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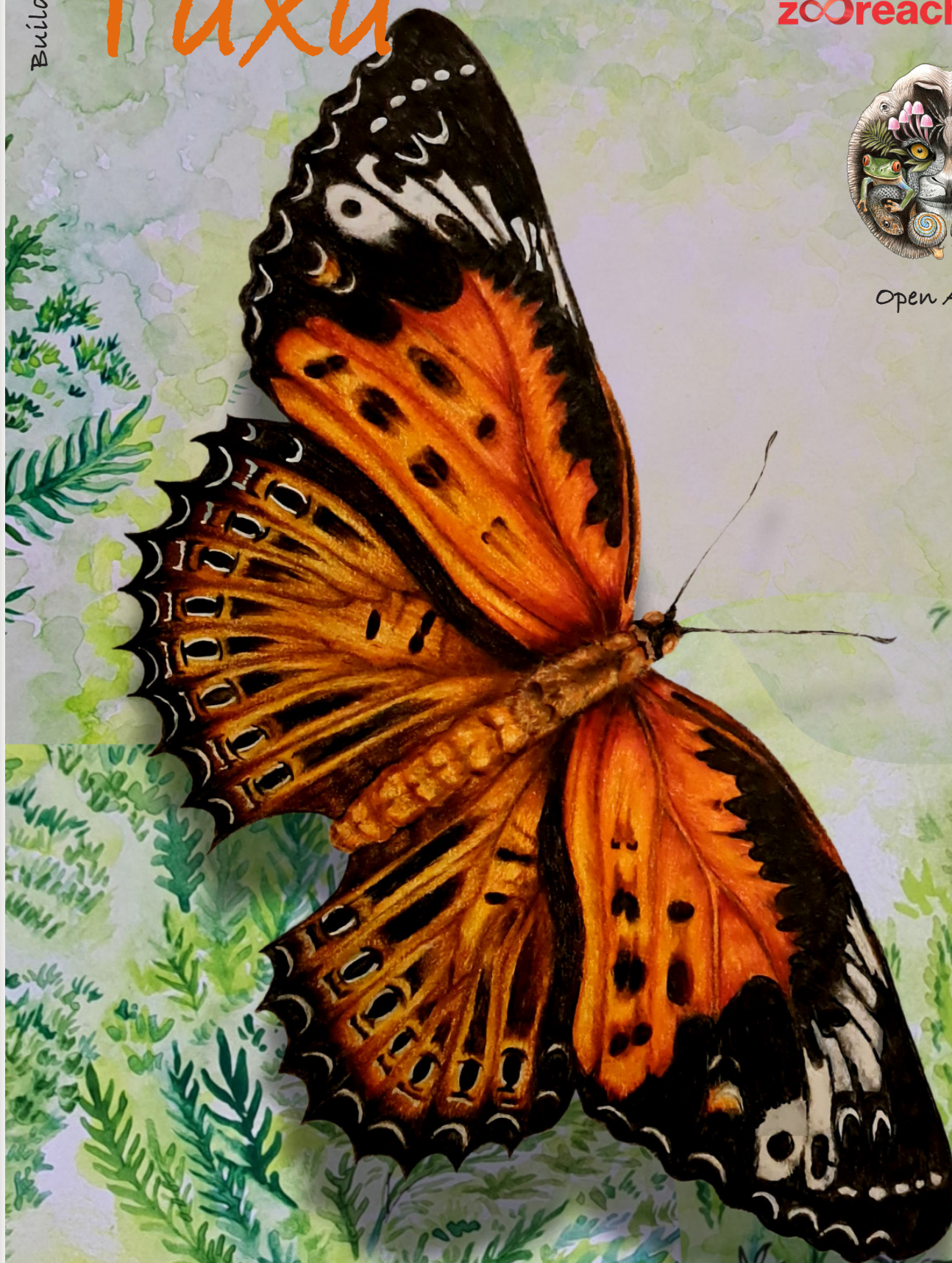
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continued on the back inside cover

Cover: Tamil Lacewing *Cethosia nietneri* with colour pencils and watercolours for the background; detailing with fine liners by Elakshi Mahika Molur.



Cuphea carthagenensis (Jacq.) J.F.Macbr. (Lythraceae) — a new non-native plant record for the Eastern Ghats of India

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During the ongoing plant diversity inventory of the Eastern Ghat region of Odisha, the authors collected specimens from two populations of an interesting species of *Cuphea* with glandular-pubescent aerial parts and pale-purple to deep pink flowers from Sunabeda Plateau and Pendajam waterfall of Koraput District of Odisha. After examination of plant specimens, consultation of relevant literature, and matching with authentic herbarium specimens, it is identified as *Cuphea carthagenensis* (Jacq.) J.F.Macbr. (Lythraceae), a species native to South America.

