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NOTE

REDISCOVERY OF AN ENDEMIC INDIAN MOTH *GURNA INDICA* (MOORE, 1879) (LEPIDOPTERA: EREBIDAE: ARCTIINAE) AFTER 125 YEARS

Aparna Sureshchandra Kalawate, Neha Upadhyay & Banani Mukhopadhyay

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The genus *Gurna* was erected as a monotypic genus by Swinhoe in 1892 for *Dysauxes indica* from 'Bombay'. Hampson (1894) treated *Gurna* as a separate genus and described it in detail. Later, Hampson (1900) synonymized *Gurna* with the genus *Miltochrista* Hübner, [1819] where it remained until the 20th Century. Again, Holloway (2001) and Volynkin (2016a) considered *Gurna* a separate genus. Recently, Volynkin (2016b) restored it as a genus and revised its status based on the type species. *Gurna indica* is the only known species from the genus. The literature published on moths covering Maharashtra (Shubhalaxmi et al. 2011; Gurule & Nikam 2013) and India (Shubhalaxmi 2018) did not record *G. indica*. Till this study, no fresh specimen of this species was collected. Hence, this finding is a rediscovery of this moth after a long gap of nearly 125 years. Hampson (1894) mentioned the distribution of this species as 'Bombay' and Watson collected three males from 'Belgaum' in 1896 (Hampson 1900). This is a genus endemic to India and belongs to the *Miltochrista-Asura* generic complex (Volynkin 2016b).

One female specimen was collected by the second author from, Pune District, Maharashtra, India, using a light trap. The collected specimen was killed with ethyl acetate vapours. Further, it was relaxed, pinned, and dry preserved in the laboratory. The identification of the specimen was done with the help of Hampson (1894) and Volynkin (2016b). The specimen was studied under a Leica EZ 4 E stereozoom microscope with photographic facility. The images were stacked using Combine ZP software and then processed with Adobe Photoshop

REDISCOVERY OF AN ENDEMIC INDIAN MOTH *GURNA INDICA* (MOORE, 1879) (LEPIDOPTERA: EREBIDAE: ARCTIINAE) AFTER 125 YEARS

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CS Version 8. To describe the morphological and genitalia features, terminology as per Hampson (1894) and Volynkin (2016b) was used. To study the external female genitalia, the methodology mentioned by Robinson (1976) was followed. The distribution records were verified from literature (Swinhoe 1892; Hampson 1894, 1900; Strand 1922; Singh et al. 2014; Volynkin 2016b). The identified specimen was duly registered and deposited in the National Zoological Collection, Zoological Survey of India, Western Regional Centre, Pune, Maharashtra, India (ZSI-WRC). The detailed collection locality is given under material examined and also shown in Fig. 1. The map of the collection locality was prepared using the open, free access QGIS software.

Superfamily: Noctuoidea Latreille, 1809

Family: Erebidae Leach, [1815]

Subfamily: Arctiinae (Leach, 1815)

