



Himalaiella lushaiensis (Asteraceae), a new species from India

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Abstract

Himalaiella lushaiensis (Asteraceae) from India is described and illustrated. It is compared in morphology and distribution with *H. natmataungensis* and *H. foliosa*. A key to all the species of the genus *Himalaiella* is provided in aid of their identification.

Keywords: Cardueae, Compositae, Mizoram

Introduction

Himalaiella Raab-Straube (2003: 390), a small, mainly Himalayan genus recently segregated from the species-rich, north temperate *Saussurea* Candolle (1810: 156), is distinct by the uniseriate pappus, and rugose, muricate or squamulate pericarp with an irregularly toothed crown (Fujikawa & Ngai 2012). The molecular cladogram resulting from the ITS sequence data indicates that it is more closely related to *Jurinea* Cassini (1821: 140) than to *Saussurea* (Raab-Straube 2003). Fourteen species have already been included in *Himalaiella*, and they are distributed in Afghanistan, Bhutan, SW China, N India, Kashmir, Laos, Myanmar, Nepal, Pakistan, N Thailand, N Vietnam and Iran (Fujikawa *et al.* 2007; Shi & Raab-Straube 2011; Fujikawa & Ngai 2012).

In 2012, in the course of examining specimens at the Herbarium of Royal Botanic Gardens, Kew, U.K. for the preparation of an account of certain genera of Asteraceae for the *Flora of Pan-Himalayas*, we found a hitherto undescribed species of *Himalaiella* from India, which is described below. A key to all the species of the genus is provided to facilitate their identification.

Himalaiella lushaiensis Y.S. Chen & Q. Yuan, **sp. nov.**

Type:—INDIA. [Mizoram], south of Lushai, open grassland, 1372 m, February 1932, *M.L. Werger 422* (holotype K!). Figs. 1, 2 and 3(A & C).

Annual or biennial herbs. Stem 30–50 cm tall, 3–4 mm in diam., solitary, erect, apically branched, sparsely pubescent. Basal and lower stem leaves petiolate; petiole 2–5 cm long, base sheathed; leaf blade ovate to elliptic, 11–13 × 3.5–4.5 cm, bipinnately divided, abaxially white, conspicuously veined, arachnoid tomentose, gland-dotted, especially so along the veins, adaxially green, scabrous, sparsely strigose, glandular scabrid; primary segments 8–10 pairs, elliptic, apex obtuse and mucronate; secondary lobes 1–3 pairs, obliquely triangular-ovate, sometimes toothed; upper stem leaves sessile, smaller, blade oblong, pinnatisect to pinnately lobed; lateral segments 4–7 pairs, leaf base enlarged and auriculate. Capitula few, usually in a racemiform synflorescence, pedunculate, peduncles 1–6 cm long. Involucre campanulate, 10–15 mm in diam. Phyllaries in 5–6 rows, arachnoid, gland-dotted; outer phyllaries oblong, 5–6 × 1.3–1.5 mm, leafy, gland-dotted, apex densely hairy, obtuse to acute; middle phyllaries oblong, 6–8 × 1.4–1.5 mm, subcoriaceous, deep-brownish hairy, apex acuminate; inner phyllaries narrowly elliptic-linear, deep-brownish hairy, ca. 10 × 1 mm, apex acuminate (Fig. 4). Receptacle bristles subulate, 4–8 mm long. Corolla purple, 9–10 mm long, gland-dotted, tube 4–5 mm long, limb 6–6.5 mm long, lobes 3–3.5 mm long. Achene brown, ca. 4 × 1.4 mm, 4-angled,

