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Orchid diversity of Assam, India: The Genus *Micropera* Lindley

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Abstract

Among the Orchid flora of Assam 4 species of *Micropera* recorded Micropera *mannii, Micropera obtusa, Micropera pallida and Micropera rostrata* in an intensive survey during 1996-2011. The present paper deals *Micropera* species diversity and distribution in Assam, India. This attempt is the first step to correct taxonomic identification to workout currently accepted botanical names with present ecological status, date of collection, Voucher specimen numbers, habitat, phenology and local and general distribution of *Micropera* species in the region.

Key-Words: *Micropera,* Species Diversity, Distribution, Status, Assam

Introduction

The Indian state, Assam is the gateway of the North East region bears a separate identity phytogeographically and represents a number of different types of plant communities (Figure 1). It considered a Nature's reservoir of plants resources. Almost all varieties of plants relating to different climatic conditions are found in the state where Orchids are a major interesting component of vegetation (Bhagabati *et al*. 2006). Assam Orchids show all the types of habits and growth forms as are found in orchidaceous plants. The forests of Assam possess a large number of beautiful important Orchids (Gogoi *et al*. 2009). The total number of orchid species may be around 182 under 74 genera (Chowdhery 2009). Some Orchids are associated with the culture of Assamese people from past. There is a tradition of using Orchids by different tribes of Assam in the culture (Barua, 2001).

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Material and Methods

The present investigation is the outcome of several field trips during the year 2006 - 2011 covering all the seasons of the year in the entire forest areas of Assam. All the species found were recorded in the field note book with their necessary information. The freshly collected *Micropera* specimens were dissected and examined in laboratory during flowering period. Herbarium specimens were prepared by standard methods (Jain and Rao, 1977), Specimens were identified and authenticated with the help of the standard orchid manuals. Finally all the Voucher specimens were and by matching at the Herbarium of the Department of Botany, Guwahati University. The specimens are deposited in the Herbarium, Department of Botany, Guwahati University. In the enumeration a generic name is provided with its author. All the plant specimens are arranged alphabetically as per their local distribution in the area with botanical names, voucher specimen numbers, date of collection, habitat and phenology.

Results and Discussion

Plants epiphytic monopodial. Stems long, with many long roots and leaves. Leaves many, flat, fleshy, oblong to linear, with sheathing base, jointed. Inflorescence often borne opposite leaves, rather long, racemose, many flowered. Flowers small or medium-sized. Sepals and petals free, similar. Lip conspicuously spurred or saccate, 3-lobed; lateral lobes broad, erect; mid-lobe smaller, fleshy; spur often ornamented at its entrance, commonly with a longitudinal septum inside. Column short, lacking a

foot; rostellum projection prominent, beaked; pollinia 4, in 2 subequal pairs on a common long stipe; viscidium very small.

