

## FOLIICOLOUS LICHENS OF THE FIJI ISLANDS\*

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Eighteen species of foliicolous lichens have been mentioned earlier from the Fiji Islands in various literature sources and based on collections since 1860. Current records originate from the collections of Göran Thor from 1985 and Sarolta and Tamás Pócs from 2003. G. Thor visited lowland rainforests of Island Viti Levu, S. and T. Pócs collected also in higher elevations (up to ca 1,000 m) in submontane, montane and montane mossy (cloud) forests on Kadavu, Taveuni and Viti Levu Islands. These relatively small collections (of ca 300 and 150 leaves, respectively) resulted in 78 species of the 85 lichen species known today, among them 67 species are new for the foliicolous lichen flora of the area in this publication. New taxa described are *Phylloblastia taveuniensis* Farkas, *Porina kadavuensis* Farkas, furthermore the genus *Tamasia* Farkas (Ramalinaceae) and species *Tamasia fijiensis* Farkas containing cyanobacterial photobiont.

Key words: cyanobacterial photobiont, new genus, new species, *Phylloblastia taveuniensis*, *Porina kadavuensis*, *Tamasia fijiensis*

### INTRODUCTION

The remote Fiji Islands involves more than 330 islands in the South Pacific Ocean. About 110 of them are permanently inhabited. The majority, 87% of the Fijians live on the two major islands, Viti Levu and Vanua Levu. Taveuni and Kadavu are the third and fourth largest islands. Half of the area of the mountainous islands is covered by tropical rainforests with about 60% endemic plants. The highest peaks are around 1,300 m. Bottled water and sugar export and growing tourism are the most important for the economy of Fiji (<http://en.wikipedia.org/wiki/Fiji>). Therefore the exploration of the biodiversity of the Fiji Islands is maybe in the last minute before increasing human impact would have a damaging effect on its unique natural biota. Polynesia-Micronesia hotspot – including the Fiji Islands – is considered as one of the 35 global biodiversity hotspots (Mittelmeier *et al.* 2005).

Lichens, just as other cryptogams of Fiji are insufficiently known (Konrat *et al.* 2011, Lücking *et al.* 2000), though their better knowledge is highly required due to their importance for nature conservancy or bioindication value.

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\*The paper is dedicated to Professor Tamás Pócs academician, Hungarian bryologist, botanist and ecologist, specialist of tropical flora and vegetation and collector of various plant and animal groups, especially in Eastern Africa, on the occasion of his 90th birthday.

Foliicolous lichens are sensitive organisms to climate change and disturbance, excellent indicators of various types of rainforests (Lücking 1997c, 2008b).

Lichen floristical data are compiled by Elix and McCarthy (1998, 2008). Further records were published by Lumbsch *et al.* (2009, 2011). A poster was presented on preliminary results based on foliicolous lichen collections studied below and a short abstract without list of species was published (Farkas 2008). In 2008, 79 species known by that time were reported. However, this number had to be revised due to the subsequent publications (Lücking 2008a, Lumbsch *et al.* 2011).

## MATERIAL AND METHODS

The here presented records come from the collections of Göran Thor between 21–25 December 1985 and Sarolta and Tamás Pócs from 18 August to 16 September 2003. G. Thor visited lowland rainforests of Island Viti Levu, S. and

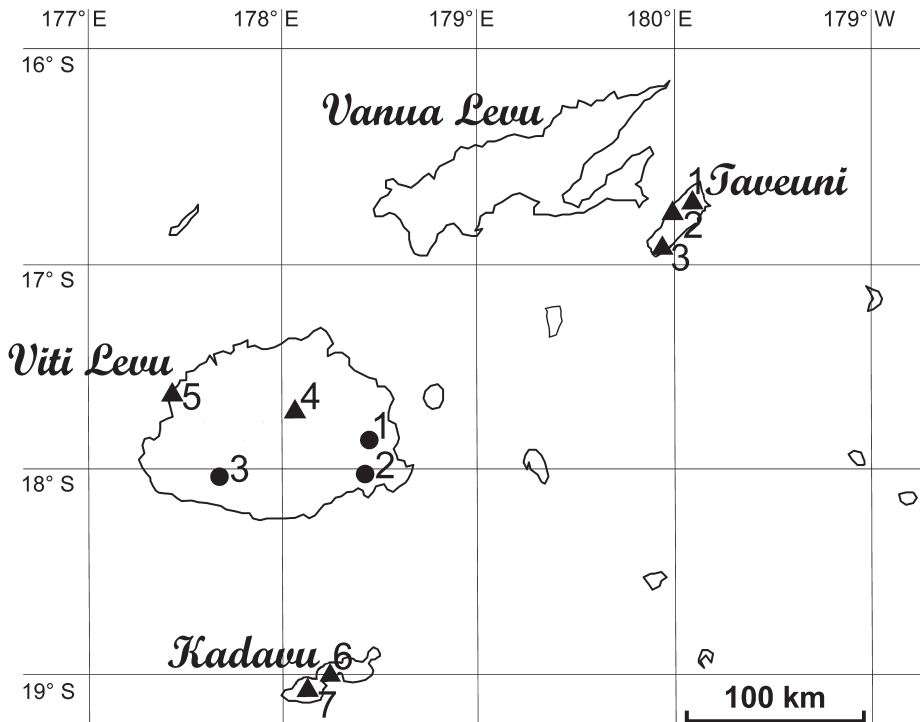


Fig. 1. Localities on main islands of the Fiji Islands (● = collections by G. Thor 1–3: 1 = 6185–6190, 6355, 6411–6415, 6423, 6424, 6427, 6447–6450; 2 = 6233, 6234, 6239, 6240, 6244, 6247, 6267, 6272, 6274, 6291, 6292, 6293, 6294, 6295, 6296, 6297, 6298, 6311–6318, 6320–6322; 3 = 6333–6336, 6343–6345, 6354. ▲ = collections by S. and T. Pócs 1–7: 1 = 03281–03282; 2 = 03288–03290; 3 = 03293, 03295, 03296; 4 = 03272–03274; 5 = 03252; 6 = 03301, 03307; 7 = 03304, 03306, 03309)

T. Pócs collected also in higher elevations (up to *ca* 1,000 m) in submontane, montane and montane mossy (cloud) forests on Kadavu (Kandavu), Taveuni and Viti Levu Islands. The localities are presented on a map of the Fiji Islands (Fig. 1) and the collecting numbers of specimens are listed in the legends. All specimens examined from the Fiji Islands were collected in 1985 (Thor) or 2003 (Pócs), and deposited in UPS (Thor) or VBI (Pócs). Further specimens were investigated for comparison from various herbaria (M, PRA-V and VBI).

The morphology and the anatomy were examined using a standard stereo microscope (Olympus SZX9) and compound microscopes (Olympus BX50, Nikon Eclipse Ni-U). Hand sections and squash mounts were examined in water, water : glycerine = 1 : 2, 10% solution of potassium hydroxide, and Lugol' S solution. All measurements were made in tap water. For identifications several publications containing keys, descriptions or illustrations were used, *e.g.*, Aptroot *et al.* 1997, Kalb and Vězda 1988, Lücking 1992, 1997*a, b*, 1998, 2004, Lücking and Kalb 2000, 2001, Lücking and Maratínez Colín 2004, Lücking and Santesson 2001, Lücking and Vězda 1998, Lücking *et al.* 1994, 2001*a, b*, Santesson 1952, Thor *et al.* 2000, Vězda 1974, 1980, 1986, 1991, Vězda and Farkas 1988. *Badimia* and *Tamasia* specimens were analysed by high performance thin-layer chromatography following Arup *et al.* (1993).

