

Waltheria indica L. (Malvaceae): A New Generic Report to the Flora of Andaman and Nicobar Islands, India

Pankaj Arvind Dhole, Anil Kumar Midigesi, Gautam Anuj Ekka and Lal Ji Singh* Botanical Survey of India, Andaman and Nicobar Regional Centre, Sri Vijaya Puram *Corresponding author's E-mail:- laljisingh1970@rediffmail.com

Abstract

The genus Waltheria L. is reported and described here as new record for the Andaman Nicobar Islands, from Shaheed Dweep (Neil Island), India. Hitherto, the genus is known to occur only in the warmer parts of India and other tropical regions, has now been confirmed to thrive in the ecologically unique environments of the Andaman Islands. The detailed plant description, images and ecological significance are also discussed. This discovery expands the understanding of the flora of the islands and highlights the significance of further botanical exploration and conservation efforts in this region.

Key words: New Record, Shaheed Dweep, Sleepy morning, Sterculiaceae, Taxonomy

Introduction

Waltheria L. is a genus of Mallow family represented by 61 species and native to tropical and subtropical America, Tropical Asia and Africa (POWO, 2025). It is a short-lived subshrub or shrub commonly known as Sleepy Morning that blooms for several months during the year. Two major centers of diversity, such as Brazil and Mexico has been recorded (Saunders 1993; Esteves 2015). The genus Waltheria is characterized morphologically by a unicarpellate gynoecium and the heterostyly is recognized as one of the significant character in the genus (Darwin 1877; Schumann 1886). Besides, characters of fruit, seed and indumentum are considered as the impotent taxonomic characters in the genus by various authors. The genus is divided into three subgenera (Waltheria, Pringley and Virgata) and two sections Waltheria and Stegowaltheria, based on the type of fruit dehiscence, stipule and seed testa morphology, and type of trichome (Schumann 1886; Saunders 1995). The genus is represented by only one species, Waltheria indica L. in India and distributed only in the warmers parts (Malick, 2020). The Andaman and Nicobar Islands (ANI) are renowned for their natural beauty and remarkable biodiversity, which includes a variety of endemic and indigenous plants and animals. The ANI are recognized as a rich and unique phytogeographical region with high endemism in India (Singh et al 2014, 2021a, b; Singh & Misra 2020, Singh & Ranjan 2021). It consists of two

groups of islands (Andaman group and Nicobar group of Islands) with 572 islands where the distribution of genus *Waltheria* has not been recorded so far.

Floristic surveys conducted during 2023-25 in the Shaheed Dweep (Neil Island), Andaman group of islands, authors collected few interesting specimens of Waltheria L. from adjoining forest areas of Sitapur Forest, Shaheed Dweep. After critical examination and identification with available literature they were identified as Waltheria indica L. The species is commonly known as the sleepy morning so far known only warmer parts of the country (Malick, 2020). Perusal of relevant literature (Murugan et al., 2016; Pandey & Diwakar, 2008; Pandey 2023, Singh et. al., 2014 & 2021, Singh and Ranjan 2021) revealed that the Genus has not been reported from Andaman and Nicobar Islands, hence it form new distributional record for the same. Description, photographs, a distributional map and notes have been provided. The voucher specimens have been deposited in the herbarium of Botanical Survey of India, Andaman and Nicobar Regional centre, Port Blair (PBL).

Materials and Methods

During floristic explorations in Andaman group of Islands, the authors came across four interesting specimen of Malvaceae family from the forested area of Shaheed Dweep. After critical observations, perusal of relevant literature and consultation of Herbarium



specimens housed at CAL, PBL and digital herbaria (POWO 2025; JSTOR 2025; The Herbarium Catalogue 2025), the specimens belongs to the genus *Waltheria* L. and confirmed as *Waltheria indica* L. and revealed that this species have so far not been recorded and

reported from ANI. Hence, this is reported here as a new generic recorded with a single species for ANI. Detailed description and photographs are provided here for easy identification. The voucher specimens of the same are deposited are deposited in PBL.



Plate 1. Map of study area (Shaheed Dweep (Neil Island) showing distribution of *Waltheria indica* L.: A. India, B. Andaman Nicobar Island, C. Shaheed Dweep (Marked showing collection locality)



Taxonomic treatment

Waltheria indica L., Sp. Pl. 2: 673. 1753. Cooke, Fl. Bombay 1:135(144) 1901; Gamble, Fl. Madras 111(79) 19145; Saldanha & Nicolson, Fl. Hassan App 870.198.

Syn. Waltheria americana L., Sp. Pl. 2: 673. 1753. (Plate-1&2).

Description

Erect, branching herbs or under shrubs up to 1 m tall; densely stellate-tomentose all over. Leaves 2-5

x 1-2.5 cm, elliptic-ovate to oblong, base shallowly cordate, margin serrate to serrulate, apex obtuse, venation impressed above and prominent beneath; petiole to 2 cm long. Flowers in axillary and terminal subsessile clusters. Epicalyx lobes narrowly lanceolate, ca. 4 mm., Calyx tube 2-4 mm long, campanulate; lobes 5. Petals 5, yellow, 4-5 mm long, obovate-obtuse. Stamens 5, connate below. Ovary villous, 1-celled; ovules 2; style c.1.5 mm long; stigma penicillate. Capsule 3-4 x 2 mm, hairy, obovoid, 2-valved, enclosed in calyx. Seed 1, c. 2 mm long, obovoid.



Plate 2. *Waltheria indica* L., A. Habit; B. Leaf and inflorescence clusters, C. Flower. *Flowering & Fruiting:* August – December

Habitat and ecology: It grows near agricultural fields and adjoining forest areas at the end of Monsoon, associated with *Anisomeles indica* (L.) Kuntze., *Hyptis capitata* Jacq., *Leea indica* (Burm.f.) Merr. etc.

