

NOTES RELATING TO THE FLORA OF BHUTAN: XXVII
Gentianella griersonii, a new species from Bhutan

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A new species of gentian, *Gentianella griersonii* E. Aitken & D.G. Long *sp. nov.* (Gentianaceae), endemic to Central and Northern Bhutan, is described. Its generic placement and differences from allied species are discussed.

***Gentianella griersonii* E. Aitken & D.G. Long, *sp. nov.* Fig. 1.**

Affinis *G. gentianoidi* (Franch.) H. Smith sed plantis minoribus, 2.5–6cm altis; foliis caulinis angustioribus, 2–3mm latis, flores non occultantibus; inflorescentiis corymbosis differt.

Similar to *G. gentianoides* (Franch.) H. Smith but plants smaller, 2.5–6cm, stem leaves narrower, 2–3mm broad, not obscuring flowers, inflorescences corymbose.

Erect annual, 2.5–6cm. Stems densely glandular-pubescent, often leafless on lower part, unbranched or with 1–4 slender branches from lower part. *Rosette leaves* absent; lower stem leaves orbicular or reniform, 2–5 × 2–5mm, rounded, margin scabrous, petiole narrow, 1.5–6mm; upper stem leaves spatulate, 3–8 × 2–3mm, including winged petiole 1–2mm, petiole bases of opposite leaves shortly connate, leaf apex cuspidate. *Flowers* 5–7-merous, in dense corymbose cymes, 1–2cm broad, occasionally solitary on depauperate plants. *Bracts* leaf-like. *Pedicels* 0–1mm. *Calyx* scabrous, tube 2–4mm, lobes erect with spreading tips, elliptic, 2–4 × 1–1.5mm, unequal in width, cuspidate. *Corolla* pale pink or mauve, non-plicate, tube 3–6mm, lobes spreading, obovate, 2.5–5 × 1–3mm, mucronate, throat naked, small nectaries at base of corolla tube, 2 per lobe. *Filaments* 2–3mm, attached below middle of corolla tube; anthers 0.5–1mm, dorsifixed. *Ovary* ovoid, 3–4 × 1.5–2mm, stipe 0.5–1mm, style 1–3mm, stigma bilobed. *Fruit* not seen.

Type: Bhutan, Thimphu District, below Shodu, 27°43'N, 89°29'E, 'On mossy boulders in ravine. Small herb with erect pink flowers', 3910m, 4 x 1984, *Sinclair & Long* 5525 (holo. E, iso. THIMPHU).

Other specimens seen:

BHUTAN. Tongsa District, Chendebi, 2590m, 16 x 1949, *Ludlow, Sherriff & Hicks* 19830 (BM); Upper Mo Chu District, Lingshi Dzong, 3960m, 10 x 1949, *Ludlow, Sherriff & Hicks* 17445 (BM).

This distinctive species, named in honour of the late Andrew Grierson, was first noticed amongst specimens collected in NW Bhutan by Sinclair and Long in 1984, and could not be matched with other Sino-Himalayan material with the exception of two Bhutanese specimens collected by Ludlow and Sherriff in 1949. These had been annotated by Harry Smith in 1959 as *Gentianella ludlowii* H. Smith but this name was never published. However, it is clear that the species is closely

