

## *International Journal of Scientific Research and Reviews*

### **Recollection and distributional extension of *Agapetes macrantha* (Hook.) Hook. f. var. *grandiflora* B. Banik & M. Sanjappa (Ericaceae) after the gap of 86 years from Assam, India**

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#### **ABSTRACT**

Occurrence of *Agapetes macrantha* (Hook.) Hook. f. var. *grandiflora* B. Banik & M. Sanjappa of Ericaceae, an epiphytic medicinal shrub has been recollected from Ultapani, Chirang Reserve forest, Kokrajhar district in Assam after a gap of 86 years. Detailed description, herbarium specimen, photoplates and other relevant information are provided.

**KEY WORDS:** Recollection, *Agapetes* (Ericaceae), Ultapani Forest Range, Assam, India

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## INTRODUCTION

Myanmar regarded as the first country for the study of genus *Agapetes* D. Don ex G. Don of family Ericaceae as it was first studied by W. S. Kurz describing two new species with addition of two species along with some varieties which were all placed under the genus *Vaccinium*<sup>1, 2</sup>. Later, C. B. Clarke transferred to *Agapetes*<sup>3</sup>. The genus comprises of ca. 100 species distributed in East Himalaya, South West China and Indochina to South East Asia<sup>4, 5</sup>. Myanmar represented about 50 species<sup>6</sup>. Earlier, India comprised of about 34 species<sup>7</sup>. But now the genus comprises of 58 species and 15 varieties<sup>5</sup>. North-East India represented by 23 species and one variety which were described under the family Vacciniaceae<sup>8</sup>.

## MATERIAL AND METHODS

The extensive floristic survey was conducted in Ultapani Forest Range, Chirang Reserve Forest under Manas Biosphere Reserve, BTAD, Assam. On November-December of 2018, author could collect a few individual of epiphytic shrubs with bisexual flowers. Details morphological description has been done along with photoplate and herbarium specimen are provided for easy identification of species. Some of the species prepared for herbarium specimen following the standard field and herbarium techniques of Jain & Rao<sup>9</sup>. The voucher specimen was deposited in the Bodoland University Botanical Herbaria (BUBH), Kokrajhar, Assam.

## RESULT AND DISCUSSION

A critical study and scrutiny of the specimen, it was identified as *Agapetes macrantha* (Hook.) Hook. f. var. *grandiflora* B. Banik & M. Sanjappa. Earlier *Agapetes macrantha* (Hook.) Hook. f. described as a variety of *A. variegata* (Roxb.) D. Don ex G. Don but *A. macrantha* was found to differ from latter due to presence of narrow lanceolate leaves, flowers in fascicles and truncate stigma where *A. variegata* has lanceolate to oblanceolate lamina, corymbose inflorescence, glandular-capitate 5-lobed stigma<sup>10</sup>. Banik & Sanjappa described *Agapetes macrantha* (Hook.) Hook. f. var. *grandiflora* B. Banik & M. Sanjappa. as a variety under *A. grandiflora* Hook. in Benth. & Hook. f.<sup>11</sup>. But later they again placed it as a variety under the species *A. macrantha* due to having similar characters between them such as flowers in fascicles, 4.5-6 cm long corolla, deltoid calyx lobes and truncate stigma<sup>10</sup>.

In india, Simons first collected this species on December 1851 from Assam and Khasia Hills. From Assam, U. N. Kanjilal collected this species on 23 March 1914 from Lakhimpur at altitude of 3000 ft. (U.N. Kanjilal 3670, ASSAM) and R. N. De on December 1933 from Dhubri (R.N. De 64602, DD)<sup>10</sup>. After the collection of R. N. De, despite of many floristic studies carried out in the

state of Assam, the species was not mentioned and could not be collected since 86 years. Hence the current paper represents the recollection and existence of species in the natural habitat after the gap of 86 years in the state of Assam.

