

# A NEW SPECIES AND A NEW COMBINATION OF *PRENANTHES* L., (LACTUCEAE-ASTERACEAE) FROM PAKISTAN AND KASHMIR

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## Abstract

*Prenanthes stewartii* Roohi Bano & Qaiser, a new species from Kashmir is described and illustrated. A new combination viz., *Prenanthes aitchisoniana* (Beauv.) Roohi Bano & Qaiser, is proposed. Key to all the species found in Pakistan and Kashmir, belonging to the genus *Prenanthes* L., is also given.

## Introduction

The genus *Prenanthes* L., was established by Linnaeus (1753) and described 8 species (Linnaeus, 1753, 1767). Of these 3 are retained (Jarvis, 2007). The generic name is derived from the greek words *prenes*- often inclined forward and *anthos*-flower, indicating the weak inflorescence inclined forward (Kirpicznikov, 1964). There is a controversy about the number of species. Bremer (1994) and Mabberley (2008) reported 30 species whereas Lack (2007) recognized only 8 species, distributed in Asia, Africa, North America, central and southern Europe. In Pakistan, this genus is widely distributed in Chitral, Swat, Hazara, Abbottabad, Murree and Kashmir and is represented by 4 taxa (3 species and 1 variety). The present paper deals with the new species. A key to all the species occurring in Pakistan and Kashmir is also given.

The genus *Prenanthes* L., is differentiated from its allied genera by having nodding capitula, florets 3 (in literature 5) per capitulum, involucre calyculate, phyllaries 6-8, biseriate; cypsela 5-7 mm long, truncate or rounded at the apex and narrow towards the base, beakless and fragile pappus.

**1. *Prenanthes stewartii*** Roohi Bano & Qaiser, sp. nov. (Fig. 1)

**Holotype:** Kashmir: Rampur, Jhelum Valley Road, Kashmir, c.1200 m, 3.7.1931, R.R. Stewart 12147 (RAW!).

**Diagnosis:** Species distinctissima, a speciebus nobis notis (omnibus foliis profunde lobatis, cypselis brunnescentibus, circiter 5 mm longis notabilibus) foliis indivisis, cypselis aterrimis, 7 mm longis diff.

Plant perennial, stem papillose at the base, glabrous upward. Leaves simple, unlobed, petiole winged, 4-6 cm long, lamina 4-7.5 x 3-3.5 cm, ovate-lanceolate, entire-serrate, acute-apiculate, cordate-hastate. Inflorescence a simple raceme. Capitula drooping, each with 3 florets, pedunculate. Involucre phyllaries biseriate, glabrous, outer ones 5-6, 3-5 x 1.5-2 mm, ovate-lanceolate, inners 3, 13-15 x 2-3 mm, linear to oblong, obtuse. Cypsela 7 x 1.5-2 mm, oblong, black, hispid, angled or prismatic, outer ones with 3 ribs, inners with 5 narrow ribs, rounded or truncate apically, narrow towards the base, beakless; pappus biseriate, outer very short, inner 6-7 mm long, white, fragile.

