



## NEW RECORD OF *Jauravia assamensis* KAPUR (COLEOPTERA: COCCINELLIDAE) FROM PENINSULAR INDIA

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### ABSTRACT

The genus *Jauravia* (Coccinellidae: Coleoptera) is distributed in Myanmar, Sri Lanka, India and Nepal. This study documents the occurrence of *J. assamensis* Kapur on eight plants from Kolhapur and Satara, Maharashtra, India. Its distribution in Assam, Manipur and Meghalaya is known. This occurrence in the Western Ghats and peninsular India is detailed in this study along with the associated host plants, and life stages (larva, pupa and adult) in addition to its diagnostics.

**Key words:** Ladybird beetle, *Jauravia assamensis*, new record, Peninsular India, Western Ghats, plants, life stages, diagnostics, occurrence

Motschulsky (1858) erected the genus *Jauravia* (Coccinellidae with two species viz., *Jauravia pallidula* and *Jauravia limbata*. Kapur (1946) made a taxonomic revision of this genus with about 11 species. This genus is known from Sri Lanka, Nepal and Myanmar besides northeast India. According to Poorani (2002), 15 species of this genus are known from the Indian subregion. The present study documents the occurrence of *Jauravia assamensis* Kapur from Kolhapur and Patan in Maharashtra. Thus, it is the first record from peninsular India. Earlier this species was reported from Assam (Kapur, 1961; Poorani, 2002), Meghalaya (Chakraborty and Biswas, 2002), Manipur (Chakrabarti et al., 2012) from India, and Sundarbazar, Lamjung, Nepal (Sajan et al., 2018). In the present study, its range extension, associated plants, life stages, morphology and diagnostics are illustrated and discussed.

### MATERIALS AND METHODS

Specimens of *J. assamensis* were collected by handpicking and light trap methods. For identification, description by Kapur (1961) and Das et al. (2021) was used. Specimens preserved by both wet and dry methods were studied under LYNX LM-52 stereomicroscope, and measurements (length: head to apex of elytra, and width: between midlateral edges of elytra) were taken using ImageJ software. The abdomens were dissected in insect saline to extract genitalia and photographed with Olympus CX31RTSF compound microscope attached with HDMI digital camera in TCCapture software. Images were stacked in Combine ZP software.

### RESULTS AND DISCUSSION

*Jauravia assamensis* Kapur (Coccinellidae: Coleoptera)

**Diagnostics:** Length: male 1.69-2.02 mm, width 1.54 -1.93 mm (male); female 2.02 -2.17 mm, width 1.69-1.98 mm (female). Body round, pale cream with kidney-shaped black markings on elytra. Markings about two-third wide as elytral length, rounded at each end and a little broader at the apical end, outer arc runs parallel to the elytral epipluron. Elytral epipluron is slightly explanate. Pronotal anterior corners blunt, scutellum very small (Fig. 1a). Head, pronotum and elytra with thinly scattered punctures and short greyish pubescence. On the ventral side, the pubescence is more sparsely dispersed. Mandibles are predatory or carnivorous type and dark brown at their tips (Fig. 2a). The terminal segment of the maxillary palp is apically acuminate (Fig. 2b). Tarsi are pseudotrimerous with simple tarsal claws (Fig. 2c, d). The postcoxal line is incomplete (Fig. 1f). Male genitalia with basal plate subtriangular; penis guide elongate, uniformly wide from base to near tip, width double in the size of paramere, the tip of penis guide slightly narrowed and rounded (ventral view), the tip of penis guide in lateral view progressively narrowed and pointed; parameres cylindrical, distinctly longer than the penis guide, broad at the base and slightly expanded and rounded at the apex, an expanded portion is with long 18-20 setae; penis long, narrow, curved; except capsule and tip, the penis is uniform in width; tip narrow, pointed and

slightly curved outwardly; capsule moderately expanded with the longer outer arm than the inner hooked arm (Fig. 1 g-j). Female genitalia with cornu sickle-shaped, gradually broadened apically; coxites triangular, about two-thirds as long as wide, broad basally and narrow apically, apex dark with five long and few short setae; short styli with two long setae (Fig. k, l).

**Material examined:** Two males (LB324a, LB324b), two females (LB333a, LB333b), 26.x.2018, Shivaji University, Kolhapur, Coll. Priyanka Patil (hand picking); LB 342, one male; LB342, one female,

31.x.2018, Patan, Satara, Coll. Yogesh Mane (light trap) from forest habitat. Specimens are deposited in the Department of Zoology, Shivaji University, Kolhapur.