## RESULTS

The present occurrences of 12 of the 18 species – except for *Anisomeridium foliicola* R. Sant. et Tibell, *Byssoloma leucoblepharum* (Nyl.) Vain., *Calenia depressa* Müll. Arg., *Gyalectidium imperfectum* Vězda, *Gyalideopsis intermedia* Lücking and *G. rubescens* Vězda – known from various literature sources (Lücking 2008*a*, Lumbsch *et al.* 2011, Santesson 1952, Santesson and Tibell 1988) are confirmed on the basis of two further collections.

These relatively small collections (of about 300 and 150 leaves, respectively) resulted in 78 foliicolous lichen species. Among them 67 species are new today for the foliicolous lichen flora of the area of the Fiji Islands. Three species and a genus are new for science.

## THE NEW SPECIES

### *Phylloblastia taveuniensis* Farkas, *spec. nova* (Fig. 2)

Mycobank No.: MB 847541

It differs from *P. dolichospora* by the considerably smaller perithecia and ascospores and the fewer septa of ascospores.

Type: Fiji Islands, southern tip of Taveuni Island, in the crater of the extinct Tavuyagea volcano, 16° 59.660–662' S, 179° 55.296–360' E, wet rainforest with many epiphytes, 150–295 m, on a leaf of a vascular plant, 5 Sept. 2003, leg. S. and T. Pócs 03293 (holotype: VBI-L06025).

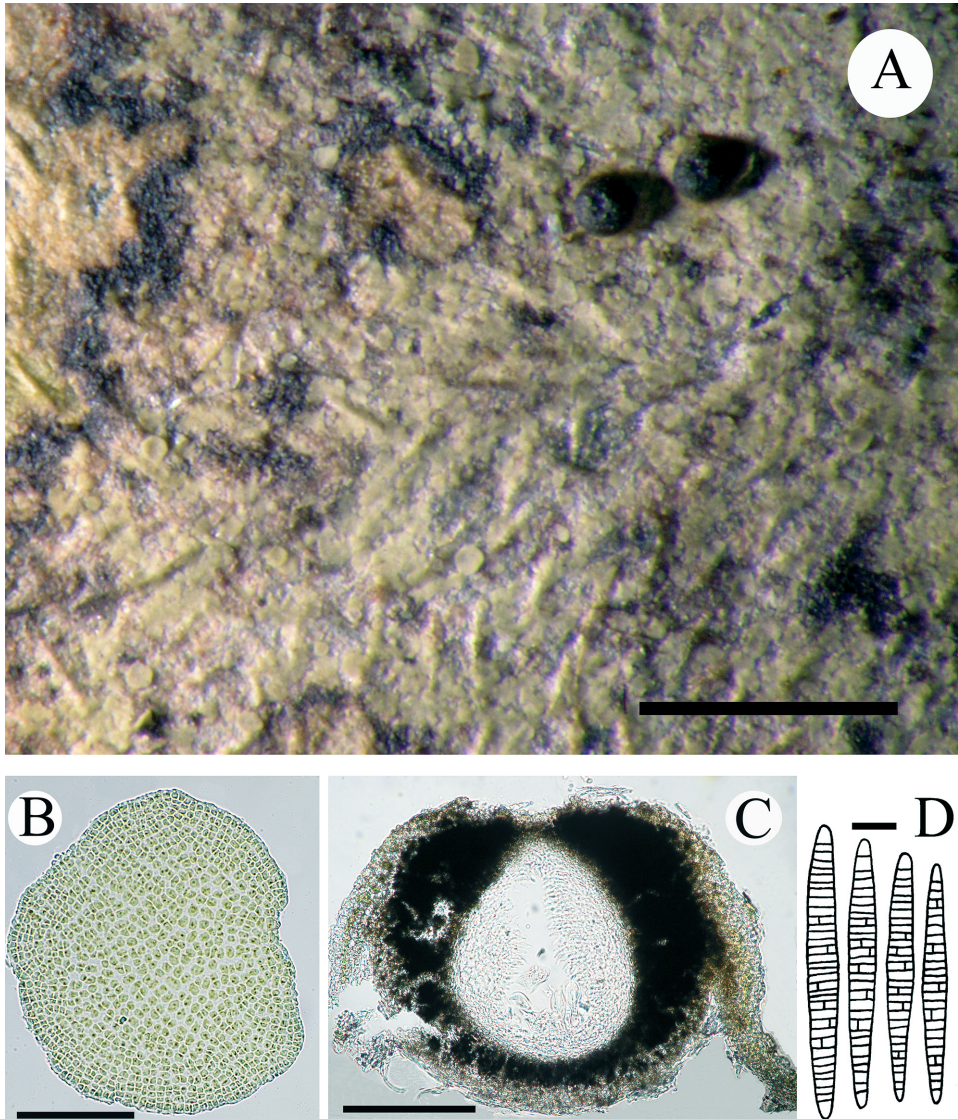


Fig. 2. *Phylloblastia taveuniensis* (holotype). – A = thallus with perithecia; B = an isidium (schizidium); C = section of a young perithecium; D = ascospores (scales: A = 1 mm, B, C = 50  $\mu$ m, D = 10  $\mu$ m)

Thallus epiphyllous, formed by small round thallus patches, partly becoming continuous, *ca* 2 cm wide, pale green. The round scales of *ca* 0.10–0.15 mm diam. serve as isidia (schizidia) (see Fig. 2A, B). The outline of the thallus is irregular, a dark prothallus is seen around it.

Perithecia 0.10–0.25 mm, reddish brown, brown, hemispherical to cylindrical, slightly constricted at base. The dark, brownish black involucrellum is entirely surrounding the hymenium, the exciple and involucrellum cannot be separated completely. A thalline layer covering the involucrellum is so thin (*ca* 10–15  $\mu\text{m}$ ) that the perithecium is still seen dark from above, only the constriction at base appears in the colour of the thallus (Fig. 2C). Ascospores colourless, 65–75  $\times$  6–7  $\mu\text{m}$ , pointed at both ends, 25–33-septate with few longitudinal septa (Fig. 2D).

Distribution and ecology. Known from the Fiji Islands only, growing on leaves of a vascular plant.

Discussion. So far only known from the holotype. Its closest relative is *Phylloblastia dolichospora* Vain., which has perithecia of 0.2–0.4 mm diam. and (130–)150–180  $\times$  5–7(–8)  $\mu\text{m}$  large ascospores with 47–71 transverse septa and 15–30 longitudinal septa (Santesson 1952: 293).

*Porina kadavuensis* Farkas, *spec. nova*

(Fig. 3)

Mycobank No.: MB 804956

It differs from *P. karnatakensis* by the thinner (9–11 times as long as broad), not acicular and normally fewer septate ascospores, more densely arranged perithecia on a more verrucose thallus.

Type: Fiji Islands, western part of Kadavu Island, 2 km NE of Tavuki village, 19° 03.829–04.102' S, 178° 07.771–921' E, dry evergreen microphyllous forest on orange-red volcanic soil, with emergent *Allocasuarina* trees, many creeping *Flagellaria* and with *Schizaea dichotoma* and Cyperaceae common in the ground layer, 170–200 m, on leaves of a vascular plant, 13–15 Sept. 2003, leg. S. and T. Pócs 03304 (holotype: VBI-L06024).

