



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at [www.threatenedtaxa.org](http://www.threatenedtaxa.org). All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

# Journal of Threatened Taxa

Building evidence for conservation globally

[www.threatenedtaxa.org](http://www.threatenedtaxa.org)

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

## SHORT COMMUNICATION

### TAXONOMIC NOTES ON *GROSOURDYA MURICULATA* (ORCHIDACEAE: EPIDENDROIDEAE: VANDEAE: AERIDINAE), A LITTLE KNOWN ENDEMIC ORCHID FROM THE ANDAMAN & NICOBAR ISLANDS, INDIA

Sanjay Mishra, C.P. Vivek, Gautam Anuj Ekka & Lal Ji Singh

26 January 2019 | Vol. 11 | No. 1 | Pages: 13162–13167

DOI: 10.11609/jott.3842.11.1.13162–13167



For Focus, Scope, Aims, Policies, and Guidelines visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-0>  
For Article Submission Guidelines, visit <https://threatenedtaxa.org/index.php/JoTT/about/submissions#onlineSubmissions>  
For Policies against Scientific Misconduct, visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-2>  
For reprints, contact <ravi@threatenedtaxa.org>

The opinions expressed by the authors do not reflect the views of the Journal of Threatened Taxa, Wildlife Information Liaison Development Society, Zoo Outreach Organization, or any of the partners. The journal, the publisher, the host, and the partners are not responsible for the accuracy of the political boundaries shown in the maps by the authors.

#### Partner



صندوق محمد بن زايد  
للمحافظة على  
الكائنات الحية  
The Mohamed bin Zayed  
SPECIES CONSERVATION FUND

#### Member



#### Publisher & Host





ISSN 0974-7907 (Online)  
ISSN 0974-7893 (Print)

PLATINUM  
OPEN ACCESS



## TAXONOMIC NOTES ON *GROSOURDYA MURICULATA* (ORCHIDACEAE: EPIDENDROIDEAE: VANDEAE: AERIDINAE), A LITTLE KNOWN ENDEMIC ORCHID FROM THE ANDAMAN & NICOBAR ISLANDS, INDIA

Sanjay Mishra<sup>1</sup> , C.P. Vivek<sup>2</sup> , Gautam Anuj Ekka<sup>3</sup>  & Lal Ji Singh<sup>4</sup> 

<sup>1,2,3,4</sup> Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair, Andaman & Nicobar Islands 744102, India.

<sup>1</sup>sanjayalld74@gmail.com (corresponding author), <sup>2</sup>vvkcpoulouse@gmail.com,

<sup>3</sup>shalom\_gautam281@rediffmail.com, <sup>4</sup>laljisingsh1970@rediffmail.com

**Abstract:** *Grosourdya muriculata* (Rchb.f.) R. Rice (Orchidaceae) is a little known epiphytic, endemic orchid from the Andaman & Nicobar Islands in India. The present article provides the detailed taxonomy, ecology, distribution, conservation status, and photographic account of the species. The data collected from field surveys indicates that the status of the species needs to be downgraded to Near Threatened as per the criteria of IUCN (2018).

**Keywords:** Epiphytes orchid, ecology, distribution, conservation status, photographic account, status updation, threatened taxa.

The epiphytic genus *Grosourdya* was established by H.G. Reichenbach in 1864 to commemorate R. de Grosourdy, a renowned botanist who specialised in the medicinal plants of the Antilles and tropical southern America. It belongs to the subtribe Aeridinae, tribe Vandae, and subfamily Epidendroideae of the family Orchidaceae. Preliminary molecular studies (Pridgeon et al. 2014) led to the broadening of the circumscription of the genus and more than 20 species from the genera *Ascochilus* Ridl., *Ascochilopsis* Carr, and *Biermannia* King & Pantl. were placed under it. More recently, Rice (2018) transferred eight species of the genus *Pteroceras*

to *Grosourdya* on the basis of supporting evidence from his own work and the preliminary phylogenetic study of Pridgeon et al. (2014). The recently expanded genus now includes species with pollinia having notched or cleft aperture without auricles to the stipe. Therefore, small short-stemmed *Pteroceras* species with characters more consistent with the genus *Grosourdya*, such as densely muricate to speculate surface of the inflorescence rachis and short-lived flowers generated singly in succession with gently curved column and a large conspicuous stigma are, placed under it. This brought up the total number of species in the genus to 28, distributed from China and the Indian subcontinent to southeastern Asia.

