

# Journal of Threatened Taxa

Building evidence for conservation globally

10.11609/jott.2021.13.14.20143-20310  
[www.threatenedtaxa.org](http://www.threatenedtaxa.org)

26 December 2021 (Online & Print)  
Vol. 13 | No. 14 | Pages: 20143–20310

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

Open Access





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

Publisher

Wildlife Information Liaison Development Society

[www.wild.zooreach.org](http://www.wild.zooreach.org)

Host

Zoo Outreach Organization

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

No. 12, Thiruvannamalai Nagar, Saravanampatti - Kalapatti Road, Saravanampatti,

Coimbatore, Tamil Nadu 641035, India

Ph: +91 9385339863 | [www.threatenedtaxa.org](http://www.threatenedtaxa.org)

Email: sanjay@threatenedtaxa.org

EDITORS

Founder & Chief Editor

Dr. Sanjay Molur

Wildlife Information Liaison Development (WILD) Society & Zoo Outreach Organization (ZOO),  
12 Thiruvannamalai Nagar, Saravanampatti, Coimbatore, Tamil Nadu 641035, India

Deputy Chief Editor

Dr. Neelesh Dahanukar

Noida, Uttar Pradesh, India

Managing Editor

Mr. B. Ravichandran, WILD/ZOO, Coimbatore, India

Associate Editors

Dr. Mandar Paingankar, Government Science College Gadchiroli, Maharashtra 442605, India

Dr. Ulrike Streicher, Wildlife Veterinarian, Eugene, Oregon, USA

Ms. Priyanka Iyer, ZOO/WILD, Coimbatore, Tamil Nadu 641035, India

Dr. B.A. Daniel, ZOO/WILD, Coimbatore, Tamil Nadu 641035, India

Editorial Board

Dr. Russel Mittermeier

Executive Vice Chair, Conservation International, Arlington, Virginia 22202, USA

Prof. Mewa Singh Ph.D., FASc, FNA, FNAsc, FNAPsy

Ramanna Fellow and Life-Long Distinguished Professor, Biopsychology Laboratory, and Institute of Excellence, University of Mysore, Mysuru, Karnataka 570006, India; Honorary Professor, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore; and Adjunct Professor, National Institute of Advanced Studies, Bangalore

Stephen D. Nash

Scientific Illustrator, Conservation International, Dept. of Anatomical Sciences, Health Sciences Center, T-8, Room 045, Stony Brook University, Stony Brook, NY 11794-8081, USA

Dr. Fred Pluthero

Toronto, Canada

Dr. Priya Davidar

Sigur Nature Trust, Chadapatti, Mavinahalli PO, Nilgiris, Tamil Nadu 643223, India

Dr. Martin Fisher

Senior Associate Professor, Battcock Centre for Experimental Astrophysics, Cavendish Laboratory, JJ Thomson Avenue, Cambridge CB3 0HE, UK

Dr. John Fellowes

Honorary Assistant Professor, The Kadoorie Institute, 8/F, T.T. Tsui Building, The University of Hong Kong, Pokfulam Road, Hong Kong

Prof. Dr. Mirco Solé

Universidade Estadual de Santa Cruz, Departamento de Ciências Biológicas, Vice-coordenador do Programa de Pós-Graduação em Zoologia, Rodovia Ilhéus/Itabuna, Km 16 (45662-000) Salobrinho, Ilhéus - Bahia - Brasil

Dr. Rajeev Raghavan

Professor of Taxonomy, Kerala University of Fisheries & Ocean Studies, Kochi, Kerala, India

English Editors

Mrs. Mira Bhojwani, Pune, India

Dr. Fred Pluthero, Toronto, Canada

Mr. P. Ilangovan, Chennai, India

Web Development

Mrs. Latha G. Ravikumar, ZOO/WILD, Coimbatore, India

Typesetting

Mr. Arul Jagadish, ZOO, Coimbatore, India

Mrs. Radhika, ZOO, Coimbatore, India

Mrs. Geetha, ZOO, Coimbatore India

Fundraising/Communications

Mrs. Payal B. Molur, Coimbatore, India

Subject Editors 2018–2020

Fungi

Dr. B. Shivaraju, Bengaluru, Karnataka, India

Dr. R.K. Verma, Tropical Forest Research Institute, Jabalpur, India

Dr. Vatsavaya S. Raju, Kakatiya University, Warangal, Andhra Pradesh, India

Dr. M. Krishnappa, Jnana Sahyadri, Kuvenpu University, Shimoga, Karnataka, India

Dr. K.R. Sridhar, Mangalore University, Mangalagangotri, Mangalore, Karnataka, India

Dr. Gunjan Biswas, Vidyasagar University, Midnapore, West Bengal, India

Plants

Dr. G.P. Sinha, Botanical Survey of India, Allahabad, India

Dr. N.P. Balakrishnan, Ret. Joint Director, BSI, Coimbatore, India

Dr. Shonil Bhagwat, Open University and University of Oxford, UK

Prof. D.J. Bhat, Retd. Professor, Goa University, Goa, India

Dr. Ferdinando Boero, Università del Salento, Lecce, Italy

Dr. Dale R. Calder, Royal Ontario Museum, Toronto, Ontario, Canada

Dr. Cleofas Cervancia, Univ. of Philippines Los Baños College Laguna, Philippines

Dr. F.B. Vincent Florens, University of Mauritius, Mauritius

Dr. Merlin Franco, Curtin University, Malaysia

Dr. V. Irudayaraj, St. Xavier's College, Palayamkottai, Tamil Nadu, India

Dr. B.S. Kholia, Botanical Survey of India, Gangtok, Sikkim, India

Dr. Pankaj Kumar, Kadoorie Farm and Botanic Garden Corporation, Hong Kong S.A.R., China

