A RARE SPECIES OF *AGAPETES* D. DON EX G. DON (ERICACEAE)

The genus *Agapetes* D. Don ex G. Don (Ericaceae) comprising about 80 species is distributed from Eastern Himalayas to South East Asia (Airy Shaw 1935, 1959, 1973). About 34 species are found in India (Santapau & Henry 1973). These shrubs or small trees are sometimes epiphytic on tall trees often evading collection by explorers. Studies reveal that many well defined species are known so far from one or two gatherings only, often not recollected after the type collection. Some are incompletely known, particularly with respect to the fruit. Large scale felling of trees for construction of roads, afforestation and various developmental activities is threatening to their existence.

The present note deals with one such species *A. nuttallii* C. B. Clarke (1881) at present confind to the South-eastern part of Bhutan and the adjoining region of Arunachal Pradesh only. The type specimen on the basis of which it was described by C. B. Clarke (*l. c.*) was collected by T. J. Booth from South-eastern part of Bhutan in 1849 and was passed over to India House, London by his uncle T. Nuttall, (Burkill 1965) after whom the species is named.

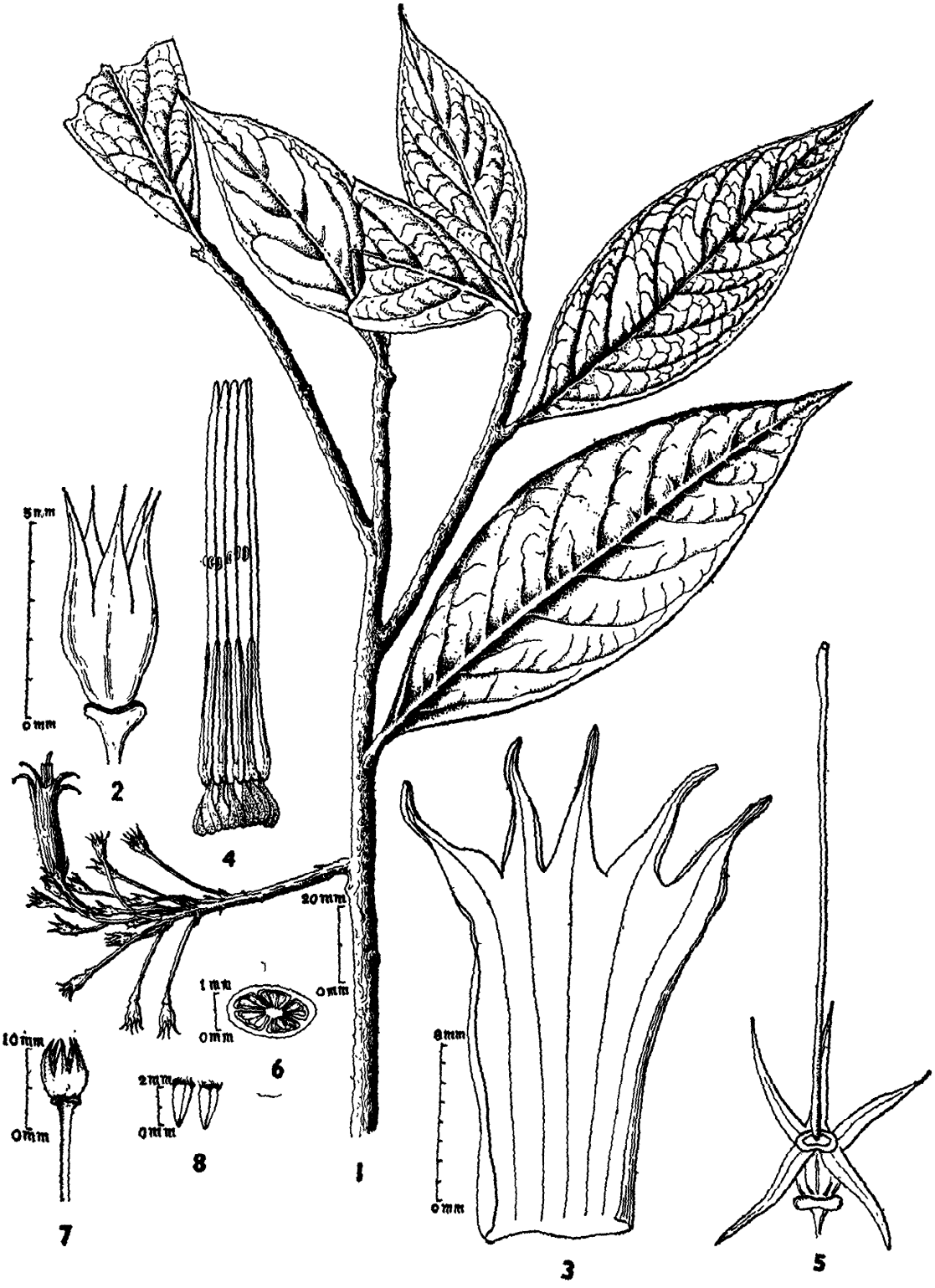
After a lapse of 86 years, F. Kingdon Ward discovered the species in 1935 from Rupa in Kameng district of Arunachal Pradesh. Attached to the sheet is an envelope containing detached inflorescences of two other species of *Agapetes* besides a flower of *A. nuttallii.*

The present collection by D. B. Deb in November, 1964 is again from the South-eastern part of Bhutan. This is the third gathering of this little known species and is most probably from the type locality (which is not definitely recorded). It agrees perfectly with the type and also has fruit which was not collected earlier.

