Response to ‘The New Guinean *Thysananthus appendiculatus* (Lejeuneaceae) discovered in the Western Ghats of India’ by A. E. D. Daniels and R. D. A. Raja

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The recently published article by Daniels and Raja (2011) in *Lindbergia* recorded the rare *Thysananthus appendiculatus* Steph., a liverwort species endemic to New Guinea, from the Western Ghats of India. We are left unconvinced by the identification and hence the new record. The habit illustration (Daniels and Raja 2011, Fig. 1 (1)) with underleaves removed in three areas, clearly shows that the foliar appendage characteristic of *T. appendiculatus* is not developed on the keel of the lateral leaves as is always the case in this species (Sukkharak submitted). Instead, Fig. 1(3) shows the presence of a ‘foliar appendage’ on the underleaf.

The epithet ‘*appendiculatus*’ of this species is derived from the foliar appendage which is found on the keels of leaves as described by Stephani in the original description. In our recent world-wide monographic study of the genus *Thysananthus* (Sukkharak submitted) we have found that the foliar appendage in *T. appendiculatus* is always developed on keels on one side of the stem in this species, and are a very stable character of the species. Interestingly, the appendage appears to occur on the side of the stem where leaves are free from the underleaves, and opposite to adnate leaves (Sukkharak and Gradstein 2010, Sukkharak submitted). There has been quite some confusion concerning the correct interpretation of this unusual feature in the literature. Thus, the original drawing of *T. appendiculatus* in Stephani’s ‘Icones Hepaticarum Ineditae’ is erroneous in showing a foliar appendage on both sides of stems. The shown left-hand side appendages were in fact the parts of the dissected underleaves. The illustration of the species in Gradstein et al. (2002: Fig. 44) was erroneous in failing to show the foliar appendage (Sukkharak submitted).

Since the illustration of *T. appendiculatus* by Daniels and Raja (2011) was inconvincing and the description incomplete, lacking in crucial morphological data such as branching type, stem anatomy, trigone shape, etc. We have contacted the authors asking them to send the specimen for verification. However, this proved impossible due to lack of sufficient material. Instead, the authors sent us a photograph of ventral side of the plant. The photograph shows some kind of appendage-like structures at the bases of selected leaves (not all), at both sides of the stem. The appendage-like structures were indeed not attached to the keels but instead seemed to be emerging from the stem, as also indicated in their description. By lack of material it was difficult to determine the exact nature of the appendage-like structures, which could have been embryonic, emerging *Lejeunea*-type branches, or portions of the bases of the dissected underleaves. They certainly have nothing to do with the foliar appendages characteristic of *T. appendiculatus*.

It thus appears that the specimen was not *Thysananthus appendiculatus* and was misidentified. It is a pity that the authors did not describe the branching type, which would have helped a lot in identifying the specimen. If it is *Lejeunea*-type, their specimen is in our opinion the common Asiatic *Spruceanthes semirepandus* (Nees) Verd., which seems to fit their description and figures best, especially by the leaf cells which the authors describe as being ‘quadrate-hexagonal to elongate-hexagonal’. In *Thysananthus* or *Ptychanthus*, the leaf cells are always clearly elongate (except *T. retusus* (Reinw. et al.) B. Thiers & Gradst., which however is quite a different plant), and, moreover, *Ptychanthus* would have *Frullania*-type branching.
References