Tribe: Lithosiini Billberg, 1820

Subtribe: Nudariina Börner, 1920

Genus: *Gurna* Swinhoe, 1892

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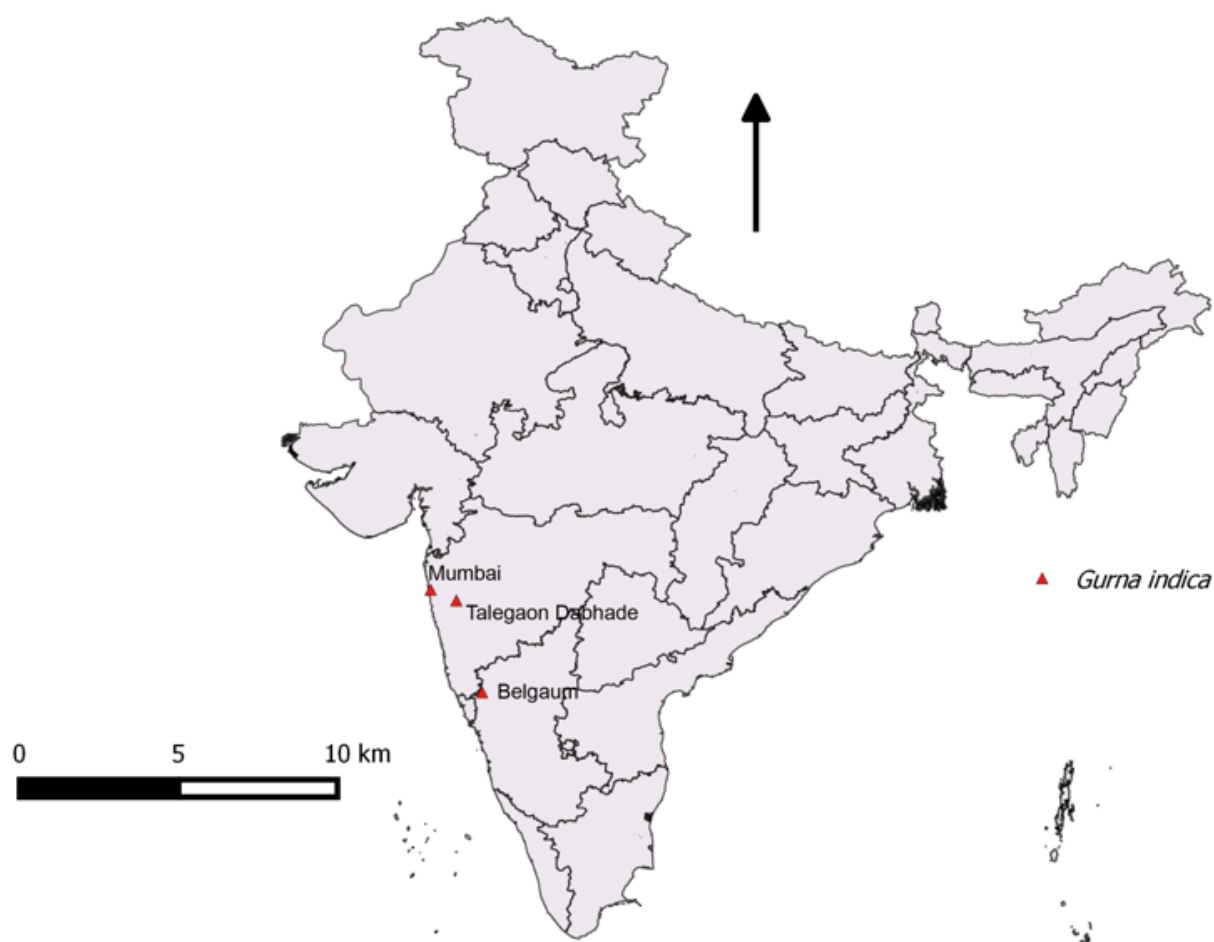


Figure 1. New (Talegaon Dabhade) and old (Mumbai & Belgaum) collection localities of *Gurna indica* in India.

Gurna indica (Moore, 1879)

Dysauxes indica Moore, 1879, *P. Z. S.*: 390.

Gurna indica Hampson, 1894, *Fauna Brit. India*, 2: 105.

Miltochrista indica Hampson, 1900, *Catalog. Lepid. Phalaenae Brit. Mus.*, 2: 474.

Gurina indica Volynkin, 2016b, *Biolog. Bull. Bogdan Chmel'n. Melitopol Pedagog. Uni.*, 6 (3): 290–294.

Type locality: Bombay (=Bombay Presidency; probably not present-day Mumbai).

Material examined: ZSI-WRC-L-1825, 1ex., female, 30.ix.2018, Talegaon Dabhade, Pune District, Maharashtra, India, 18.73°N & 73.68°E, 617m, coll. N. Upadhyay.

Description: Female (Image 1A,B): body dark olive-brown; antennae filiform; frons and patagia bright yellow, except at base; posterior half of tegulae bright yellow; extremity of abdomen yellow. Palpi very short, porrect. Forewing dark olive-brown, elongated, narrow, apex rounded; vein 4 and 5 from angle of cell; 6 from below upper angle; 7, 8, 9 stalked; a round bright yellow

spot in end of cell extended till costa, similar spot but not rounded at base of inner margin. Hindwing bright yellow basally, with broader olive-brown band terminally; vein 4 and 5 from angle of cell; 6 and 7 stalked; 8 from after middle of cell. Terminal minute pairs of spurs in the middle and hind femora. The underside of both wings is exactly the same except that the spots of the forewings are less defined.

Forewing length: 30mm.

