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**Validation of the genus *Hazenia* H.C.Bold 1958 (Ulvophyceae)**

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The genus *Hazenia* H.C.Bold was described by Bold (1958: 742) to accommodate a single species, *Hazenia mirabilis* H.C.Bold, isolated from a pool near Nashville, Tennessee, USA, and characterized by irregularly branching uniseriate or partially multiseriate filaments, surrounded by a mucilaginous envelope. Škaloud *et al.* (2013: 1288) described a second species, *H. broadyi* Škaloud, Nedbalová, Elster & Komárek, from a shallow lake on James Ross Island, NE Antarctic Peninsula, and proposed a new combination, *H. basiliensis* (Vischer) Škaloud, Nedbalová, Elster & Komárek for *Pseudendoclonium basiliense* Vischer based on morphological and molecular evidence. Since its description, the genus name *Hazenia* has become well established in the literature (e.g., Bourrelly 1966; Broady 1979; Ettl & Gärtner 1995; Leliaert *et al.* 2015; Printz 1964; Škaloud *et al.* 2013; Starmach 1972).

The genus *Chamaetrichon* Tupa was described by Tupa (1974: 69) with the type species *C. capsulatum* Tupa isolated from a liverwort in a lake in Sam Houston National Forest, Texas, USA. Darienko & Pröschold (2017) demonstrated the close affinity of *C. capsulatum* to various *Hazenia* species. In addition, they noted that no type specimen was designated for the type species of *Hazenia* (*H. mirabilis*) (ICN Melbourne Code Art. 40.1; McNeill *et al.* 2012), and because the genus name and its type species were described in one diagnosis (ICN Melbourne Code Art. 38.5), they concluded that *Hazenia*, *H. mirabilis*, and all proposed combinations are invalid. Darienko & Pröschold (2017: 33) therefore placed *Hazenia* under synonymy of the later described *Chamaetrichon*.

However, we feel that this decision was incorrect because both the genus and species were validly described. Bold (1958) described *Hazenia mirabilis* based on solid morphological evidence, and although he did not explicitly designate a type, he deposited a living isolate to the UTEX Culture Collection and a herbarium specimen to the Chicago Natural History Museum (now The Field Museum). The herbarium specimen (Fig. 1) is currently located in the New York Botanical Garden Herbarium (NY), under accession number NY 03206340.

According to ICN Melbourne Code Art 40.3, such a mention of a single specimen or gathering is acceptable as indication of the type, even if that element is not explicitly designated as type. In addition, Bold (1958) clearly indicated the locality and year of sampling, and stated that he was the collector of all material cited in the paper, which is also acceptable as indication of the type (ICN Melbourne Code Art 40, Note 2). Oddly, the date of sampling is indicated differently in the paper (April 1953) and on the herbarium specimen (March 1953). However, as only a single herbarium specimen of *Hazenia mirabilis* is deposited in NY (Laura Briscoe, pers. comm.), and since this specimen is marked as “Type specimen, *Hazenia mirabilis* gen. et sp. nov.” (Fig. 1), there can be no doubt that it represents the holotype as designated by the Bold.

For the sake of taxonomic stability, we here indicate the holotype and designate as epitype the illustrations in the original publication (ICN Melbourne Code Arts 9.2 and 9.8.). Since *Hazenia* is a valid genus name, later described new species and combinations (*H. broadyi* Škaloud, Nedbalová, Elster & Komárek and *H. basiliensis* (Vischer) Škaloud, Nedbalová, Elster & Komárek (Škaloud *et al.* 2013)) are also valid. In addition, as *Chamaetrichon capsulatum*, the type of *Chamaetrichon*,

belongs to the genus *Hazenian* (Darienko & Pröschold 2017), we here propose a new combination *H. capsulata* (Tupa) Škaloud & Leliaert, *comb. nov.* Accordingly, *Chamaetrichon* is a taxonomic synonym of *Hazenian*.

### **HAZENIA H.C.Bold, 1958**

T: *Hazenian mirabilis* H.C.Bold

#### ***Hazenian mirabilis* H.C.Bold**

Holotype: NY 03206340, barcode C0172554F; The New York Botanical Garden Herbarium (NY). Epitype (here designated as an interpretative type): figures 29-35, 48-52 in the original publication (Bold 1958). Collected in a pool in a water-filled depression in an alluvial field just north of the Couchville Pike, ten miles southeast of Nashville, Tennessee, USA, in April 1953.

#### ***Hazenian capsulata* (Tupa) Škaloud & Leliaert, *comb. nov.***

Basionym: *Chamaetrichon capsulatum* Tupa, *Beihefte zur Nova Hedwigia* 46: 70, text-fig. 10; [pls]: figs 139-145, 283, 1974

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[Fig. 1 Overleaf]

**Fig. 1.:** Holotype of *Hazenia mirabilis* H.C.Bold, accession number NY 03206340. Herbarium scan from the Macroalgal Herbarium Consortium Portal (<http://macroalgae.org>).

