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Research Communication

Trichoglottis ramosa (Lindl.) Senghas (Orchidaceae): An addition to the flora of Tripura

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Abstract

This study includes, a monopodial orchid, *Trichoglottis ramosa* (Lindl.) Senghas., to the flora of Tripura, for the first time. This article deals with description of the species, its geographical location, phenology and taxonomic treatment along with a photographic plate for easy identification.

Keywords: Epiphyte; Gomati district; Orchid; Taxonomy

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Introduction

As an outcome of meticulous field exploration and survey at Brahmabari to Amarpur road of Gomati district in Tripura during the year 2018 in the last week of May, we have collected several orchids at flowering condition along with one unidentified species in fruiting condition. Subsequently, this orchid species was planted at orchid house of Tripura University campus, Suryamaninagar. Next year, in 2019, we have visited the same area in the first week of May and found the same species in flowering conditions at Maharani on the tree trunk of *Samanea saman* (Jacq.) Merr. After detailed study in laboratory and also reviewing the state flora of Tripura (1983) and existing literature, the species was identified as *Trichoglottis ramosa* (Lindl.) Senghas and it is a new addition to the flora of Tripura. Though, Tripura is an orchid rich state of the northeast India but in the flora of Tripura Orchidaceae represents only 23 genera with 33 species (1). Recently, in 2017 and 2019 Baishnab and Datta (2, 3) included few species to the flora of Tripura.

The name *Trichoglottis* came from the Latin word trichos means hair and glottas means toungue that means hairy lip. *Trichoglottis* commonly known as cherub orchids. There are about 85 species distributed from tropical and subtropical Asia to the north-western Pacific. Most species grow in rainforest. The main diagnostic feature of the species is the presence of flower with four pollinias. *T. ramosa* is a tropical, monopodial, dwarf, epiphyte orchid with a short stem having loriform, diagonally placed two-lobed apical leaves that blooms in the spring.

Fig. 1. Habitat of *Trichoglottis ramosa* (Lindl.) Senghas. **A.** Habitat; **B.** Inflorescence