Before the revision by Rice (2018), five species of the *Pteroceras*, namely *P. muriculatum* (Rich.f.) P.F. Hunt, *P. monsooniae* Sasidh. & Sujanapal, *P. leopardinum* (E.C. Parish & Rchb.f.) Seidenf. & Smitin, *P. teres* (Blume) Holttum, and *P. unguiculatum* (Lindl.) H.A. Pedersen, were reported from India. With the recent species transfer, two species, namely *P. monsooniae* Sasidh. & Sujanapal and *P. muriculatum* (Rich.f.) P.F. Hunt, were transferred to the *Grosourdya*. Additionally, based

DOI: <https://doi.org/10.11609/jott.3842.11.1.13162-13167>

Editor: Pankaj Kumar, Kadoorie Farm and Botanic Garden, Tai Po, Hong Kong S.A.R., China.

Date of publication: 26 January 2019 (online & print)

Manuscript details: #3842 | Received 12 October 2017 | Final received 25 October 2018 | Finally accepted 24 November 2018

Citation: Mishra, S., C.P. Vivek, G.A. Ekka & L.J. Singh (2019). Taxonomic notes on *Grosourdya muriculata* (Orchidaceae: Epidendroideae: Vandae: Aeridinae), a little known endemic orchid from the Andaman & Nicobar Islands, India. *Journal of Threatened Taxa* 11(1): 13162–13167; <https://doi.org/10.11609/jott.3842.11.1.13162-13167>

Copyright: Mishra et al. 2019. Attribution 4.0 International License. JoTT allows unrestricted use, reproduction, and distribution of this article in any medium by adequate credit to the author(s) and the source of publication.

Funding: Ministry of Environment, Forest and Climate Change (MoEF & CC) and Botanical Survey of India (BSI).

Competing interests: The authors declare no competing interests.

Acknowledgements: The authors are thankful to Dr. Paramjit Singh, director, Botanical Survey of India (BSI), Kolkata, for providing facilities and constant support. The authors are also thankful to the Ministry of Environment, Forest, and Climate Change for providing necessary facilities and support through the director, BSI, Kolkata. Thanks are also due to the Department of Environment and Forests, Andaman & Nicobar Islands, for extending logistic support during the field visits.



on molecular studies, Kocyan & Schuiteman (2013) transferred *P. unguiculatum* (Lindl.) H.A. Pedersen to the genus *Brachypeza*. After these recent taxonomic modifications, the *Pteroceras* in India include only two species, namely *P. leopardinum* (E.C. Parish & Rchb.f.) Seidenf. & Smitin and *P. teres* (Blume) Holtum (Table 1).

