

A century later – *Pinnatella gollanii* is still alive!

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Abstract: *Pinnatella gollanii* Broth., previously known only from north Indian collections dating back to 1903, was rediscovered in Nepal in 2001.

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The pantropical moss genus *Pinnatella* of the family Neckeraceae was monographed by Enroth (1994), who recognized a total of 15 species. Most of the species are distributed in various parts of tropical and subtropical Asia, and only one (*P. minuta*) occurs in the Neotropics and continental Africa. Recent, phylogenetic analyses of the genus, based on molecular and morphological data resolved *Pinnatella* monophyletic once two of its species (*P. mucronata*, *P. anacamptolepis*) were transferred to *Taiwanobryum* and *P. calcutensis* to *Neckeropsis* (Olsson et al. 2010). Shortly after the publication of Olsson et al. (2010) a new species in *Pinnatella* (*P. homaliadelphoides*) was described by Enroth et al. (2010) from China and India that was phylogenetically placed sister to *P. foreauana*. Thus, the current number of species in *Pinnatella* is 13. *Pinnatella gollanii* Broth. was one of the species not included in the study by Olsson et al. (2010) and Enroth et al. (2010), due to lack of adequately fresh material. The other species excluded for the same reason were *P. amblyphylla* (endemic in Thailand), *P. robusta* (endemic in Taiwan), *P. uroclada* (endemic in Burma) and *P. limbata* (endemic in India).

As *Pinnatella gollanii* is a large moss, with the fronds reaching a length of c. 20 cm, it should be fairly easy to find and collect. However, the species had been collected only in 1903, in Mussoorie near Dehra Dun in the Uttar Pradesh State of NW India (Brotherus 1931, Enroth 1994). There are several specimens in various herbaria, all collected in 1903 but by different persons and in different months (see Enroth 1994 for details and illustrations of the species). Therefore it was somewhat alarming that it had not been found for a century, as there is always the risk of extinction of such apparently rare taxa. In 2001, however, *P.*

gollanii was collected by D. Long in central Nepal, north of Kathmandu. A full specimen citation is as follows:

Nepal, Rasuwa District, Langtang Khola between Bamboo Lodge and Hot Springs, 28°09'14''N



Figure 1. Nepalese specimens of *Pinnatella gollanii* (Long 30686, H). Scale bar = 2 cm. (Photo by Mr. Markku Lehtonen).

85°23'22''E, warm evergreen oak forest on river bank, on trunk of large tree, 1875 m, 17 Oct. 2001 *David G. Long 30686* (E, H).

Pinnatella gollanii has been collected on dead wood and tree trunks. The Indian collections with adequate label information came from between 1000 and 1770 m (900 and 1800 m), and the Nepalese specimen was collected at 1875 m. The plants (Fig. 1) are smaller than some of the Indian specimens, but still the fronds reach a length of c. 10 cm.

References

- Brotherus, V. F. 1931.** Neue exotische Laubmoose. Mitteilungen aus dem Institut für allgemeine Botanik in Hamburg 8: 399–406.
- Enroth, J. 1994.** A taxonomic monograph of the genus *Pinnatella* (Neckeraceae, Bryopsida). Acta Botanica Fennica 151: 1–90.
- Enroth, J., S. Olsson, S. He, J. R. Shevock & D. Quandt 2010.** When morphology and molecules tell us different stories, part 2: *Pinnatella homaliadelphoides* (Neckeraceae), a new moss species from China and India. Tropical Bryology 31: 67–75.
- Olsson, S., V. Buchbender, J. Enroth, L. Hedenäs, S. Huttunen & D. Quandt 2010.** Phylogenetic relationships in the “*Pinnatella*” clade of the moss family Neckeraceae (Bryophyta). Organisms, Diversity & Evolution 10: 107–122.

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