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Taxonomy of a monotypic genus *Indopiptadenia* (Leguminosae-Mimosoideae)

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Abstract

Indopiptadenia, a monospecific genus with the species *I. oudhensis*, is confined to the Indo-Nepal border area in scattered populations along the Himalayan foothills between 156–908 m elevation. *I. oudhensis* has been little studied since its discovery in 1874. The taxonomy of the genus is reexamined here with extensive notes on diversity, distribution, phenology, ecology and conservation status based on exhaustive field survey and examination of herbarium specimens. A full description including data on many new characters and encompassing all morphological variations is provided to better characterize the species so that its correct systematic position can be ascertained and provide the basis for proper conservation strategies. Placed in the tribe *Mimoseae,* the species shows more affinity towards the *Newtonia* group than the *Piptadenia* group. However, it differs from the former in having unarmed to armed stem, uni- or bijugate leaflets, absence of stemonozone and pods that dehisce generally by rupturing of the pod valves over the seed chambers to leave a persistent replum. The IUCN category Near Threatened (NT) is assigned to the taxon.

Key words: South Asia, endemic, *Mimoseae*, *Indopiptadenia oudhensis*, Near Threatened

Introduction

Indopiptadenia Brenan (1955: 178), is a monotypic genus with the species *Indopiptadenia oudhensis* (Brandis [1874: 168]) Brenan (1955: 178) and is placed in the subfamily Mimosoideae, family Leguminosae (Brenan 1955; Hutchinson 1964; Lewis & Elias 1981; Sanjappa 1992; Kumar & Sane 2003; Luckow 2005). *I. oudhensis* is endemic to the Terai region of the Indo-Nepal border area in the Bhabar zone along the Himalayan foothills in tropical moist deciduous forest (Champion & Seth 1968). Biswas & Chandra (1997) and Prakash *et al*. (2009) have incorrectly suggested that the genus *Indopiptadenia* is found in America and Africa.

I. oudhensis is a striking evergreen small to medium sized tree with upright branches and profuse pendulous branchlets and leaves. Recent surveys (Kashyap 2009; Prakash *et al.* 2009; Singh 2010) in India claim that during the last more than 100 years the population of the trees has substantially decreased due to exploitation by local people, habitat destruction and low regeneration ability of the species in natural habitats, and that as a result the species has become rare and threatened.

During the course of study over the last 5 years for the tree flora of Uttar Pradesh, India, the authors have regularly visited different forest areas where they discovered populations of *I. oudhensis* in the forest of Balrampur district adjacent to the Nepal border. The plants were also discovered in the adjacent area within Nepal in Dang district. Subsequently, the species was found in additional localities in Champawat district of Kumaun region in Uttarakhand State in India. After studying the available information (Duthie 1903, 1906; Biswas & Chandra 1997; Prakash *et al.* 2009) it was realized that although the species was discovered more than 100 years ago, it has been