## TAXONOMIC TREATMENTS

*Agapetes macrantha* (Hook.) Hook. f. var. *grandiflora* B. Banik & M. Sanjappa in Nord. Journal Bot. 26: 4-9, 2008. (Figures 1 & 2)

### *Basionym*

*Agapetes grandiflora* Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 572. 1876; C.B. Clarke in Hook. f., Fl. Brit. Ind. 3: 446. 1881; A. Das in Kanjilal et al., Fl. Assam 3: 137.1939; *Ceratostema variegatum* Griff., Not. Pl. Asiat., 4: 302.1854; *Ceratostema variegata* Roxb. in Fl. Indica 2: 413-414. 1832.

### *Type*

Mishmee and Burma, In arbor, Yoomta, March 1837. Griffith s.n., Kew distrib. No. 3474 (K, cibachrome!, CAL!).

Epiphytic shrubs, upto 10 m tall, lignotuber basal, ca. 60 cm diameter, brown; stem robust, terete, lenticellate, glabrous; stipule 2-4 mm, brown, slightly triangular, apex acuminate; leaves pseudowhorls, alternate, pseudowhorls 2-3 cm apart, 3-4 leaved, lamina 19-25 x 3-4 cm, coriaceous, adaxially dark green, abaxially pale green, glabrous both side, petiole short, 0.2-0.4 cm long, green, glabrous, base cuneate, margin entire to distantly serrate, apex sharply acuminate; inflorescence fascicles, pendent, arising from stem, glabrous, 2-10 flowered, peduncle short, upto 0.5 cm long, green; flower upto 10 cm long, 1.5 cm diameter, pinkish-white, upper part pink transverse stripes, lower part longitudinal pink stripes, fleshy, cupulate, obconical, pedicelar bracts brown, 2 mm, sub-triangular, apex cuneate, glabrous; calyx 5 lobed, 0.6 cm long, greenish-pink, glabrous, lobes ovate, apex acute; corolla 5 lobed, 7 cm long, lobes coiled downwards when matured, green, base tubular, pinkish-white, glabrous; stamens 10, closely associated, surrounds the style, 6 cm long, filament upto 5 mm, white, fleshy, incurved, glabrous inside, puberulous outside, anther upto 1.3 cm long, white, dark brown when matured, granular, furrowed, tubules 4.7 cm, brown-yellow, spurs 1 mm long, brown, reflexed; gynoecium 7 cm long, glabrous, ovary globose, 5 mm diameter, style filiform, 5 cm long, 1 mm diameter, light pink at base, upper part light yellow, stigma capitate, light green.

**Flowering:** October-December;

**Fruiting:** February-April

**Vernacular name:** ‘Bodo’: Samoka Biyad (Assam); ‘Assamese’: Phuli or tenga (Assam); ‘Nepali’: Lehra ber (Arunachal Pradesh)

**Habitat:** Found in dense forest as epiphytic on trees at altitudes ranging 200-1400 m.

**Distribution:** INDIA (Arunachal Pradesh, Assam, Nagaland), BHUTAN, BANGLADESH AND MYANMAR

**Uses:** Fresh corolla taste sour and consumed freshly or cooked as vegetables. It is belief to be controlling indigestion problem by Bodo tribe of Assam.

**Specimen examined:** Ultapani, Chirang Reserve Forest, Kokrajhar district, Assam; 30.11.2018, S. Basumatary 0064 (BUBH); Altitude: 206 m.; GPS location: N 26<sup>0</sup>76’84.08’’ and E 090<sup>0</sup>28’88.15’’; Lakhimpur, Trunk road, 120th mile, 3000ft, 23.03.1914, U. N. Kanjilal 3670 (ASSAM); Dhubri, Dec 1933, R. N. De 64602 (DD).

**Note:** Griffith (1854) described *Agapetes macrantha* var. *grandiflora* as *Ceratostema variegatum*<sup>12</sup>.  
<sup>13</sup>. J. D. Hooker (1876) renamed it as *Agapetes grandiflora* as the earlier was a later homonym of *Ceratostema variegata* Roxb. (1832)<sup>14, 15</sup>.