Female genitalia (Image 1C,D): corpus bursae globular, with small thorn-like structures, contains short, tubular signum; ductus bursae membranous, short; posterior and anterior apophyses are slender, longer, and pointed at apex; papilla analis with setae.

Known distribution: India (Maharashtra and Karnataka) (Swinhoe 1892; Hampson 1894, 1900; Strand 1922; Singh et al. 2014; Volynkin 2016b).



Image 1. *Gurna indica*: A - dorsal view of adult | B - ventral view of adult | C, D - female genitalia. Scale = 2mm for A & B, 0.5mm for C & D. © Aparna S. Kalawate.

References

- Gurule, S. & S. Nikam (2013). The moths (Lepidoptera: Heterocera) of northern Maharashtra: a preliminary checklist. *Journal of Threatened Taxa* 5(12): 4693–4713. <https://doi.org/10.11609/JoTT.02555.4693-713>
- Hampson, G.F. (1894). *The Fauna of British India including Ceylon and Burma: Moths, Vol. III*. Taylor & Francis Ltd., London, 105pp.
- Hampson, G.F. (1900). *Catalogue of the Lepidoptera Phalaenae in the British Museum, II. Catalogue of the Arctiidae (Nolinae, Lithosiinae) in the Collections of the British Museum*. Taylor and Francis Ltd., 589pp.
- Holloway, J.D. (2001). The moths of Borneo, part 7. Family Arctiidae, subfamily Lithosiinae. *Malayan Nature Journal* 55: 279–486.
- Robinson, G.S. (1976). The preparation of slides of Lepidoptera genitalia with special reference to Microlepidoptera. *Entomological Gazette* 27(2): 127–132.
- Shubhalaxmi, V., R.C. Kendrick, A. Vaidya, N. Kalagi & A. Bhagwat (2011). Inventory of moth fauna (Lepidoptera: Heterocera) of the northern Western Ghats, Maharashtra, India. *Journal of the Bombay Natural History Society* 108(3): 183–205.
- Shubhalaxmi, V. (2018). *Birdwing Field Guide to Indian Moths, 1st Edition*. Birdwing Publishers, India, 461pp.
- Singh, J., N. Singh & R. Joshi (2014). A checklist of subfamily Arctiinae (Erebidae: Noctuoidea: Lepidoptera) from India. *Records of the Zoological Survey of India (Occasional Paper)* 367: 1–76.
- Strand, E. (1922). Arctiidae: subfamily: Lithosiinae. In: Wagner, H. (ed.). *Lepidopterorum Catalogus, Pars, Vol. 26*. W. Junk, Berlin, 825pp.
- Swinhoe, C. (1892). *Catalogue of eastern and Australian Lepidoptera Heterocera in the Collection of the Oxford University Museum, Vol. 1*. Clarendon Press, Oxford, 124pp.
- Volynkin, A.V. (2016a). On the generic placement and taxonomic status of some *Miltochrista* taxa described by Franz Daniel (Lepidoptera, Erebidae, Arctiinae). *Zootaxa* 4179(2): 244–252. <https://doi.org/10.11646/zootaxa.4179.2.4>
- Volynkin, A.V. (2016b). Restoration of the genus *Gurna* Swinhoe, 1892 (Lepidoptera, Erebidae, Arctiinae). *Biological Bulletin of Bogdan Chmelitskiy Melitopol State Pedagogical University* 6(3): 290–294. <https://doi.org/10.15421/201697>



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Editorial

Building evidence for 20 years!

– Sanjay Molur, P. 13631

Articles

Effect of socio-ecological factors and parasite infection on body condition of Brown Mouse Lemur *Microcebus rufus* (Mammalia: Primates: Cheirogaleidae)

– Andry Herman Rafalinirina, Jeannot Randrianasy, Patricia C. Wright & Jonah Ratsimbazafy, Pp. 13632–13643

Identification of suitable habitat for Swamp Deer *Rucervus duvaucelii* (Mammalia: Artiodactyla: Cervidae) in Chitwan National Park, Nepal

– Shravan Kumar Ghimire, Man Kumar Dhamala, Babu Ram Lamichhane, Rishi Ranabhat, Khim Bahadur KC & Shashank Poudel, Pp. 13644–13653

Communications

The diversity and conservation of mammals in the Dodo Coastal Forest in southwestern Côte d'Ivoire, western Africa: a preliminary study