Thallus yellow-green, nitidous, continuous in central parts, filled with crystals, its surface is rough, rugose due to crystals, without prothallus (Fig. 3A). Photobiont cells angular-rounded.

Perithecia 0.25–0.30 mm diam., wart-shaped to hemispherical with non-spreading base, with dark spot around the ostiole and a few pale hairs visible on the thalline outer surface, at larger magnifications only (Fig. 3B). Involucrellum with K<sup>+</sup> orange-red pigment. Ascus 50–55  $\times$  6–7  $\mu\text{m}$ . Ascospores 8/

ascus, narrowly fusiform (one end often somewhat more obtuse) or bacillar,  $23\text{--}28(-35) \times 1.5\text{--}2(-2.5) \mu\text{m}$ , 3–5(–7)-septate, no constrictions at septa (Fig. 3C).

Distribution and ecology. Known from the Fiji Islands, growing on leaves of vascular plants.

Discussion. The combinations of characters (the shape of perithecia, the warted thallus surface and the very narrow and small ascospores) clearly outline a new species. Closest species are *P. karnatakensis* Makhija, Adawadkar et Patwardhan, *P. andreana* Lücking et Vězda and *P. conica* R. Sant. *P. kadavuensis*

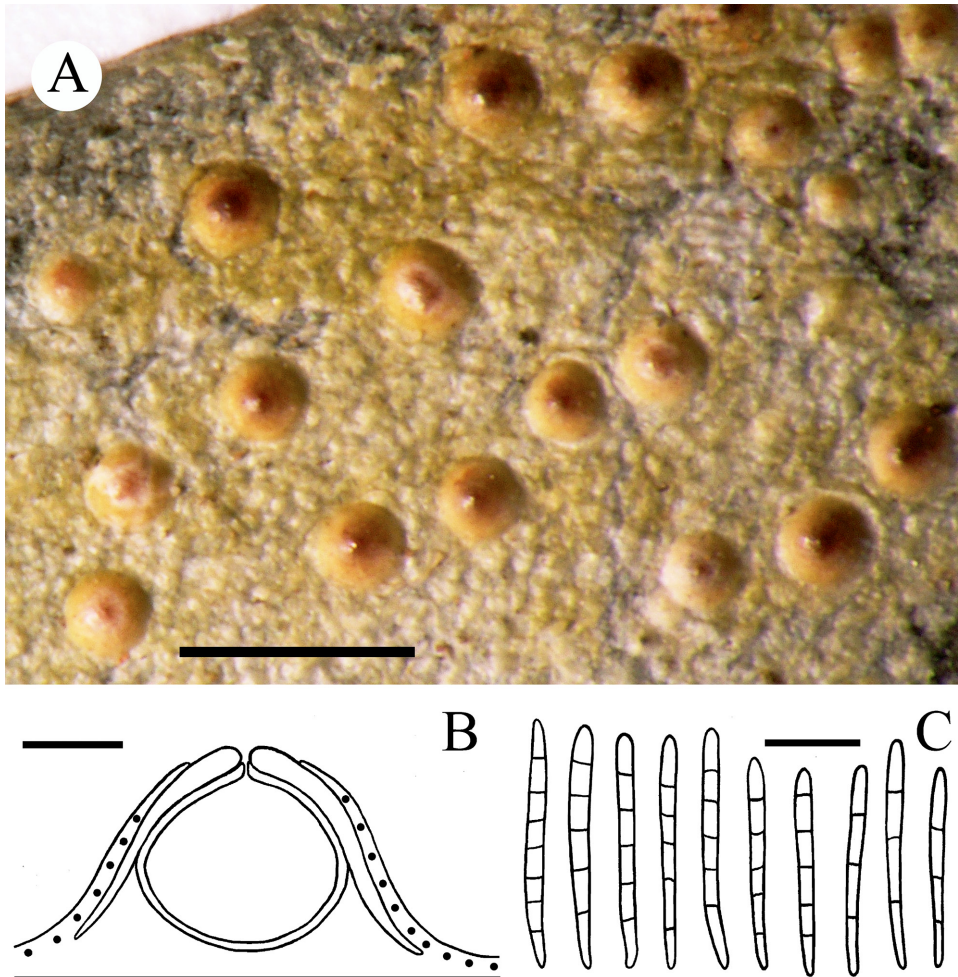


Fig. 3. *Porina kadavuensis* (holotype). – A = thallus with perithecia; B = section of a perithecium; C = ascospores (scales: A = 1 mm, B = 100  $\mu\text{m}$ , C = 10  $\mu\text{m}$ )

differs from *P. karnatakensis* by thinner ascospores (ratio of length/width is about 9–11, while ascospores of *P. karnatakensis* are 6–9 times as long as broad) of different (not acicular) shape, – while ascospores of *P. karnatakensis* are with acicular ends (cf. Lücking 2008a: 326, Fig. 129C in Lücking 2008a: 333, Makhija *et al.* 1994: 538) –, perithecia smaller, arranged more densely on the more verrucose thallus of the new species. *P. karnatakensis* regularly produces 7-septate ascospores, while *P. kadavuensis* has normally maximum 5-septate and only exceptionally 7-septate ascospores. *P. andreana* has somewhat shorter (10–15  $\mu\text{m}$ ), but wider (2.5–3  $\mu\text{m}$ ) and fewer (1(–3))-septate ascospores, and lens-shaped perithecia (Lücking 2008a: 325). At *P. conica* R. Sant. – also occurring in the Fiji Islands – the shape of perithecia (conical), the size ((28–)32–45  $\times$  (3–) 4–5  $\mu\text{m}$ ) and septation (7) of ascospores are different (Santesson 1952: 232).

Additional specimens examined. Fiji Islands: Central part of Kadavu Island: on the ridge SE of Vunisea telecom tower, 19° 03.214–300' S, 178° 09.836–877' E, dry evergreen microphyllous forest on lilac volcanic soil, with emergent *Allocauarina* trees, many creeping *Flagellaria* and with *Schizaea dichotoma* and Cyperaceae common in the ground layer, 100–120 m, on leaves of a vascular plant, 14 Sept. 2003, leg. S. and T. Pócs 03307 (VBI).

Specimens of *Porina karnatakensis* examined. Australia: Queensland: Atherton Tableland, Lamins Hill near Butchers Creek, 12 km E of Malanda, on trees in paddock, 17° 22' S, 145° 42' E, 840 m, 28 Febr. 1986, leg. G. Rambold 4825 (M); Eungella National Park, NW of Mackay, track along Broken River in subtropical rainforest between Broken River Camping Area and Platypus Pool, 21° 10' S, 148° 29' E, 680 m, 18 Febr. 1986, leg. G. Rambold 4534 (M); New South Wales: Border Ranges Nation Park. Border Lookout, in temperate rainforest with *Nothofagus moorei*, 28° 23' S, 153° 05' E, ca 1,020 m, 9 Febr. 1986, leg. G. Rambold 4389 (M).

## THE NEW GENUS AND SPECIES

### *Tamasia* Farkas, *gen. nov.*

Mycobank No.: MB 804957

The new genus belongs to the family Ramalinaceae. It differs from *Bacidina* by the wider 1-septate ascospores, characteristic *Tamasia* type ascus apex, closest to *Lecidella* type and the usually unbranched, but seldom near to apex slightly branching paraphyses. It differs from *Megalaria* by different pigmentation of the hymenium, the structure of the exciple and the slightly constricted, thin-walled ascospores.