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1900, *Inayat 23635*(b) & *23638* (DD); Foot of Nepal Hills, 20 July 1911, *R. S. Trouffs 3076* (DD); Barawa, 13 April 1916, *Shees Ram 889* (DD); Sohelwa Wildlife Sanctuary: Jarwa forest, 6 km before Nepal border, Near Nalah, 162 m, N 27º 40.365' E 82º 31.795', 06 November 2011, *L. B. Chaudhary* & *R. Tiwari 263775* (LWG); 167 m, N 27º 40.378' E 82º 31.787', 06 November 2011, *L. B. Chaudhary* & *R. Tiwari 263776* (LWG); 1 km before Koylabas from Jarwa, 171 m, N 27º 40.814' E 82º 31.580', 10 May 2012, *L. B. Chaudhary* & *O. Bajpai 252716* & *252717* (LWG); 156 m, N 27º 40.354' E 82º 31.810', 08 February 2013, *O. Bajpai, A. K. Srivastava* & *A. Kumar 264426* (LWG); 176 m, N 27º 40.831' E 82º 31.577', 10 February 2013, *O. Bajpai, A. K. Srivastava* & *A. Kumar 264432* (LWG); 1.5 km before Koylabas from Jarwa, 160 m, N 27º 40.362' E 82º 31.802', 19 March 2013, *O. Bajpai* & *L. B. Chaudhary 264439* (LWG); 1.5 km before Nepal from Tulsipur, inside the river, 176 m, N 27º 40.831' E 82º 31.577', 20 March 2013, *O. Bajpai* & *L. B. Chaudhary 264442* (LWG); 1 km before Koylabas from Jarwa, 160 m, N 27º 40.362' E 82º 31.802', 07 April 2013, *O. Bajpai* & *L. B. Chaudhary 264481* & *264482* (LWG); 165 m, N 27º 40.371' E 82º 31.774', 01 May 2013, *O. Bajpai* & *L. B. Chaudhary 264497* & *264498* (LWG); 165 m, N 27º 40.371' E 82º 31.774', 30 July 2013, *O. Bajpai, A. K. Srivastava* & *A. Kumar 263925, 263927* & *263928* (LWG); Bahraich Dist., Bhachkae, 20 May 1920, *Sri Ram s. n.* (DD); Saharanpur, Botanic Garden, 02 May 1914, *R. N. Parker 6758*- from cultivated plant (DD). **Uttarakhand:** Kumaun: E. Kumaun, 1200 ft., May 1883, *A. F. Brown s. n.* (DD); Sarda Valley, 12 miles above Tanakpur, *R. H. Blutter 7235* (DD); Champawat Dist.: on way to Purnagiri, 800 m., March 1990, *K. S. Negi 303* (BSD); about 15 km away from Tanakpur towards Purnagiri, 343 m, N 29º 07.545' E 80º 09.550', 18 August 2013, *L. B. Chaudhary, O. Bajpai* & *A. Kumar 263952* (LWG); 406 m, N 29º 07.739' E 80º 09.375', 18 August 2013, *L. B. Chaudhary, O. Bajpai* & *A. Kumar 263953* & *263954* (LWG); 5 km before Sukhi Dang from Tanakpur, 908 m, N 29º 08.514' E 80º 04.767', 18 August 2013, *L. B. Chaudhary, O. Bajpai* & *A. Kumar 263956* (LWG); Dehra Dun: New Forest, 23 May 1935, *M. B. Raizada 69269*- from cultivated plant (DD); 23 May 1935, *M. B. Raizada 69270*- from cultivated plant (DD); 28 May 1937, *M. B. Raizada 74553*- from cultivated plant (DD); May 1939, *M. B. Raizada 80086*- from cultivated plant (DD); FRI, Arboratum compound 4, *Gasthigarni 8110*- from cultivated plant (DD).

NEPAL. Western Nepal: Jalesain nala, 29 April 1900, *Inayat 23636* (DD); Sunpathri nala, 04 May 1900, *Inayat 23637* (DD); Mandaura nala, 2 May 1900, *G. H. Inayat 23637(a)* (DD, K photo); Barahmdeo, Sarda Gorga, 2000 ft., 2 March 1914, *J. H. Lyall 10208* (DD); Bhaunala to Garbha Doti Dist., 13 April 1929, *Shees Ram 236* (DD); Bardia Dist., Babai-Deurrali, 351 m, N 28º 20.934' E 81º 42.226', 23 January 2001, *K. K. Shreshtha et al*. *666* (TUCH); Kanchanpur Dist., 250 m, 9 August 1980, *K. R. Rajbhandari, P.M. Regmi* & *K. J. Malla 5153* (KATH); Dang Dist., 179 m, N 27º 41.219' E 82º 31.651', 31 July 2013, *O. Bajpai, A. K. Srivastava* & *A. Kumar 263935* (LWG); Dang Dist., 186 m, N 27º 41.112' E 82º 31.622', 31 July 2013, *O. Bajpai, A. K. Srivastava* & *A. Kumar 263936* (LWG).

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