



Phylogeny and systematics of Indian *Polygonum sensu lato* in the subfamily Polygonoideae based on ITS sequences of nuclear ribosomal DNA

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ABSTRACT. The nuclear ribosomal DNA internal transcribed spacer (ITS) sequences from 44 Indian *Polygonum* taxa were examined to investigate relationships among various sections proposed by earlier researchers. The maximum parsimony trees obtained from analysis of the ITS sequences suggested eight major groups of the Indian *Polygonum* spp. The relationships among different sections were largely congruent with those inferred from morphological characters as described by Hooker. Also, the treatment of the *Persicaria* suggested by Haraldson on the basis of anatomical characters proved to be nearly in line with that based

on our molecular data. We provide a high resolution of phylogeny of the Himalayan *Polygonum sensu lato* and support merger of the section Amblygonon in the section Persicaria. Moreover, we made the first phylogenetic analysis of many of the less known Himalayan Polygonums, including *Polygonum microcephalum*, *P. assamicum*, *P. recumbens*, and *P. effusum*. Molecular differences were detected among *Persicaria barbata* collected from different geographical locations of India, although these were not differentiated at the morphological level.

Key words: *Polygonum sensu lato*; Phylogeny; Indian Himalaya; ITS