Calyx white, glabrous, divided into five oblong segments spatulate at the apex; 1·3 cm. long, 1·5 mm. broad at the base, 4 mm. broad at the apex. *Corolla* yellowish-white, with short white hairs on the outside; corolla-tube 3 cm. long, about 1 cm. in diameter, corolla-lobes broadly ovate, 0·6 cm. long, 0·7 cm. broad. *Stamens* 4, slightly didynamous, fused in pairs at the tips, attached to the corolla-tube for about 1 cm., free for 1 cm.; filaments glabrous, threadlike; anther cells slightly curved, 1·5 mm. long. *Disc* 1·5 mm. high, cupular, margin sinuate. *Gynoecium* 2 cm. long, cylindric, ovary 1·7 cm. long, stigma capitate. *Fruit* 6–7·5 cm. long, 2 mm. across, light brown in colour.

Szechuan. Mt. Omei, 850–1,200 m., flowering July–September; Faber, s.n. (K, E.), Wilson 4739 (K, E.), 5050 (K, E.), Chiao & Fan 414 (AA), W. P. Fang 2455 (E), H. C. Chow 8130 (AA, E), 8229 (AA, E), 8291 (AA, E).

Studies in the Gesneriaceae of the Old World

VIII.—Briggsia muscicola and a new allied species

BY

B. L. BURTT

On 14th March 1946 the late Dr. P. L. Giuseppi received an Award of Merit at the Royal Horticultural Society's Show for a pan of "*Briggsia Penlopi*." Shortly afterwards a drawing was made by Miss Ross-Craig at Kew from material supplied by Dr. Giuseppi and in checking the identification Mr. J. R. Sealy had doubts as to whether the plant was really *B. Penlopi*. On the drawing the name was written *Briggsia sp.*, and there the matter has rested till now.

Giuseppi's plant was raised from seed collected by Ludlow, Sherriff & Taylor (No. 5670) in the Kongbo Province of south-eastern Tibet and I am indebted to Dr. G. Taylor of the British Museum for the loan of the corresponding herbarium sheet and also for a fine series of herbarium specimens of the same plant. It was first collected at Lilung Chu in the Tsangpo Valley by F. Kingdon Ward in 1935.

Briggsia Penlopi was described by the late Mr. C. E. C. Fischer from material collected by B. J. Gould in Bhutan (No. 718). The type specimen has been kindly sent on loan from Kew and I have therefore had the opportunity of assembling all the relevant specimens side by side. More important still I have been able to examine living material. There are in cultivation at Edinburgh both the Ludlow, Sherriff & Taylor plant, as grown by Giuseppi, and another grown under the number Kingdon Ward 13855.

Study of the ample material now available has cleared away the difficulties and has led to the following conclusions. First, the plant grown by Giuseppi and others is not *Briggsia Penlopi* nor is it any other species yet described.

It is published here as *Briggsia aurantiaca* B. L. Burtt. Secondly Kingdon Ward 13855 is the true *Briggsia Penlopi*; but further study shows that it cannot be satisfactorily separated from *Briggsia muscicola* (Diels) Craib. It may be mentioned that this form of *B. muscicola* has rather dingy yellowish-green flowers and that its claim to a place in the alpine house can only be maintained on the grounds of botanical curiosity. Horticulturally it is drab.

In geographical distribution the two species do not, as it appears from the material presently available, overlap. *B. aurantiaca* is wholly Tibetan and comes from parts of that country lying just north of Bhutan and Assam. *B. muscicola* has been found in Bhutan itself, in northernmost Assam and Burma, on the Salwin-Mekong divide in north-eastern Yunnan and again further north along this divide in the Tsarong district of Tibet.

