

Zeitschrift: Candollea : journal international de botanique systématique = international journal of systematic botany
Herausgeber: Conservatoire et Jardin botaniques de la Ville de Genève
Band: 52 (1997)
Heft: 2

Artikel: A new species of Inula L. (Compositae-Inuleae) from Kashmir
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DOI: <https://doi.org/10.5169/seals-879440>

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A new species of *Inula* L. (Compositae-Inuleae) from Kashmir

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RÉSUMÉ

DAWAR, R. & M. QAISER (1997). Une espèce nouvelle du genre *Inula* L. (Compositae-Inuleae) décrite du Cachemire. *Candollea* 52: 281-285. En anglais, résumés français et anglais.

Inula koelzii Dawar & Qaiser, nouvelle espèce du Cachemire, est décrite et illustrée.

ABSTRACT

DAWAR, R. & M. QAISER (1997). A new species of the genus *Inula* L. (Compositae-Inuleae) from Kashmir. *Candollea* 52: 281-285. In English, French and English abstracts.

Inula koelzii Dawar & Qaiser, new species from Kashmir, is described and illustrated.

KEY-WORDS: COMPOSITAE – *Inula* – Taxonomy – Kashmir.

During the generic revision of *Inula* L. from Pakistan and Kashmir, it was noted that STEWART (1972, p. 753), raising *Inula obtusifolia* var. *clarkei* Hook. f. to specific level, recognized *Inula clarkei* (Hook. f.) R. R. Stewart and treated *I. karakorensis* Clarke Mss. as the synonym of his new species. He has also cited several specimens under *I. clarkei*. The present authors had an opportunity to study most of the specimens and a careful examination of these specimens (viz. Baltistan: Ashkoley, *Clarke 30418*; Braldo river, *Hans Hartmann s.n.*; Dras valley, *Duthie 13694*; Ladakh: Kangi Nullah, *Koelz 2818*, *Koelz 2827a*; Zaskar: Rangdum, *Koelz 2900a*, *Koelz 2900b*) clearly indicated that it was a mixture and belonged to three different taxa. Some of the specimens, viz. Baltistan: Ashkoley, *Clarke 30418* (BM!); Braldo river, *Hans Hartmann s.n.* (RAW!) belong to true *Inula clarkei*. They are characterized by the presence of 2-3 mm long, dense sericeous cypsellae, lower leaves sessile (shortly attenuate), stem and lower surface of leaves tomentose, outer involucral bracts densely pubescent, 8-14 mm long and uniseriate pappus bristles. While *Duthie 13694* (BM!, E!) and *Koelz 2900b* (NY!) could not be placed within *I. clarkei*, as in these specimens stem and leaves are papillate-glandular and pilose with 4-6 mm long outer involucral bracts which are scarcely pubescent and glandular. Thus these specimens belong to *Inula obtusifolia* Kern. However, in the remaining three specimens: *Koelz 2818*, *Koelz 2900a* (RAW!, NY!) and *Koelz 2827a* (NY!), the lower leaves are long winged petiolate, cypsellae glabrous, 3-4 mm long and pappus with biseriate bristles. Therefore, these specimens do not correspond with *I. clarkei* or any other known species of *Inula* L. In order to accommodate them a new species is described here.