Dr. V. Sampath Kumar, Botanical Survey of India, Howrah, West Bengal, India

Dr. A.J. Solomon Raju, Andhra University, Visakhapatnam, India

Dr. Vijayasankar Raman, University of Mississippi, USA

Dr. B. Ravi Prasad Rao, Sri Krishnadevaraya University, Anantapur, India

Dr. K. Ravikumar, FRLHT, Bengaluru, Karnataka, India

Dr. Aparna Watve, Pune, Maharashtra, India

Dr. Qiang Liu, Xishuangbanna Tropical Botanical Garden, Yunnan, China

Dr. Noor Azhar Mohamed Shazili, Universiti Malaysia Terengganu, Kuala Terengganu, Malaysia

Dr. M.K. Vasudeva Rao, Shiv Ranjani Housing Society, Pune, Maharashtra, India

Prof. A.J. Solomon Raju, Andhra University, Visakhapatnam, India

Dr. Manda Datar, Agharkar Research Institute, Pune, Maharashtra, India

Dr. M.K. Janarthanam, Goa University, Goa, India

Dr. K. Karthigeyan, Botanical Survey of India, India

Dr. Errol Vela, University of Montpellier, Montpellier, France

Dr. P. Lakshminarasimhan, Botanical Survey of India, Howrah, India

Dr. Larry R. Nobile, Montgomery Botanical Center, Miami, USA

Dr. K. Haridasan, Pallavur, Palakkad District, Kerala, India

Dr. Analinda Manila-Fajard, University of the Philippines Los Baños, Laguna, Philippines

Dr. P.A. Sinu, Central University of Kerala, Kasaragod, Kerala, India

Dr. Afroz Alam, Banasthali Vidyapith (accredited A grade by NAAC), Rajasthan, India

Dr. K.P. Rajesh, Zamorin's Guruvayurappan College, GA College PO, Kozhikode, Kerala, India

Dr. David E. Boufford, Harvard University Herbaria, Cambridge, MA 02138-2020, USA

Dr. Ritesh Kumar Choudhary, Agharkar Research Institute, Pune, Maharashtra, India

Dr. Navendu Page, Wildlife Institute of India, Chandrabani, Dehradun, Uttarakhand, India

Invertebrates

Dr. R.K. Avasthi, Rohtak University, Haryana, India

Dr. D.B. Bastawade, Maharashtra, India

Dr. Partha Pratim Bhattacharjee, Tripura University, Suryamaninagar, India

Dr. Kailash Chandra, Zoological Survey of India, Jabalpur, Madhya Pradesh, India

Dr. Ansie Dippenaar-Schoeman, University of Pretoria, Queenswood, South Africa

Dr. Rory Dow, National Museum of Natural History Naturals, The Netherlands

Dr. Brian Fisher, California Academy of Sciences, USA

Dr. Richard Gallon, Ilandudno, North Wales, LL30 1UP

Dr. Hemant V. Ghate, Modern College, Pune, India

Dr. M. Monwar Hossain, Jahangirnagar University, Dhaka, Bangladesh

Mr. Jatishwar Singh Irungbam, Biology Centre CAS, Branišovská, Czech Republic.

Dr. Ian J. Kitching, Natural History Museum, Cromwell Road, UK

Dr. George Mathew, Kerala Forest Research Institute, Peechi, India

For Focus, Scope, Aims, and Policies, visit [https://threatenedtaxa.org/index.php/JoTT/aims\\_scope](https://threatenedtaxa.org/index.php/JoTT/aims_scope)

For Article Submission Guidelines, visit <https://threatenedtaxa.org/index.php/JoTT/about/submissions>

For Policies against Scientific Misconduct, visit [https://threatenedtaxa.org/index.php/JoTT/policies\\_various](https://threatenedtaxa.org/index.php/JoTT/policies_various)

continued on the back inside cover

Caption: Large Indian Civet *Viverra zibetha*, Tricoloured Munia *Lonchura malacca* and *Hoya wightii* (Medium—pencil crayon on watercolour paper) © Supriya Samanta.



## Two additions to the flora of Kerala, India

P. Murugan<sup>1</sup> , Basil Paul<sup>2</sup> & M. Sulaiman<sup>3</sup>

<sup>1–3</sup> Botanical Survey of India, Southern Regional Centre, TNAU campus, Coimbatore, Tamil Nadu 641003, India.

<sup>1</sup> murulax@gmail.com (corresponding author), <sup>2</sup> basilpaul35@gmail.com, <sup>3</sup> sulai.anbu@gmail.com

Agasthyamalai, a compact block of hill range on the southern most end of the Western Ghats falls within the Thiruvananthapuram district of Kerala state. It lies between 8.500–8.733N latitude and 77.083–77.300E longitude and spreads over a geographical area of c. 200 km<sup>2</sup>. It descends steeply westwardly from the highest peak of Agasthyarkoodam with an altitude of 1,868 m in the east, to 300–400 m high hilly forest areas of Thiruvananthapuram district in the west, Tirunelveli district in the east, Kanyakumari district in south. The Agasthyamalai harbours more than 1,100 species of flowering plants which includes c. 320 species (28%) are found to be endemic to India. Of these, 46 species are reported and restricted to Agasthyamalai regions of Kerala state (Mohanan & Sivadasan 2002).