Not only has *B. muscicola* a wider geographical range than *B. aurantiaca*, it also shows greater variability. This is especially noticeable in flower-colour and the following records have been extracted from collector's notes :— " pale dull sage-green " (Ludlow & Sherriff 594); " pale yellow " (Ludlow, Sherriff & Hicks 19266); " egg-yellow finely spotted with red brown " (Ward 7135); " cream or pale yellow, speckled dark purple within " (Ward 13855); " deep orange " (Forrest 5095); " pale orange yellow with brown markings " (Forrest 14189); " deep orange spotted dull purple " (Forrest 16879); " orange with deeper markings " (Forrest 19305); " yellow " (Rock 23059, 22978). Even allowing for the inevitable personal variations in describing colours (and for the fact that all these flowers are variously marked or spotted whether that is mentioned or not) it is clear that flower-colour varies considerably. In the western part of the range the duller colours predominate, in the east the brighter orange is most frequent. Herein, perhaps, lies some justification for *Briggsia Penlopi*, but until definite morphological characters can be added to the trend in flower-colour it cannot be accepted in specific rank. As with so many of the problems concerning the relations of plants from Bhutan with those from Yunnan, we must await further collections from the intervening areas of northernmost Assam and Burma.

There is apparently another undescribed *Briggsia* in the British Museum collections. To this the following sheets belong :—
S.E. Tibet; *Kongbo Prov.* Drukla Gompa, Drukla Chu, 30° 05′ N, 93° 45′ E, 3350 m., crevices in rock face, 18 August 1938, Ludlow, Sherriff & Taylor 6851 (BM). Pang, Pangkar Chu, 3650 m., calyx green, corolla dirty white outside, purplish white inside with orange streaks, filaments white, anthers cream, style dark green, stigma purple, on moist rocks, 29 July 1947, Ludlow, Sherriff & Hicks 15529 (BM).

In its long petiolate, oblong-lanceolate leaves this plant comes closer to *B. muscicola* than to its nearer geographical neighbour *B. aurantiaca*. The very different flower-colour suggests, however, that when further material is available it will be found to represent a distinct species.

BRIGGSIA MUSCICOLA (Diels) Craib in Notes Roy. Bot. Gard. Edinb. xi, 264 (1920).

Syn. : *Didissandra muscicola* Diels in Notes Roy. Bot. Gard. Edinb. v, 225 (1912).

Briggsia Penlopi C. E. C. Fischer in Kew Bull. 1939, 666.

The following description is based wholly on a single plant of Kingdon Ward 13855 which flowered at Edinburgh. Relative to many of the herbarium specimens it was evidently rather stunted in growth; however, the herbarium material has already been described and the only warrant for further description is the value of observations on a living plant.

An acaulescent herb, the leaves (about 15 in number) forming a dense rosette from which the numerous axillary inflorescences arise. *Petiole* flattened, up to 2·75 cm. long, covered with a mixture of short white hairs and long brown ones. *Lamina* narrowly elliptic-lanceolate, up to 6·3 cm. long and 2·4 cm. wide, rounded at the base, acute (and when alive slightly recurved) at the apex, with a crenulate margin; upper surface clad with velutinous white hairs and with 7–8 pairs of impressed lateral nerves; lower surface clad between the nerves with very short inconspicuous white hairs, on the prominent nerves the white hairs are more robust and are mixed with a few longer brown ones. *Inflorescences* axillary, 2–6-flowered; scape up to 5 cm. long, hairy like the petiole. *Bracts* 6–7 mm. long, lanceolate, pilose with short white hairs; bracteoles none. *Pedicels* of the primary flowers about 1·2 cm. long, pilose like scape and petiole. *Calyx* deeply divided into 5 segments; segments lanceolate, 5–6 mm. long, clad with short white hairs with which a few longer brown ones are mixed. *Corolla* with a tube 14–15 mm. long, 8–10 mm. in diameter in the middle, somewhat inflated, dorsal surface slightly curved, ventrally distinctly saccate 6 mm. above the base; where the two lower filaments arise from the corolla tube on the inside, there on the outside are two little pouches; upper lip about 4 mm. long, shortly bilobed; lower lip 6 mm. long and 15 mm. wide, divided into 3 rounded lobes 4 mm. long and 5 mm. broad; whole corolla clad on the outside with short white hairs and with a few similar ones on the inside of the lower lip, yellowish green outside and below (especially around the pouches), golden-yellow on the inside spotted and marbled with dull purple between the veins. *Stamens* 4; filaments of the lower pair adnate to the corolla for 6 mm., the free part 10 mm. long, those of the upper pair adnate to the corolla for 6 mm., the free part 6 mm. long also, all with scattered short glandular hairs; anthers 1 mm. long and 1·5 mm. broad, dehiscing along a horse-shoe-shaped line, the loculi of the shorter anthers somewhat divergent at the base, those of the longer ones contiguous; filaments at first slightly arcuate and anthers coherent in pairs, but on dehiscence the anthers separate and the filaments straighten. *Disc* cupular, 1 mm. high, with a wavy margin. *Ovary* 8 mm. long, 2·5 mm. broad, cylindric, glabrous. *Style* 3 mm. long, sparsely glandular-pilose. *Stigma* divided in the vertical plane into 2 very short lobes. *Fruit* (immature) 4·5 cm. long and 3 mm. broad.