2. Plants almost stemless; capitula few, clustered in center of leaf rosette *H. yakla* [Bhutan, India (Sikkim), Nepal, China (Tibet)]
- Plants with tall stems; capitula numerous, in a racemiform, paniculiform, or corymbose synflorescence.....3
3. Leaf blade shallowly lobed or toothed; outer phyllaries herbaceous *H. peguensis* [Myanmar, Thailand, China (Guizhou, Yunnan)]
- Leaf blade deeply or shallowly lobed; outer phyllaries coriaceous4
4. Leaf blade sinuately lobed, margin mucronate, abaxially glabrous, sessile; capitula in lax terminal corymbs or solitary axillary ...
..... *H. chenopodiifolia* [Afghanistan, NW Pakistan]
- Leaf blade deeply lobed, margin dentate, abaxially white tomentose, petiolate or winged; capitula in sparse racemiform or paniculiform synflorescence5
5. Stem profusely branched; phyllaries linear; basal leaves sessile, bipinnate blade with 2–7 pairs of primary segments, segment margin entire or toothed, but never forming secondary lobes..... *H. foilosa* [NW India, Nepal, Kashmir]
- Stem little branched or unbranched; phyllaries oblong, lanceolate or linear; basal leaves petiolate and unwinged; lower leaves petiolate, bipinnate blade with 9–20 pairs of primary segments and with secondary lobes6
6. Stem little branched; involucre 3–4.5 cm in diameter; capitula nodding; peduncle 11–30 cm long; phyllaries linear, apex attenuate or aristate *H. natmataungensis* [Myanmar]
- Stem nearly unbranched; involucre 1–1.5 cm in diameter; capitula erect; peduncle 1–6 cm long; phyllaries oblong or lanceolate, apex obtuse to acute *H. lushaiensis* [NE India]
7. Stem simple, scapiform with reduced leaves; capitulum always solitary; leaf blade adaxially grayish green, arachnoid tomentose.
..... *H. abnormis* [NW India, W Nepal, China (Tibet)]
- Stem branched or rarely simple, leafy, not scapiform; capitula numerous or solitary; leaf blade adaxially green, scabrous, strigose, or glabrescent.....8
8. Receptacle with bristles and long subulate paleae; pappus brown; leaf abaxially glabrous
..... *H. auriculata* [Bhutan, India, Nepal, Kashmir, China (Tibet)]
- Receptacle with bristles but without paleae; pappus white or straw-colored; leaf abaxially white hairy or tomentose9
9. Plants usually profusely branched, capitula numerous; outer phyllaries with a green, herbaceous appendage.....10
- Plants fewly branched, with 2–4 capitula; outer phyllaries without appendage, long acuminate11
10. Involucre 1–2 cm in diameter; capitula solitary or clustered, subsessile or shortly pedunculate; corolla 1–1.2 cm; pappus 0.8–1 cm
..... *H. nivea* [India, Laos, Myanmar, Nepal, N Thailand, N Vietnam, China (Guizhou, Sichuan, Tibet, Yunnan)]
- Involucre 2–4 cm in diameter; capitula mostly solitary, long pedunculate; corolla 1.5–2 cm; pappus 1.4–1.6 cm
..... *H. deltoidea* [Bhutan, India, Laos, Myanmar, Nepal, Pakistan, Thailand, Vietnam, S China]
11. Leaf blade unlobed, margin dentate *H. qinghaiensis* [China(Qinghai)]
- Leaf blade lyrate lobed, margin entire or toothed12
12. Capitula few, usually 3–9, often long-peduncled, 2–3.5 cm wide; phyllaries greenish; achenes transversely muriccate
..... *H. heteromalla* [Afghanistan, NW Pakistan, N India, Nepal, Bhutan, Kashmir, SE Iran]
- Capitula usually numerous in corymbs, 0.5–2 cm wide; phyllaries brownish; achenes smooth or longitudinally ribbed13
13. Capitula cylindric; phyllaries woolly-hairy..... *H. albescens* [Afghanistan, NW Pakistan, N India, Nepal, Kashmir]
- Capitula campanulate; phyllaries nearly glabrous.....14
14. Leaves mostly basal, usually lyrate-pinnatifid; achene apex faintly dentate *H. chitralica* [E Afghanistan, NW Pakistan]
- Leaves sparsely arranged along the stem, usually lanceolate, often pinnately divided, base prominently amplexicaul; achene apex prominently dentate *H. afghana* [E Afghanistan, NW Pakistan]

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