In a recent botanical exploration in Agasthyamalai, Thiruvananthapuram district, Kerala, the authors collected two specimens belongs to the genera *Acilepis* D.Don and *Psychotria* L., respectively. After critical study with relevant literatures and protologue (Chelladurai & Gopalan 2001; Murugan & Gopalan 2007), these were identified as *Acilepis pothigaina* (Chellad. & Gopalan) Kottaim. and *Psychotria henryana* Murugan & Gopalan which are found in the eastern slopes of Agasthiamalai, Tamil Nadu state. On perusal of literature (Mohanan &

Henry 1994; Mohanan & Sivadasan 2002; Sasidharan 2004, 2013; Nayar et al. 2006, 2014) revealed that these two species have so far not been reported from Kerala state, and hence they constitute new distribution records for state. Its short description along with nomenclature notes, distribution, image, phenology is provided for the further collection and identification in the field.

### Asteraceae

*Acilepis pothigaina* (Chellad. & Gopalan) Kottaim.  
 (Image 1)

Telopea 18: 376. 2015. *Vernonia pothigaina* Chellad. & Gopalan in J. Econ. Taxon. Bot. 25: 271. 2001; Singh et al. End. Vasc. Pl. India: 115. 2015.

Type: India, Tamil Nadu, Tirunelveli District: Pothigaimalai peak (Agasthiamalai), ±1868 m, 06.ii.1989, R. Gopalan 88741 (Holo: CAL image!; Iso: MH!).

Large herbs to shrubs, up to 1.2 m high; branchlets grooved or 6–10 ribbed, young parts woolly white powdery tomentose. Leaves simple, spirally alternate, elliptic-lanceolate or lanceolate, 3–10 × 1.5–3 cm, glabrous above, woolly white tomentum beneath, attenuate at base, margins distantly glandular serrate and revolute, acute-acuminate with mucronate at apex; lateral nerves 8–10 pairs; petioles up to 2 cm long, flat

**Editor:** Anonymity requested.

**Date of publication:** 26 December 2021 (online & print)

**Citation:** Murugan, P., B. Paul & M. Sulaiman (2021). Two additions to the flora of Kerala, India. *Journal of Threatened Taxa* 13(14): 20288–20291. <https://doi.org/10.11609/jott.7376.13.14.20288-20291>.

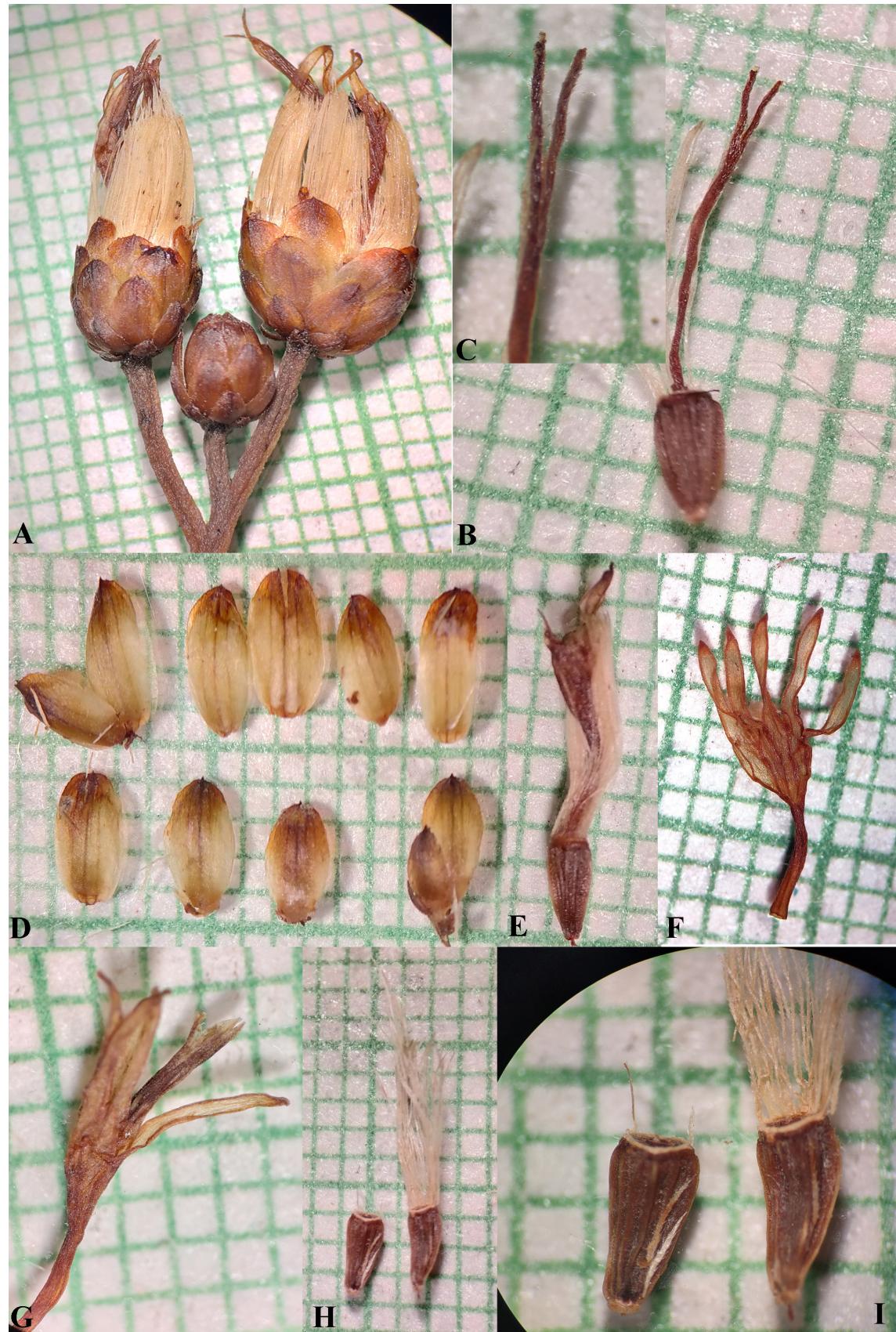
**Copyright:** © Murugan et al. 2021. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use, reproduction, and distribution of this article in any medium by providing adequate credit to the author(s) and the source of publication.