S.E. Tibet. Tsarong distr.; Mekong-Salwin divide; Forrest 16879 (E), 19305 (E), Rock 22978 (E), 23059 (E); Yundshi Mt., Rock 23456 (E), 23565 (E).

N.E. Yunnan. Mekong-Salwin divide, 27° 30′ N, Forrest 5095 (*holotype* E); 28° 12′ N., Forrest 14189 (E), 14967 (E), 17262 (E).

Burma-Tibet Frontier. Valley of the Dichu, Kingdon-Ward 7135 (K).

Assam. Manda La, Kingdon Ward 13855 (BM).

Bhutan. Pale-La to Ri-Tang, Gould 718 (*holotype of B. Penlopi*, K). Sakden, Gamri Chu, Ludlow & Sherriff 594 (BM, E). Lao La, Ritang, Ludlow & Sherriff 3576 (BM, E). Pangotang, Tsampa, Ludlow, Sherriff & Hicks 19266 (BM).

Briggsia aurantiaca B. L. Burtt, **sp. nov.** ex affinitate *B. muscicolae* (Diels) Craib, a qua indumento rufo-brunneo villoso, foliis latioribus brevius petiolatis, corolla aurantiaca breviore magis ventricosa facile distinguitur. *Herba* acaulis foliis dense rosulatis patentibus. *Petioli* foliorum exteriorum usque ad 7 cm. longi, sed in plantis minoribus vix 2 cm. longi et ei foliorum rosulae intimorum brevissimi, applanati, densissime et longe brunneo-villosi. *Laminae* late ellipticae vel interdum subrhomboidales, ad 12 cm. longae et 5 cm. latae, bullatae, marginibus grosse et obtuse crenato-dentatis, supra longe et laxe rufo-brunneo-villosae, subtus similiter praecipue ad nervos prominentes villosae et inter nervos breviter albo-pubescentes, marginibus pilis rufo-brunneis villoso-ciliatae. *Inflorescentiae* axillares in plantis minimis uniflorae, plerumque 4–6-florae (floribus binatis), scapo nudo usque ad 12 cm. longo pilis rufo-brunneis 5 mm. longis et aliis albis brevissimis vestito. *Bracteae* 5 mm. longi, lineares, uti scapi pilosae. *Pedicelli* ad 2·5 cm. longi uti scapi pilosi, pilis albis glandulosis. *Calyx* ad basin in segmentis 5 lanceolatis 5 mm. longis 1 mm. latis extra rufo-brunneo-villosis et albo-pubescentibus partitus. *Corolla* circiter 2 cm. longa, aurantiaca, intus lobis inferioribus et parte ventrali tubi rubro-brunneo-maculata et striata ; tubus circiter 1·7 cm. longus, ore 1·3 cm. diametro, inferne valde ventricosus, extra pilis albis sparsis glandulosis praeditus, intus glaber ; labium superius reflexum, breviter bilobum, lobis 3 mm. longis et 4 mm. latis obtusis ; labium inferius etiam reflexum, trilobum, lobis 3 mm. longis, subacutis. *Stamina* 4 ; filamenta primum arcuata et antherae per paria adhaerentes, sed antheris dehiscentibus liberatis tum vero filamenta recta ; filamenta superiora ad corollam per 4 mm. adhaerentia, parte libera 12 mm. longa ; inferiora ad corollam per 6 mm. adhaerentia, parte libera 10 mm. longa, basi paullo incrassata et invaginatione deltoidea corollae partim obtecta ; antherae 1·5–2 mm. longae primum apicibus inter se adhaerentes demum liberae, longitudinaliter dehiscentes. *Staminodium* fere nullum. *Discus* cupularis, 1 mm. altus. *Ovarium* 11 mm. longum, cylindricum glabrum, in stylo 4 mm. longo apice stigmate ad perpendiculum bifido coronato contractum. *Fructus* 3 mm. longus, brunneus.