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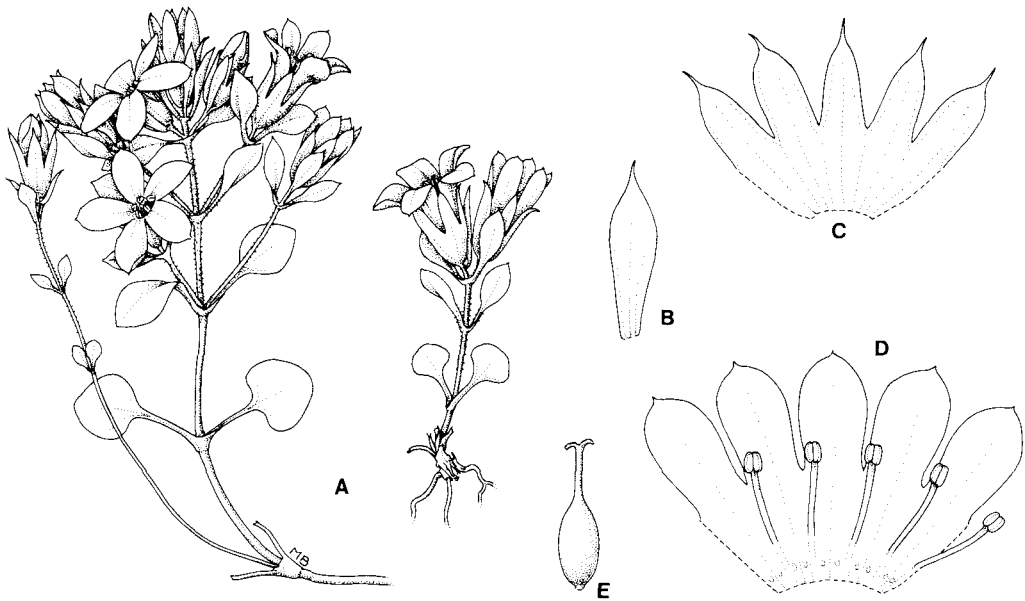


FIG. 1. *Gentianella griersonii*. A, habit ($\times 1.5$); B, bract ($\times 3$); C, calyx ($\times 3$); D, corolla ($\times 3$); E, ovary, style, stigma ($\times 3$). Drawn from Sinclair & Long 5525.

allied to the SW Chinese *Gentianella gentianoides* (Franch.) H. Smith from Yunnan and Sichuan. The differences between the two are summarized in Table 1.

In recent years several authors have attempted to subdivide *Gentianella* Moench into smaller segregate genera in particular geographical areas, e.g. Ho & Wu (1988) for China and Omer & Qaiser (1992) for Pakistan. There is currently no generally accepted worldwide treatment of generic limits in Gentianaceae and these smaller genera are difficult to reconcile with some of the taxa occurring in the East Himalaya, and have therefore not been used in the forthcoming account for *Flora of Bhutan*.

The species described here is a case in point. The closely related Chinese *G. gentianoides* has been kept in *Gentianella* by Ho & Wu (1988) but using the key to the Pakistani genera (Omer & Qaiser, 1992) both *G. gentianoides* and *G. griersonii* would key out to the segregate *Aloitis* Raf. The type species of *Aloitis* is *Gentiana quinquefolia* L. (erroneously published as

TABLE 1. Differences between *Gentianella griersonii* and *G. gentianoides*.

	<i>G. griersonii</i>	<i>G. gentianoides</i>
Height	2.5–6cm	5–15cm
Leaves	3–8 \times 2–3mm, spatulate, not obscuring flowers	10–25 \times 5–15mm broadly ovate, sometimes obscuring flowers
Inflorescence	1–1.5 \times 2–3cm, corymbose cymes	2–10 \times 2–6cm, panicles of cymes
Distribution	Endemic to Bhutan	Yunnan and S. Sichuan

'*G. quinqueflora* L.' by Rafinesque (1837–1838)), a North American species which superficially bears little resemblance to our two Asiatic taxa but agrees in having a naked corolla throat, paired nectaries and mucronate corolla lobes. As these characters occur in other segregates of *Gentiana* and *Gentianella*, we feel that their significance as generic characters requires further study on a worldwide basis. We therefore prefer to follow Ho & Wu (1988) and retain them within *Gentianella*. It should be noted that Gillett (1957) did not treat *Aloitis* as a distinct genus in his revision of North American *Gentianella*. Likewise Garg (1987), when revising the Gentianaceae of the NW Himalaya, did not recognize *Aloitis* as a genus but retained it as Sect. *Arctophila* (Griseb.) Holub of *Gentianella* with which *Aloitis* is homotypic. Omer et al. (1988) have transferred six further NW Himalayan species to the genus *Aloitis*, but none of these appears to be particularly close to *Gentianella quinquefolia* or to *G. gentianoides* or *G. griersonii*. At least one, *Aloitis falconeri* (Clarke) Omer, Qaiser & Ali, has obtuse rather than mucronate corolla lobes, raising further doubts about the soundness of *Aloitis* sensu Omer et al.

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