**Funding:** Ministry of Environment, Forest & Climate Change, New Delhi.

**Competing interests:** The authors declare no competing interests.

**Acknowledgements:** Authors are thankful to Dr. A.A. Mao, director, Botanical Survey of India, Kolkata, for constant support and Dr. M.U. Sharief, scientist-e & head of office, Southern Regional Centre, Coimbatore for facilities and also Dr. C. Murugan, scientist-e, BSI, SRC, Coimbatore for the guidance and valuable comments. We extend our thanks to the Forest Department of Kerala, India for permission and necessary help during the field study and also grateful to the Ministry of Environment, Forest and Climate Change, Govt. India, New Delhi, for the financial support under Flora of India project.





**Image 1.** *Acilepis pothigaiana* (Chellad. & Gopalan) Kottaim.: A—branching of inflorescences | B & C—achenes with style and stigma | D—phyllaries | E—floret | F—split open corolla | G—corolla with stamens | H & I—achenes with pappus. © P. Murugan.

above, rounded below. Inflorescence terminal or axillary, lax, panicled cymes up to 12 cm long; peduncles up to 6 cm long, ribbed; capitula, 1–1.5 long; Phyllaris 20–25 in 4–5 seriate; outermost 1-seriate 1–4, up to 1 mm long, triangular, margins ciliate, apex at mucronate; second seriate 5–11, up to 2.5 mm long, ovate, ciliate along margins; third seriate 12–16, up to 3 mm long, oblong or oblong to ovate, ciliate at margins; fourth seriate 17–19, up to 4 mm long, oblong-ovate, obtuse and apiculate at apex, 3-ribbed; fifth seriate 20–21, up to 4.5 mm long, concave, obtuse and apiculate at apex, tri-nerved; innermost seriate 22–25, 4–5 mm long, oblanceolate or spathulate, hyaline, obtuse and apiculate at apex, tri-nerved; pedicels 2–8 mm long, ribbed. Disc florets bisexual, homogamous. Corolla 8–10 mm long, infundibuliformis; lobes 5, 4–5 mm long, oblong-lanceolate or linear-lanceolate, hyaline, margins at entire with thick layer, apex at acute. Stamens 5, syngenesious; filaments alternate to the corolla lobes, 0.5–1 mm long; anthers 2–3 mm long, oblong-linear, tailed at base, acute at apex. Ovary oblong-obovate, ca 2 mm long, 8–10 ribbed; style 6–8 mm long, filiform; stigma 2–3 mm long, arms, feathery or hairy. Achene oblong-obovate, 2–3 mm long, 8–10 ribbed, brown; pappus up to 7 mm long, plumose

trichomes, biseriate, barbellate. Ray florets 0

Flowering & Fruiting: January–April

Distribution: India (Tamil Nadu & Kerala), endemic.

Specimens examined: 145004 (MH, Image 2), 25.iii.2021, Agasthyarkoodam, slope of first rope base, Thiruvananthapuram District, Kerala, India, 8.61808333 N 77.24702778 E, ± 1,750 m, coll. P. Murugan

Biotic association: *Acilepis pothigiana* was found growing along with other species such as *Impatiens agasthyamalayensis* (Bhaskar) A.Joe, Bhaskar & M.Sabu, *Impatiens henslowiana* Arn., *Symplocos wynadense* (Kuntze) Noot., *Senecio ludens* C.B.Clarke, *Hedyotis travancorica* Bedd., *Nostolachma crassifolia* (Gamble) Deb & Lahiri, and *Tarenna flava* Alston

Note: Chelladurai & Gopalan (2001) described this species based on their collections (1977 & 1989) from the Pothigaimalai, Tirunelveli hills, Tamil Nadu. Later Kottaimuthu (2015) transferred *Vernonia pothigiana* Chellad. & Gopalan into the genus *Acilepis* D.Don. The present collection turns to be the relocation of the plant after type and a new addition to the flora of Kerala.

## Rubiaceae

### *Psychotria henryana* Murugan & Gopalan (Image 3)

Nordic J. Bot. 24: 415. 2007; Singh et al. End. Vasc. Pl. India: 237. 2015.

Type: India, Tamil Nadu, Kanyakumari District: Muthukuzhi, ±1400 m, 19.i.1978, A.N. Henry 52454 (Holo: CAL image!; Iso: MH!).

Evergreen, large shrubs, up to 3 m high; branchlets terete, smooth, young parts stem green with white dotted. Leaves simple, opposite-decussate, oblanceolate, 8–20 × 4–8 cm, membranous, cuneate at base, margins at entire, acute to acuminate at apex; lateral nerves 8–15 pairs, reticulated; petioles up to 4 cm long, terete to towards apex flat, scar; stipules up to 3 cm long, oblong-lanceolate, flat with longitudinal channels, caudate and twisted towards apex when young and become obtuse at apex, folded longitudinally and caducous when mature. Inflorescence terminal, loosely corymbose cymes, up to 6 cm long; branches opposite; peduncles 0.5–1 cm long, stout, terete; pedicels up to 4 mm long, terete; bracts caducous. Flowers 5–10 mm across, green, pentamerous, actinomorphic. Calyx tube obconical, 2–3 mm in diam.; lobes 5, obscurely toothed. Corolla valvate, 8–10 mm in diam., shortly tubed, densely white-villous at throat; lobes 5, oblong, 4–6 mm long, obtuse to acute at apex. Stamens 5, slightly exerted; filaments 0.5–1.5 mm long, filiform; anthers c. 2 mm long, oblong, dorsifixed, dithecos. Ovary inferior, subglobose, 2-locular; ovule



Image 2. Herbarium sheet of *Acilepis pothigiana*.



