

Research articles

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Record of the ocellated shield bug, *Cantao ocellatus* (Thunberg) (Hemiptera: Scutelleridae) from Arunachal Pradesh with a brief note on its natural historySalini, S^{1*}, K. M. Ajaykumara², A. A. Safeena Majeed³, K. J. David¹ and R. G. Gracy¹¹ICAR-National Bureau of Agricultural Insect Resources, Bangalore, 560024, Karnataka, India.²College of Horticulture and Forestry, CAU (Imphal), Pasighat-791102, Arunachal Pradesh, India.³Department of Agril. Entomology, University of Agricultural Sciences, GKVK, Bengaluru-560065, Karnataka, India.***Corresponding author: shalinis.nilavu@gmail.com**

Cantao ocellatus (Thunberg, 1784), commonly known as the ocellated shield bug, is a splendid true bug species, distributed across various places in India: Assam (Yang, 1934), Meghalaya (Paiva, 1919, locality reported as Tura, Garo hills, Assam), Tamil Nadu (Ayyar, 1920), Uttarakhand (Pajni and Sidhu, 1982) and is usually associated with plants of Euphorbiaceae. This species was reported by Ayyar, 1920 on *Mallotusnudi florus* (L.) Kulju & Welzen (Malpighiales: Euphorbiaceae) from Coimbatore, Mysore uplands, the Bababudins and the Western Ghats. He mentioned the role of the bug in the pollination of *Macaranga peltata* Roxb. Mueller (Malpighiales: Euphorbiaceae), commonly called as the 'Moon Tree' and narrated the 'parental care' behavior exhibited by this species. McDonald (1988) recorded *Camellia sansanqua* Thunberg (Ericales: Theaceae) and *Macaranga peltata* as host plants of this species. Leong and Lee (2012) gave an elaborate account of the natural history

and records of this species from Singapore. In India, the bionomics of this species was detailed by Ayyar (1920) from Coimbatore.

C. ocellatus breeding on *Mallotus barbatus* Müll. Arg. (Malpighiales: Euphorbiaceae) (new record of host species) (Fig. 2a) in large numbers was encountered during the surveys conducted in and around Pasighat (28.0632° N, 95.3239° E), Arunachal Pradesh. Different stages including eggs, various nymphal instars and adults of *C. ocellatus* were observed on the tree. Both adults (Fig. 2e) and nymphs (Fig. 2d) were found sucking from the young flushes and inflorescence.

The adults (Fig. 1a–d) are variable in colour from pale white to bright orange-red, having elongated bodies, usually with elongated spinous humeri. The adults were collected and killed using ethyl acetate, pinned, preserved and deposited in the

National Insect Museum (NIM) collections of ICAR-NBAIR, Bangalore. The images of the habitus of *C. ocellatus* and the parasitoid were captured using a DFC 420 camera mounted on a Leica M205A stereomicroscope.

The eggs were laid in groups, usually under the leaf surface. Several females were found guarding the egg masses (Fig. 2f) in the field, obviously to protect the eggs from natural enemies ('parental care' behavior documented in this species). They continued to guard the eggs even after hatching (Fig. 2f) after which, the nymphs were found dispersed (Fig. 2c) towards young flushes to suck the plant sap. The unprotected eggs (eggs exposed beyond the reach of the female abdomen), which are usually found in the periphery of the egg masses, were parasitized by the small, black parasitoid wasps, identified as *Trissolcus* sp. (Hymenoptera: Platygasteridae) (Fig. 3 a, b). The parasitized eggs were black as compared to the pale white healthy eggs (Fig. 2 f, also see the egg cases in Fig. 2b).

C. ocellatus is recorded for the first time from Arunachal Pradesh and the DNA

barcode sequence of the former is generated and reported herewith. DNA barcode: GenBank accession number OP872658 (1♀, INDIA: Arunachal Pradesh, Mebo, East Siang, 02.x.2022, 28°9'57"N 95°25'11"E, Safeena, M.). The taxonomy and male and female genitalia of this species were elaborately illustrated and described by Tsai *et al.* (2011) and McDonald (1988) and therefore, not attempted in this paper. The documentation of this species along with its host plant, DNA barcode and natural history adds to the faunal diversity of Arunachal Pradesh.

