

Orchids of Darjeeling Himalaya in West Bengal, India: the Genus *Ione* Lindley

Rajendra Yonzone^{1, 5}, D. Lama¹, R. B. Bhujel², Samuel Rai³
and Khyanjeet Gogoi⁴

¹Department of Botany, St. Joseph's College, North Point, Darjeeling 734104, W.B., India

²Taxonomy & Ethnobiology Research Laboratory, Cluny Women's College,
Kalimpong, Darjeeling 734301, W.B., India

³Directorate of Cinchona & Other Medicinal Plants, Mungpoo, Darjeeling, W.B., India

⁴The Orchid Society of Eastern Himalaya, Regional Orchids Conservation and Research Centre (Assam &
N.E. India Circle), Daisa Bordoloi Nagar, Talap, Tinsukia 786156, Assam, India

⁵Corresponding author's e-mail: ryonzone99@gmail.com

[Received 12.07.2015; Revised 08.12.2014; Accepted 20.12.2014; Published 31.12.2014]

Abstract

This paper deals with the present status, diversity and distribution of two interesting epiphytic species of *Ione* Lindley (Orchidaceae) in Darjeeling Himalaya of West Bengal, India.

Key words: Orchidaceae, *Ione* Species; Status; Distribution; Darjeeling Himalaya.

INTRODUCTION

The genus *Ione* was established by John Lindley in 1853 in *Folia Orchidaceae*. It comprises of about 14 species distributed in India, Myanmar, Thailand and Taiwan (Pearce & Cribb 2002).

Ione Lindley, is miniature rhizomatous, epiphytic (rarely lithophytic) herbaceous Orchid. Pseudobulbs obovoid. Leaf 1, coriaceous, oblanceolate to oblong-elliptic with obtuse tip. Inflorescence basal from pseudobulb, erect, racemose, laxly to densely 1 to many flowered; bracteate. Flowers distichous. Sepals subequal; petals much smaller than the sepals; lip simple, entire, fleshy at apex; column fleshy; pollinia 4.

Multifarious anthropogenic activities are the major threat to the Orchid species in the regions (Yonzone *et al.* 2011). Uncontrolled destruction of natural habitat and indiscriminate collections cause drastic loss of these species in the region (Yonzone *et al.* 2012). Therefore, conservation of natural habitat is emphasized to save the Orchid germplasm resources in the region. The present investigation records the present availability, distribution and diversity of the genus *Ione* Lindley in the Darjeeling part of the Himalayas.

MATERIALS AND METHODS

Intensive field survey was conducted during the years 2007 – 2014 covering all the seasons in all parts of the Darjeeling Himalayas and Sub-Himalayan regions including the floral nurs-

eries and farms covering all the altitudinal ranges as low as ± 130 m at Siliguri to as high as 3636 m at Sandakphu – Phalut areas. While working on Orchid flora of Darjeeling Himalayan region, different species of the genus *Ione* Lindley were also collected. The collected specimens were identified and authenticated with the help of different literature including King & Pantling (1898); Pradhan (1979); Pearce & Cribb (2002); Lucksom (2007) and confirmed by matching at CAL. Finally, one set of voucher specimens were deposited in the herbarium of Department of Botany, St. Joseph's College, North Point, Darjeeling and at Taxonomy and Ethnobiology Research Laboratory, Cluny Women's College, Kalimpong. All the recorded species of *Ione* are enumerated below alphabetically to their species epithet and with exsiccatae, local distribution and phenology.

ENUMERATION

During field studies in the Darjeeling Himalaya of India, two epiphytic species of *Ione* Lindley were recorded. Of those, *I. bicolor* (Lindley) Lindley, frequently available within 1500 to 2000 m, and *I. cirrhata* Lindley, available within 1600 to 1900 m, and is sparsely available in the study area.