**Image 3.** *Psychotria henryana* Murugan & Gopalan: A—stipules | B—fruiting twig. © P. Murugan.

1 in each locule, placentation basal; style subulate, 4–6 mm long, towards to apex thickened; stigma bi-lobed, tongue shaped. Fruits ellipsoid-oblong, 1–1.5 cm long, dark brown or dark purple and yellow dotted.

Flowering and Fruiting: December–March

Specimens examined: 145011 (MH, Image 4), 25.iii.2021, Pongala Para, slope of way to Agasthyarkoodam peak, Thiruvananthapuram district, Kerala, India, 8.62119444 N 77.24852778 E, 1650–1750 m, coll. P. Murugan.

Distribution: India (Kerala and Tamil Nadu States), endemic.

Biotic association: *Psychotria henryana* was found growing along with other species such as *Canthiumera neilgherrensis* (Wight) K.M.Wong, *Casearia thwaitesii* Briq., *Hedyotis travancorica* Bedd., *Nostolachma crassifolia* (Gamble) Deb & Lahiri, *Phlogacanthus grandis* Bedd., *Pittosporum neelgherrense* Wight & Arn. and *Symplocos wynadense* (Kuntze) Noot.

Note: *Psychotria henryana* closely resembles *Psychotria anamalayana* Bedd., but can be distinguished from it by its stipules 2, flat with longitudinal channels, when young towards apex twisted and when mature obtuse (vs stipules 2–3, rarely bilobed, densely villous at base); leaves opposite-decussate, cuneate at base (vs leaves whorled, attenuate at base); inflorescence terminal, opposite, terete (vs inflorescence terminal or axillary, whorled, trigonous); flowers green (vs flowers



**Image 4.** Herbarium sheet of *Psychotria henryana*.

white); calyx funnel, minutely toothed (vs calyx obconic, 5-toothed); disc discoid (vs subglobose); stigma shaped tongue (vs stigma ovate) and fruits when mature without calyx crowned with persistent (vs fruits when mature with calyx crowned with persistent).

## References

- Chelladurai, V. & R. Gopalan (2001). A new *Vernonia* Schreb. (Asteraceae) from Southern India. *Journal Economic & Taxonomy Botany* 25: 271–273.
- Murugan, C. & R. Gopalan (2007). *Psychotria henryana* (Rubiaceae), a new species from the Southern Western Ghats, India. *Nordic Journal Botany* 24: 415–418.
- Kottaimuthu, R. (2015). Three new combinations in *Acilepis* D.Don (Asteraceae) from India. *Telopea* 18: 375–377.
- Mohanan, N. & A.N. Henry (1994). *Flora of Thiruvananthapuram District, Kerala*. Botanical Survey of India, Kolkata, 621 pp.
- Mohanan, N. & M. Sivadasan (2002). *Flora of Agasthyamala*. Bishen Singh Mahendra Pal Singh, Dehra Dun, 889 pp.
- Nayar, T.S., R.A. Beegam & M. Sibi (2014). *Flowering Plants of the Western Ghats India*. Tropical Botanic Garden and Research Institute, Thiruvananthapuram, Kerala, 933 pp.
- Nayar, T.S., R.A. Beegam, N. Mohanan & G. Rajkumar (2006). *Flowering Plants of Kerala-A Handbook*. Tropical Botanic Garden and Research Institute, Thiruvananthapuram, Kerala, 1059 pp.
- Sasidharan, N. (2004). *Biodiversity Documentation for Kerala. Part 6. Flowering Plants*. Kerala Forest Research Institute, Peechi, Kerala, 702 pp.
- Sasidharan, N. (2013). Flowering plants of Kerala: CD-ROM ver 2.0. Peechi: Kerala Forest Research Institute.