S. Tibet. Lilung Chu, Tsangpo valley, 3650 m., in damp shady cliffs, flowers orange with darker spots, 18 July 1935, Kingdon Ward 12009 (BM). Sanga Choling, 3660 m., corolla orange-yellow spotted reddish purple inside on open rock faces in dry zone, 30 July 1936, Ludlow & Sherriff 1959 (BM, E)—this includes small forms with inflorescences reduced to a single flower. Lung, Chayul Chu, 2870 m., corolla dull golden yellow (colour 256), anterior half heavily spotted red-brown, growing in a little moss on rock faces always wet with spray from waterfall, shady position, 10 July 1936, Ludlow & Sherriff 2330 (BM). Trun, Chayul Chu, 3350 m., corolla orange yellow with brown orange spots on anterior half, growing on dry rock faces in

warm valley, 22 July 1936, Ludlow & Sherriff 2420 (BM). Kingbo Prov., Pe, Tsangpo valley, 29° 31′ N., 94° 54′ E., 2950 m., on dry rocks, corolla orange-yellow spotted browny-orange anteriorly in throat and lower lip, upper lip 2-lobed, lower 3-lobed, filaments white, anthers purple, ovary green, 19 July 1938, Ludlow, Sherriff & Taylor 5304 (BM). Kongbo Prov., Molo, Lilung Chu, 28° 57′ N., 93° 53′ E., 3050 m., corolla rich golden yellow spotted and striated red brown on lower side, common on rock faces in Abies and mixed forest, 26 June 1938, Ludlow, Sherriff & Taylor 5670 (*holotype*, BM). Gyala, Tsangpo valley, 2850 m., amongst rocks in burnt forest, corolla yellow spotted profusely red-brown inside, calyx brownish green, 9 July 1938, Ludlow 7299 (BM). Kongbo Prov., Lilung Chu, near Molo, 3650 m., seeding specimen, 16 October 1947, Ludlow, Sherriff & Elliot 13320 (BM). Kongbo Prov., Bude Tsepo La, 3350 m., on rocks, calyx green, corolla lemon yellow with pink spots on inside of posterior petal, filaments and anthers white, style and stigma light green, 15 June 1947, Ludlow, Sherriff & Elliot 15235 (BM).

Studies in the Gesneriaceae of the Old World

IX.—Two New Species from Africa

BY

B. L. Burtt

1. Saintpaulia shumensis

In recent years the number of new species of *Saintpaulia* has increased rather alarmingly, yet there are still forms in cultivation which it is not possible to name satisfactorily. Some of these must await further study, but one of them is very easily distinguished from any species hitherto described and this is now published as *Saintpaulia shumensis*. It is a more delicate looking plant than its congeners and has somewhat smaller and paler flowers than any other of the known species. Its most distinctive feature however is the slender hairs which stand erect from the surface of the dark green leaves. *S. shumensis* is also noteworthy in being the only species to fruit freely in cultivation at Kew; this is probably because its habitat in the wild is cooler than is that of most of the other species.

Saintpaulia shumensis B. L. Burtt, **sp. nov.** ab omnibus congeneris habitu compacto, foliis parvis supra pilis longis erectis praeditis, floribus pallidis, antheris saepissime haud cohaerentibus facile distinguitur.

Herba rosulata. *Folia* numerosa, petiolata; lamina crassiuscula ovata vel ovato-orbicularis, 2·5–3·5 cm. longa et 2·5–3 cm. lata, basi subauriculato-cordata, marginibus serrato-dentata dente terminali recurvo, supra luteo-viridis pilis multicellularibus 2·5 mm. longis erectis conspicue praedita,