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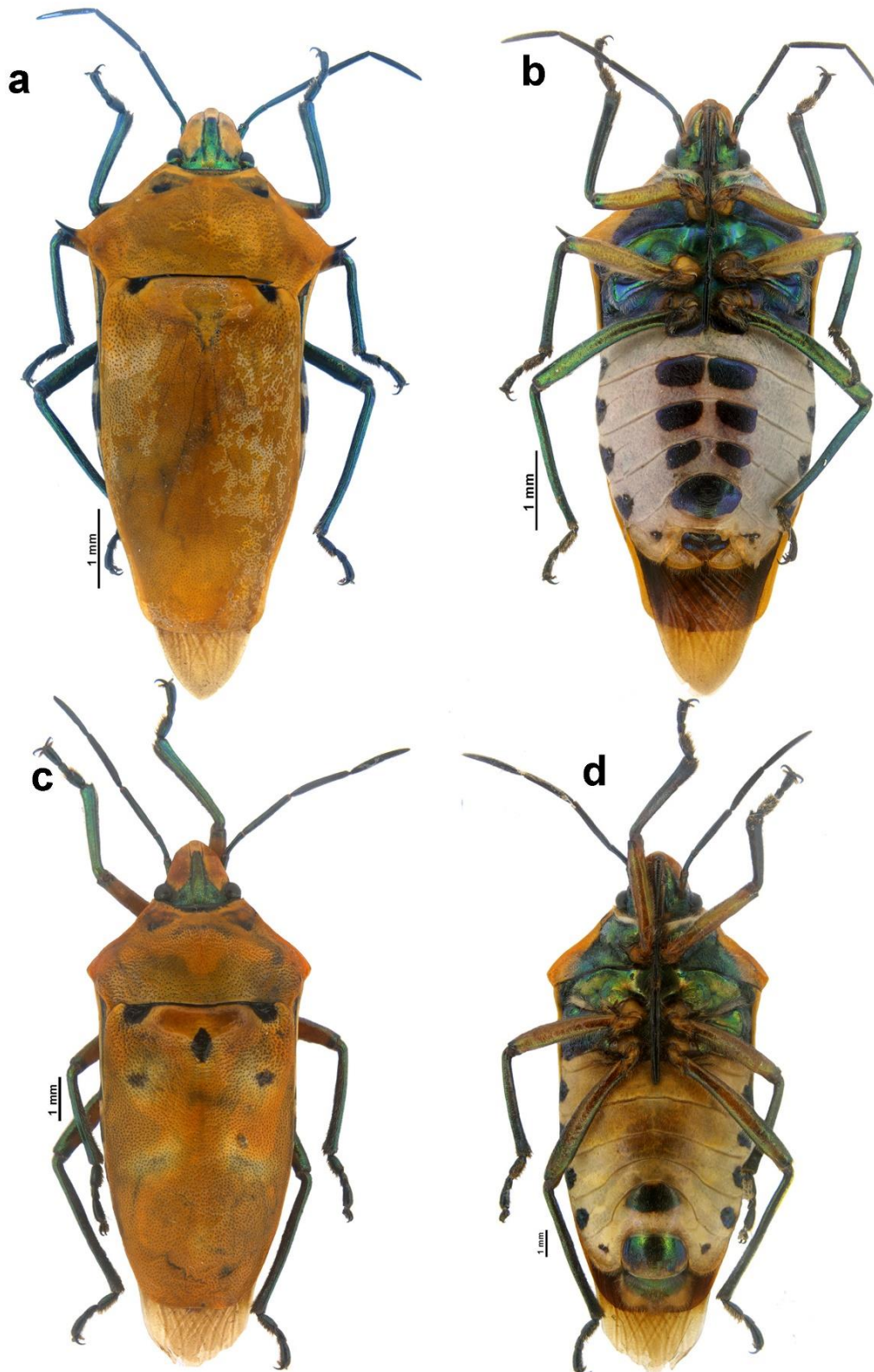


Fig. 1. *Cantao ocellatus* (Thunberg), male & female (habitus). a, female (dorsal); b, female (ventral); c, male (dorsal); d, male (ventral).