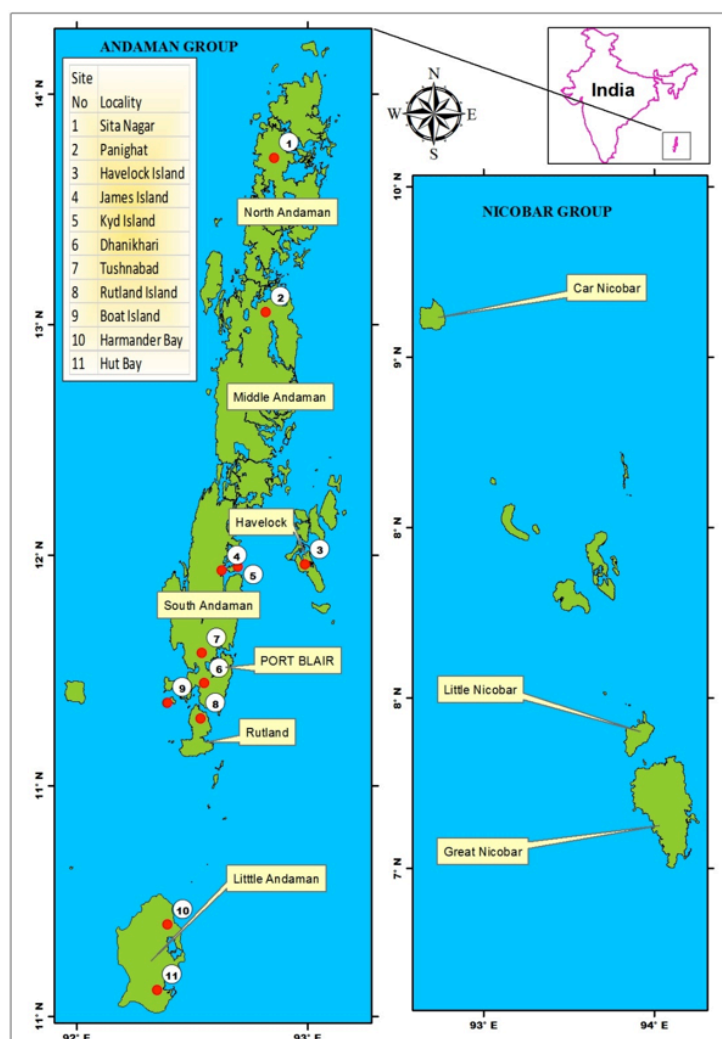
The updated taxonomy led to an increase in the number of species of *Grosourdia* in the Andaman & Nicobar Islands to three, namely, *G. appendiculata* (Blume) Rchb. f., *G. muriculata* (Rchb.f.) R. Rice, and *G. muscosa* (Rolfe) Garay. *Pteroceras*, earlier represented by three species (*P. muriculatum* (Rich.f.) P.F. Hunt, *P. teres* (Blume) Holtum, and *P. unguiculatum* (Lindl.) H.A. Pederson), now consists of only one species, namely *P. teres* (Blume) Holtum.

*Grosourdia muriculata* (Rchb.f.) R. Rice is an endemic species of the Andaman & Nicobar Islands and was recorded as Endangered by Karthigeyan et al. (2014). Moreover, it was described as one of the vanishing orchid

**Table 1. Status of *Pteroceras* species found in India after modifications by (Rice 2018)**

Earlier name	Current name
<i>Pteroceras monsooniae</i> Sasidh. & Sujanapa.	<i>Grosourdia monsonia</i> (Sasidh. & Sujanapa.) R. Rice
<i>P. leopardinum</i> (E.C. Parish & Rchb.f.) Seidenf. & Smitin	<i>Pteroceras leopardinum</i> (E.C. Parish & Rchb.f.) Seidenf. & Smitin
<i>P. muriculatum</i> (Rich. f.) P.F. Hunt	<i>Grosourdia muriculata</i> (Rchb.f.) R. Rice
<i>P. teres</i> (Blume) Holtum	<i>P. teres</i> (Blume) Holtum
<i>P. unguiculatum</i> (Lindl.) H.A. Pederson	<i>Brachypeza unguiculatum</i> (Lindl.) Kocyan & Schuit.

species of the island (Mathew et al. 2005). The present authors studied the species for its detailed taxonomy, ecology, and distribution and evaluated its conservation status as per the recent IUCN criteria (IUCN 2018). The results are summarized below along with images for ease of identification.



**Figure 1. Map showing the distribution of *Grosourdia muriculata* in the Andaman & Nicobar Islands (Mapped by Dr. Shivashankar, Department of Disaster Management, Pondicherry University, Port Blair)**



## TAXONOMY

***Grosourdya muriculata* (Rchb.f.) R.Rice**

Photo Intro to: Vandoid Orchid Genera in Asia. 160. 2018; *Sarcochilus muriculatus* Rchb.f., Gard. Chron., n.s., 15: 198. 1881.