**Distribution:** India: Assam, Manipur, Meghalaya, Maharashtra (new record,); Nepal: Sundarbazar, Lamjung.

**Associated plants:** Ashoka *Polyalthia longifolia*, common rattlepod *Crotalaria retusa*, flame of the forest *Butea monosperma*, guava *Psidium guajava*, mulberry (*Morus alba*), copper leaf (*Acalypha wilkesiana*), giant

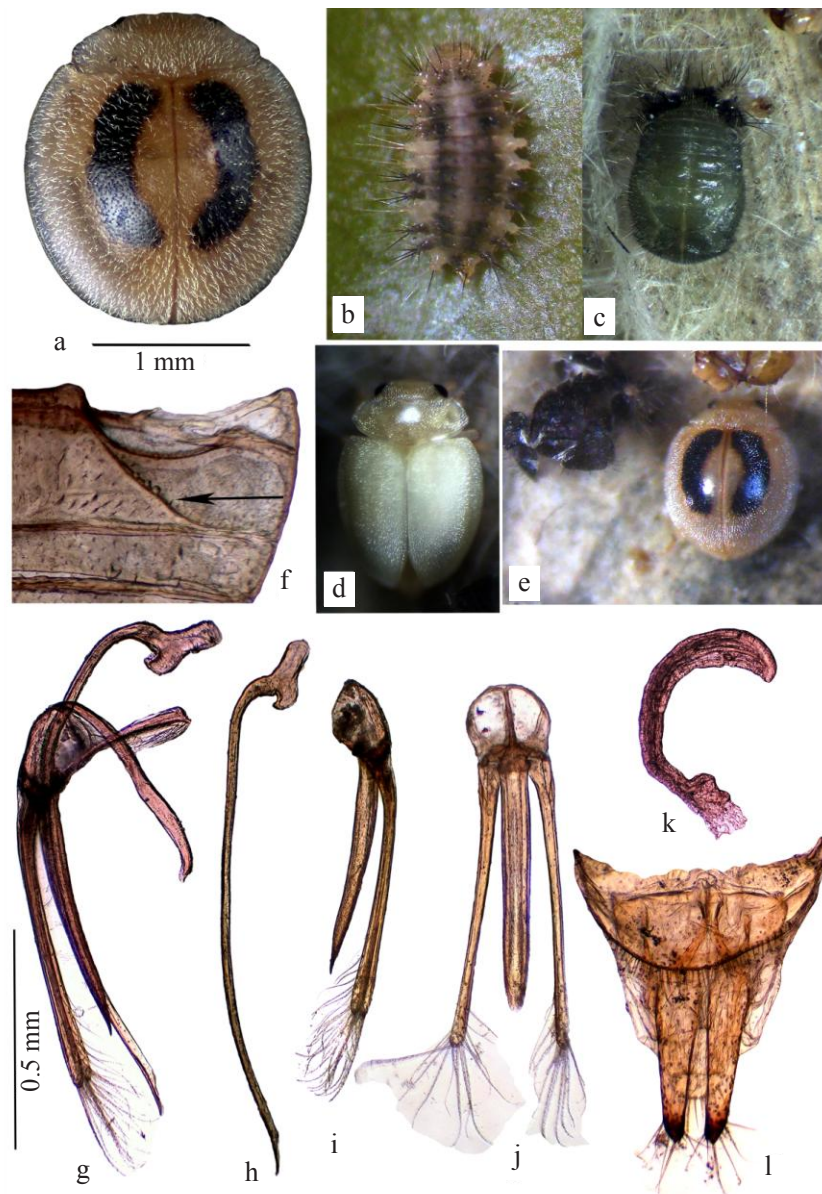


Fig. 1. *Jauravia assamensis*: a, habitus; b, last instar larva; c, 5 day old pupa; d, newly emerged adult; e, matured adult; f, abdomen ventral- arrow indicates incomplete postcoxal line; g-l, male genitalia- h, penis, i, j- tegmen, lateral and ventral view; k, l- female genitalia, k, cornu, l, coxites

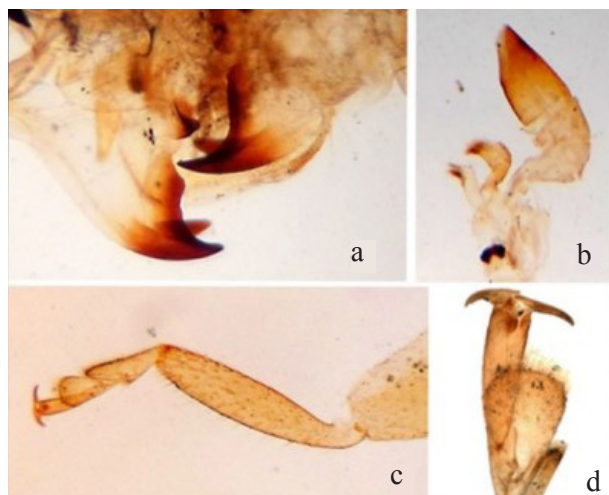


Fig. 2a-d. *J. assamensis*- a, mandibles, b, apically acuminate maxilla, c, pseudotrimerous tarsi, d, simple tarsal claw

milkweed *Calotropis gigantea* and bamboo *Bambusa* spp.