In India, half-a-dozen species of *Cuphea* P.Browne have so far been reported, such as *C. hyssopifolia* Kunth, *C. carthagenensis* (Jacq.) J.F.Macbr., *C. ignea* A.DC., *C. lanceolata* W.T.Aiton, *C. micropetala* Kunth, and *C. procumbens* Ortega, which are commonly grown as garden ornamental plants or found as alien weeds in waste places, roadsides and degraded forest areas (Das

& Chanda 1987; Singh et al. 2000; Paul & Kumar 2023).

Among these, the species *C. carthagenensis* is so far been reported from northeastern states such as Assam, Arunachal Pradesh, Nagaland (Naithani 1990; Naithani & Bennet 1990), Mizoram (Singh et al. 2002), Darjeeling Hills of West Bengal (Paul & Kumar 2012), and Manipur (Panmei et al. 2019) as a naturalized weed in cultivated lands, disturbed habitats and also sometimes in open forests. There is no report of its occurrence in the Eastern Ghats of India, which covers the states of Odisha, Andhra Pradesh, Tamil Nadu, and Karnataka nor from peninsular India. The present report of its occurrence from Odisha is very interesting in view of its naturalization extending to the eastern parts of the country (Image 1).

Cuphea carthagenensis (Jacq.) J.F.Macbr., Publ. Field Columb. Mus., Bot. Ser. 8: 124. 1930; Naithani, Fl. Pl. India, Nepal & Bhutan: 172. 1990; Naithani & Bennet, Ind. For. 116(5): 423. 1990; Chowdhery & al. in P.K. Hajra

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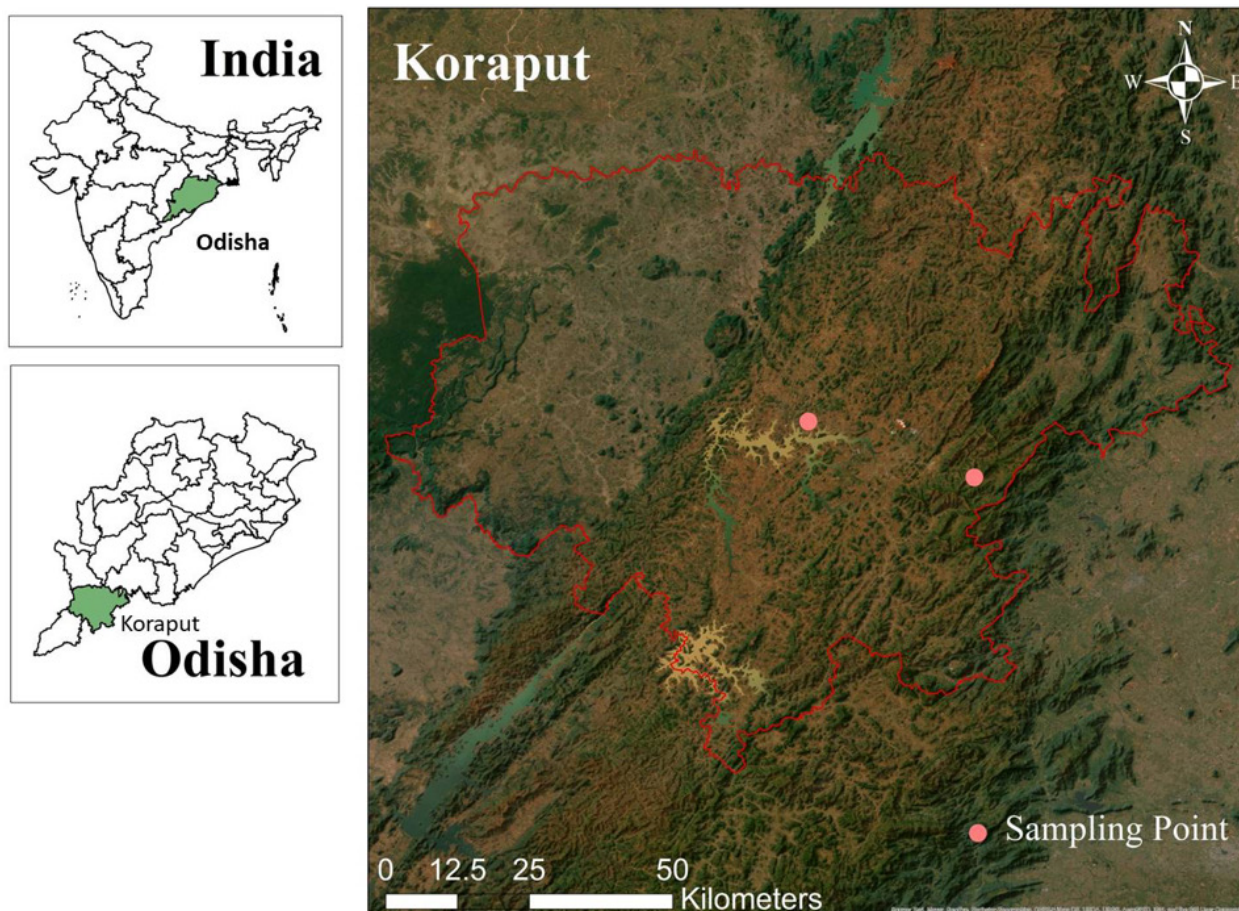