Dr. John Noyes, Natural History Museum, London, UK  
Dr. Albert G. Orr, Griffith University, Nathan, Australia  
Dr. Sameer Padhye, Katholieke Universiteit Leuven, Belgium  
Dr. Nancy van der Poorten, Toronto, Canada  
Dr. Karen Schnabel, NIWA, Wellington, New Zealand  
Dr. R.M. Sharma, (Retd.) Scientist, Zoological Survey of India, Pune, India  
Dr. Manju Siliwal, WILD, Coimbatore, Tamil Nadu, India  
Dr. G.P. Sinha, Botanical Survey of India, Allahabad, India  
Dr. K.A. Subramanian, Zoological Survey of India, New Alipore, Kolkata, India  
Dr. P.M. Sureshan, Zoological Survey of India, Kozhikode, Kerala, India  
Dr. R. Varatharajan, Manipur University, Imphal, Manipur, India  
Dr. Eduard Vives, Museu de Ciències Naturals de Barcelona, Terrassa, Spain  
Dr. James Young, Hong Kong Lepidopterists' Society, Hong Kong  
Dr. R. Sundararaj, Institute of Wood Science & Technology, Bengaluru, India  
Dr. M. Nitithyanandan, Environmental Department, La Al Kuwait Real Estate. Co. K.S.C., Kuwait  
Dr. Himender Bharti, Punjabi University, Punjab, India  
Mr. Purnendu Roy, London, UK  
Dr. Saito Motoki, The Butterfly Society of Japan, Tokyo, Japan  
Dr. Sanjay Soni, TITLI TRUST, Kalpavriksh, Dehradun, India  
Dr. Nguyen Thi Phuong Lien, Vietnam Academy of Science and Technology, Hanoi, Vietnam  
Dr. Nitin Kulkarni, Tropical Research Institute, Jabalpur, India  
Dr. Robin Wen Jiang Ngiam, National Parks Board, Singapore  
Dr. Lionel Monod, Natural History Museum of Geneva, Genève, Switzerland.  
Dr. Asheesh Shivam, Nehru Gram Bharti University, Allahabad, India  
Dr. Rosana Moreira da Rocha, Universidade Federal do Paraná, Curitiba, Brasil  
Dr. Kur R. Arnold, North Dakota State University, Saxony, Germany  
Dr. James M. Carpenter, American Museum of Natural History, New York, USA  
Dr. David M. Claborn, Missouri State University, Springfield, USA  
Dr. Karenne Schnabel, Marine Biologist, Wellington, New Zealand  
Dr. Amazonas Chagas Júnior, Universidade Federal de Mato Grosso, Cuiabá, Brasil  
Mr. Monsoon Jyoti Gogoi, Assam University, Silchar, Assam, India  
Dr. Heo Chong Chin, Universiti Teknologi MARA (UiTM), Selangor, Malaysia  
Dr. R.J. Shiel, University of Adelaide, SA 5005, Australia  
Dr. Siddharth Kulkarni, The George Washington University, Washington, USA  
Dr. Priyadarshan Dharma Rajan, ATREE, Bengaluru, India  
Dr. Phil Alderslade, CSIRO Marine And Atmospheric Research, Hobart, Australia  
Dr. John E.N. Veron, Coral Reef Research, Townsville, Australia  
Daniel Whitmore, State Museum of Natural History Stuttgart, Rosenstein, Germany.  
Dr. Yu-Feng Hsu, National Taiwan Normal University, Taipei City, Taiwan  
Dr. Keith V. Wolfe, Antioch, California, USA  
Dr. Siddharth Kulkarni, The Hormiga Lab, The George Washington University, Washington, D.C., USA  
Dr. Tomas Ditrich, Faculty of Education, University of South Bohemia in Ceske Budejovice, Czech Republic  
Dr. Mihaly Foldvari, Natural History Museum, University of Oslo, Norway  
Dr. V.P. Uniyal, Wildlife Institute of India, Dehradun, Uttarakhand 248001, India  
Dr. John T.D. Caleb, Zoological Survey of India, Kolkata, West Bengal, India  
Dr. Priyadarshan Dharma Rajan, Ashoka Trust for Research in Ecology and the Environment (ATREE), Royal Enclave, Bangalore, Karnataka, India

#### Fishes

Dr. Neelesh Dahanukar, IISER, Pune, Maharashtra, India  
Dr. Topiltzin Contreras MacBeath, Universidad Autónoma del estado de Morelos, México  
Dr. Heok Hee Ng, National University of Singapore, Science Drive, Singapore  
Dr. Rajeev Raghavan, St. Albert's College, Kochi, Kerala, India  
Dr. Robert D. Sluka, Chiltern Gateway Project, A Rocha UK, Southall, Middlesex, UK  
Dr. E. Vivekanandan, Central Marine Fisheries Research Institute, Chennai, India  
Dr. Davor Zanella, University of Zagreb, Zagreb, Croatia  
Dr. A. Biju Kumar, University of Kerala, Thiruvananthapuram, Kerala, India  
Dr. Akhilesh K.V., ICAR-Central Marine Fisheries Research Institute, Mumbai Research Centre, Mumbai, Maharashtra, India  
Dr. J.A. Johnson, Wildlife Institute of India, Dehradun, Uttarakhand, India

#### Amphibians

Dr. Sushil K. Dutta, Indian Institute of Science, Bengaluru, Karnataka, India  
Dr. Annemarie Ohler, Muséum national d'Histoire naturelle, Paris, France

#### Reptiles

Dr. Gernot Vogel, Heidelberg, Germany  
Dr. Raju Vyas, Vadodara, Gujarat, India  
Dr. Pritpal S. Soorae, Environment Agency, Abu Dhabi, UAE.  
Prof. Dr. Wayne J. Fuller, Near East University, Mersin, Turkey  
Prof. Chandrashekher U. Rironker, Goa University, Taleigao Plateau, Goa, India  
Dr. S.R. Ganesh, Chennai Snake Park, Chennai, Tamil Nadu, India  
Dr. Hiransu Sekhar Das, Terrestrial & Marine Biodiversity, Abu Dhabi, UAE

#### Birds

Dr. Hem Sagar Baral, Charles Sturt University, NSW Australia  
Dr. Chris Bowden, Royal Society for the Protection of Birds, Sandy, UK  
Dr. Priya Davidar, Pondicherry University, Kalapet, Puducherry, India  
Dr. J.W. Duckworth, IUCN SSC, Bath, UK  
Dr. Rajah Jayopal, SACON, Coimbatore, Tamil Nadu, India  
Dr. S. Kalsi, M.L.N. College, Yamuna Nagar, Haryana, India  
Dr. V. Santharam, Rishi Valley Education Centre, Chittoor Dt., Andhra Pradesh, India  
Dr. S. Balachandran, Bombay Natural History Society, Mumbai, India  
Mr. J. Praveen, Bengaluru, India  
Dr. C. Srinivasulu, Osmania University, Hyderabad, India  
Dr. K.S. Gopi Sundar, International Crane Foundation, Baraboo, USA  
Dr. Gombobaataar Sundev, Professor of Ornithology, Ulaanbaatar, Mongolia  
Prof. Reuven Yosef, International Birding & Research Centre, Eilat, Israel  
Dr. Taej Mundkur, Wetlands International, Wageningen, The Netherlands  
Dr. Carol Inskip, Bishop Auckland Co., Durham, UK  
Dr. Tim Inskip, Bishop Auckland Co., Durham, UK  
Dr. V. Gokula, National College, Tiruchirappalli, Tamil Nadu, India  
Dr. Arkady Lelej, Russian Academy of Sciences, Vladivostok, Russia  
Dr. Simon Dowell, Science Director, Chester Zoo, UK  
Dr. Mário Gabriel Santiago dos Santos, Universidade de Trás-os-Montes e Alto Douro, Quinta de Prados, Vila Real, Portugal  
Dr. Grant Connette, Smithsonian Institution, Royal, VA, USA  
Dr. M. Zafar-ul Islam, Prince Saud Al Faisal Wildlife Research Center, Taif, Saudi Arabia