Type: *Tamasia fijiensis* Farkas, spec. nova [Mycobank No.: MB 804958] designated here, described below.

Etymology. The generic name is derived from the first name of Tamás Pócs Hungarian academician, worldwide known expert of tropical plants, researcher of cryptogamic organisms, and who is especially fond of cyanobacteria.

Thallus foliicolous, crustose, continuous, ecorticate, slightly, irregularly in wavy lines rough due to chains of the photobiont. Photobiont cyanobacterium (*Rhizonema* sp.). Apothecia sessile, rounded to slightly irregular; disc pale, orange or cream colour; margin biatorine, somewhat paler. Excipulum paraplectenchymatous, colourless to yellowish. Hypothecium upper part with horizontally, lower part with vertically elongated paraplectenchymatous, colourless to yellowish. Epithecium pale orange, ochraceous brownish. Hymenium colourless to pale yellow, KI+ dark blue. Paraphyses distinct, unbranched to slightly branched near apex, 1.0–1.5  $\mu\text{m}$ , strongly thickened apically, apex 2–3  $\mu\text{m}$  thick. Asci narrowly clavate, KI+ blue, tholus with amyloid, structure closest to *Lecidella* type sensu Hafellner (1984) – characterised by a pale roundish to ellipsoidal (vertically elongated to flattened) axial mass and darker blue apical dome (*Tamasia* type). Ascospores 8 per ascus, ellipsoid, 1-septate, with slight constrictions at septa, 1.5–2.5 times as long as broad, colourless. Conidiomata not observed. Chemistry: no substances detected by HPTLC. The genus *Tamasia* (Ramalinaceae – cf. Jaklitsch *et al.* 2016) is here established to accommodate the first species described below, however further species might occur, perhaps on other substrate or even with different photobionts. So far with Palaeotropical distribution.

*Tamasia fijiensis* Farkas, *spec. nova*  
(Fig. 4)

Mycobank No.: MB 804958

Type species of the genus. Characterised by 6–8  $\times$  3–4  $\mu\text{m}$ , 1-septate, colourless ascospores, 0.3–0.4 mm pale orange biatorine apothecia. Photobiont filamentous cyanobacterium – *Rhizonema* sp. The new species differs from species of earlier existing genera, *Bacidina mirabilis* and *Fellhanera parvula* characterised by thinner, but somewhat similar ascospores, but different structures in apothecia and by green algal photobiont.

Type: Fiji Islands, central part of Viti Levu Island, 10 km SSE of Navai, on the ridge of Rairaimatuku Plateau, 17° 43.503' S, 178° 02.252' E, mossy elfin forest (cloud forest), built up mostly by *Cyathea* sp. and by the 3–4 m tall *Alpinia boia*, 990–1,010 m, on a leaf of a vascular plant, 24 Aug. 2003, leg. S. and T. Pócs 03274 (holotype: VBI-L06026).

Thallus foliicolous, crustose, continuous, ecorticate, violet, slightly, irregularly in wavy lines rough due to chains of the photobiont (Fig. 4A). Photobiont filamentous cyanobacterium (*Rhizonema*) –with cells of 8–11.5(–12.5)  $\times$  5  $\mu\text{m}$  (Fig. 4F–H).



Apothecia 0.3–0.4 mm, sessile, rounded to slightly irregular; disc pale, orange or cream colour; margin biatorine, somewhat paler (Fig. 4A, B). Excipulum paraplectenchymatous, colourless to yellowish, laterally consists of

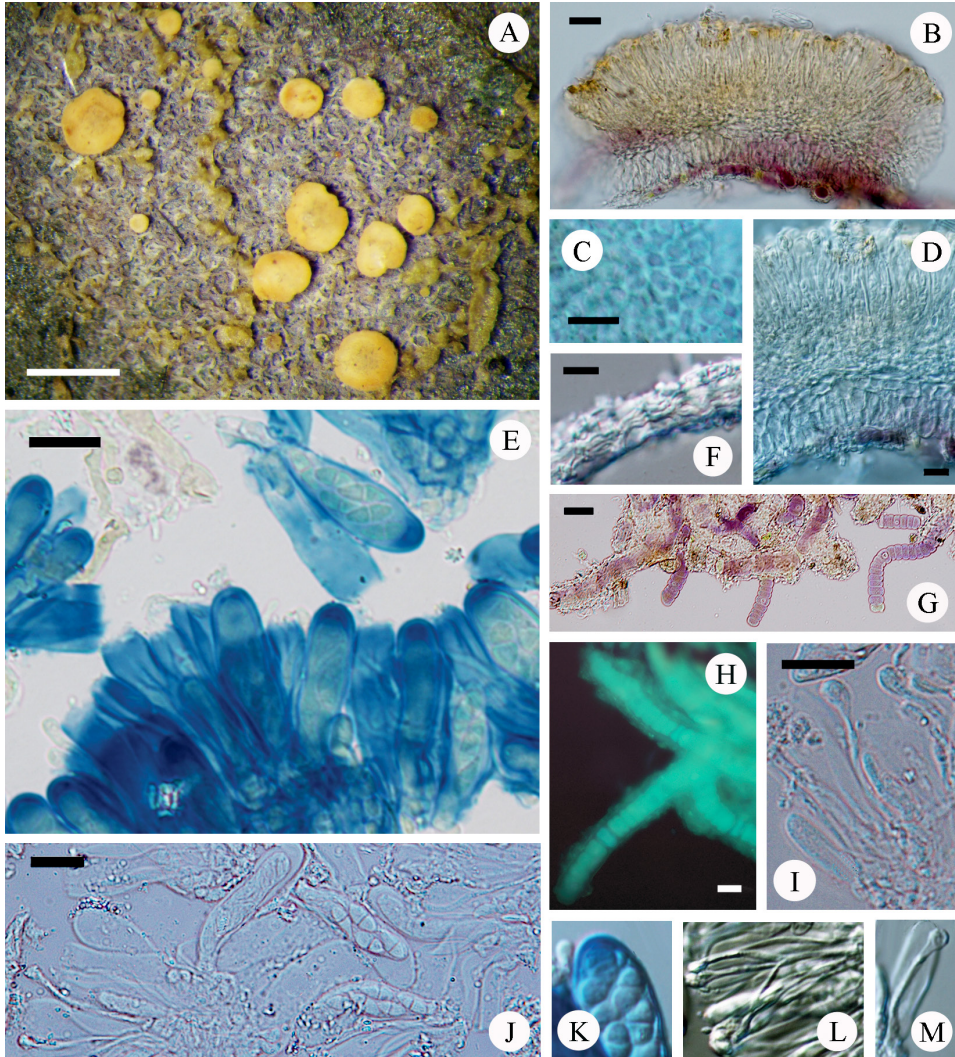


Fig. 4. *Tamasia fijiensis* (holotype). A = thallus with apothecia; B = section of an apothecium; C = lateral exciple viewed from the lower surface of the apothecium; D = hymenium and inner exciple; E = asci with characteristic ascus apex; F = photobiont *Rhizonema* covered by fungal hyphae; G = thallus with *Rhizonema* photobiont – cell chains covered by hyphae (left) and without (right); H = photobiont *Rhizonema* with hyphal coat, epifluorescence view; I, L, M = paraphyses; J = asci, with ascospores and paraphyses; K = ascospores in asci. B–D in water : glycerine = 1 : 2, E and K in K/KI (scales: A = 0.5 mm, B, G = 20  $\mu$ m, C–F, H–J = 10  $\mu$ m)

