bioluminescence in a bloom of an *Alexandrium* from coastal Tyrrhenian waters (Montresor & al. in Granelli & al., Toxie Mar. Phytoplankt. 1990). The nomenclatural consequences of our study are substantial, as *Alexandrium* currently is a later taxonomic synonym of *Blepharocysta* which has priority. Following the guidelines specified by McNeill & al. (in Taxon 64: 163–166. 2015; cf. clause (1) under “Conservation and rejection procedures”) and applying ICN Art. 14.1–14.4, we propose here to conserve the name *Alexandrium* against *Blepharocysta*.

Acceptance of our proposal will assure nomenclatural stability in *Alexandrium* (though it requires a nomenclatural transfer from *P. splendor-maris* to *Alexandrium*). This has particular importance as many species of *Alexandrium* are toxic, and the generic name is not only used in the biological scientific community but also by chemists, medical scientists such as toxicologists, veterinarians, administrators, and policy makers (Hallegraeff & al., l.c.). The rejection of *Blepharocysta* appears acceptable, as the name is rarely used in its original sense (Ehrenberg, l.c. 1873) but rather in the incorrect interpretation of Stein (l.c.). Unless the alternative proposal by Carbonell-Moore (l.c.) were to be accepted (see below), rejection of our proposal would force all species names today accepted under the well-established name *Alexandrium* (approximately 33 species, many of which have been intensely studied) to be transferred to *Blepharocysta* (currently with the only acceptable element *P. splendor-maris*). This would cause severe nomenclatural instability, and such new combinations would most likely not be accepted by the scientific community.

Our proposal causes disadvantage regarding the deviant concept of *Blepharocysta* only. It is described by Carbonell-Moore (l.c.), who aims at preserving the misapplied usage of *B. splendor-maris* in the interpretation of Stein (l.c.) under ICN Art. 14.9 with a conserved type, namely with pl. VII 17. The strategy would be justified in case of the absence of original material assignable to *P. splendor-maris* but in this case, Ehrenberg’s specimens and drawings clearly date prior to the publication of the name (Elbrächter & al., l.c.). Overall, the proposal by Carbonell-Moore (l.c.) aims at an easy but ambiguous solution to preserve current misapplications of *Blepharocysta* (including 12 names, 9 of them species including synonyms, all of them scarcely observed). However, accepting this solution would neglect Ehrenberg’s careful documentation of the species. Furthermore, Stein’s misidentification cannot be brought in line with Ehrenberg’s protologue data including the species description (see Elbrächter & al., l.c.). According to our studies, Stein’s concepts of *Blepharocysta* and *B. splendor-maris*, currently only consisting of a misapplied name and some drawings, do not need any conserved type but new formal descriptions and legitimate and validly published names as well as a contemporary physical type, independent of Ehrenberg’s (l.c. 1860) observations. Later names, formally linked to Ehrenberg’s concept and characterised by original material but based on the misapplication of *Blepharocysta* would remain available to serve as basionsyms for appropriate combinations (ICN Art. 56.1 Note 1).

For the authors of this proposal rejection of *Blepharocysta* in favour of *Alexandrium* is a higher good than preserving misapplications of *Blepharocysta* by means of a conserved type.

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**Kistenich & al. (2687) Conserve Phyllopsora**

**TAXON** 68 (3) • June 2019: 590–592

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(2687) **Proposal to conserve the name Phyllopsora against Triclinum and Crocynia (Ramalinaceae, lichenized Ascomycota)**

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(2687) Phyllopsora Müll. Arg. in Bull. Herb. Boissier 2, App. 1: 11, 45. Jan 1894, nom. cons. prop.

Typus: *P. breviuscula* (Nyl.) Müll. Arg. (*Lecidea breviuscula* Nyl.).

(=) Triclinum Fée, Essai Crypt. Écorc. 1: 147. 15 Oct 1825, nom. rej. prop.