**Remarks:** The last instar larvae collected from *Polylthia longifolia* were reared providing whitefly infested guava leaf under laboratory conditions which underwent pupation. Adults emerged after five days of a pupal period which were white with yellowish pronotum before sclerotization and then kidney-shaped elytral marks appeared after 3-4 hr later (Fig. 1 b-e). Following Kapur (1961) and Das et al. (2021) the specimens were identified as *J. assamensis*; confirmed with the black spots on the elytra and the male genitalia (penis). The elytral black spots are one-third as long as elytron in *J. kanarensis* (Kapur, 1946), nearly three-fourth as long as elytra in *J. hanifi* (Afroze and Uddin, 1998) as long as elytron and nearly two-thirds as long as elytron in *J. assamensis* (Kapur, 1961) which is similar to elytral spot seen in the specimens studied now. Although *J. hanifi* and *J. assamensis* look a bit similar, these differ in their penis- in *J. hanifi* it is smoothly curved (Afroze and Uddin, 1998), while in *J. assamensis* it is curved at an angle (Kapur, 1961).

The holotype of *J. assamensis* Kapur, 1961 was recorded as feeding on aphids, mites and scale insects from Assam, India; it was also reported from Meghalaya (Khasi Hills) by Chakraborty and Biswas (2002). Chakrabarti et al. (2012) in their studies from Eastern Himalaya and Northeast India mentioned

the distribution of *J. assamensis* from Manipur, and observed this to prey upon *Aphis gossypii* Glover and *Myzus persicae* (Sulzer). In the present study, *J. assamensis* was found to be associated with eight plants viz., *Polyalthia longifolia*, *Crotalaria retusa*, *Butea monosperma*, *Psidium guajava*, *Morus alba*, *Acalypha wilkesiana*, *Calotropis gigantea* and *Bambusa* spp. The present study documents *J. assamensis* for the first time from Western Ghats and thus, peninsular India showing its range extension.

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#### AUTHOR CONTRIBUTION STATEMENT

All authors equally contributed.

#### CONFLICT OF INTEREST

No conflict of interest.

#### REFERENCES

- Afroze S, Uddin S. 1998. A new species of *Jauravia* Motschulsky (Coleoptera: Coccinellidae) from India. *Shashpa* 5(2): 131-132.
- Chakrabarti S, Sarakar S, Debanath M. 2012. Diversity, biology and biosystematics of aphidophagous predators of eastern Himalaya and Northeast India. Hartman and Weipert (ed): *Biodiversität & Naturausstattung im Himalaya, IV*. Erfurt. pp. 129-147.
- Chakraborty S K, Biswas S. 2002. Insecta: Coleoptera: Coccinellidae. Fauna of Meghalaya, State Fauna Series, 4 (Part- 5), Zoological Survey of India, Kolkata. pp. 201-233.
- Das P, Chandra K, Gupta D. 2021. The Ladybird Beetles (Coleoptera: Coccinellidae) of Arunachal Pradesh, East Himalaya, India with new combinations and new country records. *Bonn Zoological Bulletin* 69 (1): 27-44.
- Kapur A P. 1946. A revision of the genus *Jauravia* Mots. (Coleoptera Coccinellidae). *The Annals and Magazine of Natural History* (Series 11) 13 (98): 73-93.
- Kapur A P. 1961. A new species of the genus *Jauravia* Mots. from India (Coleoptera: Coccinellidae). *Records of the Indian Museum, Zoological Survey of India, Kolkata*. 59 (part 1 & 2): 71-73.
- Poorani J. 2002. An annotated checklist of the Coccinellidae (Coleoptera) (excluding Epilachnae) of the Indian Subregion. *Oriental Insects* 36: 307-383.
- Sajan K C, Kafle K, Khadaka A. 2018. Records of lady beetles (Coleoptera: Coccinellidae) from hilly regions of Nepal. *Indian Journal of Entomology* 80 (4): 1236-1248.

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