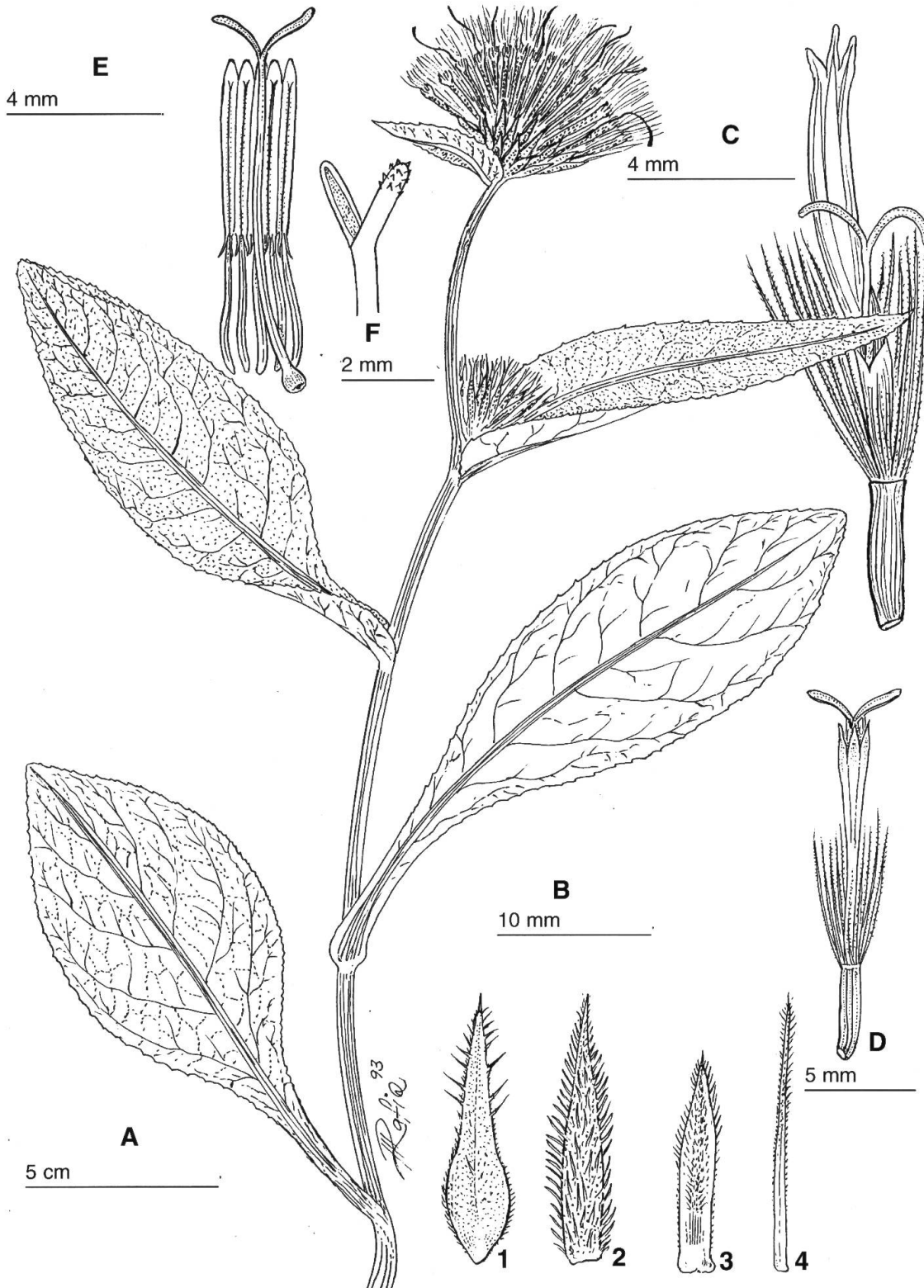


Fig. 1. – *Inula koelzii* Dawar & Qaiser: A, habit; B, involucre bracts (outer to inner); C, ray floret; D, disc floret; E, stamens, stigma & style; F, style showing stigmatic area and distribution of acute sweeping hairs.