Distribution: India: Andaman and Nicobar Islands (from present study), Andhra Pradesh, Telangana, Karnataka, Kerala, Maharashtra, Odisha and Tamil Nadu.

Specimen Examined: India, Andaman and Nicobar Islands, South Andaman, Shaheed Dweep Sitapur, 12.12.2024, P.A. Dhole 34506 (PBL).

Discussion

ANI is one of the richest and unique phytogeographical regions in India in terms of plant diversity (Singh et al. 2014, 2021a,b; Singh and Misra 2020; Singh and Ranjan 2021) whereas Malvaceae (earlier Sterculiaceae) need to be explored in more depth to understand the diversity. The genus was traditionally belonged to Sterculiaceae *s.l.*, however, based on recent molecular systematic researches, this genus together with all other genera, were suggested to be transferred into Malvaceae s.l. (APG IV, 2016). During the plant explorations carried out in Andaman group of Islands, authors spotted the genus *Waltheria* L. and described here as new generic record with a species (*Waltheria indica* L.) for the first time from ANI.

Acknowledgments

The authors are grateful to the Director, Botanical Survey of India, Kolkata for constant support. Authors are thankful to the Department of Environment and Forests, Andaman and Nicobar Islands for giving necessary permission and providing logistic support during the field studies. Thanks are due to scientists and staff of Botanical Survey of India, Andaman and Nicobar Regional Centre for their time to time help.

References

APG [= Angiosperm Phylogeny Group] IV. (2016) An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG II. *Bot. J. Linn. Soc.* 181(1): 1-20. Darwin C. (1877) The different forms of flowers on plants of the same species. London, John Murray.

J. Andaman Sci. Assoc. 30 (1):2025

- Esteves G. (2015) Waltheria in Lista de Espécies da Flora do Brasil. Rio de Janeiro, Jardim Botânico do Rio de Janeiro.http: //floradobrasil.jbrj.gov.br/ 2012/ FB009270 10 Mar. 2017.» http://floradobrasil.jbrj. gov.br/2012/FB009270.
- Malick, K.C. (2020) Sterculiaceae. In: Mao, A.A. & S.S. Dash (eds.). Flowering Plants of India: An Annotated Checklist (Dicotyledons), Vol. I. Botanical Survey of India, Kolkata.
- Murugan, C., S. Prabhu, R. Sathiyaseelan & R.P. Pandey (2016) In: Singh P & W. Arisdason (eds.). A Checklist of plants of Andaman and Nicobar Islands. ENVIS Centre on Floral Diversity. Botanical Survey of India, Kolkata. http://bsienvis.nic.in/Database/Checklistof Andaman-Nicobar-Islands_24427.aspx. [Accessed December 22, 2024].
- Pandey R.P. & P.G. Diwakar (2008) An integrated checklist of plants in Andaman & Nicobar Islands, India. J. Econ. Taxon. Bot. 32: 403–500.
- Pandey R.P. (2023) Asclepiadaceae. In: Karthigeyan, K., R.P. Pandey & A.A. Mao (eds.). Flora of Andaman and Nicobar Islands, Vol. 2. Botanical Survey of India, Kolkata.
- POWO (2025) "Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; http://www.plantsoftheworldonline.org/ etrieved 22 February 2025.
- The Herbarium Catalogue (2025) R. Bot. Gard. Kew, (www.kew.org/herbcat), accessed on 22 January 2025.
- Saunders J.G. (1993) Four new distylous species of Waltheria (Sterculiaceae) and a key to the Mexican and Central American species and species groups. Systematic Botany 18: 356-376.
- Saunders J.G. (1995) Systematics and evolution of Waltheria (Sterculiaceae-Hermannieae) PhD Thesis, The University of Texas, Austin.

- Schumann C. (1886) Sterculiaceae. In: Martius CFP, Eicheler AG, Urban I. (eds.) Flora Brasiliensis. Vol. XII. Part III. Oldenburg, Monachii.
- Singh, L. J., & Misra, D. R. (2020) Reappraisal of the genus Cycas L. (Cycadaceae) in Andaman and Nicobar Islands, India. – Indian Journal of Forestry, 43(1): 46-57.
- Singh, L. J., & Ranjan, V. (2021) New Vistas in Indian Flora. Vol. 1 & 2: – Bishen Singh Mahendra Pal Singh, Dehra Dun, Uttarakhand, India, pp. 417 & 819.
- Singh L.J., Murugan C, Singh P. (2014) Plant Genetic Diversity of Endemic Species in the Andaman and

Nicobar Islands In: Nat. Conf. On Islands Biodiversity, U P State Biodiversity Board, Lucknow 49–57.

- Singh, L. J., Ekka, G. A., Vivek, C. P., & Misra, D. R. (2021a) Gymnosperms of the Andaman and Nicobar Islands: An Overview (In: eds. L.J. Singh and V. Ranjan – New Vistas in Indian Flora, Bishen Singh Mahendra Pal Singh, Dehra Dun, India, 1: 265–278.
- Singh L.J., Ranjan V., Sinha B.K., Mishra S., Purohit C.S, Vivek C.P., Naik M.C., Ekka G.A. (2021b.) An Overview of Phytodiversity of the Andaman and Nicobar Islands, India. In: Singh L.J., Ranjan V (eds), New Vistas in Indian Flora. Bishen Singh Mahendra Pal Singh, Dehra Dun, India 2: 381–399.

Received : 2nd May, 2025

Accepted : 31st May, 2025