12. *BUCHANANIA COCHINCHINENSIS* (LOUR.) M.R. ALMEIDA: A NEW HOST PLANT FOR *SCUTELLERA PERPLEXA* (WESTWOOD) (HEMIPTERA: SCUTELLERIDAE)

Akshay A. Onkar[1] and Ashish N. Nerlekar[2,*]

[1]Department of Botany, Fergusson College, Pune 411 004, Maharashtra, India. Email: onkarakshay@yahoo.in
[2]Department of Biodiversity, Abasaheb Garware College, Pune 411 004, Maharashtra, India. Email: ashishadmirerofficus@gmail.com
*Corresponding author
doi: 10.17087/jbnhs/2015/v112i3/114434

The family Scutelleridae under superfamily Pentatomoidea (Insecta: Heteroptera) consists of bugs (popularly called jewel bugs) that are distinguished by the presence of an enlarged scutellum (Cassis and Vanags 2006). Scutellerid bugs are known to feed on an array of plants including those from primitive families such as Magnoliaceae to the more evolved ones such as Asteraceae and Poaceae (Tsai *et al.* 2011). *Scutellera perplexa* (Westwood) (=*S. nobilis* Distant) is one such pest of considerable economic importance that affects several crops belonging to the families Euphorbiaceae (Schaefer and Panizzi 2000) and Rhamnaceae (Singh *et al.* 2014). From India, *S. perplexa* has been reported as a pest on *Jatropha curcas* L. (Shanker and Dhyani 2006), *J. nana* Dalz & Gibs. (Kulkarni *et al.* 2010), *Murraya koenigii* (L.) (Tara and Sharma 2010), *Emblica officinalis* Gaertn (Meshram and Garg 1999), *Vitis vinifera* L. (Singh and Kaur 2015), and *Ziziphus mauritiana* Lam. (Singh *et al.* 2014). Yet, there has been no report of this species affecting the Anacardiaceae, including *Buchanania cochinchinensis* (Lour.) M.R. Almeida (common name: Chironji), an economically valuable tree species.

We report an opportunistic observation from the Padmabhooshan Vasantdada Patil Institute of Technology (PVPIT) hill (18° 29′ 51.74″ N; 73° 46′ 19.60″ E) near Pune city, Maharashtra, where *Scutellera perplexa* was seen feeding on *Buchanania cochinchinensis*. The area is well-connected to the National Defence Academy **(**NDA**)** hills and still bears a fair percentage of southern dry mixed deciduous forest (according to the types described by Champion and Seth 1968) with dominant trees such as *Madhuca longifolia* var. *latifolia* (Roxb.) A. Chev., *Diospyros melanoxylon* Roxb., *Tectona grandis* L.f., *Dalbergia latifolia* Roxb., and *Buchanania cochinchinensis* (Lour.) M.R. Almeida.

On April 20, 2015, we observed nymphs of a scutellerid bug on a Chironji tree about 1.5 m above ground (Fig. 1). About 25 nymphs were seen aggregated on the abaxial side of the leaf, one of which was collected, reared till maturity, and later identified as *Scutellera perplexa* based on the description in Distant (1977) and validation by expert, Dr. H.V. Ghate. Two adult *S. perplexa* were found on further visits to the same tree on May 01, 2015. Freshly hatched instars were also observed aggregating on fruits of another Chironji tree in a nearby area on March 25, 2016.

Fig. 1: *Scutellera perplexa* nymphs seen aggregating on the underside of *Buchanania cochinchinensis* leaf

Buchanania cochinchinensis is an economically important tree species, known for its much valued fruit as well as several other ethnomedicinal uses (Malik *et al.* 2012). It yields one of the most important Non-Timber Forest Produce (NTFP) in India and plays a significant role in tribal life, especially in the Central Indian landscape (Chopra 1997). Hence, there is a need to confirm the occurrence of the pest *Scutellera perplexa* on other populations of the Chironji tree in India. Further studies focusing on the damage potential and management of this pest on Chironji are necessary.

Endnote: While the manuscript was under review, the first author also observed first instars of *S. perplexa* emerging from eggs laid on *Kydia calycina* Roxb. (Malvaceae) at Melghat Tiger Reserve, Maharashtra on November 06, 2015 (Eds: photographic evidence provided). Similarly, the second author observed first instars emerging from eggs on *Gliricidia sepium* (Jacq.) Kunth (Fabaceae) on April 24, 2016, at the Vetal hill, Pune.

ACKNOWLEDGEMENTS

We extend our gratitude towards Dr. H.V. Ghate for identification of the specimens and for providing selected references. We would also like to thank Rohan Phatak, Anand Nawathe, Ninad Diwanji, and Salil Hangekar for support in the field. Thanks are due to Dr. D.K. Kulkarni for providing some references and encouragement.

REFERENCES

Cassis, G. & L. Vanags (2006): Jewel Bugs of Australia (Insecta, Heteroptera, Scutelleridae). 398 pp.