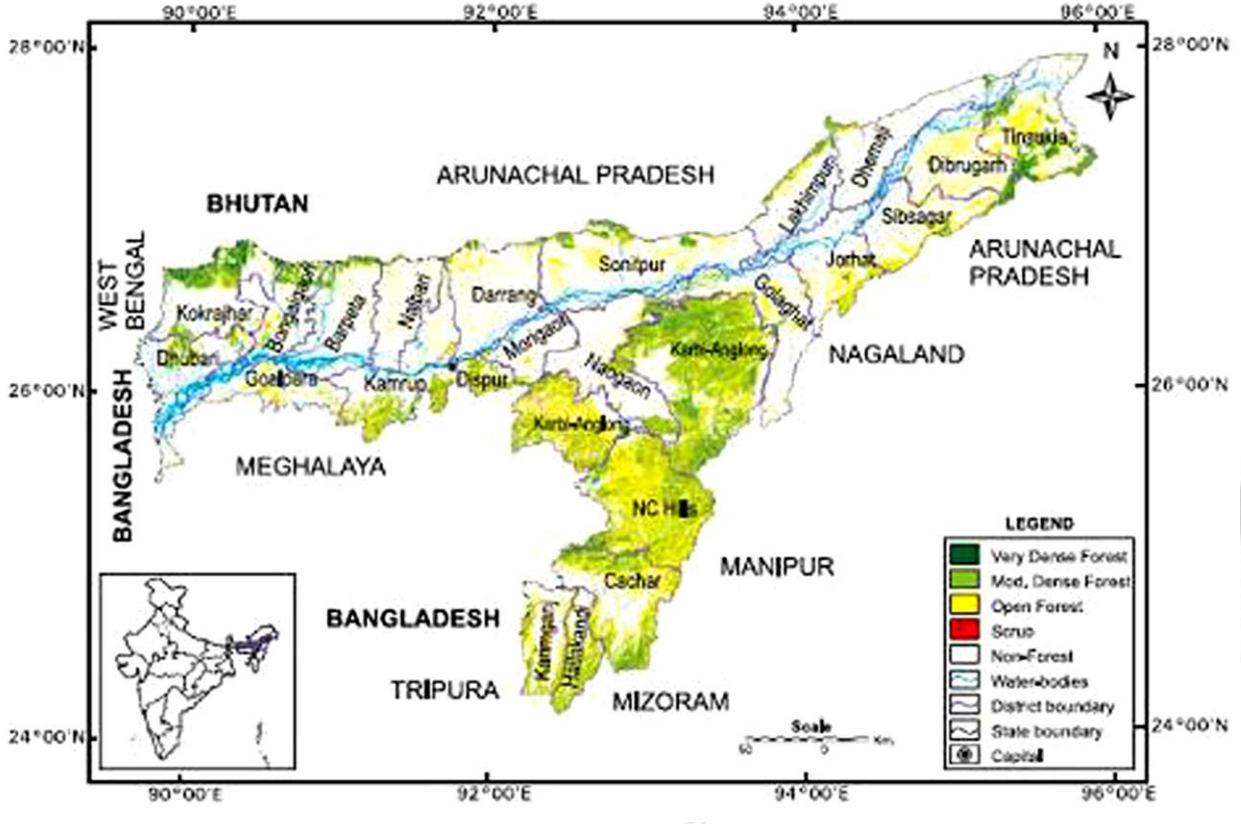

Fig. 1: Forest Cover Map of Assam, India

The Indo-Malesian genus *Micropera* was eastablished by John Lindley in 1832. About 15 species distributed from the Himalayas to SE Asia, New Guinea, Australia, and the Solomon Islands (Chen *et al* 2009); 4 species reported from India (Misra 2007).

In 2005, Chowdhery was reported only *Micropera pallida* (Roxb.) Lindl. from Assam but Chowdhery (2009) reported 4 species *viz*. *Micropera mannii, Micropera obtusa, Micropera pallida and Micropera rostrata* from Assam specially N. E. India. Present author describe these 4 species with present ecological status, habitat, phenology and local and general distribution in the wild from Assam.

Micropera mannii (Hook.f.) Tang & F.T.Wang, Acta Phytotax. Sin. 1: 94. 1951; Pradhan, Indian Orchid-II, 497. 1979; Chowdhery, Orch. Fl. Arunachal Prad. 512. 1998. *Sarcochilus mannii* Hook.f., Fl. Brit. India 6: 36. 1890. *Thrixspermum mannii* (Hook.f.) Kuntze, Revis. Gen. Pl. 2: 682. 1891. *Camarotis mannii* (Hook.f.) King & Pantl., Ann. Roy. Bot. Gard. (Calcutta) 8: 239. 1898. *Camarotis obliquirostris* C.S.P.Parish ex King & Pantl., Ann. Roy. Bot. Gard. (Calcutta) 8: 238. 1898. (Figure 2)

Epiphyte herb, branched, clothed with sheaths, 20-30 cm long. Leaves linear, 7-10x1-2 cm, coriaceous. Inflorescence laxly few flowered racemes, very short, sessile, straight. Flowers pale-pink, 0.6-0.7cm. across. Sepals and petals subequal, spathulately oblong, reflexed. Lip more or less slipper shaped, obtuse, decurved; side lobes obtusely triangular, incurved; mid lobe with a flat callus.

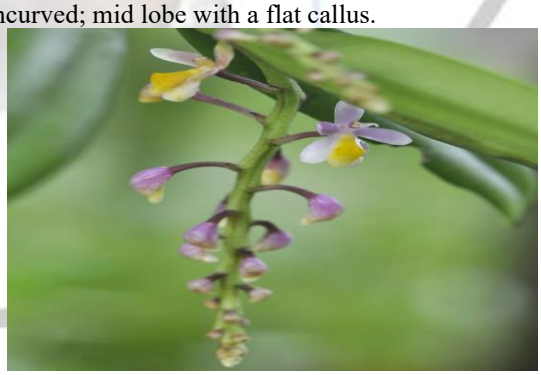

Fig. 2: *Micropera manni*

Voucher specimen: Gogoi *0324*, dated 16.11.2008.
Flowering: June – July.
Habitat: Epiphyte on tree trunk in evergreen tropical forest.
Local distribution within Assam: Dibrugarh district (Joypur R. F.), Karbi-Anglong district.
Distribution: Assam and Eastern Himalayas.

Micropera obtusa (Lindl.) Tang & F.T.Wang, Acta Phytotax. Sin. 1: 94. 1951; Pradhan, Indian Orchid-II, 497. 1979; Chowdhery, Orch. Fl. Arunachal Prad. 512. 1998. *Camarotis obtusa* Lindl., Edwards's Bot. Reg. 30(Misc.): 73. 1844. *Sarcochilus obtusus* (Lindl.) Benth. ex Hook.f., Fl. Brit. India 6: 36. 1890. (Figure 3)

Epiphyte herb. Stem stout, erect, 20-25 cm long. Leaves many, 5-7.5 cm x 0.8-1.6 cm, linear oblong, horizontal. Inflorescence leaf-opposed, horizontal 4-7 cm long, 6-10 flowered. Flowers 1.8 cm across, white to pale rose with yellow lip. Dorsal sepal 8 mm, oblong. Petals oblong rounded. Lip fleshy, spurred anterior wall cut in the upper part, cavity partly occluded by 2 large calli from front and back walls; lateral lobes incurved, apical narrowly triangular, incurved. Rostellum very long, hooked at the apex and twisted to one side.

