

The fern genera *Crepidomanes* and *Polyphlebium* are clearly distinct, yet often confused in the wild and in collections. Morphological and molecular investigations were performed to find taxonomic characters for discriminating species occurring in southeastern South America (southern Brazil and northeastern Argentina). Our results show that the genus *Polyphlebium* is represented in the area by two species: *Polyphlebium angustatum* and *Polyphlebium diaphanum*. In addition *P. diaphanum* is a pantropical species that includes as synonyms neotropical *Polyphlebium hymenophylloides* and palaeotropical *Polyphlebium borbonicum*. We also show that southeastern South American *Trichomanes emarginatum* is a local variety of *Crepidomanes pyxidiferum*, here named *C. pyxidiferum* var. *australe*. A key for the species is provided and new taxonomic treatments are discussed.