Synonyms: *Thrixspermum muriculatum* (Rchb.f.) Rchb.f., Gard. Chron., n.s., 16: 198. 1881; *Pteroceras muriculatum* (Hort. ex Rchb. f.) P.F.Hunt in Kew Bull. 24: 96. 1970.

Type: *Bull s. n.* (anno1881)/Herb, Rchb.f. 31588, "India orientalis"-Andaman Islands (Holotype W).

Epiphytic herb, stem terete, glabrous, erect to pendent, unbranched, 4–8 cm long. Leaves sessile, distichously arranged, spreading, elliptic-oblong to lanceolate, c. 18.0×2.5 cm, obliquely botched or bilobed at apex, leaf base clasping the stem, coriaceous; leaf sheaths imbricate, glabrous, covering the internodes. Inflorescences many, perforating the leaf sheaths, racemose, pendulous, 5–15 cm long, peduncle glabrous, c. 5 cm long, rachis c. 10 cm, 10–20 flowers, floral bracts

triangular and concave. Flowers spirally arranged, pedicellate, light yellow, c. 1.5 cm across, sweet-scented. Sepals and petals with two to four purple bars. Sepals sub-equal; median sepal obovate to elliptic, c. 7.5×4.0 mm, obtuse at apex, base 1.2–2.4 mm wide; lateral sepals spreading, c. 7×4 mm, pointed at apex, base 1.4–3.1 mm wide. Labellum 3.5–5.1 mm long, sessile, erect side lobes pointing upwards, white with a brick red blotch, 3.5–5.0 × 1.1–2.0 mm, triangular; apex mostly obtuse, finely serrate, front edges connected by high apically bilobed wall. Mid lobe in form of white crest like callus with raised, somewhat erose violet margins (Image 2D), 0.1–2.1 mm long, 1.3–2.5 mm wide, 0.7–1.1 mm high. Spur somewhat conical, 2.4–3.7 mm in outer diameter, glabrous, white, often spotted purple in front; apex shortly prolonged, rounded, glabrous, white to light yellow. Columns sub-terete or slightly clavate; 3.0–4.4 mm high, 1.2–1.7 mm in diameter, brick red. Column foot 2.6–4.1 mm long glabrous and smooth. Anther terminal, triangular with a caudate apex, strongly



Image 1. *Grosourdya muriculata*. A - habit, B - flowers having sepals and petals with two spiral bands, C - flowers having sepals and petals with three to four spiral bands, D - capsules. © Sanjay Mishra

