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NOTE

ARNEBIA NANDADEVIIENSIS SEKAR & RAWAL (BORAGINACEAE) A NEW SYNONYM OF *ONOSMA BRACTEATA* WALL.

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**ARNEBIA NANDADEVIENSIS SEKAR & RAWAL
(BORAGINACEAE) A NEW SYNONYM OF ONOSMA
BRACTEATA WALL.**

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The genus *Arnebia* Forssk. (Boraginaceae) is represented by ca. 25 species, chiefly distributed in the Mediterranean region, tropical Africa and the Himalaya (Mabberley 2008). In India this genus comprises of eight species distributed in the upper Gangetic plains and the Himalayan region (Aswal & Mehrotra 1994; Ambrish & Srivastava 2014). It is represented by six species in China (Shu 1995) and 11 species in Pakistan (Nasir 1989). The genus is characterized by white tubercles in the body of the plant, flat torus, actinomorphic - campanulate corolla, imbricately folded corolla-lobes; globose inflorescence and four partite ovary. *Arnebia nandadeviensis* was collected and described from Pindari area at an elevation of 3,820m in Nanda Devi Biosphere Reserve, western Himalaya (Sekar et al. 2009; a predatory journal (Beall 2016)). In the protologue the authors compared the morphology of this taxon with *Arnebia euchroma* (Royle) I.M. Johnston stating that the latter differs from the former in having lanceolate-linear to linear radical leaves. The morphology of this taxon published by Sekar et al. (2009) matches perfectly with that of *Onosma bracteata* Wall. (Table 1)..

On critical examination of both the taxa stated above, it can be stated that *Arnebia nandadeviensis* Sekar et Rawal is a case of misidentification. Hence, it is being

proposed here as a synonym of *Onosma bracteata* Wall. Complete synonymy of this taxon can be summarized as follows:

***Onosma bracteata* Wall.**

in Roxb. Fl. Ind., ed. Carey & Wall. ii. 13 (1824) (Image 1 A–D)

Type: Shrinagar, Garhwal Himalaya, cat. 913.

Arnebia nandadeviensis Sekar & Rawal, Jour. American Sci. 5(2): 105–106. 2009. *syn. nov.* Type: India, Uttarakhand, Bageshwar, Nanda Devi Biosphere Reserve, Pindari, 3820m, 30°16'0.2"N & 80°00'23.6"E, 29.viii.2008, coll. R.S. Rawal, K. Chandra Sekar, Sanjay Gairola & Balwant Rawat 2895 (holo GBP; iso BSD!) (Image 1D)

Specimens examined: Cashmeer, 1835, *Royle* s.n. (K!); Palang Gadh, Byans, 3,000m, 21.vii.1886, Duthie 5824 (DD!); Chalck, Byans, 3,000m, 23.vii.1886, Duthie 5824A (DD!); Near Kauari pass, Garhwal 3,500m, 08.ix.1886, Duthie 4230 (DD!); Duktin-Darma Valley, Kumaon, 07.ix.1900, Inayat 24757 (DD!).

Notes: First complete generic account for family Boraginaceae of the world was studied by Johnston (Johnston 1952, 1954). In his notes he had included this species. During the course of old literature review the authors came across historical collection of this species. The species was first collected by Royle in 1835 from Cashmeer (K001110354!) (<http://apps.kew.org/herbcat/getImage.do?imageBarcode=K001110354>) later on subsequent collectors had collected this species from many other localities in western Himalaya. A major collection of this species was done by Duthie's and all his collections were kept at Forest Research



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Image 1. A - *Onosma bracteata* Cashmeer, 1935, Royle s.n. (K001110354!); B - *Onosma bracteata* Wall. Photographed at Ganja, Pithoragarh, Uttarakhand; C - Close up of inflorescence; D - Pictures of *Arnebia nandadeviensis* K. Chandra Sekar & R.S. Rawal from original publication.

Institute herbariums (DD). All the old collections of this species were studied and compared with the newly described species *Arnebia nandadeviensis* and felt that the described species is nothing but *Onosma bracteata* Wall. Diagnostic characters of this species includes, a very distinct triple veined bicolor leaves. Flowers have

very villous slender attenuate bracts, calyx lobes linear almost equal to corolla lobes, corolla's sinus thick below with thick base. This species is very common all along western Himalaya in its subalpine and alpine zones.

Table 1. Similarities between *Arnebia nandadeviensis* Sekar & Rawal and *Onosma bracteata* Wall. in Roxb.

Characters/Species	<i>Arnebia nandadeviensis</i> Sekar & Rawal	<i>Onosma bracteata</i> Wall.
Radical leaves	Oblanceolate to obovate, obtuse at apex	Oblanceolate to obovate, obtuse at apex
Cauline leaves	More than 1cm wide (1–3 cm)	In-between 1–3 cm
Inflorescence	Stalked (0.5–1.5 cm long), nodding	Up to 2cm long
Bracts	Numerous, exceeding the flowers	Numerous, exceeding the flowers
Calyx	Longer than the corolla (1.7–2.4 cm)	Longer than the corolla 1.5–3 cm long
Corolla	1.6–2 cm long, limb not half length of corolla-tube (1–2 mm), limb ca. 2mm across	1.5–2 cm long, limb not half length of corolla-tube, limb ca. 2mm across
Anthers	6–7 mm long	5–7 mm long

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