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A Note on Occurrence of *Alpinia zerumbet* (Zingiberaceae) from Campbell Bay, Andaman and Nicobar Islands, India

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ABSTRACT: *Alpinia zerumbet* (Pers.) B.L. Brutt. & R.M. Sm. is known as Shell Ginger and distributed in tropical & subtropical regions around the world. The present paper deals with the Range extension and first report of this species for the flora of Andaman and Nicobar Islands, India. A brief description and distribution is provided here along with the photographic plates for easy identification of the species.

Keywords: *Alpinia zerumbet*, Campbell Bay, Range extension, Addition, Flora.

INTRODUCTION

Alpinia, a genus of flowering plants in the ginger family, Zingiberaceae, with about 230 species (WFO, 2023), is mainly distributed in the Indo-Pacific region. It is represented by *ca*. 18 species (Mao & Dash 2020) in India, out of which 4 species are reported so far from the Andaman and Nicobar Islands (Rao, 1986; Lakshminarasimhan & Rao 1996; Pandey & Diwakar 2008; Murugan *et al*., 2016; Naik *et al*., 2020; Singh *et al*., 2021). *Alpinia zerumbat* is so far reported from Arunachal Pradesh, Assam, Kerala, Meghalaya (Mao & Dash 2020) from India.

MATERIAL AND METHODS

During our recent botanical exploration tour to Great Nicobar Islands, the first author came across an interesting specimen of the genus *Alpinia* which is after critical examination and consultation of relevant literature and herbarium, identified as *Alpinia zerumbet* (Pers.) B.L. Burtt & R.M. Sm. After going through the literatures (Rao, 1986; Mangaly & Sabu 1992; Lakshminarasimhan and Rao 1996; Hajra *et al.*, 1999; Sabu, 2006; Pandey and Diwakar, 2008; Singh and Murugan 2014; Singh *et al.*, 2014, 2021, 2023; Murugan *et al.*, 2016; Naik and Singh 2018; Naik *et al.*, 2020; Purohit & Vivek, 2022; Purohit *et al.*, 2022, 2023a & 2023b;) it is revealed that this species has not been reported so far from Andaman and Nicobar group of Islands. Therefore, this *Alpinia* species is reported here as a new distributional record for this archipelago flora. A brief description along with distribution is provided along with the photographic plates for easy identification. Specimens were deposited in the PBL.

RESULT AND DISCUSSION

Alpinia zerumbet (Pers.) B.L. Burtt & R.M.Sm. Notes Roy. Bot. Gard. Edinburgh 31: 204 (1972); R.M. Sm. Edinburgh J. Bot. 47: 62. 1990; Mangaly & Sabu Rheedea, 2(1): 51. 1992. *Costus zerumbet* Pers., Synops. 1: 3. 1805.

Rhizomes creeping, thick. Pseudostems many, well developed. Leaves many, rarely 1-4; leaf blade oblong or lanceolate. Inflorescence a terminal panicle, raceme, or spike, dense or lax, covered by 1-3 spatulate involucral bracts when immature; bracts (when present) open to base, rarely hooded, each subtending 1 flower or a cincinnus of 2 to many flowers; bracteoles open to base or tubular, rarely hooded, sometimes absent. Calyx usually tubular, sometimes split on 1 side. Corolla central lobe hooded, usually wider than lateral lobes. Lateral staminodes small or absent, subulate or tooth like, adnate to base of labellum. Labellum often showy, usually larger than corolla lobes, sometimes inconspicuous, margin variously lobed or entire. Filament present or absent; connective crested or not. Ovary usually 3-loculed and placentation axile. Stigma usually well expanded, sometimes clavate, rarely geniculate. Stylodes often massive. Capsule usually globose, dry or fleshy, indehiscent or irregularly dehiscent. Seeds numerous, often angled, arillate (Saboo *et al.*, 2014; Teschke and Xuan 2018; Xuan *et al.*, 2019; Nishidono and Tanaka 2024) (Fig. 1).

Flowering and fruiting: February to June

Habitat and ecology: Grasslands.

Specimen examined: Andaman and Nicobar Islands: Nicobar Islands, Campbell Bay, Magar Nallah, 13.01.2023, 6º59′30.50″N, 93º54′56.40″E, C.S. Purohit & B.C. Dey 34323 (PBL).

Distribution: This species is considered to be a native in North-East India, Burma and Indo-China (Holttum, 1950). India: Arunachal Pradesh, Assam, Kerala, Meghalaya (Mao & Dash 2020), Andaman & Nicobar Islands (Present Survey) [Fig. 2].