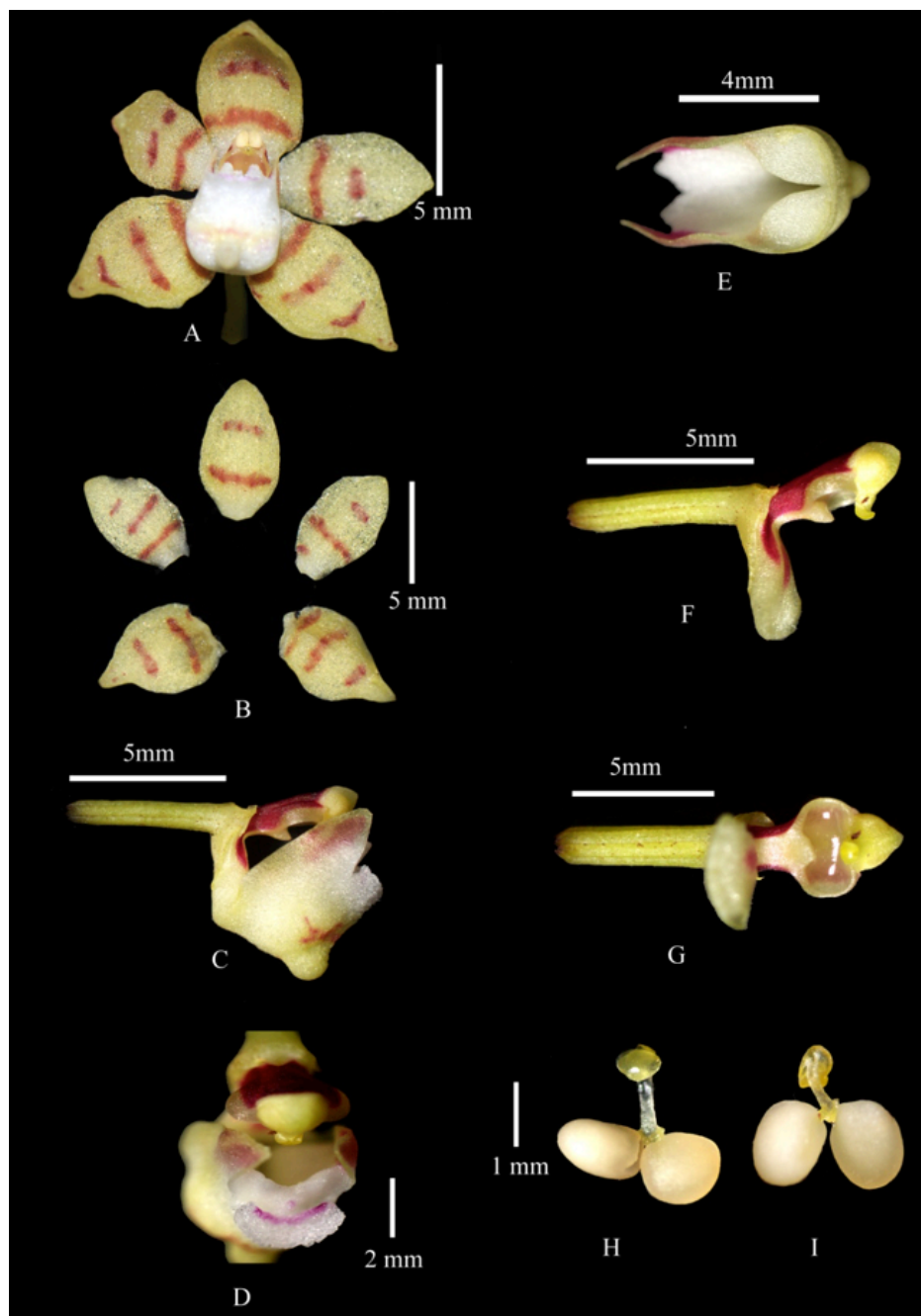


Image 2. *Grosourdyia muriculata*. A - flower, B - sepals and petals, C - side view of lip (shortly clawed and saccate), D - front view of lip, E - inner view of lip showing lip sac, F - side view of column, G - nectar in the cavity of the column, H - front view of pollinia, I - back view of pollinia. © Sanjay Mishra

incumbent. Pollinia two, obovoid, with deep cleft, with stipe 0.9mm long. Capsules c. 75×4 mm wide (Figs. 1 & 2).

Flowers and fruits: March–November (flowers more than once a year).

Distribution and ecology: Endemic to Andaman & Nicobar Islands. This species prefers to grow in dense shade. Usually, it is found on plants near small rainwater

streams running inside forests. Sometimes it is observed in mangrove swamps and rocky sea shores. They are extremely sensitive to exposure to direct sunlight and heat and, therefore, are found always in the shade. They are found growing scattered or in small populations of 75–100 mature individuals at a locality.

Note: Hooker (1885) treated this species as *Sarcochilus muriculatus* Rchb.f., where he mentioned

sepals and petals with two purple bars. The authors, however, observed the flowers with two to four purple bars on sepals and petals. Mathew et al. (2005) recorded the flowering period of the species in Andaman to be exclusively in the rainy season during the southwest monsoon in May to June. Karthigeyan et al. (2014) mentioned the flowering period to be April–November. Careful observation of the phenology of the species in different seasons and herbarium data of previous collections from the island reveal that it has several flowering periods during March–November, both in the wild and in the individuals conserved in the Dhanikhari Experimental Garden cum Arboretum, Nayasahar, Port Blair.