Typus: *T. cinchonarum* Fée
Phyllopsora was described by Müller Argoviensis (in Bull. Herb. Boissier 2, App. 1: 11, 45. 1894) to accommodate four species from New Zealand. In 1931, Clements & Shear (Gen. Fung., ed. 2: 319. 1931) selected P. brevicaulis as the type of the generic name. Currently, the genus is regarded as pantropical with its main occurrence in moist woodlands and rainforests. At least 139 species names exist in the literature. There are several regional taxonomic treatments, for example, by Swinscow & Krog (in Lichenologist 13: 203–247. 1981; East Africa), Brako (in Mycotaxon 35: 1–19. 2011 & in Fl. Neotrop. Monogr. 55: 1–66. 1991; Neotropics), Timdal & Krog (in Mycotaxon 77: 57–90. 2001; East Africa and the Mascarenes), Timdal (in Lichenologist 40: 337–362. 2008; Peru), Elix (in Fl. Australia 57: 41–59. 2009; Australia), Timdal (in Biblioth. Lichenol. 106: 319–351. 2011; West Indies), and Kistenich & al. (in MycoKeys 53: 23–72. 2019; Asia and Melanesia). In addition, two fossil species have been described (Rikkinen & Poinar in J. Exp. Bot. 59: 1007–1011. 2008; Kaasalainen & al. in Earth Environm. Sci. Trans. Roy. Soc. Edinburgh: 107: 331–321. 2017). Kistenich & al. (in Taxon 67: 871–904. 2018) showed the genus to be polyphyletic. Following Kistenich & al. (l.c. 2019), Phyllopsora currently comprises 57 species, including those indicating the types of three generic names that have priority over Phyllopsora: Triclinum (priority 1825), Symplocia (1854) and Crocynthia (1860). Accordingly, we here propose to conserve the name Phyllopsora against Triclinum and Crocynthia. Because Symplocia is already rejected in favour of Crocynthia, conservation of Phyllopsora against the latter will preclude adoption of Symplocia because a “rejected name […] may not be restored for a taxon that includes the type of the corresponding conserved name” (Art. 14.7 of the ICN – Turland & al. in Regnum Veg. 159. 2018).

The genus Triclinum was described by Fée (Essai Crypt. Écorc. 1: 147. 1825) from Peru and, when published, included only a single species, T. cinchonarum Fée (l.c.: 148, t. 34, fig. 1). No syntypes of T. cinchonarum seem to exist and, consequently, Jørgensen (in Ilicifolia 4: 78. 2003) chose as lectotype the illustration of the species in the protologue. He interpreted that illustration as closely matching the type specimen of Physcidia endococcina Zahlbr. in W, and chose that specimen as the epitype. Brako (l.c. 1989) had regarded P. endococcina as a variety of Squamacidia janeousis (Müll. Arg.) Brako, which is the type of Squamacidia Brako (priority 1989). Hence, Squamacidia was reduced to synonymy with Triclinum (Jørgensen, l.c.), with cinchonarum being the oldest epithet. A second species of Triclinum, T. sorediatum Aptroot & Sparrius, was recently described from Thailand (Aptroot & al. in Fungal Diversity 24: 75–134. 2007).

Timdal (l.c. 2008) synonymized Squamacidia and Triclinum with Phyllopsora, and suggested that Phyllopsora be proposed for conservation, should this synonymization be supported by future studies. The generic circumscriptions in a recent molecular phylogenetic study of the Ramalinaceae by Kistenich & al. (l.c. 2018) and more in-depth unpublished studies (Kistenich & al. in Lichenologist: in press) corroborate that T. cinchonarum is nested inside Phyllopsora and T. sorediatum inside Bacidia De Not.

The genus Symplocia was described by Massalongo in 1854 based on the single species Lichen gossypinus Sw. In 1860, Massalongo replaced the name Symplocia with Crocynthia, based on Lecidea sect. Crocynthia Ach., also originally based on L. gossypinus only. No other names have been introduced in Symplocia. Crocynthia has already been conserved against Symplocia (ICN, App. III), and so, as noted above, if Crocynthia is rejected in favour of Phyllopsora, Symplcia cannot be taken up for this genus.

Crocynthia gossypina is a pantropical lichen species producing apothecia. The lack of an upper cortex gives it a characteristic byssoid thallus. Based on superficial similarities in thallus anatomy, Hue (in Mem. Soc. Sci. Nat. Math. Cherbourg 37: 223–254. 1909; in Bull. Soc. Bot. France 71: 311–402. 1924) and later authors have included several temperate and tropical species in Crocynthia. In 1924, Hue (l.c. 1924) listed 37 species, and already in 1932, Zahlbruckner (Cat. Lich. Univ. 8: 234–244. 1932) listed as many as 161 species, varieties, and forms of Crocynthia. Even more species were assigned to the genus throughout the 20th century. According to Laundon (in Lichenologist 2: 57–67. 1962, 24: 315–350. 1992), however, most of these Crocynthia species belong in Lepraria Ach. (Stereocaulaceae). Unfortunately, most of the Crocynthia types described by Hue were lost when B. de Lestain’s house in Dunkerque burned down during World War II, leaving the interpretation of many names in Crocynthia open and “likely to remain a matter of conjecture” (Laundon, l.c. 1992). In the latest classification of the ascomycetes, Lücking & al. (in Bryologist 119: 361–416. 2017, 120: 58–69. 2017) accept only four species in Crocynthia (all exclusively tropical), thereby leaving many species names orphaned. The type, C. gossypina, and the additional species C. pyxinae Nyl. were found to be phylogenetically nested inside Phyllopsora by Kistenich & al. (l.c. 2018).

The genus name Phyllopsora is widely known to lichenologists working on tropical material, whereas the name Triclinum has, to our knowledge, not been used between its introduction in 1825 and the typification by Jørgensen (l.c.). Moreover, accepting the name Triclinum instead of Phyllopsora would require 56 new combinations. Adopting Crocynthia would necessitate an inconvenient re-circumscription of a genus already in a taxonomic disarray caused by the historical inclusion of distantly related species, of which the type material has mostly been lost.