Fig. 3: *Micropera obtusa*

Voucher specimen: Gogoi 0723, dated 23.07.2011.
Flowering: July- August.
Habitat: Epiphyte on tree trunk in evergreen tropical forest.
Local distribution within Assam: Dibrugarh district (Joypur R. F.).
Distribution: India, Bhutan, Myanmar and Thailand.

Micropera pallida (Roxb.) Lindl., Edwards's Bot. Reg. 18: t. 1522. 1832; Chowdhery, *Assam's Flora*, 75. 2005. *Aerides pallida* Roxb., Fl. Ind. ed. 1832, 3: 475. 1832. *Camarotis pallida* (Roxb.) Lindl., J. Proc. Linn. Soc., Bot. 3: 37. 1858. *Camarotis apiculata* Rchb.f., Bonplandia (Hannover) 5: 39. 1857. *Dendrocolla apiculata* (Rchb.f.) Zoll. ex Rchb.f., Bonplandia (Hannover) 5: 39. 1857. *Sarcochilus cochinchinensis* G.Nicholson, Ill. Dict. Gard. 3: 360. 1886. *Sarcochilus roxburghii* Hook.f., Fl. Brit. India 6: 36. 1890. *Saccolabium saxicolum* Ridl., Trans. Linn. Soc. London, Bot. 3: 374.

Fig. 4: *Micropera pallida*

1893. *Sarcanthus apiculatus* (Rchb.f.) J.J.Sm., Orch. Java: 598. 1905. *Sarcanthus thorelii* Guillaumin, Bull. Soc. Bot. France 77: 331. 1930. *Micropera apiculata* (Rchb.f.) Garay, Bot. Mus. Leafl. 23: 186. 1972. (Figure 4)

Epiphyte with a stout robust stem, 60-90 cm long. Leaves many, ligulate, spreading, coriaceous, 6-7 x 0.6-0.8 cm, tip rounded, apically bilobed. Inflorescence paniculate, axillary, longer than leaves, many flowered. Flowers 1.2 cm across, sepals and petals subequal, yellow. Lip yellow with white, spurred, obtuse, decurved; side lobes triangular, incurved, white; mid lobe with callus.
Voucher specimen: Gogoi 0722, dated 01.03.2011.
Flowering: April – May.
Habitat: Epiphyte on tree trunk in evergreen tropical forest.
Local distribution within Assam: Karbi- Anglong district (Garampani Wildlife Sanctuary), Kokrajhar district.
Distribution: India, Bangladesh, Myanmar, Thailand, Malaysia, Laos, Cambodia, Vietnam, Borneo, Java and Sumatra.

Micropera rostrata (Roxb.) N.P.Balakr., J. Bombay Nat. Hist. Soc. 67: 66. 1970; Kumar et. Monilal, Cat. Ind. Orch. 80. 1994; Chowdhery, Orch. Fl. Arunachal Prad. 512. 1998. *Aerides rostrata* Roxb., Fl. Ind. ed. 3: 474. 1832. *Camarotis rostrata* (Roxb.) Rchb.f. in W.G.Walpers, Ann. Bot. Syst. 6: 881. 1864. *Camarotis purpurea* Lindl., Gen. Sp. Orchid. Pl.: 219. 1833. *Sarcochilus purpureus* (Lindl.) Benth. ex Hook.f., Fl. Brit. India 6: 37. 1890. *Micropera purpurea* (Lindl.) Pradhan, Indian Orchids: Guide Identif. & Cult. 2: 619. 1979. (Figure 5)

Epiphyte herb. Stems stout, 30-60 cm long. Leaves 7-10x2-3 cm, coriaceous, obtusely bilobed apically. Inflorescence laxly many flowered racemes, exceeding the leaves. Flowers pale-purple, 1.5-2cm. across. Sepals

and petals unequal, obtuse; petals shorter. Lip strongly compressed laterally, hatchet-shaped, without side lobes; sac with a strong, included, recurved spine under the tip.
Voucher specimen: Gogoi 0312, dated 16.11.2008.
Flowering: April – May.
Habitat: Epiphyte on tree trunk in evergreen tropical forest.
Local distribution within Assam: Tinsukia district (Dibru-Saikhowa National Park), Dibrugarh district (Jeypore R. F.), Karbi-Anglong district (Hawang), Kokrajhar district.
Distribution: India, Bangladesh and Eastern Himalayas.

Fig. 4: ***Micropera rostrata***

During recent field studies of five species of *Micropera* recorded *Micropera mannii, Micropera obtusa, Micropera pallida and Micropera rostrata*. All the *Micropera* species are very rare and the populations are restricted in some particular area. It is also observed that the host tree which supports the epiphytic Orchid species in wild habitat found to be diminished continuously in the region and effective control measures have been taken to control such devastation. Therefore, conservation of forest means to conserve the epiphytic Orchid species which automatically support the lavish growth of rarely found *Micropera* in the region.

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