This species is characterised by a slightly curved and oblique corolla, a feature shared only by four other species in section *Agapetes* series *Robustae* Airy Shaw. The lamina with lateral nerves deeply impressed above and prominent beneath, and the pedicel with a cupular expansion at the apex serve to distinguish the species from other allied ones with oblique corolla. Other characters as a distinct petiole, 4 - 13 mm long, cuneate leaf base, glabrous inflorescence, corolla 1.5 - 2.8 cm long, cleft only near the top and short filaments are concomitant features not shared by any other species. To facilitate further collection a brief description is given below, with an illustration.

A. nuttallii C. B. Clarke in Hook. f. Fl. Brit. Ind. 3: 445. 1881; Brandis, Ind. Trees 405. 1906; Airy Shaw in Kew Bull. 1935: 32. 1935 & 3: 83. 1948.

Epiphytic glabrous *shrubs* 2 - 3 m high; twigs stout, terete. *Leaves* simple, alternate, tending to be pseudo-verticellate at apices of twigs; lamina 10 - 17 × 3.5 - 8.5 cm, elliptic, elliptic-lanceolate or lanceolate, coriaceous, entire, acute to acuminate at the apex, cuneate, sometimes glandular and unequal at the base; lateral nerves 6 - 10 mm on each side, forming a submarginal vein, deeply impressed above and prominent beneath, secondary reticulation obscure; petiole 4 - 13 mm long, slender, glabrous. *Inflorescence* a lax corymb, 8 - 13 cm long, on old wood; peduncles 3 10 cm long, glabrous, 10 - 20 flowered; bracts and bracteoles linear, lanceolate to ovate-lanceolate, 2 - 3 × 1 1.5 mm, glabrous; pedicel 8 - 20 mm long, slender with cupular expansion at the apex, glabrous. *Flowers* scarlet (green according to Kingdon Ward) with white striations at the margin of corolla, inodorous. *Calyx* 6 - 8 × 3 - 4 mm, campanulate, 5 lobed,



Agapetes nuttallii C. B. Clarke

Figs. 1-8: 1. Twig. 2. Calyx. 3. Corolla. 4. Stamens. 5. Pistil with calyx. 6. T. S. of ovary. 7. Fruit. 8. Seed.

divided up to three quarter of its length; lobes 3.5-4 × 1.3 mm, triangular-lanceolate, acute at the apex, prominently 1-nerved and with lateral veins. *Corolla* elongate-tubular, tapering and distinctly curved at the tip, obscurely 5-angled, 1.5-2.8 cm long, 5-6 mm across, shortly divided near the top into 5 linear-lanceolate lobes, each 6-8 mm long, prominently 1-nerved and dorsally raised. *Stamens* 10, as long as corolla; filaments short, rather stout, ± 3 mm long; anthers yellow, narrowly oblong, ± 21 mm long, 2 spurred at the middle, opening by longitudinal slits. *Ovary* inferior, 5-celled, with many ovules in axile placentation; style linear, 2.3-2.5 cm long; stigma capitate, 2 mm long, glabrous. *Fruit* berry, 6-7 × 4.5-5 mm ovoid-oblong, with persistent calyx lobes. *Seeds* many, oblong lanceolate, obtuse to truncate at the apex with villous hairs, acute at the base, ventrally concave, dorsally shallow convex and with a ridge.

Note: C. B. Clarke (*l. c.*) erroneously described the corolla as straight. It is on the contrary, distinctly curved at the apex.

Specimens examined: BHUTAN: South-eastern part, 1849, *T. J. Booth* s. n. (TYPE, K); Shamkhara, 1400 m, 11.11.1964, *D. B. Deb* 85 (CAL); Gaylegphug, 270 m, 9.11.1964, *D. B. Deb* 215 (CAL); Ranicamp (Gulibrong), 1650 m, 13.11.1964, *D. B. Deb* 215A (CAL); ARUNACHAL PRADESH: Rupa, 1200-1500 m, 22 October, 1935, *F. Kingdon Ward* 12458 (BM).

ACKNOWLEDGEMENTS

The authors are grateful to Dr. S. K. Jain, Director, Botanical Survey of India for facilities offered, to the Directors of Royal Botanic Gardens, Kew and British Museum, London for permission to consult their herberia, to Mr. H. K. Airy Shaw for confirming the identity and to Shri D. P. Saha, Artist for drawing the illustration.

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AN INTERESTING CATTLE ALARM OF 'SAHARIYA' CULTIVATORS

Ever since man has settled himself through agriculture, by degrees he has improvised cultivation and its techniques. This is suggested by the study of cave paintings and other evidences revealing eight thousand to ten thousand year old agricultural history which originated somewhere between Nile area, Egypt and the Indus river valley. Recognising the elements which promote cultivation he has adopted them and has simultaneously learnt means to ward off obnoxious elements which are harmful. From the selection of cultivation localities in near perfect natural conditions, where tilling the