– Serge Pacome Keagnon Soiret, Célestin Yao Kouakou, Béné Jean-Claude Koffi, Blaise Kadjo, Philippe Kouassi, Peñate José Gomez, Reiko Matsuda Goodwin & Inza Kone, Pp. 13654–13666

Resource selection by Javan Slow Loris *Nycticebus javanicus* E. Geoffroy, 1812 (Mammalia: Primates: Lorisidae) in a lowland fragmented forest in Central Java, Indonesia

– Mahfut Sodik, Satyawan Pudyatmoko, Pujo Semedi Hargo Yuwono & Muhammad Ali Imron, Pp. 13667–13679

Species composition and abundance of rodents in Kafta-Sheraro National Park, Ethiopia: preliminary results

– Alembrhan Assefa & Chelmala Srinivasulu, Pp. 13680–13689

Colour aberration in Indian mammals: a review from 1886 to 2017

– Anil Mahabal, Radheshyam Murlidhar Sharma, Rajgopal Narsinha Patil & Shrikant Jadhav, Pp. 13690–13719

Nesting trees of the Red Giant Gliding Squirrel *Petaurista petaurista* (Mammalia: Rodentia: Sciuridae) in a tropical forest of Namdapha National Park, India

– Murali Chatakonda Krishna, Awadhesh Kumar & Om Prakash Tripathi, Pp. 13720–13726

Insights into the diet and feeding behaviour of Red-capped Lark *Calandrella cinerea* (Aves: Passeriformes: Alaudidae)

– Mary Mwangi, Nathan Gichuki, Robert Chira & Peter Njoroge, Pp. 13727–13733

Baseline biodiversity and physiochemical survey in Parvati Kunda and surrounding area in Rasuwa, Nepal

– Jessie Anna Moravek, Mohan Bikram Shrestha & Sanjeevani Yonzon, Pp. 13734–13747

Diversity and community structure of Odonata (Insecta) in two land use types in Purba Medinipur District, West Bengal, India

– Priti Ranjan Pahari, Shubha Sankar Mandal, Subhadeep Maiti & Tanmay Bhattacharya, Pp. 13748–13755

Foraging preferences of honey bees *Apis cerana* in Dakshina Kannada, Karnataka, India

– A.G. Suhas Krishna & Rajashekhar K. Patil, Pp. 13756–13764

Additions to the lichen biota of Assam State, India

– Rupjyoti Gogoi, Siljo Joseph, Sanjeeva Nayaka & Farishta Yasmin, Pp. 13765–13781

Short Communications

Study of nesting behaviour of Asian Paradise Flycatcher *Terpsiphone paradisi* (Aves: Passeriformes: Monorchidae) from southern West Bengal, India

– Nilemesh Das & Shuvadip Adhikari, Pp. 13782–13785

A checklist of fish species from three rivers in northwestern Bangladesh based on a seven-year survey

– Imran Parvez, Mohammad Ashraf Alam, Mohammad Mahbul Hassan, Yeasmin Ara, Imran Hoshan & Abu Syed Mohammad Kibria, Pp. 13786–13794

New plant distribution records to Indian states and addition to the flora of Myanmar

– Kanakasabhapathi Pradheep, Ganjalagatta Dasaiah Harish, Ranbir Singh Rathi, Joseph John Kattukkunnel, Sheikh Mohammad Sultan, Khoisnam Naveen, Iyyappan Jaisankar, Anjula Pandey, Sudhir Pal Ahlawat & Rita Gupta, Pp. 13795–13804

Notes

Sighting of Arunachal Macaque *Macaca munzala* Sinha et al., 2005 (Mammalia: Primates: Cercopithecidae) in Sakteng Wildlife Sanctuary, Bhutan

– Sonam Tobgay, Kumbu Dorji & Norbu Yangdon, Pp. 13805–13807

Rediscovery of an endemic Indian moth *Gurna indica* (Moore, 1879) (Lepidoptera: Erebididae: Arctiinae) after 125 years

– Aparna Sureshchandra Kalawate, Neha Upadhyay & Banani Mukhopadhyay, Pp. 13808–13810

The Nepal Pipewort *Eriocaulon nepalense* var. *luzulifolium* (Commelinids: Poales: Eriocaulaceae): a new distribution record for southern India

– Murugan Soumya & Maya C. Nair, Pp. 13811–13814

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