## DISCUSSION

According to Mathew et al. (2005), *Grosourdya muriculata* was not collected since its original description, until their own collection in 2005 from the semi-evergreen forests at Chidiyatapu, South Andaman Islands. It was considered one of the vanishing, endemic orchid species from the Andaman Islands. Afterwards, Karthigeyan et al. (2014) assessed the orchid diversity of the Andaman & Nicobar Islands and recorded the species from South Andaman, North Andaman, and Little Andaman as one of the rare orchids.

In the present assessment, the authors located and collected *Grosourdya muriculata* from Kyd and James Islands in South Andaman, Long Island in Middle Andaman, Ramnagar in North Andaman, and on the way to Harmander Bay at Krishnanagar Nallaha in Little Andaman. These collections were successfully conserved in the Dhanikhari Experimental Garden cum Arboretum of the Botanical Survey of India at Nayashahar, Port Blair. The authors also consulted 12 specimens placed at the herbarium of the Botanical Survey of India, Andaman & Nicobar Regional Center (PBL), collected by different workers from Andaman Islands.

**South Andaman:** 32589 (PBL), 08.viii.2016, Kyd Island, ±5m (11°56.715'N & 092°44.744'E), coll. S. Mishra, C.P. Vivek & G.A. Ekka; 32680 (PBL), 12.viii.2016, James Island, ±5m (11°58.706'N & 092°44.251'E), coll. S. Mishra, C.P. Vivek & G.A. Ekka; 21409 (PBL), 15.v.2004, Boat Island, coll. K. Karthigeyan; 7937 (PBL), 27.iii.1980, Camp No. 03, Havelock Island, ±25m, coll. T.A. Rao & R.K. Premanath; 874 (PBL), 06.ii.1974, Dhanikhari, ±50m, coll. N.G. Nair; 3684 (PBL), 12.v.1976, Herbatabad, Tushnabad, Sea level, coll. N.G. Nair; 6909 (PBL), 07.iv.1978, towards Jetty, Rutland Island, ±25m, coll. N.G. Nair.

**Middle Andaman:** 1332 (PBL), 04.v.1974, Panighat,

Mayabunder, ±25m, coll. N.P. Balakrishanan.

**North Andaman:** 9021 (PBL), 15.v.1982, Sita Nagar Forest, coll. M.K. Vasudeva Rao.

**Little Andaman:** 8313(PBL), 27.i.1981, 4km from HutBay, coll. R.K. Premanath; 2346 (PBL), 30.iv.1975, 24km north from Hutbay, ±10m, coll. N. Bhargava; 2414 (PBL), 08.v.1975, near forest nursery, Hutbay, Sea level, coll. N. Bhargava; 4191 (PBL), 28.viii.1976, Hutbay, Sea level, coll. N. Bhargava; 6552 (PBL), 23.xi.1977, way to Harmander Bay, Sea level, coll. N. Bhargava.

## CONCLUSION

Based on the present study and field observations, the authors are of the opinion that *Grosourdya muriculata* is distributed throughout the Andaman Islands, namely North, Middle, South, and Little Andaman. It is also present in small islands such as Long Island, Kyd Island, James Island, Havelock Island, and Rutland Island. We could locate two specimens from Nicobar Islands identified as *Grosourdya muriculata* (PBL572, 14.iii.2015, Katchal Island, Japan Tikari, coll. S. Prabhu & R. Sathiyaseelan; PBL415, 18.x.2011, Nancowry Island, Nallah Basthi, coll. S. Prabhu & R. Sathiyaseelan) placed at PBL. These specimens did not have flowers and, therefore, their identity could not be ascertained by the authors because of its similarity with *Pomatocalpa spicatum* Breda, Kuhl & Hasselt in the vegetative stage. Therefore, further investigation is needed to ascertain its occurrence in the Nicobar Islands.