Champion, H.G. & S.K. Seth (1968): A Revised Survey of the Forest Types of India. Government of India publication, Delhi. 404 pp.

Chopra, K. (1997): The valuation and pricing of non-timber forest products: conceptual issues and a case study from India. *In*: Fraser, S. (Ed.): Environmental sustainability: Practical global implications. CRC Press. 304 pp.

Distant, W.L. (1977): The Fauna of British India including Ceylon and Burma – Rhynchota – Vol. 1 (Heteroptera). Indian Reprint. Today and Tomorrow Printers and Publishers, New Delhi.

Kulkarni, D.K., R. Bhagat & H.V. Ghate (2010): Occurrence of pentatomid bug on *Jatropha nana* Dalz. *Indian Journal of Tropical Biodiversity 17(1)*: 125–126.

Malik, S.K., R. Chaudhury, N.S. Panwar, O.P. Dhariwal, R. Choudhary & S. Kumar (2012): Genetic resources of Chironji (*Buchanania lanzan* Spreng.): a socio-economically important tree species of central Indian tribal population. *Genetic Resources and Crop Evolution 59(4)*: 615–623.

Meshram, P.B. & V.K. Garg (1999): A report on the occurrence of *Scutellera nobilis* Fab. on *Emblica officinalis* Gaertn. *Indian Forester 125(5)*: 536.

Schaefer, C.W. & A.R. Panizzi (Eds) (2000): Heteroptera of Economic Importance. CRC Press. 856 pp.

Shanker, C. & S.K. Dhyani (2006): Insect pests of *Jatropha curcas* L. and the potential for their management. *Current Science 91(2)*: 162–163.

Singh, S. & G. Kaur (2015): Incidence of metallic shield bug, *Scutellera perplexa* (Westwood) (= *S. nobilis* Fabricius) on grape in Punjab. *Pest Management in Horticultural Ecosystems 21(1)*: 90–94.

Singh, J.P., A.K. Jaiswal & M. Monobrullah (2014): First record of some insect pests on commercial lac host plant, *Ziziphus mauritiana* from India. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*. Pp. 1–8.

Tsai, J.F., D. Rédei, G.F. Yeh & M.M. Yang (2011): Jewel Bugs of Taiwan (Heteroptera: Scutelleridae). National Chung Hsing University, Taichung, 309 pp.

Tara, J.S. & M. Sharma (2010): Record of hemipteran insect pest diversity on *Murraya koenigii* (L.) Sprengel (curry leaf), a medicinally important plant from Jammu region of J&K state. *The Bioscan 5(1):* 71–74.

13. TIGER BUTTERFLIES ATTRACTED TO LIGHT NEAR SIR SYED COLLEGE CAMPUS, TALIPARAMBA, KANNUR, NORTHERN KERALA, INDIA

Vinayan Nair[1]

[1]XV/442 A1, Nethaji Housing Colony, Trichambaram, Taliparamba P.O., Kannur 670 141, Kerala, India.
Email: vinayanpnair@gmail.com
doi: 10.17087/jbnhs/2015/v112i3/114435

Butterflies (Rhopalocera) based on their activity pattern in relation to light are of two types, i) diurnal butterflies, which are active during the day and rest at dusk, and ii) crepuscular forms which are active at dusk. During the night, butterflies generally rest under trees and bushes.

Occasionally, butterflies display positive phototaxis, being attracted to artificial light sources. This has been reported in literature in India. The first report was by J.I. Alfrey in notes to a paper by Best (1951), followed by Usman (1956), Donahue (1962), Shull (1964), Shull and Nadkerny (1967), Nadkerny and Shull (1968), Sharma and Chaturvedi (1999, 2005), and Nair (2001, 2004). Chowdhury and Soren (2011) provided a detailed review of butterflies attracted to light in the Indian subregion, with an inventory from West Bengal.

So far, 33 species of butterflies have been reported as positively phototactic (Chowdhury and Soren 2011; Nair 2004). Among them, Nymphalids (39.39%) outnumber the rest, followed by Pierids (21.12%), Lycaenids (18.18%), Hesperiids (12.12%), and Papilionids (9.09%) (Chowdhury and Soren 2011; Nair 2004). The maximum number of incidents were recorded in the monsoon months (June to October) in the Indian subregion, revealing a seasonal inclination (Chowdhury and Soren 2011).

The present report is based on incidental observations in September 2015. The site was my home, 'Papilio', near the Sir Syed College campus, Taliparamba, Kannur, North Kerala, 25 km from Kannur city and 3 km east of Taliparamba (12º 04' N; 75º 39' E).

From June 2015 onwards, large congregations of tigers and crows were observed on *Crotalaria retusa* in my butterfly garden. Congregation began by 06:00 hrs and ended by 18:00 hrs and all butterflies moved away. No tigers or crows were found resting on trees or shrubs during the night. On September 05, 2015, between 19:30 hrs and 20:30 hrs it was observed that a male Dark Blue Tiger, *Tirumala septentrionis* (Butler) was attracted to a 15W CFL lamp in the bathroom