CORRECTIONS TO REPORTS OF BUCELLIOID LICHENS FROM NEW ZEALAND’S SUBANTARCTIC ISLANDS, INCLUDING "SCLEROCOCCUM THELOTREMATICOLA" COMB. NOV. AND "EPILICHEN SCABROSUS" NEW TO THE SOUTHERN HEMISPHERE

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Abstract

The type, and only, collections of *Buellia campbelliana* Elix and *Buellia thelotrematicola* Elix are shown to be referable to *Epilichen scabrosus* (Ach.) Clerc. and *Sclerococcum*, respectively. *Epilichen scabrosus* is here reported for the first time from the Southern Hemisphere. The new combination *Sclerococcum thelotrematicola* (Elix) Fryday is made, and the host species is shown to be *Gintarasia lamellifera*. The report of *Buellia sharpiana* Lendemer & R.C.Harris from New Zealand is also re-assessed.

Introduction

The herbarium of Michigan State University (MSC) holds a large collection of lichens from New Zealand (mostly from the subantarctic islands), which were collected by Henry Imhaug and Richard Harris between 1969 and 1972 (Fryday & Prather 2001). As part of a revision of the herbarium of Michigan State University (MSC) holds a large collection of lichens from New Zealand, Elix are shown to be referable to *Epilichen scabrosus* (Ach.) Clerc. and *Sclerococcum*, respectively. *Epilichen scabrosus* is here reported for the first time from the Southern Hemisphere. The new combination *Sclerococcum thelotrematicola* (Elix) Fryday is made, and the host species is shown to be *Gintarasia lamellifera*. The report of *Buellia sharpiana* Lendemer & R.C.Harris from New Zealand is also re-assessed.

**SPECIMENS EXAMINED**


*Buellia sharpiana* Lendemer & R.C. Harris, Castanea 78, 148 (2013) Elix & Knight (2017) reported *B. sharpiana* as new to New Zealand from a single collection made by Richard Harris from a grassy roadside hillside on South Island in 1973 (see below). *Buellia sharpiana* is a narrow endemic species that was described from a single mountain summit in Great Smoky Mountains National Park in the southern Appalachian Mountains of eastern North America. The rock outcrops at the type locality are at an altitude of 1920 m and of Precambrian age (≥500 mybp), belonging to the Anakeesta Formation, which is characterized by iron sulfide-rich slate, shale, and sandstone that weathers to a rusty brown colour and hosts a distinctive community of crustose lichens including heavy-metal-tolerant species such as *Acarospora sinopica* (Wahlenb.) Körb. and *Rhizocarpon oederi* (Weber) Körb. (Lendemer & Harris 2013). The locality of the collection reported by Elix & Knight (2017) is given as “Grassy hillside on north side of Route 73 along Craigieburn River”, but other collections in MSC which were made at the same time are more specific, giving it as “at junction of Craigieburn River and Route 73” which puts it at an altitude of c. 675 m. The rock of this area is the Anakeesta (see below) and has shown that it is a Precambrian strata (Fig. 1).

The New Zealand collection resembles *B. sharpiana* in having a thallus containing arthothel and an amyloid (1+ blue) medulla but whereas *B. sharpiana* has a brown to yellow thallus reacting KC+ orange-red and UV+ dull orange, the thallus of the New Zealand collection is grey and KC- UV- (Fig. 2A–B). The apothecia of *B. sharpiana* are also consistently innate with a hyaline, poorly differentiated exciple whereas the apothecia of the New Zealand collection become sessile upon maturity with a well-developed blue-black (N+ red) exciple c. 50 μm wide (Fig. 2E). The New Zealand collection also differs in the dilute brown hypothecium (hyaline in *B. sharpiana*) and slightly larger ascospores (Fig. 2C–E).

In light of the similarities between the New Zealand collection and *B. sharpiana*, the differences are significant, and *B. sharpiana* should be removed from the New Zealand lichen checklist.