*Grosourdya muriculata* was assessed as Endangered [EN B1ab (i,ii)] by Karthigeyan et al. (2014). Although the area of occupancy of the species is less than 5,000km<sup>2</sup>, the authors were able to locate its population at 11 localities (Fig. 1) during field observations in the present study. At each locality, about 50–75 clumps were seen with each comprising one to five mature individuals. At five locations, multiple sub-populations were also observed. Therefore, on the basis of IUCN (2018), the authors suggest changing the status of the species to Near Threatened as the species does not qualify for a threatened status at present but is likely to do so in the near future. As most of these localities fall under protected areas, There is no immediate grave threat to the existence of the species. Further field surveys and regular monitoring, however, are recommended as these localities are scattered and some of them are facing threats due to anthropogenic and natural coastal activities, which may lead to the disappearance of the species from the habitats situated at the periphery of open forests.



Image 3. Herbarium sheet of *Grosourdyia muriculata*

## REFERENCES

- Hooker, J.D. (1885). *Flora of British India*, Vol. 6. L. Reeve & Co., London, 792pp.
- IUCN (2018). IUCN Red List Categories and Criteria, Version 3.1. International Union for Conservation of Nature and Natural Resources, Gland. <https://portals.iucn.org/library/node/7977>
- Karthigeyan, K., J. Jayanthi, R. Sumathi & J.S. Jalal (2014). A review of the orchid diversity of Andaman and Nicobar Islands, India. *Richardiana* 15: 9–85.
- Kocyan, A. & A. Schuiteman (2013). New combinations in Aeridinae (Orchidaceae). *Phytotaxa* 161(1): 61–85; <https://doi.org/10.11646/phytotaxa.161.1.3>
- Mathew, S.P., A. Mohandas & G.M. Nair (2005). *Pteroceras muriculatum* (Reichb. f.) P.F. Hunt - a vanishing endemic orchid from the Andaman Islands, India. *Orchid Digest* 69: 35–36.
- Pridgeon, A.M., P.J. Cribb, M.W. Chase & F.N. Rasmussen (eds.) (2014). *Genera Orchidacearum*, Vol. 6: *Epidendroideae* (Part 3). Oxford University Press, Oxford, United Kingdom, 576pp.
- Rice, R. (2018). *Photo Intro to: Vandoid Orchid Genera in Asia*. Nature & Travel Books, Australia, 202pp.





PLATINUM  
OPEN ACCESS



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at [www.threatenedtaxa.org](http://www.threatenedtaxa.org). All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

January 2019 | Vol. 11 | No. 1 | Pages: 13047–13194

Date of Publication: 26 January 2019 (Online & Print)

DOI: 10.11609/jott.2019.11.1.13047-13194

[www.threatenedtaxa.org](http://www.threatenedtaxa.org)

## Articles

### Distribution of the threatened Assamese Macaque *Macaca assamensis* (Mammalia: Primates: Cercopithecidae) population in Nepal

– Laxman Khanal, Mukesh Kumar Chalise & Xuelong Jiang, Pp. 13047–13057

### Redescription of *Leposternon octostegum* (Duméril, 1851), with an identification key for Brazilian *Leposternon* species, remarks on meristic methodology, and a proposal for pholidosis nomenclature (Squamata: Amphisbaenidae)

– José Duarte de Barros-Filho, Marco Antonio de Freitas, Thais Figueiredo Santos Silva, Mariana Fiuza de Castro Loguercio & Maria Celeste Costa Valverde, Pp. 13058–13086

## Communications

### Annotated checklist and conservation status of mammals of Fars Province, southern Iran

– Fatah Zarei, Sasan Kafaie & Hamid Reza Esmaeili, Pp. 13087–13113

### Functional sperm assessments of African Lion

#### *Panthera leo* (Mammalia: Carnivora: Felidae) in field conditions

– Thiesa Butterby Soler Barbosa, Daniel de Souza Ramos Angrimani, Bruno Rogério Rui, João Diego de Agostini Losano, Luana de Cássia Bicudo, Marcel Henrique Blank, Marcilio Nichi & Cristiane Schilbach Pizzutto, Pp. 13114–13119

