# Transfer of *Pyropia meridionalis* to *Neoporphyra* (*Bangiaceae, Rhodophyta*)

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The taxonomy of the rhodophyte order Bangiales Nägeli has undergone major revision in recent years. Particular attention has been paid to the foliose Bangiales, due in part to their wide distribution (e.g., Yoshida *et al.* 1997; Sutherland *et al.* 2011), and their economic value (e.g., Mumford & Miura 1998). The most comprehensive systematic treatment of the foliose Bangiales is that of Sutherland *et al*. (2011) who divided *Porphyra* C.Agardh, into eight segregate genera. This monograph provided the basis for subsequent studies investigating aspects of generic re-circumscriptions with an increased sampling coverage in the Iberian Peninsula (Sánchez *et al.* 2014, 2015) and in Chinese waters (Yang *et al.* 2018, 2020). To date, the foliose Bangiales includes 15 genera (Yang *et al.* 2020). In addition to the 148 names flagged as accepted in AlgaeBase (Guiry & Guiry 2020), two further species were recently described (Reddy *et al.* 2020, Yang *et al.* 2020) and several other taxa await description (see Sutherland *et al*. 2011; Dumilag & Yap 2018, Table 1).

*Pyropia* J.Agardh *sensu lato*, the largest genus in the foliose Bangiales (Sutherland *et al*. 2011), was recently re-defined based on morphological and molecular analyses and five additional genera were recognised namely *Calidia* L.-E.Yang & J.Brodie, *Neoporphyra* J.Brodie & L.-E.Yang, *Neopyropia* J.Brodie & L.-E.Yang, *Porphyrella* G.M.Smith & Hollenberg, *Pyropia* J.Agardh, and *Uedaea* J.Brodie & L.-E.Yang (Yang *et al.* 2020). Although these genera have high synapomorphy, each of them forms well-supported molecular clades. Even more recently, the name *Phycocalidia* Santiañez & M.J.Wynne *nom. nov.* was introduced to replace *Calidia* L.-E.Yang & J.Brodie *nom. illeg.*

The genus name *Neoporphyra* is applied to the clade containing commercially important species cultivated for the multibillion-dollar nori industry (Yang *et al*. 2020). Members of *Neoporphyra* were historically placed in the genus *Porphyra*; however, despite its transfer to *Pyropia* nearly a decade ago, the name *Porphyra* remains synonymous with sushi seaweed (nori). For this reason, *Neoporphyra* fittingly contains the species of commercial importance in the nori industry.

A new species, associated with kelp, was recently described from the South African coast based on a combined molecular and morphological approach (Reddy *et al*. 2020). This species has long been recognised as *Porphyra* "ZLI" (e.g., Jones *et al*. 2004, Sutherland *et al*. 2011, Yang *et al*. 2020). Further collections and a DNA-based species delimitation strongly supported this entity as a distinct species (Reddy *et al*. 2018), and it was recently described as *Pyropia meridionalis* M.M.Reddy, R.J.Anderson & J.J.Bolton (Reddy *et al*. 2020).

Reddy (2018) discussed the possibility that *Pyropia meridionalis* would likely form part of a yet unnamed genus, given the genetic structure and high divergence in *Pyropia*. Subsequently, Yang *et al.* (2020) designated *Neoporphyra* for a clade in which *Pyropia meridionalis* was resolved (see Yang *et al.* 2020, fig. 1 vs. Reddy *et al.* 2020, fig. 3). *Pyropia meridionalis* fits the morphological characters of *Neoporphyra*, such as blade thickness, monoecious when reproductive, and marginal dentation. This species differs however in habitat, typically occuring as an epibiont on kelp and grows subtidally. While two other species from South Africa, *Pyropia saldanhae* (Stegenga, J.J.Bolton & R.J.Anderson) J.E.Sutherland and *Pyropia aeodis* (N.J.Griffin, J.J.Bolton & R.J.Anderson) J.E.Sutherland remain in *Pyropia* (Yang *et al*. 2020), *Pyropia meridionalis* has yet to be formally transferred to *Neoporphyra* and this transfer is effected as follows:

***Neoporphyra meridionalis*** (M.M.Reddy, R.J.Anderson & J.J.Bolton) M.M.Reddy, *comb. nov.*
Basionym: *Pyropia meridionalis* M.M. Reddy, R.J.Anderson & J.J.Bolton in Reddy *et al. South African Journal of Botany* 131: 26, fig. 4 a–j.
Holotype: South Africa: Western Cape: Soetwater: 201158/60, **BOL**!

*Neoporphyra meridionalis* is resolved in a clade containing species commercially cultivated for nori in Asia. In developing nations such as South Africa, the identification of such species with potential economic application should be a high priority. Further studies are therefore needed to determine whether *Neoporphyra meridionalis* may have a similar commercial potential.

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