Image 1. Map showing the localities of collection of *Cuphea carthagenensis* in Koraput District, Odisha.

& al., Mater. Fl. Arunachal Pradesh 1: 496. 1996; Paul & Kumar, Pleione 6(1): 244. 2012; Graham, Syst. Bot. 42(4): 876. 2017; T. Mathew & al. in A.A. Mao & S.S. Dash, Fl. Pl. India Annot. Checkl. Dicot 1: 558. 2020; Paul & Kumar, Fl. Mahananda Wildlife Sanctuary: 69. 2023. *Lythrum carthagenense* Jacq., Enum. Syst. Pl. 22. 1760. *Cuphea pinto* (Vand.) Kuntze, Revis. Gen. Pl. 3(3): 96. 1898. *Cuphea balsamona* Cham. & Schlecht. in Linnaea 2: 363. 1827. *Cuphea prunellifolia*, Fl. Bras. Mer. 3: 108. 1833. (Images 2 & 3)

Common name: Colombian Cuphea, Colombian wax-weed.

Perennial herb, erect or spreading, much branched from near the base, 10–40 cm tall, young parts hairy. Stem viscid-pubescent, with intermixed glandular and non-glandular hairs; trichomes sparse to abundant, erect, reddish-purple. Leaves opposite, spreading, subsessile to shortly petiolate, gradually reduced in size in inflorescence; broadly to narrowly elliptic or elliptic-oblong, rarely ovate, 0.9–3.2 X 0.6–2.0 cm, base acute to attenuate, apex acute or acuminate, margin entire;

upper surface green, lower surface pale or both surfaces with scattered trichomes, midvein very prominent, secondary veins 5–6, prominent on dorsal side. Flowers extra axillary, solitary or in an indistinct leafy raceme, 4–6 mm long; pedicels 1–2 mm long; bracteoles lanceolate-linear. Floral tube, including a descending spur, sparsely pubescent with glandular hairs, distally rose-purple, otherwise green, ampullaceous with neck and mouth contracted in fruit. Calyx tubular, 3–5 mm long, longitudinally ribbed with a short spur at the base of posterior side; lobes short, equal, deltate, apex acute or short bristle-tipped. Petals 6, light pink to pink-purple, subequal, oblong, elliptic, or sub-spatulate, up to 3 mm long. Stamens 11, slightly longer than the floral tube; 2 short dorsal most inserted deepest, other 9 alternately unequal in length, inserted at the same level; filaments cream coloured, anthers light yellow. Ovary oblong, 0.5 mm long, glabrous; ovules 4–6; stigma capitate. Capsules enclosed by hypanthium, dehiscent on one side; seeds brownish, 2–6, 1–1.5 mm across, obovate to elliptic or subcircular, apex obtuse to shallowly retuse,