### Description of a new species of *Pseudophilautus* (Amphibia: Rhacophoridae) from southern Sri Lanka

– Sudesh Batuwita, Madura De Silva & Sampath Udugampala, Pp. 13120–13131

### Marine snakes of Indian coasts: historical resume, systematic checklist, toxinology, status, and identification key

– S.R. Ganesh, T. Nandhini, V. Deepak Samuel, C.R. Sreeraj, K.R. Abhilash, R. Purvaja & R. Ramesh, Pp. 13132–13150

## Short Communications

### Feeding trails of Dugong *Dugong dugon* (Müller, 1776) (Mammalia: Sirenia: Dugongidae) in the Gulf of Kachchh, western coast of India

– Deepak Apte, Dishant Parasharya & Bhavik Patel, Pp. 13151–13154

### Population status and floral biology of *Trichopus zeylanicus* ssp. *travancoricus* Burkill ex K. Narayanan (Dioscoreaceae), an important ethnomedicinal plant of the southern Western Ghats, India

– Nambi Sasikala & Raju Ramasubbu, Pp. 13156–13161

**Taxonomic notes on *Grosourdyia muriculata* (Orchidaceae: Epidendroideae: Vandeae: Aeridinae), a little known endemic orchid from the Andaman & Nicobar Islands, India**  
– Sanjay Mishra, C.P. Vivek, Gautam Anuj Ekka & Lal Ji Singh, Pp. 13162–13167

## Notes

### The importance of trans-boundary conservation of the Asiatic Elephant *Elephas maximus* in Patharia Hills Reserve Forest, northeastern India

– Nazimur Rahman Talukdar, Parthankar Choudhury & Rofik Ahmed Barbhuiya, Pp. 13168–13170

### Breeding record of Common Hoopoe *Upupa epops* (Aves: Upupidae) at Satchari National Park in northeastern Bangladesh

– Sabit Hasan, Tanvir Ahmed & Hassan Al-Razi, Pp. 13171–13172

### Additional record of the poorly known Argus *Paralasa nepalica* (Paulus, 1983) (Insecta: Lepidoptera: Nymphalidae) in Nepal

– Sanej Prasad Suwal, Krishna Dev Hengaju & Naresh Kusi, Pp. 13173–13174

### First report of the catfish Nilgiri *Mystus hemibagrus punctatus* (Jerdon, 1849) (Bagridae) from Stanley Reservoir, Tamil Nadu, India

– Jayasimhan Praveenraj, Nallathambi Moulitharan & M.P. Goutham-Bharathi, Pp. 13175–13179

### The easternmost distribution and highest elevation record of the rare Desert Cat Snake *Telescopus rhinopoma* (Reptilia: Colubridae) in Pakistan

– Daniel Jablonski & Rafaqat Masroor, Pp. 13180–13183

### A checklist of spider fauna of Rajasthan, India

– Neisseril Anirudhan Kashmeera & Ambalaparambil Vasu Sudhikumar, Pp. 13184–13187

### New records of *Chrysomya putoria* and *C. thanomthini* (Diptera: Calliphoridae) from India, with a revised key to the known Indian species

– Meenakshi Bharti, Pp. 13188–13190

### Lectotypification of *Impatiens duclouxii* Hook.f., a new addition to the flora of India from Arunachal Pradesh

– Rajib Gogoi, Umeshkumar L. Tiwari, Souravjyoti Borah & Bladimir Bajur Theodore Tham, Pp. 13191–13194

## Partner



صندوق محمد بن زايد  
للمحافظة على  
الكائنات الحية  
The Mohamed bin Zayed  
SPECIES CONSERVATION FUND

## Member



## Publisher & Host