**SPECIMENS EXAMINED**

*Buellia sharpiana* Lendemer & R.C. Harris (all NY): U.S.A. • Tennessee, Sevier Co., Great Smoky Mountains National Park, Myrtle Point, c. 0.3 mi E of the summit of Mt LeConte, 35.6533°–38.4317°, 6482 ft [1976 m] alt., open Anakeesta rock outcrop with spruce (*Picea*) – fir (*Abies*) forest including *Rhododendron*, *Vaccinium* and * Sorbus*, J.L. Allen 3966, 28.ix.2014; • Myrtle Point to summit of Mt. LeConte, 35.653239°–38.431609°, 1991 m alt., boreal forest intermixed with exposed rocks (*Anakeesta Formation*) *Abies fraseri*, *Picea rubens*, *Sorbus americana*, *Rhododendron catawbiense*, *Rhododendron minus*, *Leiophyllum buxifolium*, E.A. Tripp 5015, 5920, 28.ix.2014; • ibid., summit area of Mt. LeConte, Bullhead Trail, 5–6.8 mi from...
parking area on Cherokee Orchard Road, cliff tops, and 0–2 mi on Rainbow Falls Trail from summit, 35.6769°–83.4481°, Abies-Picea-Betula alleghaniensis-Sorbus-Acer spicatum-Sambucus forest with exposed Anakeesta outcrops covered with Rhododendron minus, E.A. Tripp 21684, 2214, 9.x.2011, (topotypes).

Buellia sp. New Zealand [Canterbury]. • Malver County, grassy hillside on north side of Route 73 along the Craigieburn River, 43° 8.270’ S, 171° 45.525’ E, 675 m alt., R.C. Harris 6433, 24.1.1971 (MSC).

Buellia thelotrematica Elix, Australas. Lichenol. 82, 61 (2018)

The specimen from Auckland Island is clearly a species of the lichenicolous genus Sclerococcum (Fig. 3); which was recently shown to be the correct name for Dactyllosera Körb. (Diederich et al. 2018). It closely resembles Sclerococcus parasiticus (Fröské) Diederich & Ertz, which occurs on the thallus of species of Ochrolechia and Pertusaria (Hafellner 1979, 2004). Sclerococcus parasiticus has previously been reported from New Zealand (Galloway 2007) from a single collection made by William Colenso (as Lecidea parasitica Fröské; Nylander 1888), but because the host of the present species is not closely related to Ochrolechia or Pertusaria, it appears prudent to maintain the Auckland Island collection as a distinct species, and the necessary new combination is made below.

Elix (2018) reported the host of his new species as Thelotrema sp., presumably because Imshaug had annotated the packet “parasitic on Thelotrema concentricum”. However, Thelotrema concentricum was Imshaug’s working (unpublished) name for the species later described as Chroodiscus lamelliferus Cantvilas & Vézda (Cantvilas & Vézda 2000), for which the current name is Gintarasia lamellifera (Cantvilas & Vézda) Kraichak, Lücking & Lumbsch (Kraichak et al. 2013).

SPECIMENS EXAMINED
Sclerococcus thelotrematica (Elix) Fryday comb. nov.

Mycobank No.: MB 829598

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References
Elix, JA (2017): Three new species and eight new records of saxicolous buelliod lichens (Caliciaceae, Ascomycota) from New Zealand’s Subantarctic Islands. Australasian Lichenology 81, 68–78.

Kraichak; E; Parmmen, S; Lücking, R; Lumbsch, HT (2013): Gintarasia and Xalocoa, two new genera to accommodate temperate to subtropical species in the predominantly tropical Graphidiaceae (Ostropales, Ascomycota). Australian Systematic Botany 26, 466–474.
Figure 2: Buellia sharpiana and Buellia sp. A & C. B. sharpiana (Allen 3396); B, D–E, Buellia sp. (Harris 6433). Scale bars: A–B = 0.5 mm; C–E = 25 µm.
Figure 3: Sclerococcum thelotrematicola (Imshaug 57066 – holotype). A. Apothecia. B: Asco-
spores. Scale bars: A = 1.0 mm: B = 25 μm.