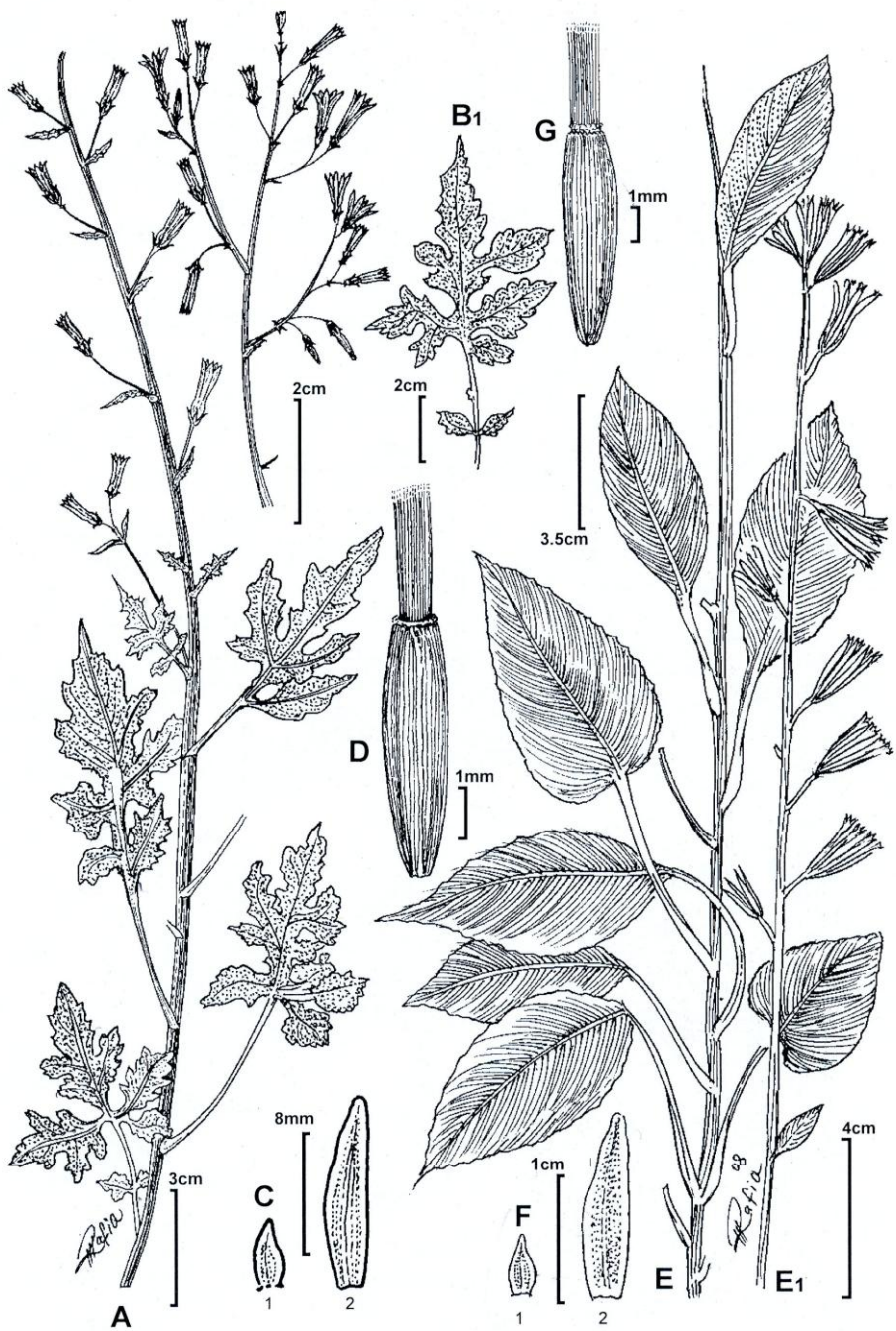


Fig. 1. *Prenanthes aitchisoniana* (Beauv.) Roohi Bano & Qaiser: A, habit; B<sub>1</sub>, leaf; B<sub>2</sub>, flowering branch; C, involucre phyllaries; D, cypsel, *Prenanthes stewartii* Roohi Bano & Qaiser: E, habit; E<sub>1</sub> flowering branch; F, involucre phyllaries; G, cypsel.

**Specimen examined:** Kashmir: Rampur, Jhelum Valley Road, Kashmir, c. 1200 m, 3.7.1931, R.R. Stewart 12147 (RAW).

**Distribution:** Only known from the type locality.

**Flowering period:** July.

**Affinities:** *Prenanthes stewartii* Roohi Bano & Qaiser, share the following combination of characters which shows the close affinities with the other 2 species from Pakistan viz., *Prenanthes aitchisoniana* (Beauv.) Roohi Bano & Qaiser and *Prenanthes brunoniana* Wall.ex DC., such as florets 3 per capitulum, involucre calyculate, phyllaries biseriate, 6-8 and cypsela truncate or rounded at the apex, narrow towards the base and beakless. However, the present taxon differs from both the species in having leaves 8-13-x 3-3.5 cm, un-lobed, petiole shorter than the other two species, almost equaling the leaf blade, winged, wing up to 4 mm broad, margin entire-serrate; inflorescence simple raceme and cypsela 7 mm long, black. Whereas in the other species leaves 10-24 x 3-6 cm, lobed or un-lobed, petiole longer than the leaf blade, up to 2 mm broad, un-winged; inflorescence paniculate-racemose and cypsela 5 mm long, brown.

A detailed comparative morphological character given in Table 1.

**Etymology:** The new species is named after Dr. R.R. Stewart (N. American, 1890-1993) who had been here in the Gordon College, Rawalpindi for more than 50 years. He collected more than 50,000 specimens from Pakistan and Kashmir. His main contribution is "Annotated Catalogue of Vascular Plants of Kashmir and W. Pakistan" published in 1972. It comprises of 5783 taxa including pteridophytes and gymnosperms. This work provided the basis for the publication of Flora of Pakistan.

**2. *Prenanthes aitchisoniana*** (Beauv.) Roohi Bano & Qaiser, comb.nov. (Fig. 1)

**Basionym:** *Cicerbita aitchisoniana* Beauv. Bull. Soc. Bot. Gen. 2 (2): 137.1910; Rech. f., in Rech. f., Fl. Iran. Comp. 2. 122: 184. f. 123. 1977.