#### Mammals

Dr. Giovanni Amori, CNR - Institute of Ecosystem Studies, Rome, Italy  
Dr. Anwaruddin Chowdhury, Guwahati, India  
Dr. David Mallon, Zoological Society of London, UK  
Dr. Shomita Mukherjee, SACON, Coimbatore, Tamil Nadu, India  
Dr. Angie Appel, Wild Cat Network, Germany  
Dr. P.O. Nameer, Kerala Agricultural University, Thrissur, Kerala, India  
Dr. Ian Redmond, UNEP Convention on Migratory Species, Lansdown, UK  
Dr. Heidi S. Riddle, Riddle's Elephant and Wildlife Sanctuary, Arkansas, USA  
Dr. Karin Schwartz, George Mason University, Fairfax, Virginia.  
Dr. Lala A.K. Singh, Bhubaneswar, Orissa, India  
Dr. Mewa Singh, Mysore University, Mysore, India  
Dr. Paul Racey, University of Exeter, Devon, UK  
Dr. Honnallini N. Kumara, SACON, Anaikatty P.O., Coimbatore, Tamil Nadu, India  
Dr. Nishith Dharaiya, HNG University, Patan, Gujarat, India  
Dr. Spartaco Gippoliti, Socio Onorario Società Italiana per la Storia della Fauna "Giuseppe Altobello", Rome, Italy  
Dr. Justus Joshua, Green Future Foundation, Tiruchirappalli, Tamil Nadu, India  
Dr. H. Raghu Ram, The American College, Madurai, Tamil Nadu, India  
Dr. Paul Bates, Harison Institute, Kent, UK  
Dr. Jim Sanderson, Small Wild Cat Conservation Foundation, Hartford, USA  
Dr. Dan Challender, University of Kent, Canterbury, UK  
Dr. David Mallon, Manchester Metropolitan University, Derbyshire, UK  
Dr. Brian L. Cypher, California State University-Stanislaus, Bakersfield, CA  
Dr. S.S. Talmale, Zoological Survey of India, Pune, Maharashtra, India  
Prof. Karan Bahadur Shah, Budhanilakantha Municipality, Kathmandu, Nepal  
Dr. Susan Cheyne, Borneo Nature Foundation International, Palangkaraya, Indonesia  
Dr. Hemanta Kafley, Wildlife Sciences, Tarleton State University, Texas, USA

#### Other Disciplines

Dr. Aniruddha Belsare, Columbia MO 65203, USA (Veterinary)  
Dr. Mandar S. Paingankar, University of Pune, Pune, Maharashtra, India (Molecular)  
Dr. Jack Tordoff, Critical Ecosystem Partnership Fund, Arlington, USA (Communities)  
Dr. Ulrike Streicher, University of Oregon, Eugene, USA (Veterinary)  
Dr. Hari Balasubramanian, EcoAdvisors, Nova Scotia, Canada (Communities)  
Dr. Rayanna Hellam Santos Bezerra, Universidade Federal de Sergipe, São Cristóvão, Brazil  
Dr. Jamie R. Wood, Landcare Research, Canterbury, New Zealand  
Dr. Wendy Collinson-Jonker, Endangered Wildlife Trust, Gauteng, South Africa  
Dr. Rajeshkumar G. Jani, Anand Agricultural University, Anand, Gujarat, India  
Dr. O.N. Tiwari, Senior Scientist, ICAR-Indian Agricultural Research Institute (IARI), New Delhi, India  
Dr. L.D. Singla, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, India  
Dr. Rupika S. Rajakaruna, University of Peradeniya, Peradeniya, Sri Lanka  
Dr. Bahar Baviskar, Wild-CER, Nagpur, Maharashtra 440013, India

#### Reviewers 2018–2020

Due to paucity of space, the list of reviewers for 2018–2020 is available online.

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.

Print copies of the Journal are available at cost. Write to:  
The Managing Editor, JoTT,  
c/o Wildlife Information Liaison Development Society,  
No. 12, Thiruvannamalai Nagar, Saravanampatti - Kalapatti Road,  
Saravanampatti, Coimbatore, Tamil Nadu 641035, India  
ravi@threatenedtaxa.org

**Journal of Threatened Taxa** is indexed/abstracted in Bibliography of Systematic Mycology, Biological Abstracts, BIOSIS Previews, CAB Abstracts, EBSCO, Google Scholar, Index Copernicus, Index Fungorum, JournalSeek, National Academy of Agricultural Sciences, NewJour, OCLC WorldCat, SCOPUS, Stanford University Libraries, Virtual Library of Biology, Zoological Records.