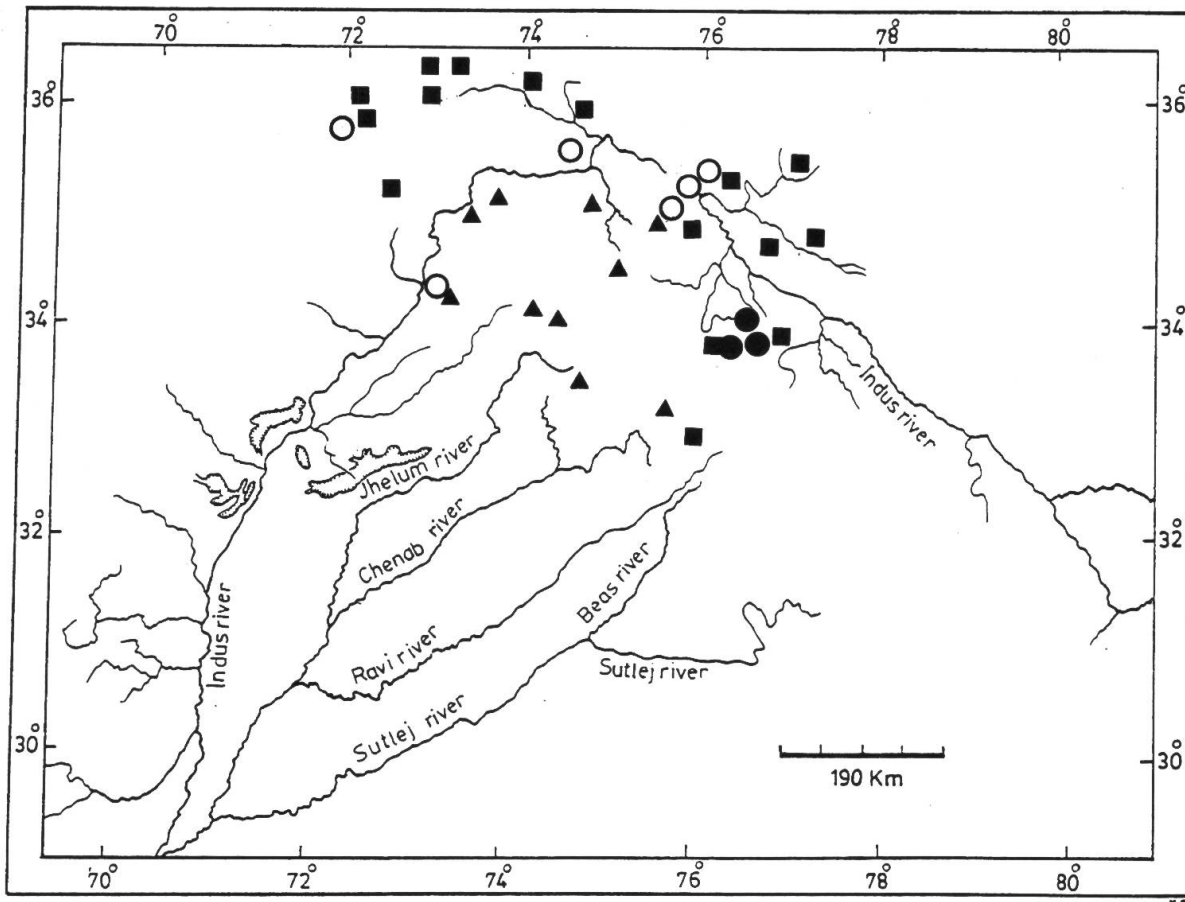


Fig. 2. – Map showing the distribution of *Inula koelzii* Dawar & Qaiser (●); *I. clarkei* (Hook. f.) R. R. Stewart (○); *I. obtusifolia* Kern. (■) and *I. royleana* DC. (▲) in Pakistan and Kashmir.

***Inula koelzii* Dawar & Qaiser, spec. nova (Fig. 1).**

Herba 23-24 cm alta, laxe hirsuta et ± papilloso-glandulosa. Folia elliptica, marginibus serrato-glandulosis, superiora sessilia semiamplexicaulia basi auriculato apice acuminata acuta, inferiora longe petiolata obtuse acuta 11-15 × 3-5 cm. Capitula axillaria solitaria vel terminalia solitaria, 2-5 cm diametro. Involucrum 1.8-2.0 cm longum; bracteae 4-seriatae imbricatae, exteriores foliosae lanceolatae vel oblanceolatae acuminatae hirsutae, 18 × 3 mm, interiores membranaceae angustiores dorsaliter glandulosae marginibus puberulis. Cypsellae 3-4 mm longa oblonga quadrangularia glabra. Pappus aureus biseriatus basaliter connatus pilis numero 30-52, 5 mm longis.

