are recommended and extensively used (Remadevi, 2002) to suppress the pest population by quick knock down effect. Biological control using parasitoids, predators and microbials has been practiced for several pest species of agricultural importance. But, in the case of wood borers, information on natural enemies and their application is not available due to many practical reasons.

During our surveys and studies on *Sinoxylon anale* on stacked timber in paper and pulp mills of ITC, Bhadrachalam, an ectoparasitoid*, Aulonosoma insignis* (Coleoptera: Passandridae) was found parasitizing the larvae of *S. anale.* Passandrids resemble cucujids, but the confluence of the gular sutures, expanded genae and the stout moniliform antennae will differentiate this small family from other flat beetles. *A. insignis* is a reddish brown, moderate sized (8.5 mm-9mm) beetle of characteristic shape, elongate and parallel sided, somewhat flattened, rather shiny usually with relatively stout antennae. The diagnostic characters of this beetle are as follows: Antennae 11, segmented and moniliform. Head with transverse furrows. Mandibles stout and prominent. 12 segmented body with enlarged abdomen. Head broad, slightly declined. Ventral mouth parts strongly protracted. Legs short, stout, conical, two segmented. Spiracles annular.

The female beetle attacks the host larva by ovipositing on the surface of the late instar larvae. *A. insignis* deposits generally one, but, sometimes up to two eggs per host larva. The young parasitoid larvae soon after hatching from eggs puncture the host skin and feed on the internal host tissues and ultimately kills. Adult emergence occurs in March-October, peak emergence being in June-July. *A. insignis* has a shorter life cycle compared to *S. anale*.

According to Stebbing (1914), *Aulonosoma* sp. was found feeding on the sap of cut stumps and wounds on trees of *Terminalia belerica* in the Thana district in company with a wood-boring *Sinoxylon* beetle. Larvae of passandrids are known to be ectoparasitoids of wood feeding insects such as Cerambycidae. Adults of *A. insignis* are predators associated with many genera of Bostrichidae including *Dinoderus* and *Lyctus* beetles (Beeson, 1941) and *Sinoxylon* sp. (Mathew, 1985). From our observations, it is evidently clear that *A. insignis* larvae feed ectoparasitically on the larvae of *S. anale* and pupate in host galleries. This is the first report of *A. insignis* as an ectoparasitoid of *S. anale*.

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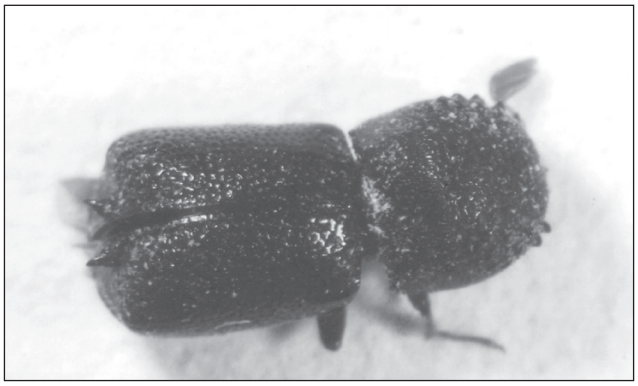
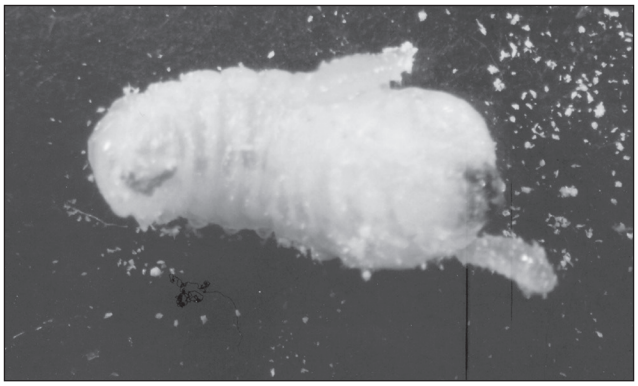
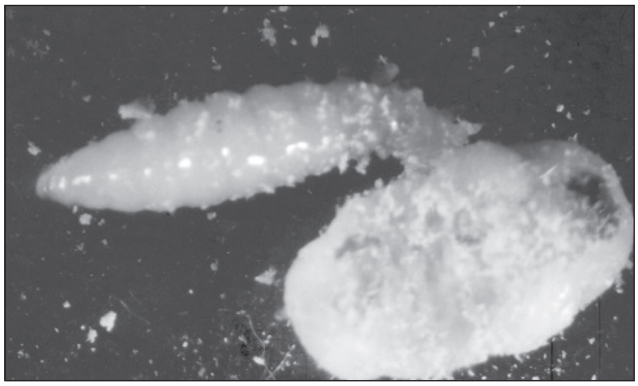


(A)

(B)



(C)



(D)

(A) *S. anale*, (B) *A. insignis*

(C) & (D): *A. insignis* larvae parasitizing *S. anale* larva

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