**Type:** *Aitchison* 997-1 (G).

Perennial plant. Stem 20-60 (-75) cm tall, erect, glabrous. Radical leaves compound, petiolate, lamina 4.5-6 x 3-4 cm; petiole un-winged, 6-10 cm long, palmately lobed or 3-lobed or imparipinnate, sparsely hairy, serrulate -sinuate dentate, acute-acuminate, hastate-cordate at the base; cauline leaves small, subsessile, scarcely segmented. Inflorescence sub-racemose. Capitula glabrous, drooping, 1.5 x 0.5 mm, 3-florets per capitulum, peduncle thin. Involucre phyllaries biseriate, 6-8, narrow cylindric; outer ones 2-4 x 1-1.4 mm, ovate-lanceolate, subacute; innermost 9-11 x 1 mm, linear-oblong or sub spatulate, obtuse. Florets blue-purplish. Cypsela immature, brown, rounded or truncate at the apex, beakless; outer pappus extremely short; inner 5-6 mm long, white, fragile.

**Specimens examined:** Swat Dist.: Kalam, deodar forest, c.2100 m, 20.8.1952, R.R. Stewart & A. Rehman 24610 (BM, RAW); Between village Bahar and Shangla, c.1200 m, erect annual up to 1 m tall, disc blue, ray white, common, basal leaves undivided upper dissected, 6.10.1988, A. Ghafoor & T. Ali 4042 (KUH); Kashmir: above Gulmarg, Kashmir, 3000 m, florets purple, anthers black filament purple, 8.9.1929, R.R. Stewart 10381 a (RAW).

**Table 1. Diagnostic characters of *Prenanthes stewartii* Roohi Bano & Qaiser, *P. aitchisoniana* (Beauv.) Roohi Bano & Qaiser and *P. brunoniana* Wall.ex DC.**

Characters	<i>P. stewartii</i>	<i>P. aitchisoniana</i>	<i>P. brunoniana</i>
<b>Leaves:</b>	Un-lobed	Palmately tri-lobed	Lobed or un-lobed
Length (cm)	8-13	10.5-16	10-24
Width (cm)	3-3.5	3-4	5-6
<b>Petiole:</b>	Winged	Un-winged	Un-winged
Length (cm)	4-6	6-10	7-18
Width (mm)	Up to 4	Up to 1	Up to 2
<b>Leaf margin</b>	Entire-serrate	Denticulate to serrulate or sinuate toothed	Denticulate to serrulate or sinuate toothed along cilia
Leaf surface	Glabrous	Sub-glabrous	Sub-glabrous-hairy
<b>Cypsela:</b> Size (mm)	7	5	5
Colour	Black	Brown	Brown

**Distribution:** Afghanistan & Pakistan

**Ecology:** Grows between 1000 –2500 m.

**Flowering period:** August-September

**Key to the species**

- 1 + Leaves entire-serrate, un-lobed, 8-13 x 3-3.5 cm, petiole up to 6 cm long, winged, wing up to 4 mm broad; inflorescence simple raceme; cypsela 7 mm long, black ..... *P. stewartii*
- Leaves denticulate to serrulate or sinuate toothed, 10-24 cm long, petiole up to 18 cm long, un-winged, up to 2 mm broad; inflorescence panicle or sub-racemose; cypsela 5 mm long, brownish ..... 2
- 2 + Leaves polymorphous, simple or pinnately lobed; inflorescence paniculate ..... *P. brunoniana*
- Leaves not polymorphous, palmately tri-lobed or imparipinnate; inflorescence subracemose ..... *P. aitchisoniana*

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**References**

Beauverd, G. 1910. Contribution a L 'etude des Composees. *Bull. Soc. Bot. Geneve*, 2(2): 137.

Bremer, K. 1994. *Asteraceae Cladistics & Classification*, pp. 1-752. Timber Press, Portland, Oregon.

Jarvis, C. 2007. *Order Out of Chaos*.Linnaean Plant names and their types, pp. 610. London.

Kirpicznikov, M.E. 1964. In: *Flora of the USSR*, (Eds.): E.G. Bobrov & N.N. Tzvelev. Compositae, 29: 1-795. Leningrad.

Lack, H. 2007. In: *The Families and Genera of Vascular Plants*. (Eds.): J.W. Kadereit & C. Jeffrey. Vol. 8, pp.1-636. Springer-Verlag Berlin, Heidelberg.

Linnaeus, C. 1753. *Species Plantarum*, pp. 795-796. Stockholm.

Linnaeus, C. 1767. *Mantissa Plantarum*, p. 107. Stockholm.

Mabberley, D.J. 2008. *Mabberley's Plant-Book*. Ed. 3. Cambridge University Press. Cambridge.

Rechinger, K.H. 1977. *Flora Iranica*, Compositae II-Lactuceae No. 122: 1-5, 180-184. Akademische Druck-u Verlagsanstalt, Graz- Austria.

Stewart, R.R. 1972. In: *An Annotated Catalogue of the Vascular Plants of West Pakistan and Kashmir*. (Eds.): E. Nasir and S.I. Ali. pp. 752-756. Fakhri Printing Press, Karachi.

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