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NOTE

***STROBILANTHES AFFINIS* (ACANTHACEAE): A NEW ADDITION TO THE FLORA OF MANIPUR, INDIA**

Sanjeet Kumar & Rajkumari Supriya Devi

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Strobilanthes affinis (Acanthaceae): a new addition to the flora of Manipur, India

Sanjeet Kumar¹ & Rajkumari Supriya Devi²

¹Ambika Prasad Research Foundation, First Floor, Sarswati Tower, Laxmisagar, Bhubaneswar, Odisha, 751006 India.

²Biodiversity & Conservation Division, Regional Centre, Ambika Prasad Research Foundation, Imphal, Manipur 795001, India.

¹sanjeet.biotech@gmail.com (corresponding author), ²supriyark91@gmail.com

The genus *Strobilanthes* Blume (1826: 781) from the family Acanthaceae (Wood & Scotland 2009) is a genus of perennial flowering herbs and shrubs with about 453 species worldwide (Biju et al. 2017; Mabberly 2017; Thomas et al. 2019, 2020; Wood et al. 2019). In India, the genus is represented by ca. 150 species (Scotland 1998; Gopalan & Chitra 2008; Karthikeyan et al. 2009; Wood 2014; Biju et al. 2017), and it is found mostly in evergreen forests. The name *Strobilanthes* is derived from the Latin word “*Strobilos*” meaning cone and “*anthos*” meaning flower or shoot. For the first time, the genus was scientifically described by Christian Gottfried Daniel Nees Von Esenbeck in the 19th century for the plants which bloom after long intervals, while some species of *Strobilanthes* bloom annually (Preethi & Suseem 2014; Josekutty et al. 2016, 2017, 2018; Augustine et al. 2017). The genus is distributed in the tropical regions of Asia starting from Afghanistan through India and Southeast Asia to Australia (Josekutty et al. 2018). During 2017–2018, while surveying floral diversity around Imphal, Manipur, when the weather was clear and the vegetation was on the verge of blooming, an exciting view of a blue patch of herbs was recorded. The site was an isolated place near an abandoned old temple-like structure. It

appeared like a small hill at the periphery of a human inhabitation which might have been used in the past as a sacred place where local deities may have been worshipped. It was a moist shady place with huge aged trees sheltering and nurturing vegetation beneath. A significant patch of blue coloured herbs with a height of 45–85 cm were blooming with bright blue coloured flowers in the area of around 4.5–6.5 m² on the slopes of a small hillock. After careful observation in the field, the first author confirmed that the specimen belongs to the genus *Strobilanthes* but confused it with *S. auriculata* or *S. jeyporensis*. After a detailed study of the specimen’s morphology (Image 1) and pollen morphology (Image 2), and comparison with *S. kunthiana*, it was confirmed that the collected species was *S. affinis*. This specimen was again confirmed by professor John Wood, University of Oxford, United Kingdom. After confirmation, literature survey and critical characterization, it was noticed that collected plant had been earlier reported from China (Wood et al. 2003) and the species was also collected by J.D. Hooker and T. Thomson from Meghalaya as *S.acrocephala* more than 10 decades ago. Therefore, it was concluded that the present specimen that was collected is identified as *S. affinis* and reported here for

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the first time from Manipur as an extended distribution.

During our field survey of the flora of Manipur (24.916 N & 93.961 E, 803m), some unidentified species of the genus *Strobilanthes* were collected. The specimens were packed in cloth bags and brought to the laboratory for analysis. The relevant floras were consulted for confirming its identity. A thorough review of the literature, detailed morphological and consultation of herbarium provided by professor Wood revealed that the specimen was *Strobilanthes affinis* (Griff.) Terao ex J.R.I.Wood J.R.Benn. The mounting of herbarium specimens was accomplished using standard taxonomic procedure (Jain & Rao 1977; Bridson & Forman 1998). The voucher specimens (APRF-MAN-BCD/2018-0004) were deposited in the "APRFH" Herbaria, Ambika Prasad Research Foundation, Odisha, India. The photographs of the diagnostic characteristics were taken by Stereo Microscope, (Leica MC 120 HD).

Taxonomic enumeration

Strobilanthes affinis (Griff.) Terao ex J. R. I. Wood J. R. Benn

Description: Herbs, 50–82.5 cm tall with many branches. Stems angular (quadrangular) with white pubescent, hairs. Leaves ovate-elliptic, 7–5 x 4–3 cm to 9–0 x 6–3 cm. Leaves simple, petiole, 3.5–4.3 cm long. Inflorescences axillary or terminal, 3.0–7.5 cm. Each inflorescence has two flowers that have bloomed, after drying another couple of flowers bloom. Flowers size, 1.9–2.3 cm long, 1.2 x 1.2–2.0 x 1.8 cm wide. Floral bracts imbricate with large-celled trichomes. Corolla violet or bluish-violet. Stamens 4 and glabrous, 5.0–2.2 mm. Fruits capsule, pubescent, four seeded, 4.0–7.0 mm. Seeds brown ovate (Image 1).