ca 4  $\mu\text{m}$  cells (Fig. 4C). Hypothecium upper part with horizontally, lower part with vertically elongated paraplectenchymatous (cells of  $10\text{--}20 \times 5\text{--}7 \mu\text{m}$ ), colourless to yellowish (Fig. 4D). Epithecium pale orange, ochraceous brownish. Hymenium  $30\text{--}40 \mu\text{m}$ , colourless to pale yellow, KI+ dark blue. Paraphyses distinct, unbranched to slightly branched near apex or at ca half of their length,  $1.0\text{--}1.5 \mu\text{m}$ , strongly thickened apically, apex  $2\text{--}3 \mu\text{m}$  thick (Fig. 4I, L, M). Asci  $30\text{--}35 \times 7\text{--}10 \mu\text{m}$ , narrowly clavate, KI+ blue, tholus with amyloid structure closest to *Lecidella* type sensu Hafellner (1984) – characterised by a pale roundish to ellipsoidal (vertically elongated to flattened) axial mass and darker blue apical dome (Fig. 4E, J). Ascospores ellipsoid, 1-septate, with slight constrictions at septa,  $6\text{--}8 \times 3\text{--}4 \mu\text{m}$ , 1.5–2.5 times as long as broad, colourless (Fig. 4E, J, K).

Conidiomata not observed.

Chemistry: no substances detected by HPTLC.

Distribution and ecology. So far with Palaeotropical distribution as known only from the Fiji Islands, characterised by foliicolous growth.

Discussion. Similarly looking species are *Bacidina mirabilis* (Vězda) Vězda (Vězda 1991: 432) and *Fellhanera parvula* (Vězda) Vězda (Vězda 1986: 214), however both species differ in various characters and combination of characters. Both species have paraplectenchymatous exciple, ascospores of similar size, but max.  $2.5 \mu\text{m}$  wide according to the original descriptions. Nevertheless, the original illustrations by Vězda (*Catillaria parvula* Vězda – Vězda 1974: 176 and *Catillaria mirabilis* Vězda – Vězda 1980: 80) at both species show some wider, shorter ascospores too, which have similar shape with those of ascospores of the here described lichen. Both species have simple (to slightly branched) paraphyses. However, at the *Fellhanera* species there is no thickening at the apex of paraphyses and they are characterised by *Byssoloma* type ascus apex (sensu Hafellner 1984) and the paraphyses at *Bacidina* are more-or-less evenly thick and has no branching, also the ascus apex is different (tholus with conical axial mass). The size of apothecia is different too, at *F. parvula* it is slightly smaller and at *B. mirabilis* slightly bigger than those of the new species. The features of thalli are not comparable due to the different photobionts. The thallus of *T. fijiensis* is violet due to the colour of the cyanobacteria and thus different from the earlier described *Bacidina simplex* f. *cyanophila* Lücking (2008a: 603) which has aeruginous thallus consisting of *Rhizonema gonicystangia* (cf. Lücking *et al.* 2009). Ascospores of the new species seldom seem to be 3-septate at lower magnification, but it is only due to a surface ornamentation. Exclusively 1-septate ascospores were found at large (100 $\times$ ) magnification. A free-living filamentous scytonematoid cyanobacterium of  $(5\text{--})7.5\text{--}8.3 \times 3.7\text{--}5 \mu\text{m}$  cells and the lichenised *Cyphellostereum* cf. *phylogenum* (containing *Rhizonema* sp.) was also present on the same leaf (cf. Lücking 2008a: 783).

Additional specimens examined. Specimens of *Bacidina mirabilis* examined. Zaïre: Haut-Zaïre: Ituri, env. de Nduye, Mont Tatotudu, au-dessus de la Plantation Biasa. Forêt primaire, foliicole, 13 Apr. 1976, leg. S. Lisowski 42710 (PRA-V, isotype). – Specimens of *Fellhanera parvula* examined. Brazil: São Paulo: between Osasco and Cabreúva, 750 m, July 1979, leg. Kalb s.n. (VBI, Vězda, Lich. Sel. Exs. 2030 p.p., as *Fellhanera/Catillaria semecarpi*). Tanzania: West Usambara Mts, E of Mgwashi village, on the slopes and top of Gonja Hill, in montane evergreen forest, 1,500–1,700 m, 7 March 1984, leg. A. Borhidi 8432/CB (VBI); SW of Ambangulu Tea Estate, on the rocky Matundsi–Mashindei ridge, in submontane rainforests, 1,200–1,400 m, 5 Febr. 1985, leg. T. Pócs 8533/AZ (VBI).

## CHECKLIST OF THE FOLIICOLOUS LICHEN SPECIES OF THE FIJI ISLANDS

Based on literature sources and collections studied so far, a checklist of 85 species currently known from the Fiji Islands is compiled.

Species new for the Fiji Islands from collections of G. Thor (1985) and S. and T. Pócs (2003) marked with an asterisk (\*). Former literature sources are given with page numbers for species mentioned earlier in publications. World distribution is established mostly on the basis of Lücking *et al.* (2000) and Lücking (2008a), if available. Collecting sites are listed shortly under specimens examined and summarised by name of the islands (Viti Levu, Taveuni, Kadavu) in annotations. Taxonomic position of the substrate plant is given, if available.

*Aderkomyces albostrigosus* (R. Sant.) Lücking, Sérus. et Vězda – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6267; Taveuni, between Wairiki and Des Voeux Peak, 16° 49.831–915' S, 179° 58.643–731' W, mossy montane rainforest with transitions to elfin forest, 715–750 m, leg. S. and T. Pócs 03289. – Pantropical. Previously known from Fiji (as *Tricharia albostrigosa* R. Sant. from Vanua Levu, leg. A. C. Smith 1934 – Santesson 1952: 388). Confirmed from Viti Levu and Taveuni.

\* *Arthonia accolens* Stirt. – Viti Levu, Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6333 (on *Cynometra insularis*, Fabaceae). – Pantropical. New for Fiji (Viti Levu).

\* *Arthonia cyanea* Müll. Arg. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6318 (on *Syngramma* sp., Hemionitidiaceae); 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6449, 6450. – Pantropical. New for Fiji (Viti Levu).

\* *Arthonia leptosperma* (Müll. Arg.) R. Sant. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6295 (on *Syngramma* sp., Hemionitidiaceae). – Pantropical, but rare outside the Neotropics. New for Fiji (Viti Levu).

\* *Arthonia trilocularis* Müll. Arg. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6233; 18° 04' S,

178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6272 (open forest near small stream), 6318 (on *Syngramma* sp., Hemionitidiaceae); Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6334; Taveuni, between Qeleni and Welagi, 16° 45.285' S, 179° 54.306' W, submontane rainforest, 500 m, leg. S. and T. Pócs 03281. – Pantropical. New for Fiji (Viti Levu and Taveuni).

\* *Aspidothelium geminiparum* (Malme) R. Sant. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6267; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6316; near Naqelewai, 17° 44.208–264' S, 178° 03.300–573' E, montane mossy (cloud) forest, 855–945 m, leg. S. and T. Pócs 03273. – Earlier it was known from tropical America only. New for Fiji (Viti Levu).

\* *Asterothyrium microsporium* R. Sant. – Viti Levu, Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6344. – Pantropical. New for Fiji (Viti Levu).