Note: It is highly economic important plant. *Alpinia zerumbet* is closely resembles to *Alpinia malaccensis* but can be distinguished by pendulous inflorescence, large flowers and white bracteoles with pink tip. It is

also closely resembles with *Alpinia mutica* but differs in the presence of large bracteoles and large flowers. This plant produces the largest and showy flowers. Hence, it is cultivated as an ornamental plant in gardens. Plants with large glazing leaves are also very attractive. It can be propagated easily by rhizome and seeds (Sabu, 2006; Dalisay *et al.*, 2023). This plant has its natural flavour and multipurpose uses, such as food stuffs condiments, tea, drink, perfume, cosmetics, soaps and deodorant products (Saboo *et al.*, 2014; Teschke & Xuan 2018; Xuan *et al.*, 2019; Nishidono & Tanaka 2024). It has effective healing property, so it has been popularly known as a traditional medicinal crop and grown widely in many countries including India. It's an herbal medicine to treat cold, fever, diarrhoea, coughing etc. (Saboo *et al.*, 2014; Nishidono and Tanaka 2024).

Fig. 1. ***Alpinia zerumbet*** (Pers.) B.L. Burtt & R.M.Sm.: Habit, inflorescence, different part of flowers and rhizome.

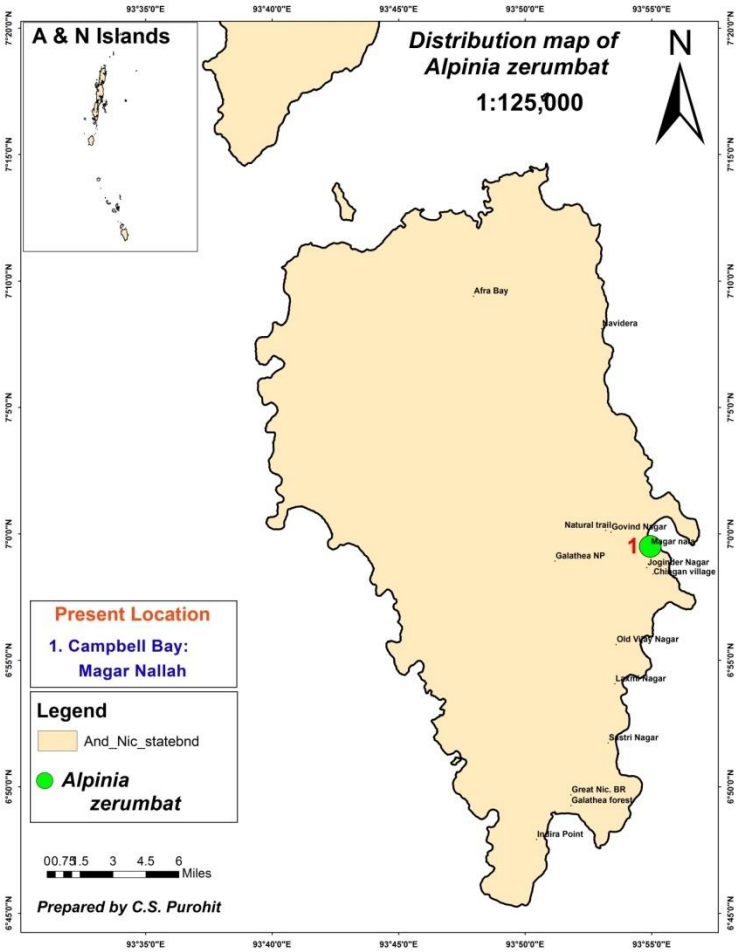

Fig. 2. Distributional map of *Alpinia zerumbet* in Great Nicobar Islands.

CONCLUSIONS

Alpinia zerumbet (Pers.) B.L. Brutt. & R.M. Sm. is known as Shell Ginger and highly economic important plant is used such as food stuffs condiments, tea, drink, perfume, cosmetics, soaps and deodorant products. It is reported from Arunachal Pradesh, Assam, Kerala and Meghalaya in India. The present paper deals with the range extension and first report of this species for the flora of Andaman and Nicobar Islands, India.

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REFERENCES

Dalisay, J. N. G. P., Bangcaya P. S. and Naïve M. A. K. (2018). Taxonomic studies and ethnomedicinal uses of Zingiberaceae in the Mountain Ranges of Northern Antique, Philippines. *Biological Forum – An International Journal*, *10*(2), 68–73.

Hajra, P. K., Rao, P. S. N. and Mudgal, V. (1999). Flora of Andaman-Nicobar Islands (Ranunculaceae – Combretaceae) *Botanical Survey of India, Calcutta*, *1*, pp. 1–487.

Holttum R. E. (1950). The Zingiberaceae of the Malay Peninsula. *Gard. Bull. Singapore*, *13*, 140. 1950.

Lakshminarasimhan, P. and Rao, P. S. N. (1996). A supplementary list of Angiosperms recorded from Andaman and Nicobar Islands. *Journal of Economic and Taxonomic Botany*, *20*, 175–185.

Mangaly, J. K. and Sabu, M. (1992). A taxonomic revision of South Indian *Alpinia* (Zingiberaceae). *Rheedea*, *2*(1), 38–51.