Flowering & Fruiting: August–March

Distribution: China and India (Manipur, Meghalaya).

Specimen examined: APRF-MAN-BCD-2018-004, India, Manipur, Imphal, 24.916°N & 93.961°E, 803m, Kumar Sanjeet 012 (Holotype APRFH) (Image 4).

Habitat & Ecology: The collected species is *Strobilanthes affinis* found on a small hill top of Manipur State. The collected area lies in the Indo-Burma Biodiversity Hotspot region. It was observed that the habitat is Moist-deciduous vegetation. The most

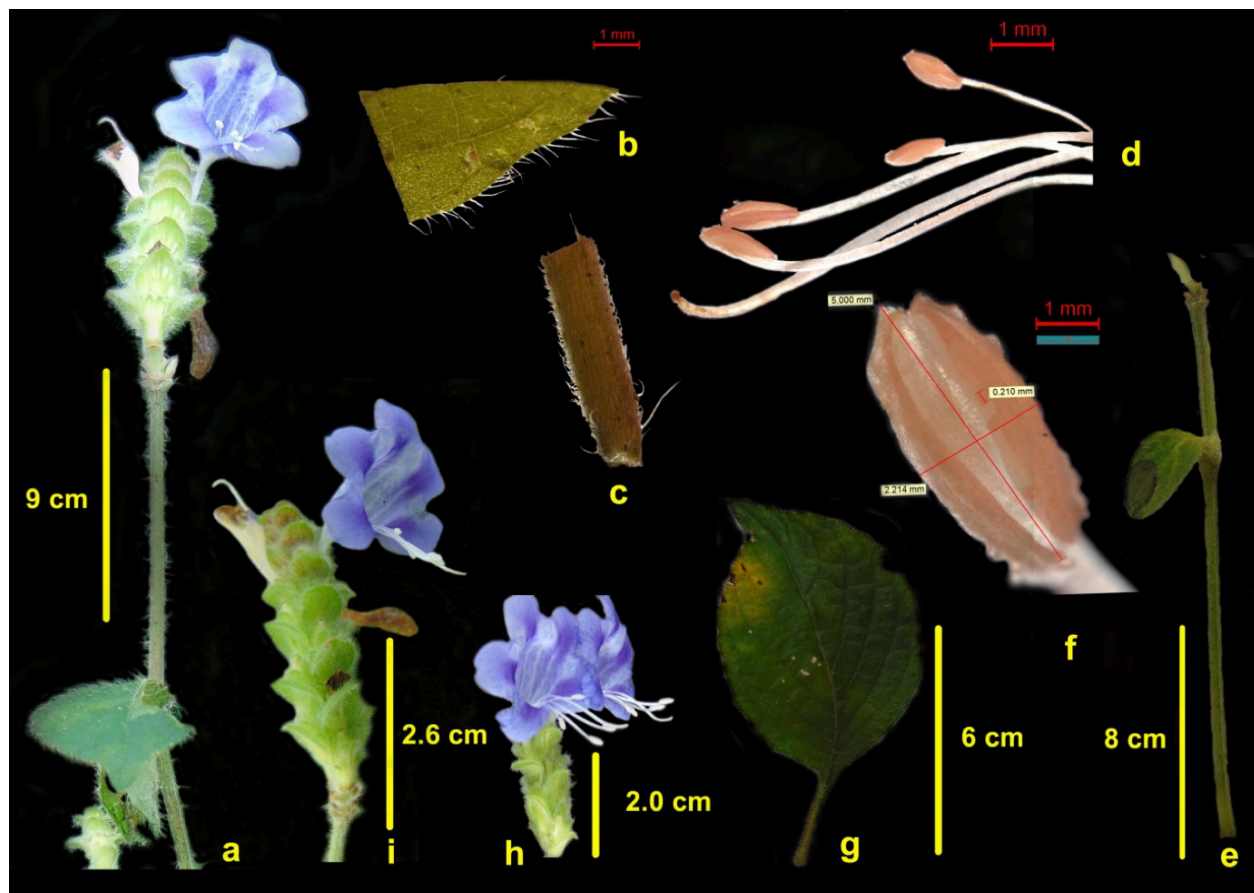


Image 1. Floral parts and morphology of collected *Strobilanthes affinis*. © Sanjeet Kumar



Image 2. Pollen of collected *Strobilanthes affinis*

common associated herbs and climbers are *Passiflora foetida*, *Solanum nigrum*, *Sida cordifolia*, *Cissampelos pareira*, and *Phyllanthus reticulatus* with some tree species like *Bombax ceiba* and *Pongamia pinnata*. It was found in 6.09 x 9.14 – 4.57 x 7.01 m area of a hill top of said region.