*Aulaxina opegraphina* Fée – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6318 (on *Syngramma* sp., Hemionitidiaceae); Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6334; near Naqelewai, 17° 44.208–264' S, 178° 03.300–573' E, montane mossy (cloud) forest, 855–945 m, leg. S. and T. Pócs 03273. – Pantropical. Previously known from Fiji (mentioned as previously known from Fiji, however no herbarium or literature record is given – Santesson and Tibell 1988: 533). Confirmed from Viti Levu.

\* *Bacidina scutellifera* (Vězda) Vězda – Taveuni, above Saqulu, 16° 51.295' S, 179° 59.024' E, degraded submontane rainforest, 360 m, leg. S. and T. Pócs 03290. – Pantropical. New for Fiji (Taveuni).

*Badimia elegans* (Vain.) Vězda – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6317 (on palm leaves). – Indo-Pacific. From Fiji it is only known from Viti Levu (leg. cf. Lumbsch 2008 – Lumbsch *et al.* 2011: 376). It was found on Viti Levu also by Thor.

\* *Badimia elixii* Kalb et Lumbsch – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6292, 6296, 6315 (on palm leaves), 6317 (on palm leaves), 6319, 6321 (on palm leaves). – Described from New Caledonia (in Lücking and Kalb 2001: 252). New for Fiji (Viti Levu).

\* *Badimia galbinea* (Kremp.) Vězda – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6313 (on *Diplazium* sp., Athyriaceae, on palm leaves), 6315 (on palm leaves), 6298. – Earlier known from tropical America and Asia. New for Fiji (Viti Levu).

\* *Badimia pallidula* (Kremp.) Vězda – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6244. – Pantropical. New for Fiji (Viti Levu).

\* *Badimia cf. polillensis* (Vain.) Vězda – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6316; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6449. – Pantropical. New for Fiji (Viti Levu).

\* *Bysssolecania fumosonigricans* (Müll. Arg.) R. Sant. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6292, 6321 (on palm leaves). – Pantropical. New for Fiji (Viti Levu).

*Byssoloma discordans* (Vain.) Zahlbr. – Taveuni, above Saqulu, 16° 51.295' S, 179° 59.024' E, degraded submontane rainforest, 360 m, leg. S. and T. Pócs 03290. – Pantropical. Previously known from Fiji (unknown locality, leg. B. Seemann 1860 – Santesson 1952: 488). Confirmed from Taveuni.

*Byssoloma leucoblepharum* (Nyl.) Vain. – Pantropical. Lumbsch collected in Fiji (Viti Levu, leg. Lumbsch 2008 – Lumbsch *et al.* 2011: 377).

\* *Byssoloma subdiscordans* (Nyl.) P. James – Viti Levu, Rewa district, near Suva, 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6189, 6190, 6414, 6427 (on palm leaves). – Cosmopolitan. New for Fiji (Viti Levu).

*Calenia depressa* Müll. Arg. – Pantropical. Lumbsch collected in Fiji (Taveuni and Viti Levu, leg. Lumbsch 2008 – Lumbsch *et al.* 2011: 377).

\* *Calenia graphidea* Vain. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6293 (on *Polyalthia* sp.); Taveuni, above Saqulu, 16° 51.295' S, 179° 59.024' E, degraded submontane rainforest, 360 m, leg. S. and T. Pócs 03290. – Pantropical. New for Fiji (Viti Levu and Taveuni).

\* *Calenia phyllogena* (Müll. Arg.) R. Sant. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6293 (on *Polyalthia* sp.); 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6189; Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6344. – Pantropical. New for Fiji (Viti Levu).

\* *Calenia thelotremella* Vain. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6267; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6296, 6315 (on palm leaves), 6318 (on *Syngramma* sp., Hemionitidiaceae), 6320, 6321 (on palm leaves); 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6189, 6413; Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6344; Taveuni, between Qeleni and Welagi, 16° 45.285' S, 179° 54.306' W, submontane rainforest, 500 m, leg. S. and T. Pócs 03281. – Pantropical. New for Fiji (Viti Levu and Taveuni).

\* *Calenia triseptata* Zahlbr. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6316; near Naqelewai, 17° 44.208–264' S, 178° 03.300–573' E, montane mossy (cloud) forest, 855–945 m, leg. S. and T. Pócs 03273. – Known from tropical America. New for Fiji (Viti Levu).

*Calopadia* sp. – Viti Levu, near Navai, 17° 43.503' S, 178° 02.252' E, mossy elfin forest (cloud forest), 990–1,010 m, leg. S. and T. Pócs 03274. – A young thallus insufficient for further identification. Collected on Viti Levu.

\* *Calopadia subcoerulescens* (Zahlbr.) Vězda – Taveuni, above Saqulu, 16° 51.295' S, 179° 59.024' E, degraded submontane rainforest, 360 m, leg. S. and T. Pócs 03290. – Pantropical. New for Fiji (Taveuni).

\* *Chroodiscus mirificus* (Kremp.) R. Sant. – Viti Levu, near Nausori, 17° 49.033' S, 177° 37.338–38.046' E, secondary submontane rainforest, 600–620 m, leg. S. and T. Pócs 03252. – Paleotropical. New for Fiji (Viti Levu).

\* *Coenogonium epiphyllum* Vain. – Taveuni, between Wairiki and Des Voeux Peak, 16° 49.639–758' S, 179° 58.826–943' W, montane rainforest, 600–700 m, leg. S. and T. Pócs 03288. – Known from tropical Asia. New for Fiji (Taveuni).

\* *Coenogonium subluteum* (Rehm) Kalb et Lücking – Taveuni, in the crater of the extinct Tavuyagea volcano, 16° 59.660–662' S, 179° 55.296–360' E, wet rainforest, 150–295 m, leg. S. and T. Pócs 03293. – Pantropical. New for Fiji (Taveuni).

\* *Coenogonium usambarensense* (Vězda et Farkas) Lücking et Kalb – Kadavu, near Vunisea, 19° 01.826–923' S, 178° 775–815' E, less disturbed lowland rainforest along rocky streamlet, 110–150 m, leg. S. and T. Pócs 03301. – Known from tropical Asia, Africa, Australia. New for Fiji (Kadavu).

\* *Cyphellostereum phyllogenum* (Müll. Arg.) Lücking, Dal-Forno et Lawrey (syn.: *Dictyonema phyllogenum* (Müll. Arg.) Zahlbr.) – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6314 (on *Cryptocarya* sp., Lauraceae); near Navai, 17° 43.503' S, 178° 02.252' E, mossy elfin forest (cloud forest), 990–1,010 m, leg. S. and T. Pócs 03274. – Pantropical. New for Fiji (Viti Levu).

\* *Echinoplaca diffluens* (Müll. Arg.) R. Sant. – Viti Levu, Tailevu district, near Nausori, 17° 53' S, 178° 28' E, open tropical rainforest, ca 90 m, leg. G. Thor 6355. – Pantropical. New for Fiji (Viti Levu).

*Echinoplaca epiphylla* Fée – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6267; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6318 (on *Syngramma* sp., Hemionitidiaceae); 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6424; Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6344, 6345; near Naqelewai, 17° 44.208–264' S, 178° 03.300–573' E, montane mossy (cloud) forest, 855–945 m, leg. S. and T. Pócs 03273. – Pantropical. Previously known from Fiji (Vanua Levu, leg. Smith 1934 – Santesson 1952: 375). Confirmed from Viti Levu.

