



FIRST REPORT OF THE COCONUT COREID BUG *PARADASYNUS ROSTRATUS* (DISTANT) ON *GARCINIA XANTHOCHYMUS* HOOK F (CLUSIACEAE)

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ABSTRACT

The coconut coreid *Paradasynus rostratus* (Distant) is reported herein for the first time as occurring on *Garcinia xanthochymus* Hook F. Its occurrence in other host plants including coconut and misidentifications are reviewed.

Key words: *Paradasynus rostratus*, coconut, host plants, distribution, *Garcinia*, infestation, feeding, misidentifications, *Pendulinus*

Paradasynus rostratus (Distant) (Hemiptera: Coreidae: Coreinae), commonly called coconut coreid bug or nut crinkler, is a significant pest reported infesting up to 55.29% of the palms (Visalakshy et al., 1989), causing yield losses of up to 65% in coconut (Kurien et al., 1979). Nair and Remamany (1964) first reported a host plant (cashew) of *P. rostratus*. Kurien et al. (1972) misidentified and reported it on coconut as *Amblypelta* sp., since the nut crinkler of coconut in the Solomon Islands and the Philippines is *A. cocophaga* China (Philips, 1940). Later this misidentification was corrected (Kurien et al., 1976, 1979). It also feeds on guava (Nair, 1975, Kurian et al., 1976), para rubber tree (Kurian, et al. 1976), mango (Kurian, 1976), tapioca (Kurian, 1976), tamarind (Kurian, 1979), cocoa (Nair et al., 1999), neem (Sundararaju and Babu, 1999), passion fruit (Mohan and Nair, 2000) and black pepper (Lekha and Mohan, 2004). Life history on cashew (Nair and Remamany, 1964) and guava (Beevi et al., 1989) is known. The present study reports on the occurrence of *P. rostratus* on *Garcinia xanthochymus* Hook f.

RESULTS AND DISCUSSION

The genus *Paradasynus* China, 1934 comprises of seven species restricted to the Oriental Region (Coreoidea SF Team, 2019). *Paradasynus rostratus* occurring in the Western Ghats and Deccan Plateau and the adjacent areas is endemic to south India. Distant (1908) originally described the species in *Pendulinus* Thunberg. However, China (1934) erected a new genus *Paradasynus*, with *Pendulinus rostratus* as the type species, for species with predominant humeral angle, and long porrect head with ante ocular region longer than

post ocular region. *Garcinia xanthochymus* (Clusiaceae) (common names: egg mangosteen, sour mangosteen, false mangosteen, yellow mangosteen, gamboge tree, Mysore gamboge and Himalayan garcinia), is a medium sized tropical evergreen tree native to south-east Asia. In India, natural populations of *G. xanthochymus* are found only in the northeast India and Andaman and Nicobar Islands, while it is cultivated elsewhere in the country (Shameer et al., 2016). Its fruits are widely used in the preparation of food and beverages. Leaves, bark and fruits are ingredients of traditional medicine. It is popular as rootstock for mangosteen and also as an avenue tree. The plant is also a rich source of phytochemicals (Joseph et al., 2016).

Paradasynus rostratus was observed feeding on *G. xanthochymus* at Vellayani, Kerala (N 08° 25' 47.5" E76° 59' 8.3", 18 masl). Its incidence has been noticed since October 2018 on a 15 years old tree. The specimens were identified using Distant (1908) and the photos of the syntype available on the Coreoidea database (Fig. 1a-c). Voucher specimens of *P. rostratus* are deposited in the ICAR- National Bureau of Agricultural Insect Resources (Reference number- NBAIR/HEM. COR-1/2019 to NBAIR/HEM.COR-7/2019).

Ten branches of the tree were selected at random and the distal one meter of the branches were observed for the extent of infestation. Three out of ten branches were found infested. Of the 10 individuals observed on these three branches, five each were adults and nymphs. About 1-3 adults were seen on a flower cluster. Sixty-one eggs were observed in a cluster on the abaxial surface of a leaf (Fig. 1d). The hatched out nymphs

aggregated on the abaxial surface of the leaves (Fig. 1e,f). Population of the bug decreased by December and could see only 2-3 adults on the entire tree as against 10-12 adults observed during October-November.