Key to the species

1. Inflorescence slender, equal or shorter than leaves; flowers small, light purple *I. bicolor*
- 1a. Inflorescence erect, exceeding leaves; flowers large, translucent white, tinged with deep purple *I. cirrhata*

Ione bicolor (Lindley) Lindley, Fol. Orchid. Ione 2: 3, no.6. 1853; Hooker *f.*, Fl. Brit. India 5: 857. 1890; King *et* Pantling, Orch. Sikkim Himal. 89. 1898.

Plants 6 – 11 cm tall; rhizomatous. Pseudobulbs 1.6 – 1.9 x 0.7 – 1 cm, obpyriform or flask-shaped, narrowed to apex, base broad. Leaf 1, 5 – 10 x 0.6 – 1 cm, linear-oblong, obliquely emarginated at tip, petiolate. Inflorescences 1 or 2, laxly 6 to 8-flowered; peduncle 1.5 – 2.5 cm long, filiform, glabrous, sheathed. Flowers 7 – 10 mm across; sepals and petals whitish purple, lip deep purple.

Flowering: October – December.

Exsiccatae: India, West Bengal, Darjeeling, Rimbick 2000 m, dtd. 22.10.2007; *Rajendra Yonzone et al.* 0131.

Local Distribution within Darjeeling: Lava, Kafer, Algarah, Todey of Kalimpong Sub-Division; Rambhi, Dawhill, Chimney of Kurseong Sub-Division; Rimbick, Takdah of Darjeeling Sub-Division.

General Distribution: India [North West India, Arunachal Pradesh, Meghalaya, Nagaland]; China, Bhutan, Myanmar.

Ione cirrhata Lindley, Fol. Orchid. Ione 2: 1, no.1. 1853; Hooker *f.*, Fl. Brit. India 5: 857. 1890; King *et* Pantling, Orch. Sikkim Himal. 89. 1898.

Plants 13 – 19 cm tall; rhizomatous. Pseudobulbs ovoid-conical to obpyriform, rugose, bright green. Leaf 1, 12 – 15.5 x 2.2 – 3.2 cm, erect, oblong to oblanceolate, obtuse; petiolate. Inflorescence laxly 3 to 7-flowered. Flowers 2.1 – 2.7 cm long, pendent, fragrant; sepals and petals white with deep purple nerves, lip rich purple.

Flowering: October – November.

Exsicattae: India, West Bengal, Darjeeling, Damsang Gari 1900 m, dtd. 17.11.2008; *Rajendra Yonzone et al.* 0738.

Local Distribution within Darjeeling: Damsang Gari, Algarah, Kuwapani to Lava of Kalimpong sub-division; Lopchu, Takdah of Darjeeling sub-division; Rambhi forest of Kurseong sub-division.

General Distribution: India [Arunachal Pradesh, Meghalaya, Sikkim and West Bengal]; Bhutan, China and Myanmar.

Acknowledgements

First author is thankful to the University Grants Commission, New Delhi for awarding Rajiv Gandhi National Fellowship.

LITERATURE CITED

- King, G. & Pantling, R. 1898. The Orchids of the Sikkim – Himalaya. *In Annals of the Royal Botanic Garden*, Calcutta 8, India.
- Lucksom, S.Z. 2007. *The Orchids of Sikkim and North East Himalaya: Development Area*, Jiwan Thing Marg, Gangtok, East Sikkim, India.
- Pearce, N.R. & Cribb, P.J. 2002. *The Orchids of Bhutan; Flora of Bhutan*. Vol. 3, Part 3. Royal Botanic Garden, Edinburgh.
- Pradhan, U.C. 1979. *Indian Orchids Guide to Identification and Culture*, (Vol. II) Premulaceae Books, Kalimpong, India.
- Yonzone, R.; Lama, D.; Bhujel, R.B. & Rai, S. 2011. Epiphytic Orchid species diversity of Darjeeling Himalaya of India. *Asian J. Pharm. Life Sci.*, 1(4): 149 – 165.
- Yonzone, R.; Lama, D.; Bhujel, R.B. & Rai, S. 2012. Orchid species Diversity of Darjeeling Himalaya of India. *Int. J. Pharm. & Life Sci.*, 3(3): 1533 – 1550.