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Research Paper - Botony

Intraspecific colour variation in population of Dendrobium anceps Sw. (Orchidaceae) in Darjeeling Hills of West Bengal

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Abstract

Present paper deals the intraspecific colour variation in the population of Dendrobium anceps Sw. (Orchidaceae) from Kalimpong Sub-Division of Darjeeling district of West Bengal. Colour variation was observed in lateral sepals, dorsal sepals, lateral petals, lip and mentum foot and where instead light green colour, pinkish grey was observed. However, the minute colour variation is not the criteria to place it into a new species or variety. Thus, the variation observed in lip and mentum foot may be due to environmental influence.

Key words: Orchidaceae, Dendrobium anceps, intraspecific colour variation, Darjeeling Hills.

Introduction

Dendrobium anceps Sw. is one of the species of Orchidaceae. The plants are epiphytic, 10-35cm tall; roots fasciculate, slender. Stem branched, laterally compressed, covered by leaf sheaths, branched, 2-3mm wide at base, 0.8-1cm wide at apex; internodes 2-2.5cm long; leaf sheaths many veined, broad. Leaves distichous, alternate, overlapping, equitant, fleshy, lanceolate, acute, sessile, jointed, base broad, 0.3-0.6 x 0.8-1.7cm. inflorescences lateral, arising from nodes between leaf-sheaths, 1 flowered; peduncle attenuate, sheathed, 0.3.0.4cm long; floral bracts oblong, obtuse. Flowers boat shaped, 1.4-1.6cm across, yellowish-green, pedicel and ovary slender, 0.4-0.5cm long. Dorsal sepal elliptic, subacute, 5-veined, 0.4-0.5 x 0.3-0.5cm; lateral sepals elliptic, obtuse, falcate, adnate at base to form a mentum, 0.8-1.5x0.4-0.5cm; mentum obtuse, 0.6-0.7cm long. Petals

broadly elliptic, obtuse, 0.3-0.5x 0.2cm. lip wedge shaped to oblong, simple to obscurely 3 lobed, apex 2-lobed, margins entire, undulate-crisped at apex, 1.2-1.4 x 0.5-0.7cm at apex (Hooker, 1888-1890; King and Pantling, 1898; Pearce and Cribb, 2002). Column 1-1.5mm long; foot 0.6-0.7cm long. Fruit ovoid, 0.7-0.9 x 0.4-0.5cm. In the present investigation, the intraspecific colour variation observed in the natural population of Dendrobium anceps Sw. has been studied.

Materials and Methods

During field survey, in summer months of 2009 to 2011 in Najok-Sepkhola forest and Kumsi forest area, Kalimpong Sub-Division of Darjeeling district some variation in colour of floral parts viz. lip and mentum foot were observed. The specimens were collected without uprooting and disturbance the plants in the nature and studied in the laboratory for identification and why there is colour variation following the classification given by King and Pantling (1898); Duthie (1906); Pradhan (1976), (1979) and Pearce and Cribb (2002); Lucksom (2007) and from the herbarium of Taxonomy and Ethnobiology Research Laboratory Of Cluny Women's College, Kalimpong.

Results and Discussion

The intraspecific variation can be easily recognized with pinkish grey flower color, 1.3-1.4cm across (lateral sepal to lateral sepal); dorsal sepal 0.5x0.4cm; lateral sepal 1.1-1.2x0.5cm; lateral petal 0.3-0.4x0.2cm; lip pinkish grey color 1.1-1.2x0.5-0.6cm. Mentum foot is pinkish grey. Drastic colour variation found on lip and mentum foot of floral parts. A, A1, A2 and A3 are the variation occurred within the species and the B, B1, B2 and B3 are the type species presented in figure 1. The general information on the species and its ecological status is presented in Table 1. On observation, there were flowers with pinkish grey colour instead of light green colour. It is conformed that variation is on colour of floral parts but in plant taxonomical science, minute color variation is not the criteria to place or categories it as a new species, variety of forma. Therefore, present variation is absolutely based on colour of floral parts especially lip and mentum foot and is concluded that, it is neither a new species nor a variety or forma but intraspecefic variation on the population of Dendrobium anceps Sw. that may have occurred due to long term environmental influence. It is sparsely distributed but still proper conservation strategies must be developed considering the rampant destruction of natural habitat in the name of development.

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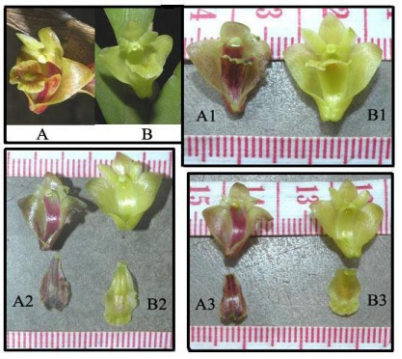

Fig. 1. Intraspecific colour variation in *Dendrobium anceps* Sw.

Table 1: General information of *Dendrobium anceps* Sw. and its ecological status.

Botanical name	Altitudinal range (m msl)	Flowering time	General distribution	Local distribution	Habitat	Ecological status
Dendrobium anceps Sw.	300-900	April-June	North-East India, Sikkim, West Bengal, Bhutan, Indo-China, Myanmar, Nepal and Thailand	Kalimpong (forest areas of Najok-Sepkhola and Kumsi)	Epiphytic	Sparse

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