Herb, 23-24 cm tall, lax hirsute and ± papillate-glandular. Leaves elliptic, margins serrate-glandular; upper sessile semiamplexicaul, base auricled, apex acuminate-acute; lower long petiole, obtuse-acute, 11-15 × 3-5 cm. Capitula axillary solitary or solitary terminal, 2-5 cm in diameter. Involucre 1.8-2.0 cm long, bracts 4-seriate, imbricate, outer leafy, lanceolate or oblanceolate, acuminate, hirsute, 18 × 3 mm, inner membranous, narrower, dorsally glandular with puberulous margins. Cypsellae 3-4 mm long, oblong, quadrangular, glabrous. Pappus golden yellow, biseriata, basally connate, 30-52 in number, 5 mm long.

Type: Kashmir: Kanga Nulla, below Kangi, Ladakh, in river beds, alt. 12,500', Sept. 5, 1931, *Koelz 2818* (Holo- RAW!; Iso- NY!).

Paratypes: Kashmir: Kanga Nulla, above Kangi, Ladakh, alt. 13.000', Sept. 6, 1931, *Koelz 2827a* (NY!); Rangdam, Zanskar, on semi-arid slope, alt. 11.000', Sept. 12, 1931, *Koelz 2900a* (KUH!; NY!).

Etymology. – This species is named after the collector, *Dr. Walter Norman Koelz*, who has collected all the specimens known of this species.

Distribution. – Known from Ladakh (Kashmir) only (Fig. 2).

Ecology. – Grows on the semi-arid slopes and river beds at an altitude from 11.000-13.000'.

Fl. Per. – September.

Inula koelzii Dawar & Qaiser is closely related to *Inula royleana* DC. in having semiamplexicaul upper and long petiolate lower leaves; 1 or 2 capitula per plant; 3-4 mm long, glabrous and oblong cypsellae. But it differs from *I. royleana* by having capitula upto 5 cm in diameter; outer involucre bracts lanceolate or oblanceolate, upto 3 mm wide and biseriate pappus bristles. Whereas, in *I. royleana* the capitula are 6-10 cm in diameter; outer involucre bracts ovate-obovate, 5-10 mm wide and pappus bristles uniseriate. On the other hand the new species also relates with *I. clarkei* (Hook. f.) R. R. Stewart and *I. obtusifolia* Kern. by having solitary terminal capitulum, which is 2-5 cm in diameter. Outer involucre bracts lanceolate or oblanceolate, upto 3 mm wide and oblong cypsellae. But it clearly differs from both species by having long petiolate lower leaves, 3-4 mm long and glabrous cypsellae and biseriate pappus bristles. While in *I. clarkei* and *I. obtusifolia* lower leaves are sessile (shortly attenuate), cypsellae 2-3 mm long and villous-dense sericeous and pappus with uniseriate bristles.

A synoptic key is given below for all the four related species.

1. Lower leaves long winged petiolate. Cypsellae glabrous, 3-4 mm long 2
- 1a. Lower leaves without winged petiole. Cypsellae villous-dense sericeous, 2-3 mm long . . . 3
2. Outer involucre bracts ovate-obovate, 5-10 mm broad. Pappus bristles uniseriate *I. royleana*
- 2a. Outer involucre bracts lanceolate or oblanceolate, upto 3 mm broad. Pappus bristles biseriate *I. koelzii*
3. Stem and lower surface of leaves tomentose. Outer involucre bracts 8-14 mm long, densely pubescent *I. clarkei*
- 3a. Stem and leaves papillate-glandular and pilose. Outer involucre bracts 4-6 mm long, scarcely pubescent and glandular *I. obtusifolia*

Inula koelzii seems to be confined to Ladakh only, whereas *I. obtusifolia* is widely distributed in Gilgit, Hazara, Ladakh and Kashmir. *I. clarkei*, *I. obtusifolia* and *I. royleana* are sympatric in distribution in most of the regions of Gilgit, Hazara and Kashmir, but *I. clarkei* and *I. royleana* do not reach upto Ladakh. Whereas, *I. obtusifolia* occupies a larger area upto Ladakh, where it is sympatric with *I. koelzii* (Fig. 2).

ACKNOWLEDGEMENTS

We are grateful to the directors/curators of BM, E, NY and RAW herbaria for sending the material on loan. Thanks are also due to Dr. Saood Omer (KUH) for his valuable suggestions and Dr. R. R. Mill, Royal Botanical Garden Edinburgh, for latin translation of the description.

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