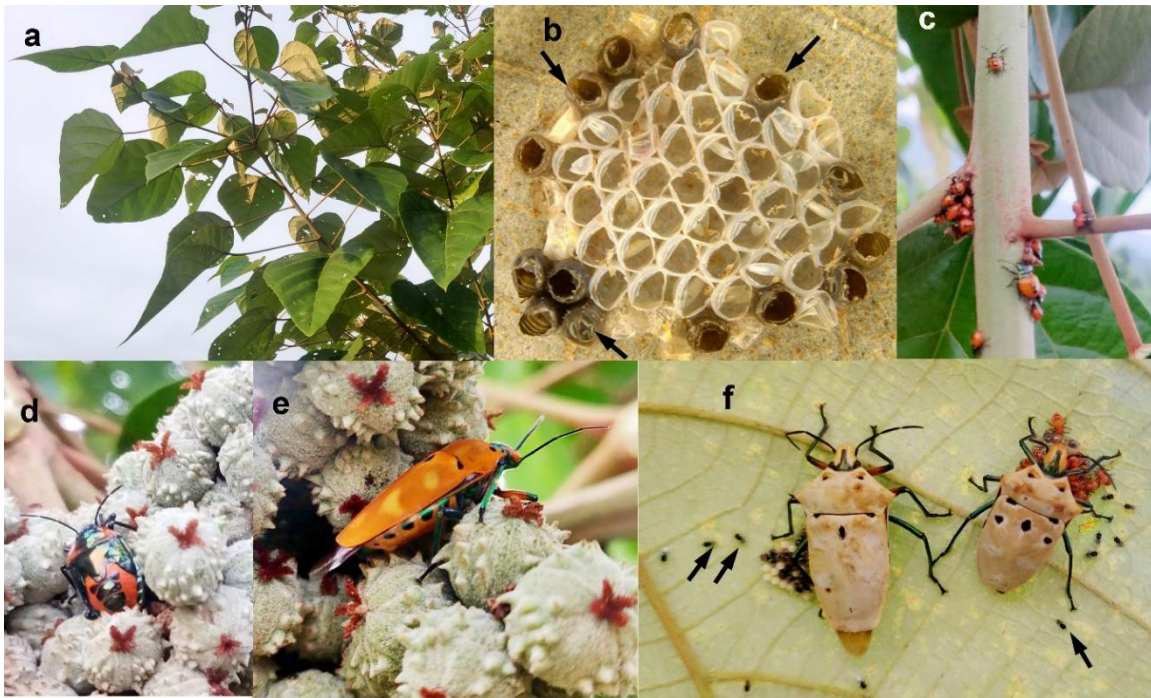


Fig. 2. *Cantao ocellatus* (Thunberg). a, *Mallotus barbatus* Müll. Arg.; b, egg case- black (parasitoids emerged) and white (nymphs emerged); c, dispersal of nymphs; d, nymph feeding on inflorescence; e, adult feeding on inflorescence; f, adult females guarding egg masses with parasitoids emerged from the exposed eggs, which are parasitized.

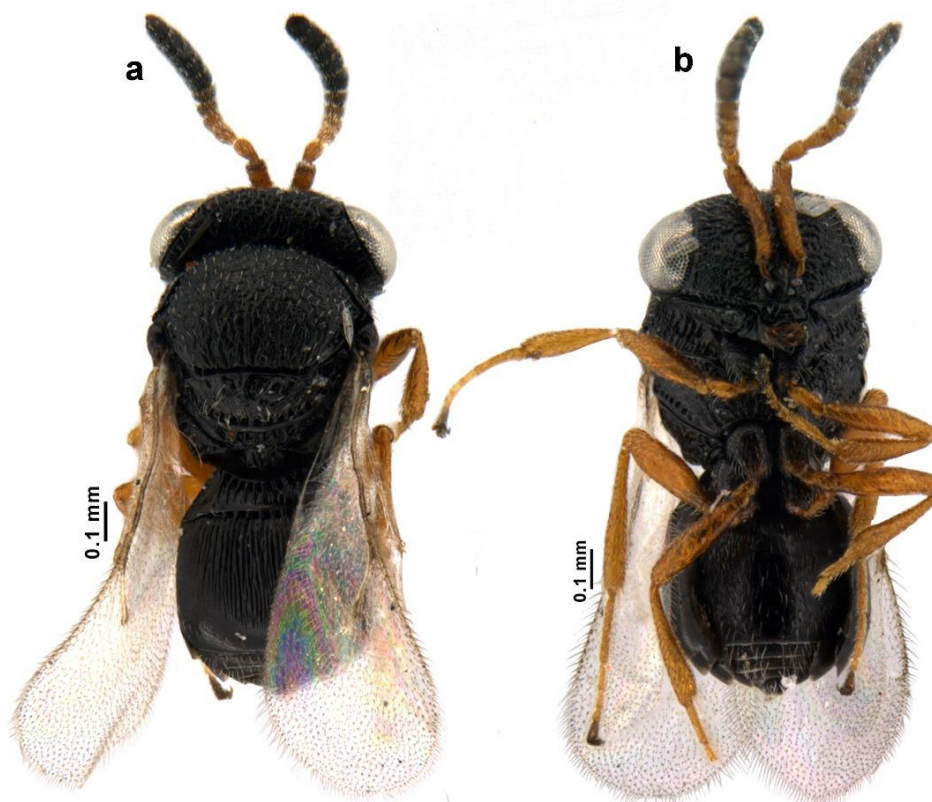


Fig. 3. Egg parasitoids of *Cantao ocellatus* (Thunberg)- *Trissolcus* sp. a, dorsal habitus; b, ventral habitus

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