Adults mostly feed on the pedicel of the flowers and peduncles of developing fruits (Fig. 1g,h). In the case of newly formed and partially mature fruits, they also feed on the fruit surface near the calyx. Yellow gummy exudates ooze out of the feeding punctures (Fig. 1i). When disturbed, adults fly away with ejection of a jet

of watery fluid. Infested flower peduncles developed small purple lesions and further feeding resulted in complete drying up of the flowers (Fig. 1h), causing direct economic loss. Since the nut crinkler feeds on the developing fruits and flowers, the damage and economic loss are significant. The alternate hosts are major determinants of its survival and extent of damage on coconut (Paul, 2006). Hence, this observation is relevant in the management of the pest where the collateral hosts coexist with coconut. This is the first report of *P. rostratus* on *G. xanthochymus*.

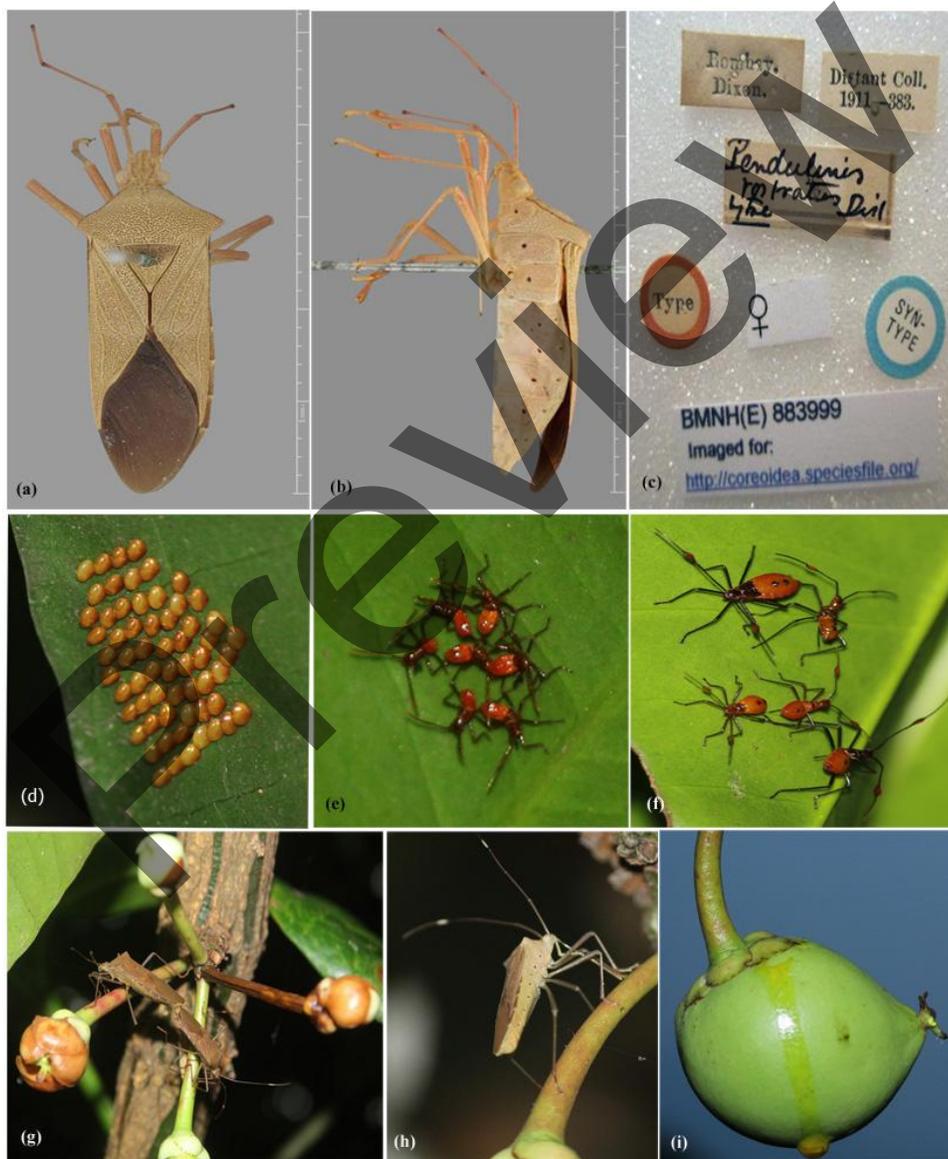


Fig. 1. (a) Syntype of *Paradasygnus rostratus*, dorsal view*, (b) lateral view*, (c) labels on syntype*, (d) egg cluster on the abaxial surface of the leaf, (e,f) nymphs of *Paradasygnus rostratus*, (g) adults feeding on the peduncle, (h) adult feeding on pedicel, (i) gummosis on the fruit because of feeding: * from Coreoidea SF Team. 2019. Coreoidea Species File Online

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