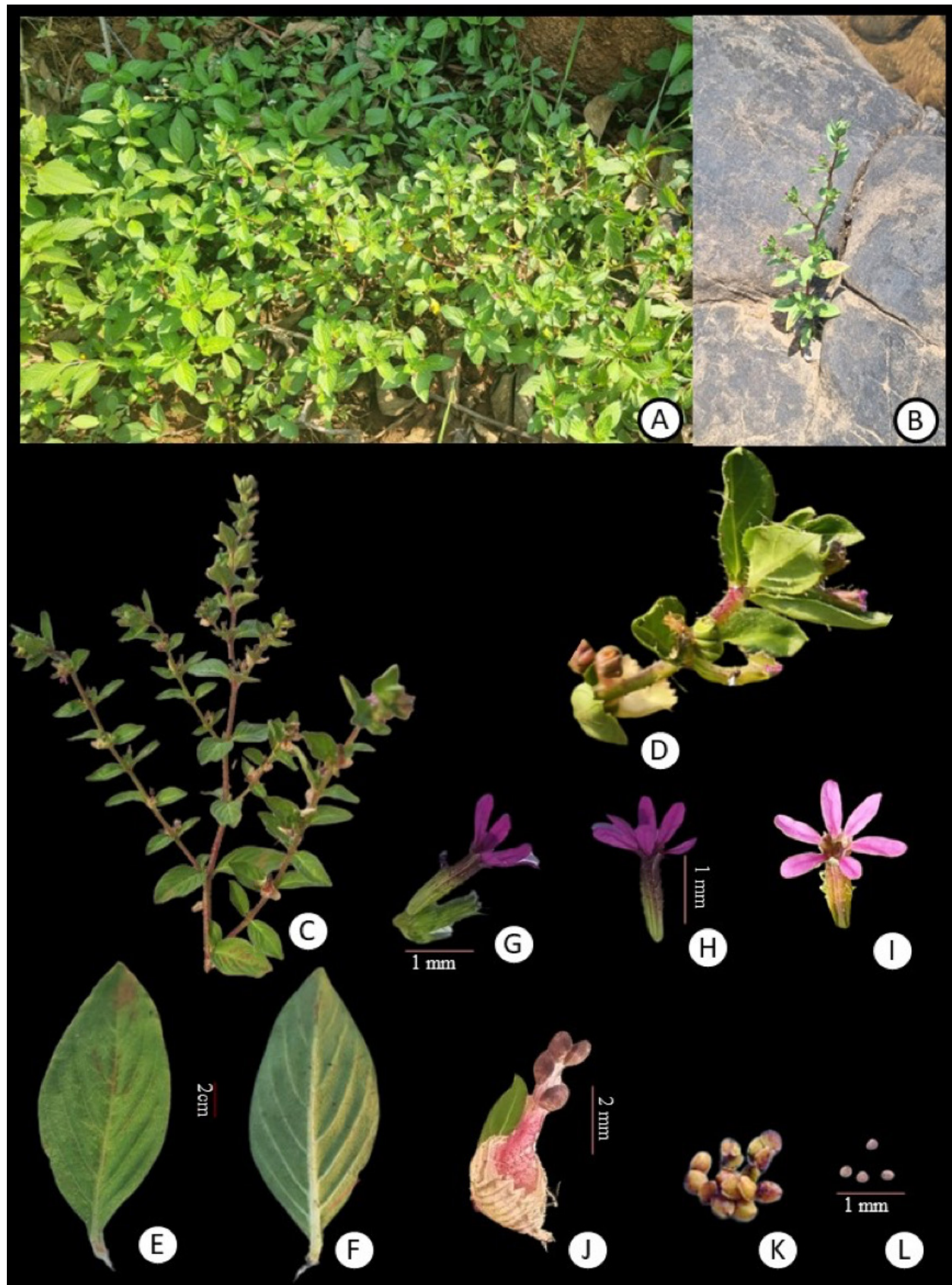


Image 2. *Cuphea carthagenensis*: A&B—habitat | C&D—flowering and fruiting branch | E&F—abaxial and adaxial view of leaf | G—flower | H&I—flower cut open to show sepals, petals and anthers | J & K—seeds exposed on the placenta | L—seeds.



Image 3. Herbarium specimen of *Cuphea carthagenensis* (Jacq.) J.F. Macbr. (Image credit: P.K. Das).

margin thin, flattened, especially at micropylar end, surface verrucose.

Flowering and fruiting: February–May.

Distribution: Though the native range of *Cuphea carthagenensis* is South America covering Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, and Venezuela (Graham 2017), it has widely naturalized outside its native range, in the subtropical and tropical parts Central America, North America, the Caribbean, Oceania, and Asia. In Asia, the species is reported to occur in China, East Timor, India, Indonesia, Japan, Malaysia, Myanmar, Philippines, Singapore, and Taiwan.

In Oceania, *C. carthagenensis* is known from American Samoa, Australia, Micronesia, Fiji, French Polynesia, New Caledonia, Papua New Guinea, Western Samoa, Tonga, and Vanuatu. While it is a dominant weed of rice fields in Assam, India; it invades corn (*Zea mays*) plantings in Indonesia, Coconut *Cocos nucifera* groves in Vanuatu and Taro *Colocasia esculenta* fields in Fiji (Bradley 2022).

In India, the species has been previously reported from northeastern states (Assam, Arunachal Pradesh, Mizoram, Meghalaya, Nagaland, Manipur), higher hills of Darjeeling in West Bengal, and now from Koraput, Odisha located in the eastern region of the country indicating its spread as an invasive species.