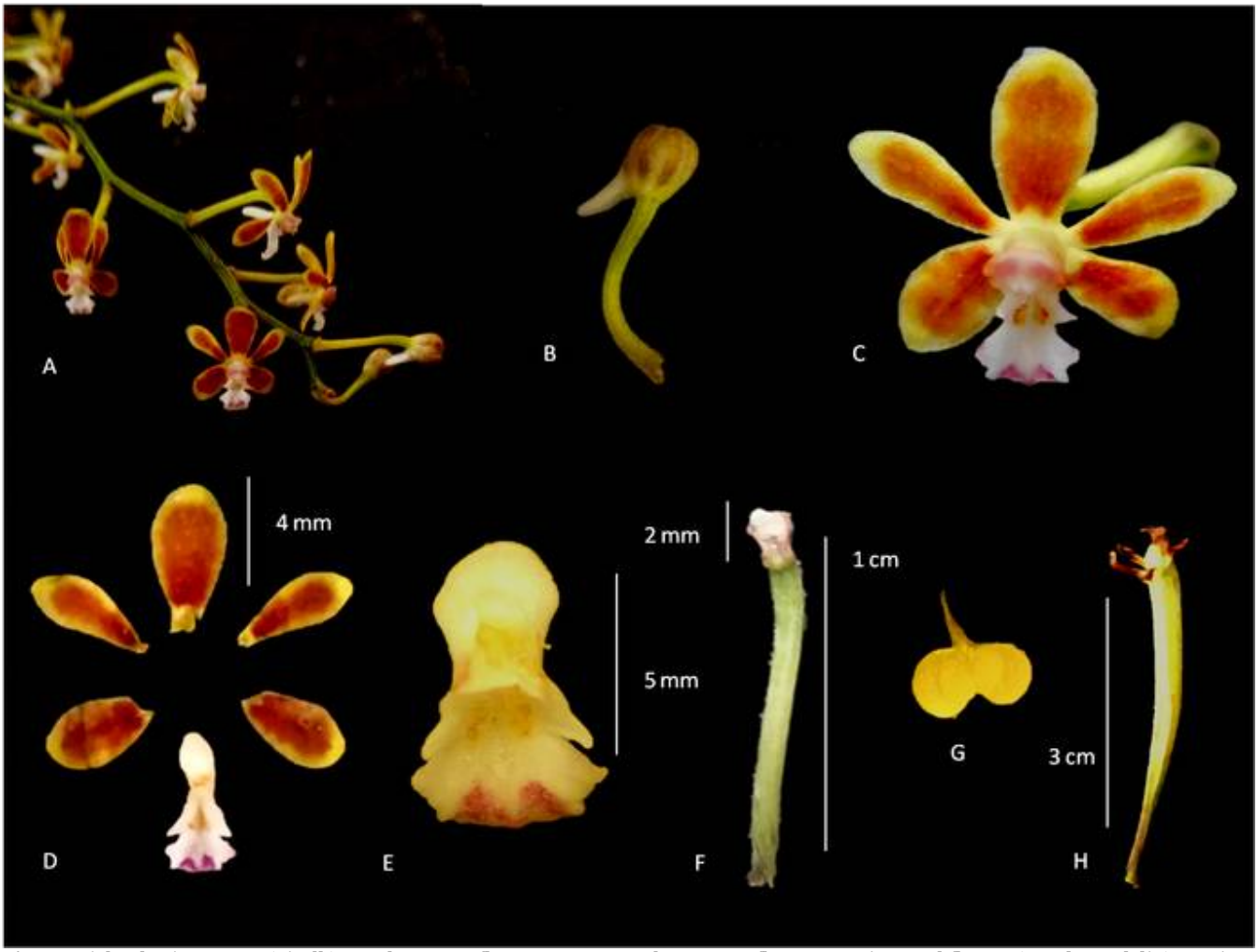

Fig. 2. *Trichoglottis ramosa* (Lindl.) Senghas. **A.** Inflorescence**; B.** Bud; **C.** Intact flower; **D.** Dissected flower (sepal, petal, lip); **E.** Lip; **F.** Ovary with column; **G.** Pollinia; **H.** Capsule.