\* *Echinoplaca handelii* (Zahlbr.) Lücking – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6267;

Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6345. – Pantropical. New for Fiji (Viti Levu).

*Echinoplaca pellicula* (Müll. Arg.) R. Sant. – Viti Levu, Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6354; near Navai, 17° 43.503' S, 178° 02.252' E, mossy elfin forest (cloud forest), 990–1,010 m, leg. S. and T. Pócs 03274. – Pantropical. Previously known from Fiji (Viti Levu, leg. Naumann 1875, leg. Müller Argoviensis 1883 – Santesson 1952: 369). Confirmed from Viti Levu.

\* *Eremothecella calamicola* Syd. – Viti Levu, Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6336. – Pantropical. New for Fiji (Viti Levu).

\* *Eremothecella macrocephala* (R. Sant.) Thor, Lücking et Matsumoto – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6313 (on *Diplazium* sp., Athyriaceae, on palm leaves), 6320; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6448; Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6333 (on *Cynometra insularis*, Fabaceae). – Indo-Pacific. New for Fiji (Viti Levu).

\* *Eremothecella macrosperma* (Zahlbr.) Sérus. – Taveuni, between Qeleni and Welagi, 16° 45.285' S, 179° 54.306' W, submontane rainforest, 500 m, leg. S. and T. Pócs 03281. – Earlier known from tropical Asia. New for Fiji (Taveuni).

\* *Fellhanera mastothallina* (Vain.) Lücking et Sérus. – Taveuni, above Saqu-lu, 16° 51.295' S, 179° 59.024' E, degraded submontane rainforest, 360 m, leg. S. and T. Pócs 03290. – Known from tropical Asia (Malesian). New for Fiji (Taveuni).

\* *Fellhanera substanhopeae* Lücking in Ferraro et Lücking – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6317 (on palm leaves). – Earlier known only from the Neotropics, mainly from the understory of the Amazon region rainforests. New for Fiji (Viti Levu).

*Gyalectidium filicinum* Müll. Arg. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6239, 6240, 6244, 6267; Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6334; near Navai, 17° 43.503' S, 178° 02.252' E, mossy elfin forest (cloud forest), 990–1,010 m, leg. S. and T. Pócs 03274; Taveuni, between Wairiki and Des Voeux Peak, 16° 49.639–758' S, 179° 58.826–943' W, montane rainforest, 600–700 m, leg. S. and T. Pócs 03288. – Pantropical, extending into subtropical regions. Known from Fiji (Viti Levu, leg. Lumbsch 2008 – Lumbsch *et al.* 2011: 385). Found on Viti Levu and Taveuni.

*Gyalectidium imperfectum* Vězda – Pantropical. Found on Fiji (Viti Levu, leg. Lumbsch 2008 – Lumbsch *et al.* 2011: 385).

*Gyalideopsis intermedia* Lücking – Described from the Neotropics. Collected from Fiji (Viti Levu, leg. Lumbsch 2008 – Lumbsch *et al.* 2011: 387).

\* *Gyalideopsis* cf. *parvula* Hafellner et Vězda – Taveuni, above Korovou (Bouma), 16° 49.608–620' S, 179° 52.555–850' W, very wet lowland rainforest and woody cultivation, 10–100 m, leg. S. and T. Pócs 03282. – Earlier known from tropical America (Costa Rica). New for Fiji (Taveuni).

*Gyalideopsis rubescens* Vězda – Pantropical. Previously known from Fiji (Viti Levu: leg. Degener and Degener 1968 – Lücking 2008a: 421).

\* *Lasioloma trichophorum* (Vain.) R. Sant. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6292; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6186, 6187, 6413; Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6336; near Naqelewai, 17° 44.208–264' S, 178° 03.300–573' E, montane mossy (cloud) forest, 855–945 m, leg. S. and T. Pócs 03273; near Navai, 17° 43.503' S, 178° 02.252' E, mossy elfin forest (cloud forest), 990–1,010 m, leg. S. and T. Pócs 03274. – Earlier known from tropical Asia. New for Fiji (Viti Levu).

*Loflammia epiphylla* (Fée) Lücking et Vězda – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6267; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6318 (on *Syngamma* sp., Hemionitidiaceae); 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6424; Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6333 (on *Cynometra insularis*, Fabaceae); near Naqelewai, 17° 44.190' S, 178° 04.430' E, secondary montane rainforest, 700–720 m, leg. S. and T. Pócs 03272; near Navai, 17° 43.503' S, 178° 02.252' E, mossy elfin forest (cloud forest), 990–1,010 m, leg. S. and T. Pócs 03274. – Pantropical. Previously known from Fiji (as *Lopadium flammeum* Müll. Arg. from Vanua Levu, leg. A. C. Smith 1933 – Santesson 1952: 542). Confirmed from Viti Levu.

\* *Loflammia gabrielis* (Müll. Arg.) Vězda – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6320, 6322; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6414, 6424. – Pantropical. New for Fiji (Viti Levu).

\* *Mazosia melanophthalma* (Müll. Arg.) R. Sant. – Taveuni, in the crater of the extinct Tavuyagea volcano, 16° 59.660–662' S, 179° 55.296–360' E, wet rainforest, 150–295 m, leg. S. and T. Pócs 03293. – Pantropical. New for Fiji (Taveuni).

\* *Mazosia phyllosema* (Nyl.) Zahlbr. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6234; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6322; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6412, 6449; Taveuni, above Saqulu,



16° 51.295' S, 179° 59.024' E, degraded submontane rainforest, 360 m, leg. S. and T. Pócs 03290; Kadavu, near Tavuki, 19° 03.298–366' S, E 178° 08.0.25–126' E, mesic submontane rainforest, 250–370 m, leg. S. and T. Pócs, 03306. – Pantropical. New for Fiji (Viti Levu, Taveuni and Kadavu).

\* *Mazosia rotula* (Mont.) Massal. – Viti Levu, Rewa district, near Suva, 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6412. – Pantropical. New for Fiji (Viti Levu).

\* *Mazosia tumidula* (Stirt.) Müll. Arg. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6234, 6247; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6320; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6427 (on palm leaves), 6449. – Earlier known from tropical America. New for Fiji (Viti Levu).

\* *Opegrapha* cf. *lambinonii* Sérus. – Taveuni, between Wairiki and Des Voeux Peak, 16° 49.831–915' S, 179° 58.643–731' W, mossy montane rainforest with transitions to elfin forest, 715–750 m, leg. S. and T. Pócs 03289. – Pantropical. New for Fiji (Taveuni).

*Phyllobathelium nigrum* R. Sant. et Tibell – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6244, 6247; Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6333 (on *Cynometra insularis*, Fabaceae); near Navai, 17° 43.503' S, 178° 02.252' E, mossy elfin forest (cloud forest), 990–1,010 m, leg. S. and T. Pócs 03274. – Known from tropical Asia and Australia. Previously known and described as new for science from Fiji (Taveuni, leg. A. C. Smith 1953 – Santesson and Tibell 1988: 538). Confirmed from Viti Levu.

\* *Phylloblastia taveuniensis* Farkas – New for science from Fiji (Taveuni), as it is described above.

\* *Phyllocratera papuana* Sérus. et Aptroot in Aptroot et al. – Viti Levu, Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6335. – Described from tropical Asia (Papua New Guinea – Aptroot et al. 1997: 132). New for Fiji (Viti Levu).