NAAS rating (India) 5.64



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](#) 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)

December 2021 | Vol. 13 | No. 14 | Pages: 20143–20310

Date of Publication: 26 December 2021 (Online & Print)

DOI: [10.11609/jott.2021.13.14.20143-20310](https://doi.org/10.11609/jott.2021.13.14.20143-20310)

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

## Communications

### Updated distribution of seven *Trichosanthes* L. (Cucurbitales: Cucurbitaceae) taxa in India, along with taxonomic notes

Kanakasabapathi Pradheep, Soyimchiten, Ganjalagatta Dasaiah Harish, Muhammed Abdul Nizar, Kailash Chandra Bhatt, Anjula Pandey & Sudhir Pal Ahlawat, Pp. 20143–20152

### Dragonflies and Damselflies (Insecta: Odonata) of Aryanad Grama Panchayat, Kerala, India

– Reji Chandran & A. Vivek Chandran, Pp. 20153–20166

### Checklist of Odonata (Insecta) of Doon Valley, Uttarakhand, India

– Krish De, Sarika Bhatt, Amar Paul Singh, Manisha Uniyal & Virendra Prasad Uniyal, Pp. 20167–20173

### Diversity of moths from the urban set-up of Valmiki Nagar, Chennai, India

– Vikas Madhav Nagarajan, Rohith Srinivasan & Mahathi Narayanaswamy, Pp. 20174–20189

### Ichthyofaunal diversity with relation to environmental variables in the snow-fed Tamor River of eastern Nepal

– Jawan Tumbahangfe, Jash Hang Limbu, Archana Prasad, Bhrarat Raj Subba & Dil Kumar Limbu, Pp. 20190–20200

### Observations on the foraging behavior of Tricoloured Munia *Lonchura malacca* (Linnaeus, 1766) and its interaction with pearl millet fields in Villupuram District, Tamil Nadu, India

– M. Pandian, Pp. 20201–20208

### Roosting patterns of House Sparrow *Passer domesticus* Linn., 1758 (Aves: Passeridae) in Bhavnagar, Gujarat, India

– Foram P. Patel & Pravinsang P. Dodia, Pp. 20209–20217

## Review

### Comprehensive checklist of algal class Chlorophyceae (sensu Fritsch, 1935) for Uttar Pradesh, India, with updated taxonomic status

– Sushma Verma, Kiran Toppo & Sanjeeva Nayaka, Pp. 20218–20248

## View Point

### Wildlife managers ignore previous knowledge at great risk: the case of Rivaldo, the iconic wild Asian Elephant *Elephas maximus* L. of the Sigur Region, Nilgiri Biosphere Reserve, India

– Jean-Philippe Puyravaud & Priya Davidar, Pp. 20249–20252

## Short Communications

### Diversity and distribution of macro lichens from Kalpetta Municipality of Wayanad District, Kerala, India

– Gereshma Balu, A.R. Rasmi, Stephen Sequeira & Biju Haridas, Pp. 20253–20257

### Extended distribution of two endemic epiphytes from the Western Ghats to the Deccan Plateau

– Sonali Vishnu Deore, Mangala Dala Sonawane & Sharad Suresh Kambale, Pp. 20258–20260

### Nomenclatural notes and report of *Boehmeria penduliflora* Wedd. ex D.G. Long from the Terai region of Uttar Pradesh, India

– Amit Gupta, Imtiyaz Ahmad Hurrah, Aparna Shukla & Vijay V. Wagh, Pp. 20261–20265

New distribution record of a true coral species, *Psammocora contigua* (Esper, 1794) from Gulf of Kachchh Marine National Park & Sanctuary, India  
– R. Chandran, R. Senthil Kumaran, D.T. Vasavada, N.N. Joshi & Osman G. Husen, Pp. 20266–20271

A new species of flat-headed mayfly *Afronurus meenmutti* (Ephemeroptera: Heptageniidae: Ecdyonurinae) from Kerala, India  
– Marimuthu Muthukutturaja & Chellaiah Balasubramanian, Pp. 20272–20277

Photographic record of Dholes predating on a young Banteng in southwestern Java, Indonesia  
– Dede Aulia Rahman, Mochamad Syamsudin, Asep Yayus Firdaus, Herry Trisna Afriandi & Anggodo, Pp. 20278–20283

Latrine site and its use pattern by Large Indian Civet *Viverra zibetha* Linnaeus, 1758: record from camera trap  
– Bhuvan Singh Bist, Prashant Ghimire, Basant Sharma, Chiranjeevi Khanal & Anoj Subedi, Pp. 20284–20287

## Notes

### Two additions to the flora of Kerala, India

– P. Murugan, Basil Paul & M. Sulaiman, Pp. 20288–20291

### *Pentatropis* R.Br. ex Wight & Arn. (Apocynaceae), a new generic record for Kerala, India

– V. Ambika, Jose Sojan & V. Suresh, Pp. 20292–20294

### New record of Kashmir Birch Mouse *Sicista concolor leathemi* (Thomas, 1893) (Rodentia: Sminthidae) in the Indian Himalaya

– S.S. Talmale, Avtar Kaur Sidhu & Uttam Saikia, Pp. 20295–20298

### Breeding record of Black-headed Ibis *Threskiornis melanocephalus* (Aves: Threskiornithidae) at Mavoor wetland, Kozhikode District, Kerala, India

– C.T. Shifa, Pp. 20299–20301

## Response

### Crop and property damage caused by Purple-faced Langurs *Trachypithecus vetulus* (Mammalia: Primates: Cercopithecidae)

– Vincent Nijman, Pp. 20302–20306

## Reply

### If habitat heterogeneity is effective for conservation of butterflies in urban landscapes of Delhi, India? Unethical publication based on data manipulation: Response of original authors

– Monalisa Paul & Aisha Sultana, Pp. 20307–20308

## Book Review

### Freshwater fishes of the Arabian Peninsula

– Rajeev Raghavan, Pp. 20309–20310

## Publisher & Host

