



A new species of *Neckera* (Neckeraceae, Bryophyta) from northern Vietnam

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Abstract

Neckera praetermissa Enroth & Touw spec. nov. (Neckeraceae) is described from northern Vietnam. It is morphologically closest to the SE Asian *N. undulatifolia* (Tix.) Enroth, with which it shares the similar, ovate-ligulate and symmetric leaves with coarsely dentate apices, and strongly incrassate and porose leaf cell walls. However, *N. undulatifolia* has the stems up to 10 cm long and a distinct costa reaching to 5/6 of leaf length, while the stems of *N. praetermissa* are to c. 3 cm long and the leaves are ecostate or with a weak costa reaching to 1/6 of leaf length at most.

Key words: Taxonomy, Pleurocarpous mosses, New species, Tropics

Introduction

Based on genomic data, the systematics of the pleurocarpous moss family Neckeraceae has in the recent years undergone profound changes, reviewed by Enroth (2013). Olsson *et al.* (2009) showed that the family is divided into three well-supported clades that the authors called *Neckera*-clade, *Thamnobryum*-clade and *Pinnatella*-clade. At the genus level, several of the “traditional” genera, such as *Porotrichum* (Brid.) Hampe (1863: 154), *Thamnobryum* Nieuwland (1917: 50), *Homalia* Bridel (1827: xlvii, 325, 763, 807, 812), *Pinnatella* Fleischer (1906: 79), *Neckera* Hedwig (1801: 200–210) and *Forsstroemia* Lindberg (1863: 605) were shown to be poly- or paraphyletic, and as a result several new genera were erected (e.g. Olsson *et al.* 2010, 2011, 2012).

One of the most morphologically heterogeneous groupings was *Neckera s. l.* It has been estimated to have c. 50 species, of which 21 was sampled in the phylogenetic analysis by Olsson *et al.* (2011). *Neckera yezoana* Bescherelle (1893: 358) and *N. goughiana* Mitten (1859: 120) were transferred to *Forsstroemia*, and two new genera were split from *Neckera*: *Exsertotheca* Olsson *et al.* (2011: 45) with two species (but currently three, cf. Draper *et al.* 2011) and *Alleniella* Olsson *et al.* (2011: 45) with 10 species).

The work on *Neckera* will continue with a wider taxon sampling, as several questions remain unanswered. In the analysis by Olsson *et al.* (2011), there was a “residue” of three Asian “*Neckera*”-species, namely *N. himalayana* Mitten (1859: 121), *N. polyclada* Müller (1896: 114) and *N. warburgii* Brotherus (1899: 49). They did not form a monophylum, nor did they belong in the *Neckera*-clade *sensu* Olsson *et al.* (2009, 2011), but in an essentially Asian and tropical *Pinnatella*-clade (cf. Olsson *et al.* 2010). Those three species, as well as several other Asian “*Neckeras*” (cf. Enroth & Ji 2007), are characterized by mostly robust, distinctly stipitate plants with strong single costae, often coarsely dentate leaf apices and strongly incrassate-porose leaf cells. Especially those species, but also others from various parts of the world, need further attention.

In 2013 the second author found an old specimen from northern Vietnam labeled “*Neckera?*” in the herbarium of Leiden (L). It was collected in 1965 but remained unidentified until now. The specimen is probably a duplicate sent to Leiden from Eger (EGR), but the original specimen was not found in the latter herbarium in 2013 (T. Pócs, pers. comm.). When we had a closer look at the L specimen, we realized that due to its stipitate habit, coarsely dentate leaf apices and strongly porose leaf cell walls, it belonged in the Asian group just mentioned, but it clearly represented an undescribed species.

elsewhere in SE Asia that have one or some of these characters, but so far none with all of them (cf. Wu 2011, Enroth 2012 and the key therein). The closest match is *N. undulatifolia* (Tix.) Enroth (1992: 249) from northern Vietnam and southern China (Guangxi, Guizhou), but it has a much larger stature, having up to 10 cm long stems, and a long costa, as described and illustrated by Enroth (1992: fig. 1) and Wu (2011: plate 381, fig. 14–18). The two species in the region that have incrassate and porose walls of laminal cells and a relatively short and weak costa are *N. denigricans* Enroth (1996: 1) from northern Vietnam and Yunnan and the Sichuan endemic *N. laevidens* Wu & Jia (2011: 20). Those species however have complanately foliate fronds distinctly different from those of *N. praetermissa* (cf. Fig. 1 and 2), asymmetric leaves and much more weakly toothed (denticulate or serrulate) upper leaf margins.

Neckera praetermissa was collected from the bark high up in the canopy of an unspecified tree species (“ad corticem arborum cacuminis altissimis”) at the elevation of 600 m a.s.l. in Cuc Phuong National Park, c. 80 km SSW of Hanoi. It may be a sun epiphyte tolerant of direct sunlight. Canopy epiphyte communities in the tropics are still poorly understood because they are not easily accessible and their species are mostly collected from twigs or branches that have fallen down from the tree canopy.

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