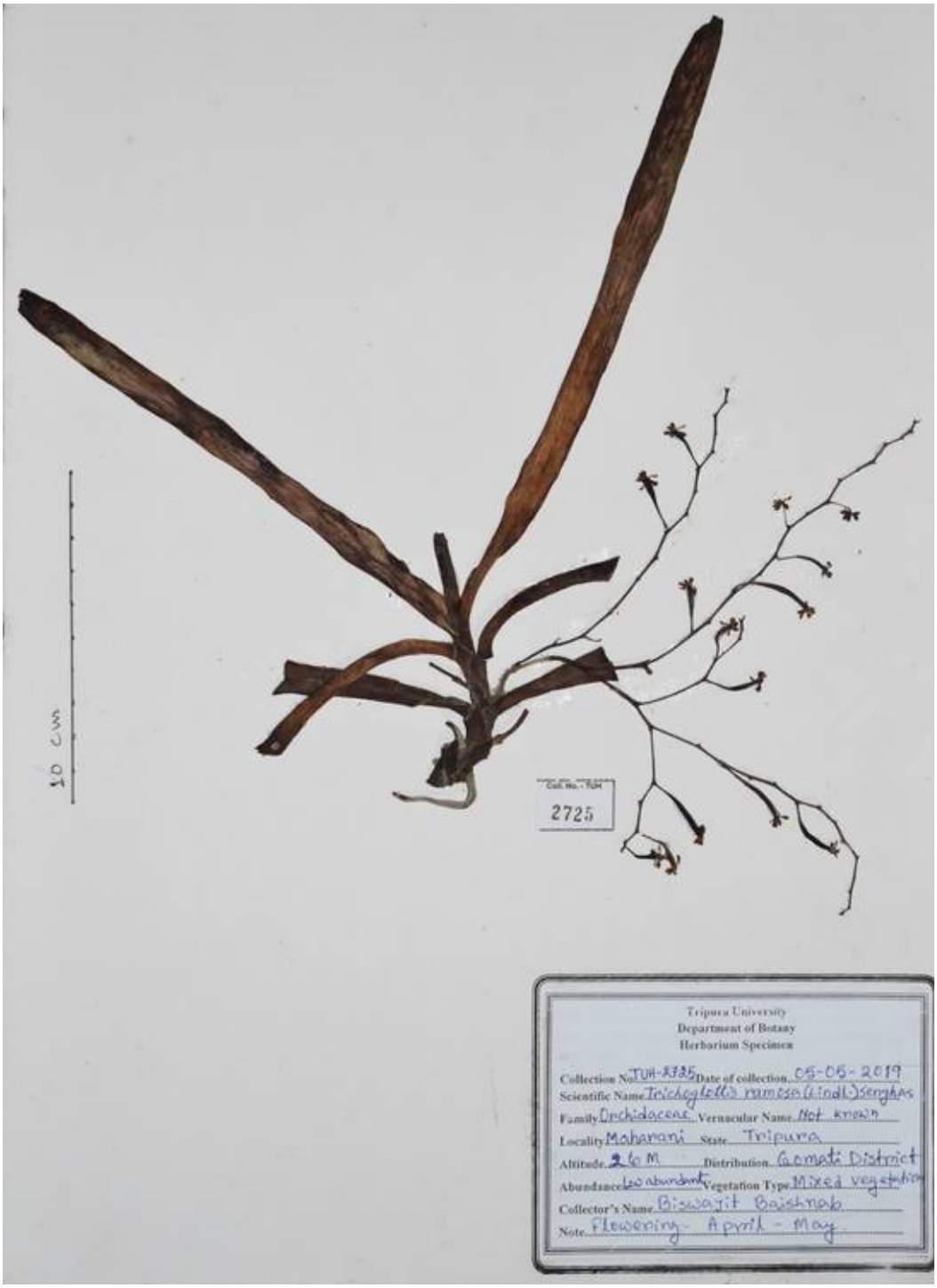

Fig. 3. Herbarium sheet of *Trichoglottis ramosa* (Lindl.) Senghas

Tripura is a small hilly state of North-eastern part of India and is surrounded by Bangladesh by three sides and located along the 22°56'N to 24°32'N, and 91°09'E to 92°20'E coordinates. The area of Tripura is 10491 km^2, of which, about 60.02% (6294 km^2) is under forest cover. It is divided into eight districts. The forest vegetation type, the altitudinal differences, environmental factors such as humidity, temperature, rainfall favour orchid growth. The geographical location of the species from where it was collected from 23°31'28.1", 091°33'36.9" and 23°30'41.9", 091°34'55.6" of Gomati district of Tripura.

Materials and Methods

Raw picture, host plant name, geographical location etc of the unknown plant was collected from the studied area during the field visit. After bringing it to laboratory, the plant was morphologically worked out under Magnus light stereo zoom microscope and characters were compared with relevant literature (1, 4-7). Plant taxonomic identification method was followed for the purpose and the plant was found to be a new addition to the flora of Tripura. A standard mounted herbarium specimen made following the procedure of Jain and Rao (8) was deposited in the herbarium of Tripura University.

Results

Taxonomic study

***Trichoglottis ramosa* (Lindl.) Senghas** in F.R.R.Schlechter, Orchideen Beschreib. Kult. Zücht., ed. 3, 1(21): 1315 (1988). *Saccolabium ramosum* Lindl., Gen. Sp. Orchid. Pl.: 224 (1833); *Aerides ramosa* (Lindl.) Wall. ex Hook.f., Fl. Brit. India 6: 72 (1890); *Cleisostoma ramosum* (Lindl.) Hook.f., Fl. Brit. India 6: 72 (1890); *Gastrochilus ramosus* (Lindl.) Kuntze, Revis. Gen. Pl. 2: 661 (1891); *Sarcanthus ramosus* (Lindl.) J.J.Sm., Natuurk. Tijdschr. Ned.-Indië 72: 92 (1912); *Pomatocalpa ramosum* (Lindl.) Summerh., Kew Bull. 3: 56 (1948); *Staurochilus ramosus* (Lindl.) Seidenf., Opera Bot. 95: 95 (1988).

Monopodial epiphytic herbs with ascending stem, 5-15 cm long, rigid, 5-6 mm in diameter with 5-10 internodes. Leaves typically lorate, several, distichous; leaf blade 16-25 cm long and 1.5-2 cm wide, leathery, with prominent midrib, entire margin and sheathing leaf base. Inflorescence racemose paniculate, 25-35 flowered; peduncle 15-20 cm long. Flowers small, broadly opened, petiole 7-8 mm. Sepal and petal yellowish brown but light yellow at marginal surroundings; lip white. Dorsal sepal subspatulate or oblanceolate, ca. 4×2 mm, obtuse; lateral sepals obovate, ca. 3×2mm, obtuse. Petals oblanceolate ca. 4×1 mm, obtuse; lip ca. 5×2 mm, 3-lobed, base channel like, with small dense hairs on the adaxial surface, ca. 2 mm; lateral lobes sub-oblong, mid lobe subquadrate, concave at the middle, ca. 1×2 mm, apex with two purple sagittate spot, obtuse, spur cylindric. Column with ovary ca. 1 cm; column short ca. 2 mm, purple; pollinia 4, waxy, subglobose, white, two pair, two in each pair attached to the stipe. Capsules cylindrical, 2-3 cm long (Fig. 1 & 2).

Distribution: India (Assam, Sikkim, Tripura), Bangladesh, Bhutan, Myanmar, Thailand.

Phenology: Flowering and fruiting occurs in April-May.

Specimen Examined: India, Tripura, Gomati district, Maharani, ±26 m, 23°31'28.1"; 091°33'36.9"; ±60 23°30'41.9"; 091°34'55.6"; Datta and Baishnab, 2725 (TUH) (Fig. 3).

Discussion

As a result of minute field exploration and survey during flowering season of April to May we have included this species to the flora of Tripura state. Eventually, literature is available for no occurrence of this species in the flora of Tripura state. Hence, the present collection forms new distributional record for orchid flora of Tripura. This article also provides instant description, habitat, phenology and illustration to promote easy identification and confirmation of the species from this extent.

The state Tripura exhibits a huge number of reserve forest along with a number of unexplored forest patches. Proper forest survey, research and investigation's can enable us to include bunches of new orchid species to the flora of Tripura state. These can promote conservation of several rare and endangered orchid species disappearing at alarming rate due to habitat destruction and several other anthropogenic factors.

Competing interests

The authors don't have any competing interests.

Acknowledgements

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Authors' contribution

The first author collected the species, identified, analysed the field data and wrote the manuscript. The second author analysed the manuscript, reviewed the literature third author revised the final manuscript and mentored the project.

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