Mao, A. A. and Dash, S. S. (2020). Flowering plants of India: An annotated checklist (Monocotyledons). Botanical Survey of India, Kolkata.

Murugan, C., Prabhu, S., Sathiyaseelan, R. and Pandey, R. P. (2016). A Checklist of Plants of Andaman and Nicobar Islands. ENVIS Centre on Floral Diversity. Botanical Survey of India, Kolkata. http://bsienvis.nic.in /Database/ Checklist-of-Andaman-Nicobar Islands_ 24427.aspx.

Naik, M. C, Singh, L. J. and Ganeshaiah, K. N. (2020). Floristic diversity and analysis of South Andaman Islands (South Andaman District), Andaman & Nicobar Islands, India. *Species*, *21*(68), 343–409.

Naik, M. C. and Singh, L. J. (2018). Notes on Occurrence and Distribution of some Angiosperm species of Andaman and Nicobar Islands, India. *Indian Journal of Forestry*, *41*(4), 385–389.

Nishidono, Y. and Tanaka K. (2024). Phytochemicals of *Alpinia zerumbet:* A Review. *Molecules*, *29*, 2845.

Pandey, R. P. and Diwakar, P. G. (2008). An integrated checklist of plants in Andaman & Nicobar Islands, India. *Journal of Economic and Taxonomic Botany*, *32*, 403–500.

Purohit, C. S. and Vivek, C. P. (2022). Project Report on "Curatorial work of Botanic Garden: (Multiplication and nursery development of Bamboos, Palms, Zingibers, endemic tree species) and raised nursery", submitted to Director, BSI, Kolkata.

Purohit, C. S., Vivek, C. P. and Singh, L. J. (2022). *Lasia* (Arecaceae): A generic addition to the Flora of Andaman & Nicobar Islands, India. *Phytotaxonomy*. *21*, 28–31.

Purohit, C. S., Singh, L. J., Vivek, C. P. and Dey, B. C. (2023a). Project Report on "Conservation Assessment, ENM studies including GIS mapping of Endemic tree of Andaman & Nicobar Islands", submitted to Director, BSI, Kolkata.

Purohit, C. S., Vivek, C. P., Dey, B. C. and Singh, L. J. (2023b). *Hygrophila auriculata* (Acanthaceae): A new addition for Flora of Andaman & Nicobar Islands. *J. New Biol. Rep.*, *12*(1), 5–8.

Rao, M. K. V. (1986). A preliminary report on the angiosperms of Andaman and Nicobar Islands. *Journal of Economic and Taxonomic Botany*, *8*, 107–184.

Saboo, S. S., Chavan, R. W., Tapadiya, G. G. and Khadabadi, S. S. (2014). An organized assessment of species of plants of "*Alpinia*" genera, belonging to family "Zingiberaceae". *American Journal of Ethnomedicine*, *1*, 102–108.

Sabu, M. (2006). *Zingiberaceae and Costaceae of South India.* Indian Association for Angiosperm Taxonomy, Calicut University, Kerala, 282pp.

Singh, L. J. and Murugan, C. (2014). Seed plant species diversity and conservation in Dhanikhari Experimental Garden cum Arboretum in Andaman and Nicobar Islands. In: Nehera, S; Gothwal, R.K. & Ghosh, p.(eds.) *Biodiversity in India : Assessment, scope and conservation.* Lambert Academic Publishing Heinrich-Booking-str. Saarbruken, Germany. 253–280.

Singh, L. J., Murugan, C. and Singh, P. (2014). Plant genetic diversity of endemic species in the Andaman and Nicobar Islands. In: National Conference on Islands Biodiversity, U.P. State Board Biodiversity Board, Lucknow, pp 49–57.

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

Singh L. J., Vivek C. P., Dey B. C., Purohit C. S., Ekka G. A., Naik M. C. and Saleem F. (2023). *Dhanikhari Experimental Garden cum Arboretum*: *In* Pullaiah, T. and Galbraith D. A. (Eds.) Botanical Gardens and their role in plant conservation: Asian Botanical Garden, Volume 2. eBook ISBN 9781003281252.

Teschke, R. and Xuan, T. D. (2018). A contributory role of shell ginger (*Alpinia zerumbet*) for human longevity in Okinawa, Japan. *Nutrients*, *10*, 166.

WFO (2023). *Alpinia* Roxb. Published on the Internet; http://www.worldfloraonline. org/taxon/ wfo-4000001368. *Alpinia zerumbet* (Pers.) B. L. Burtt & R. M. Sm.

Xuan, T. D., Quan, N. V., Rayee, R., Khanh, T. D., Tran, H. D. and Trung, N. T. (2019). Allelopathic plant: 26. *Alpinia zerumbet* (Pers.) B. L. Burtt & R. M. Sm. (Zingiberaceae). *Allelopathy Journal*, *48*(1), 01–14.

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