Remarks: The most unique characters of collected specimen are four exerted stamens (Image 3). Wood et al. (2003) described it from China and recorded that the flowering period is only from September to November.

In the present study, however, it was observed that it flowers from August to March. It was also observed that *Sida acuta* is the main associate flora of the collected species. As it is found only one region of Manipur, it should be assessed for threat status using categories of IUCN, and take necessary conservation action.

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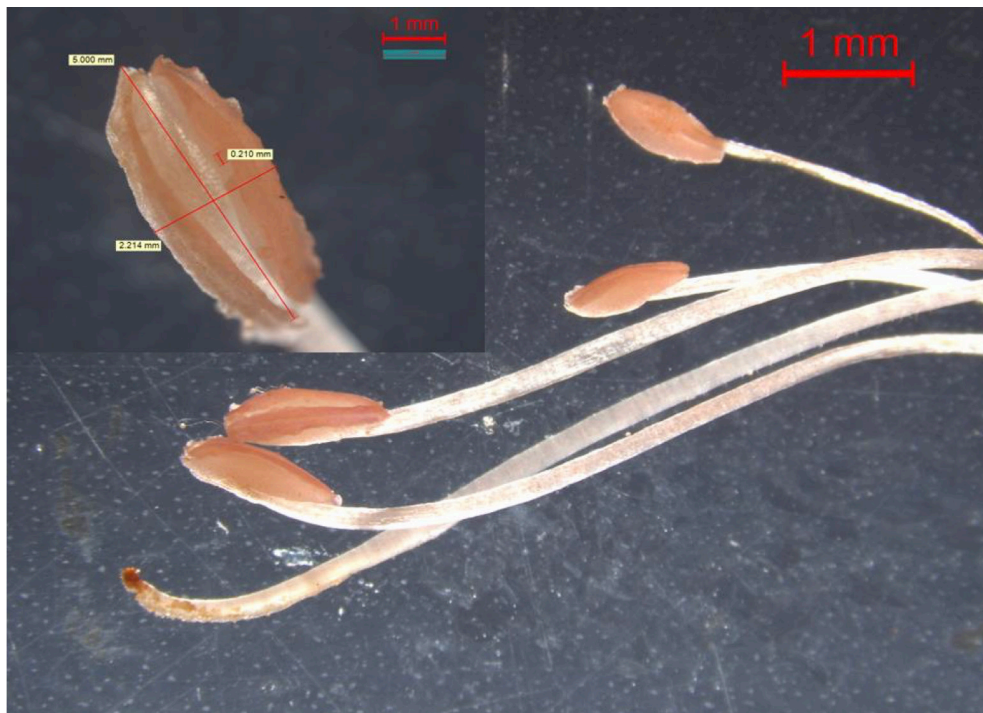


Image 3. Four exerted stamens *Strobilanthes affinis* (Griff.) Terao ex J.R.I. Wood J.R. Benn. © Sanjeet Kumar