Specimens examined: 2544/CBT, 20.iv.2024, India, Odisha, Koraput, Sunabeda, Central University of Odisha campus, 18.701 N & 83.012 E, 2,112 m, coll. P.K. Das & P.C. Panda; 2545/CBT, 14.v.2024, India, Odisha, Koraput, Pendajam waterfall, on the way to Putsil, 18.739 N & 82.808 E, 1,976 m, coll. P.K. Das and S.N. Mallick.

Specimen images viewed online: 1650 (K), 600 m, coll. M. Etuge, Mt. Kupe, Cameroon (K000026893); 9500 (K), 2,000 m, coll. M. Cheek, Muanenguba, Cameroon (K000026892); 9559 (K), 1,200 m, coll. M. Cheek, Muambong to Mwabag, Cameroon (K000026894).

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Articles

Culture and provisioning: the case of Human-Long-tailed Macaque *Macaca fascicularis* (Raffles, 1821) interactions in Sumile, Butuan City, Philippines

– Fritche H. Lapore, Debbie S. Aseñas & Sherryl L. Paz, Pp. 26443–26458

Noteworthy comments on birds for mega-diverse Myanmar

– Swen C. Renner, Saw Moses, Lay Win, Thein Aung, Myint Kyaw, Saw Myat Ohnmar, Thiri Dae We Aung, Kay Thwe Myint, Sai Sein Lin Oo, Paul J.J. Bates & Marcela Suarez-Rubio, Pp. 26459–26467

Ultra-structure of antenna, eye, mouthparts and sensilla of *Cheilomenes sexmaculata* Fabricius, 1781 (Coccinellidae: Coleoptera)

– Prakash Ghagargunde & Mandar S. Paingankar, Pp. 26468–26478

Morphological characterization and ecological insights of *Pseudonapaeus* cf. *candelaris* (L. Pfeiffer, 1846) in the Pir Panjal Range of western Himalaya

– Hilal Ahmed, Imtiaz Ahmed & N.A. Aravind, Pp. 26479–26486

Communications

Diet and nutrient balance of wild Asian Elephants *Elephas maximus* in Nepal

– Raj Kumar Koirala & Sean C.P. Coogan, Pp. 26487–26493

Avian diversity in wetlands of southwestern Kerala of India during COVID

– Vijayakumari Sudhakaran Bindu & S. Sajitha, Pp. 26494–26503

Checklist on the ichthyofaunal resources and conservation status of Dikhu River, Nagaland, India

– Metevinu Kechu & Pranay Punj Pankaj, Pp. 26504–26514

A study on the diversity of butterflies in selected landscapes of the Indian Institute of Technology, Guwahati campus, Assam, India

– Uma Dutta, Sonali Dey & Deepshikha Moran, Pp. 26515–26529

Sphaeroma taborans sp. nov., a new species of wood-boring isopod (Crustacea: Isopoda: Sphaeromatidae) from Munroe Island, Ashtamudi Estuary, Kerala, India

– M.S. Arya, A. Biju & Dani Benchamin, P. 26530–26537

A report on Conidae (Gastropoda) from the Karnataka coast – distribution and shell morphometry

– B.S. Chandan, R. Shyama Prasad Rao & Mohammed S. Mustak, Pp. 26538–26546

New distribution record and DNA barcoding of the steno-endemic plant *Cordia diffusa* (Boraginaceae)

– M. Haritha, D. Leena Lavanya & H. Abinaya, Pp. 26547–26552

Short Communications

First record of the sea slug *Lobiger serradifalci* (Calcara, 1840) (Gastropoda: Sacoglossa: Oxynoidae) from the Indian coast

– Dimpal Dodiya & Paresh Poriya, Pp. 26553–26557

Impatiens damrongii (Balsaminaceae), a new record for the flora of Vietnam

– Ha Van Dang, Leonid Vladimirovich Averyanov & Cuong Huu Nguyen, Pp. 26558–26561

Invasive record of Brazilian Petunia *Ruellia elegans* Poir. (Acanthaceae) from northeastern India

– Mamita Kalita, Pp. 26562–26565

Note

Cuphea carthagenensis (Jacq.) J.F. Macbr. (Lythraceae)

— a new non-native plant record for the Eastern Ghats of India

– Prabhat Kumar Das, Bishal Kumar Majhi, Shashi Sourav Hansda, Samarendra Narayan Mallick, Purnendu Panda & Pratap Chandra Panda, Pp. 26566–26570

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