Adopting the oldest name, Triclinum, would avoid adding more exceptions to the rules of nomenclature, and would involve reinstating a name with almost no previous use for a genus that has recently been given a new taxonomic concept. Thus, it would be evident which species truly belonged in the genus and whether or not the new taxonomy had been followed. Adopting the name Phyllopsora, on the other hand, would result in renaming only the few morphologically well-distinguished and recognized Crocynthia species to Phyllopsora. At the same time, it should be noted that the circumscription of the genus Phyllopsora sensu Kistenich & al. (l.c.: in press) more closely resembles its earlier understanding (Swinscow & Krog, l.c.; Brako, l.c. 1991) than the more recent (Timdal, l.c. 2011). Hence, we consider that continuing the well-established use of 57 species names in Phyllopsora would result in the least disadvantageous nomenclatural change.
(2688) Proposal to conserve the name *Phakopsora* (*Basidiomycota, Pucciniales*) with a conserved type

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(2688) *Phakopsora* Dietel in Ber. Deutsch. Bot. Ges. 13: 333. 28 Aug 1895, nom. cons. prop.
Typus: *P. pachyrhizi* Syd. & P. Syd. in Ann. Mycol. 12: 108. 15 Mai 1914, typ. cons. prop.

The generic name *Phakopsora* has been widely used for species of rust fungi that occur on soybeans and other members of the Fabaceae such as *P. pachyrhizi* Syd. & P. Syd. causing Asian soybean rust and *P. meibomiae* (Arthur) Arthur causing Latin American soybean rust (Ono & al. in Mycol. Res. 96: 825. 1992). In addition, this genus includes a complex of species that cause serious leaf rust diseases on grapevine and other vitaceous plants such as *P. ampelopsidis* Dietel & P. Syd., *P. euvitis* Y. Ono, and *P. vitis* P. Syd. (Chatasiri & Ono in Mycoscience 49: 66. 2008; Okane & Ono in Mycoscience 59: 99. 2018), on cotton such as *P. gossypii* (Lagerh.) Hirats. (Gjaerum in Mycotaxon 24: 243. 1985) and on eucalypts such as *P. myrtacearum* McTaggart & al. (Maier & al. in Pl. Pathol. 65: 189. 2016). The original type of *Phakopsora* is a little-known species, *P. punctiformis* (Barclay & Dietel) Dietel (in Hedwigia 37: 217. 1898), which was initially described as *Melampsora punctiformis* Barclay & Dietel (in Hedwigia 29: 267. 1890) on *Galium aparine* in India. Although this name was the only species name mentioned in the protologue of the generic name (Dietel in Ber. Deutsch. Bot. Ges. 13: 333. 1895) and is thus the obligate type, it was not transferred to *Phakopsora* until Dietel (l.c. 1898) created the new combination *P. punctiformis*. The taxonomic placement of *P. punctiformis* is uncertain in that it has rarely been reported and is known only from China, India, Nepal and Russia (Farr & Rossman, Fungal Databases, U.S. National Fungus Collections [https://nt.ars-grin.gov/fungalDATABASES/]. 2018). Almost no literature deals with *P. punctiformis* (Google Scholar [GS] exact phrase search: “Melampsora punctiformis” = 9, “Phakopsora punctiformis” = 12), and no DNA sequences exist for this species. In addition, this species lacks the uredinial paraphyses characteristic of most current species of *Phakopsora* (Sydow & Sydow, Monogr. Urediniearum: 3. 1915; Cummins & Hiratsuka, Ill. Gen. Rust Fungi, ed. 3. 2003) and is thus not representative of most of the species now considered to belong in the genus *Phakopsora*.

As mentioned, *Phakopsora pachyrhizi* causes Asian soybean rust, a fungus of plant quarantine importance that is widely studied and well known (GS exact phrase search = 9180). Although reported for decades from Asia, the recent introduction of this fungus into the Western Hemisphere has resulted in considerable concern because of its virulence on the important soybean crop (Frederick in Phytopathology 92: 217. 2002). Recent molecular phylogenetic studies show that *P. pachyrhizi* and the closely related *P. meibomiae* cluster in a monophyletic clade with other economically important species of *Phakopsora*, such as *P. myrtacearum* (Beenken in Mycol. Progr. 13: 791. 2014; Maier & al., l.c.), as well as *P. ampelopsidis* and *P. euvitis* causing leaf rust of grapevine (Chatasiri & Ono, l.c.; Okane & Ono, l.c.).

To bring the definition of the generic name *Phakopsora* in line with its current usage, we propose to conserve *Phakopsora* with a new type, *P. pachyrhizi*, the cause of the globally important disease Asian soybean rust.

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