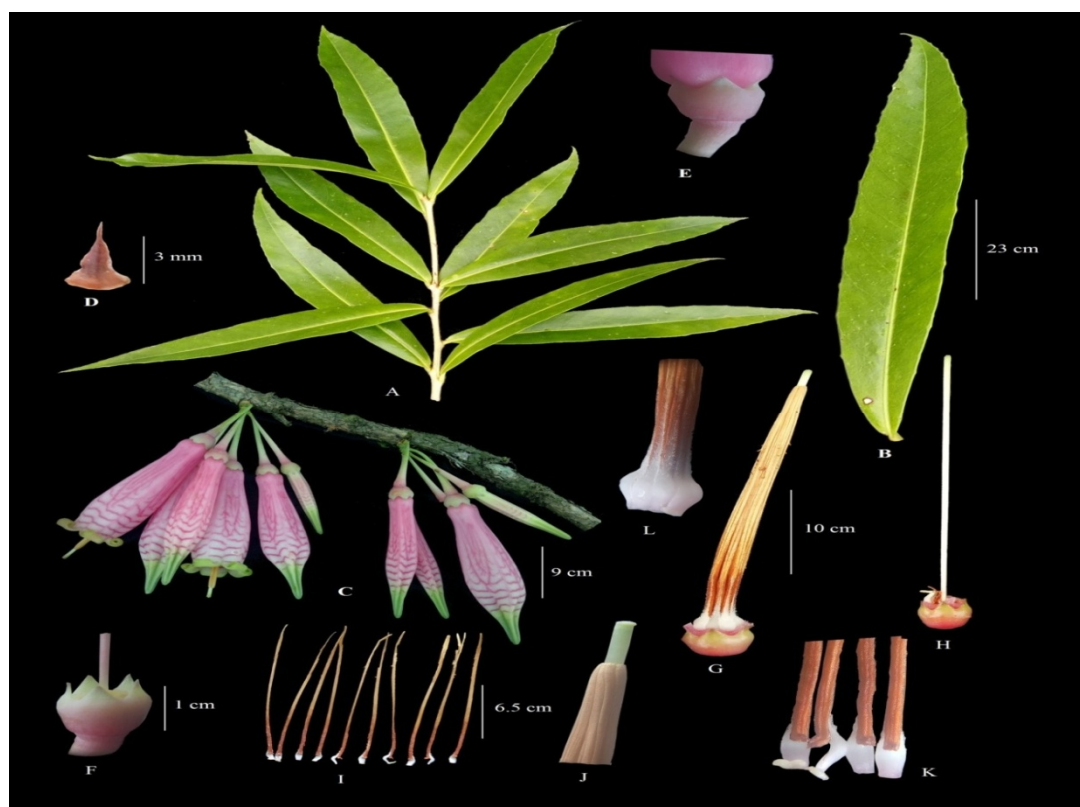


Figure 1. *Agapetes macrantha* (Hook.) Hook. f. var. *grandiflora* B. Banik & M. Sanjappa: A. Leafy apical twig; B. Leaf; C. Flowers; D. Stipule; E. Showing calyx with corolla; F. Calyx after removing corolla; G. Showing stamens after removing calyx and corolla; H. Gynoecium; I. Stamens; J. Apical part of tubules and style; K&L. Showing incurved filaments.



Figure 2: Herbarium specimen of *Agapetes macrantha* (Hook.) Hook. f. var. *grandiflora* B. Banik & M. Sanjappa

## ACKNOWLEDGEMENTS

The first author is thankful to DFO, Haltugaon Forest Division and Ranger, Ultapni Forest Range for their kind co-operation and permission to explore the area. Secondly author thankful to Sansuma Basumatary, Paris Basumtary, Durga Brahma, Girendra Brahma, Bana Kr. Brahma

Choudhury, forest staff of Ultpani Forest Range and staff of NGO 'Biodiversity Conservation' for their kind help during field visit.

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