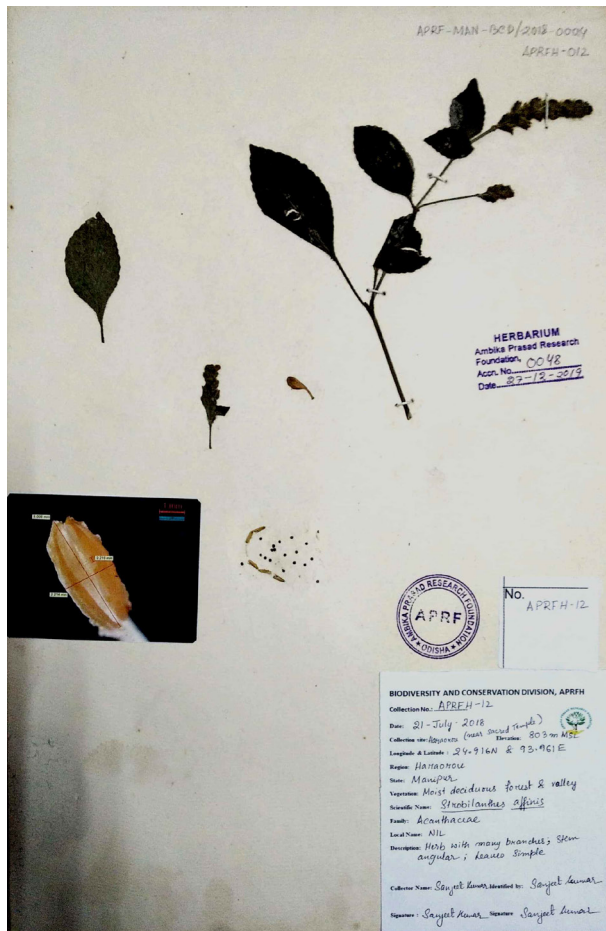


Image 4. Herbarium image of *Strobilanthes affinis*.

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Article

Genetic and reproductive characterization of distylous *Primula reinii* in the Hakone volcano, Japan: implications for conservation of the rare and endangered plant

– Masaya Yamamoto, Honami Sugawara, Kazuhiro Fukushima, Hiroaki Setoguchi & Kaoruko Kurata, Pp. 17263–17275

Review

A review about fish walking on land

– Arumugam Kumaraguru, Rosette Celsiya Mary & Vijayaraghavalu Saisaraswathi, Pp. 17276–17286

Communications

Diversity, distribution and conservation status of the Adder's-tongue ferns in Goa, India

– Sachin M. Patil & Kishore Rajput, Pp. 17287–17298

An inventory of the native flowering plants in East Siang District of Arunachal Pradesh, India

– Momang Taram, Dipankar Borah, Hui Tag & Ritesh Kumar Choudhary, Pp. 17299–17322

Crepuscular hunting of swiftlets (Family: Apodidae) by Besra (Family: Accipitridae) in the urban areas of the Andaman Islands, India

– Amruta Dhamorikar, Dhanusha Kawalkar, Prathamesh Gurjarpadhye & Shirish Manchi, Pp. 17323–17329

A study on diversity of mammalian species using camera traps and associated vegetation in Mizoram University Campus, Aizawl, Mizoram

– J.H. Zothanpuii, Sushanto Gouda, Abinash Parida & G.S. Solanki, Pp. 17330–17339

Short Communications

Distribution of *Syzygium travancoricum* Gamble (Myrtaceae), a Critically Endangered tree species from Kerala part of Western Ghats, India

– V.B. Sreekumar, K.A. Sreejith, M.S. Sanil, M.K. Harinarayanan, M.P. Prejith & R.V. Varma, Pp. 17340–17346

Butterflies (Lepidoptera: Rhopalocera) of the undivided Midnapore District, West Bengal, India: a preliminary report

– Anirban Mahata, Niladri Prasad Mishra & Sharat Kumar Palita, Pp. 17347–17360

Occurrence of *Corica soborna* Hamilton, 1822 (Clupeiformes: Clupeidae) in the Godavari basin, India

– Kante Krishna Prasad, Mohammad Younus & Chelmala Srinivasulu, Pp. 17361–17365

Notes

Strobilanthes affinis (Acanthaceae): a new addition to the flora of Manipur, India

– Sanjeet Kumar & Rajkumari Supriya Devi, Pp. 17366–17369

A new species of the genus *Opius* Wesmael, 1835 (Hymenoptera: Braconidae: Opiinae) from Kashmir Himalaya, India

– Zaheer Ahmed, Ahmad Samiuddin, Altaf Hussain Mir & Mohammad Shamim, Pp. 17370–17373

Larvae of the blow fly *Caiusa testacea* (Diptera: Calliphoridae) as egg predators of *Polypedates cruciger* Blyth, 1852 (Amphibia: Anura: Rhacophoridae)

– W.G.D. Chathuranga, K. Kariyawasam, Anslem de Silva & W.A. Priyanka P. de Silva, Pp. 17374–17379

Blank Swift *Caltoris kumara moorei* (Evans, 1926) (Lepidoptera: Hesperiiidae) in Dehradun Valley, Uttarakhand, India: a new record for

the western Himalaya

– Arun Pratap Singh, Pp. 17380–17382

First photographic record of the Asiatic Brush-tailed Porcupine *Atherurus macrourus* (Linnaeus, 1758) (Mammalia: Rodentia: Hystricidae) from the Barak Valley region of Assam, India

– Rejoice Gassah & Vijay Anand Ismavel, Pp. 17383–17384

Book Review

A look over on Red Sanders

– S. Suresh Ramanan, Pp. 17385–17386

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