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-Short Communication

OBSERVATION ON POWDER-POST BEETLE, *DINODERUS MINUTUS* (FAB.) (COLEOPTERA: BOSTRICHIDAE) INFESTING DRYBAMBOO AND WOODEN MATERIALS IN BANGLADESH

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Dinoderus minutus (Fab.) is an important insect pest of dried bamboo and wooden materials. The pest seriously damages these commodities and makes them unsuitable for use. According to Noorani *et al.* (1985), biodeterioration of harvested canes in Malaysia is commonly due to bostrichid powder-post beetle, *Dinoderus minutus* and *Dinoderus* sp. The bamboo borer, *Dinoderus* sp. occurs in India, Philippines and South China (Hill 1983) and also in Bangladesh (Baksha 2000). Sen-Sarma (1977) reported that it is a serious pest of timber and bamboo in rural houses in India. The uses of bamboo are many, for example, in the building of houses, bridges, for scaffolding, making paper, furniture, weaving etc. But enormous damage is caused to dried bamboo, bamboo made commodities and wooden products due to serious attack of the bamboo borer, *D. minutus*. Judd (1984) described that the stalks of bamboo imported into Hamilton, Ontario fro Florida were found to be infested with adults of *D. minutus* moving about in galleries in the wood and reducing the stalks to a fine powder.

D. minutus has been reported as a serious pest of sapwood, stored timbers and articles made from it in Kerala, India (Mathew 1982). It also causes considerable damage to bamboo, cane products and dried starchy food in North America and Korea (Spilman 1982, Choo *et al.* 1983). Gaur *et al.* (1984) reported that *D. minutus* is a pest of orchids for export.

D. minutus was recorded destroying bamboo and wooden goods during April 1977 in the BCSIR Laboratories, Rajshahi. Due to severe attact of the beetle, the bamboo and wood products were turned into dust like powders.

The mature larva of *D. minutus* is grub-like, curved and 2.5 ± 0.21 mm long. The anterior end is swollen bearing a small blackish head and six short legs. Adult is brownish in colour and measures 2.31 ± 0.10 mm in length and 0.81 ± 0.02 mm in body width. The head of the adult beetle is bent down and hidden by the projecting prothorax. For tunneling, the head is provided with toothed projections. Numerous short spines and round grooves are present in elytra. The mean duration of its developmental stages is given in Table 1. Cylindrical burrows were observed in infested bamboo made products by the boring adults of *D. minutus*. According to Duval (1950), *D. minutus* may be controlled by 5% DDT in Diesel oil or practically controlled by BHC gamma isomer at 0.75 or higher concentration.

Statges/Items	Mean duration (days) <u>+</u> S D
Proviposition period	2.51 <u>+</u> 0.21
Incubation period	3.92 <u>+</u> 0.32
Larval period	27.0 <u>+</u> 1.23
Prepupal period	3.38 <u>+</u> 0.44
Pupal period	5.40 <u>+</u> 0.74
Egg to adult emergence	33.70 <u>+</u> 2.62
Egg viability	75.70 <u>+</u> 4.53

Table 1. The mean duration of the developmental stages of *D. minutus* at 30+ 1°C and 70 + 5% R H.

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References

- Baksha M W (2000) Common timber pests of Bangladesh and their management. Bulletin 5, Forest Entomology Series, Bangladesh Research Institute Chittagong, 24 pp.
- Choo H Y, Woo K S and Lee C K (1983) Classification of the Bostrichidae intercepted from timbers (In Korean). *Korean J. Plant Protection* **22**:30-33.
- Duval G (1950) Control of the bamboo borer with solutions of chlorated insecticides. Biologia 16: 159-162.
- Gaur S N, Raha S K, Masood M and Chattopadhyay D (1984) A note on the fumigation of orchid plants with methyl bromide. *Plant Protec. Bull., India* **36:** 133-134.
- Hill D S (1983) Agricultural Insect pests of the Tropics and Their Control. 2nd edn., Cambridge Univ. Press, London, 746 pp.
- Judd W W (1984) Powder-post beetle (Coleoptera: Bostrichidae) in imported bamboo. J. econ. Entomol. 41: 113.
- Mathew G (1982) A survey of beetles damaging commercially important stored timber in Kerala, Research Report, Kerala Forest Research Institute No. 10, 93. pp.
- Noorani A, Tho Y P and Hong L T (1985) Pests and diseases of rattan products in Peninsular Malaysia. In Proceedings of rattan seminar 1984. Rattan Information Centre, 131-135 pp.
- Sen-Sarma P K (1977) Insect pesta and their control in rural housing. Indian J. Ent. 39: 284-288.
- Spilman T J (1982) False powder-post beetles of the Genus *Dinoderus* in North America (Coleoptera : Bostrichidae). *Coleoptrists Bull.* **36:** 193-196.