\* *Porina alba* (R. Sant.) Lücking (syn.: *Phyllophiale alba* R. Sant.) – Taveuni, in the crater of the extinct Tavuyagea volcano, 16° 59.660–662' S, 179° 55.296–360' E, wet rainforest, 150–295 m, leg. S. and T. Pócs 03293. – Pantropical. New for Fiji (Taveuni).

*Porina atriceps* (Vain.) Vain. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6244, 6247; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6291, 6297 (on *Diplazium* sp., Athyriaceae), 6311, 6312, 6322; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6185, 6186, 6190, 6412, 6427 (on palm leaves); Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6343; Taveuni, between Wairiki and Des Voeux Peak, 16° 49.639–758' S,

179° 58.826–943' W, montane rainforest, 600–700 m, leg. S. and T. Pócs 03288; between Wairiki and Des Voeux Peak, 16° 49.831–915' S, 179° 58.643–731' W, mossy montane rainforest with transitions to elfin forest, 715–750 m, leg. S. and T. Pócs 03289; between Salialevu and Naqarawalu, 16° 57.934–58.598' S, 179° 57.431–678' E, wet, degraded lowland rainforest and coconut plantations, 100–200 m, leg. S. and T. Pócs 03296; Kadavu, near Tavuki, 19° 03.298–366' S, 178° 08.025–126' E, mesic submontane rainforest, 250–370 m, leg. S. and T. Pócs, 03306; 19° 04.097–101' S, 178° 07.980–08.249' E, dry evergreen microphyllous forest, 150–175 m, leg. S. and T. Pócs 03309. – Pantropical. Previously known from Fiji (Viti Levu, leg. Degener and Degener 1986 – Lücking and Vězda 1998: 192). Confirmed from Viti Levu, Taveuni and Kadavu.

\* *Porina conica* R. Sant. – Taveuni, above Korovou (Bouma), 16° 49.608–620' S, 179° 52.555–850' W, very wet lowland rainforest and woody cultivation, 10–100 m, leg. S. and T. Pócs 03282; between Wairiki and Des Voeux Peak, 16° 49.639–758' S, 179° 58.826–943' W, montane rainforest, 600–700 m, leg. S. and T. Pócs 03288; between Wairiki and Des Voeux Peak, 16° 49.831–915' S, 179° 58.643–731' W, mossy montane rainforest with transitions to elfin forest, 715–750 m, leg. S. and T. Pócs 03289. – Previously known from tropical Africa, Asia and Australia. New for Fiji (Taveuni).

\* *Porina kadavuensis* Farkas – New for science from Fiji (Kadavu), as it is described above.

\* *Porina leptosperma* Müll. Arg. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6247; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6311, 6318 (on *Syngramma* sp., Hemionitidiaceae); 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6188, 6412. – Pantropical. New for Fiji (Viti Levu).

\* *Porina limbulata* (Kremp.) Vain. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6311; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6414; Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6336; Taveuni, between Qeleni and Welagi, 16° 45.285' S, 179° 54.306' W, submontane rainforest, 500 m, leg. S. and T. Pócs 03281; between Wairiki and Des Voeux Peak, 16° 49.639–758' S, 179° 58.826–943' W, montane rainforest, 600–700 m, leg. S. and T. Pócs 03288; 16° 49.831–915' S, 179° 58.643–731' W, mossy montane rainforest with transitions to elfin forest, 715–750 m, leg. S. and T. Pócs 03289. – Pantropical. New for Fiji (Viti Levu and Taveuni).

\* *Porina monocarpa* (Kremp.) F. Schill. – Viti Levu, Tailevu district, near Nausori, 17° 53' S, 178° 28' E, open tropical rainforest, ca 90 m, leg. G. Thor 6355. – Previously known from tropical Asia. New for Fiji (Viti Levu).

\* *Porina palmicola* Malcolm et Vězda – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6320; Nandron-

ga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6336; Taveuni, between Qeleni and Welagi, 16° 45.285' S, 179° 54.306' W, submontane rainforest, 500 m, leg. S. and T. Pócs 03281; above Korovou (Bouma), 16° 49.608–620' S, 179° 52.555–850' W, very wet lowland rainforest and woody cultivation, 10–100 m, leg. S. and T. Pócs 03282; between Wairiki and Des Voeux Peak, 16° 49.639–758' S, 179° 58.826–943' W, montane rainforest, 600–700 m, leg. S. and T. Pócs 03288; between Salialevu and Naqarawalu, 16° 57.934–58.598' S, 179° 57.431–678' E, wet, degraded lowland rainforest and coconut plantations, 100–200 m, leg. S. and T. Pócs 03296. – Previously known from tropical Asia (New Zealand). New for Fiji (Viti Levu and Taveuni).

\* *Porina semecarpi* Vain. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6240; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6322; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6412. – Previously known from tropical Africa, Asia and Australia. New for Fiji (Viti Levu).

\* *Porina vanuatuensis* Lücking – Viti Levu, Rewa district, near Suva, 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6188, 6414. – Eastern palaeotropical. New for Fiji (Viti Levu).

\* *Puiggariella nemathora* (Mont.) S. H. Jiang, Lücking et J. C. Wei (syn.: *Strigula nemathora* Mont.) – Viti Levu, Rewa district, near Suva, 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6415. – Pantropical. New for Fiji (Viti Levu).

*Racoplaca maculata* (Cooke et Masee) S. H. Jiang, Lücking et J. C. Wei (syn.: *Strigula maculata* (Cooke et Masee) R. Sant.) – Viti Levu, near Navai, 17° 43.503' S, 178° 02.252' E, mossy elfin forest (cloud forest), 990–1,010 m, leg. S. and T. Pócs 03274; Taveuni, between Wairiki and Des Voeux Peak, 16° 49.831–915' S, 179° 58.643–731' W, mossy montane rainforest with transitions to elfin forest, 715–750 m, leg. S. and T. Pócs 03289; near Navaka-Wau, 17° 00.151' S, 179° 55.926' E, *Barringtonia asiatica* dominated coastal forest, 8 m, leg. S. and T. Pócs 03295. – Pantropical. Known from Fiji (Viti Levu, leg. Lumbsch 2008 – Lumbsch *et al.* 2011: 395). Found on Viti Levu and Taveuni.

*Racoplaca subtilissima* Fée (syn.: *Strigula subtilissima* (Fée) Müll. Arg.) – Viti Levu, Rewa district, near Suva, 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6412, 6415. – Pantropical. Known from Fiji (Viti Levu, leg. Lumbsch 2008 – Lumbsch *et al.* 2011: 397). Found on Viti Levu.

\* *Racoplaca tremens* (Müll. Arg.) S. H. Jiang, Lücking et J. C. Wei (syn.: *Strigula tremens* Müll. Arg.) – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6291; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6411, 6412. – Previously known from tropical America (Brazil) and perhaps also from New Zealand (*cf.* Lücking 2008a: 244). New for Fiji (Viti Levu).

\* *Sporopodium flavescens* (R. Sant.) Vězda – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6317 (on palm leaves). – Indo-Pacific. New for Fiji (Viti Levu).

\* *Sporopodium leprieurii* Mont. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6291, 6296, 6315 (on palm leaves); 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6185, 6187, 6423 (on palm leaves); Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6344; Taveuni, in the crater of the extinct Tavuyagea volcano, 16° 59.660–662' S, 179° 55.296–360' E, wet rainforest, 150–295 m, leg. S. and T. Pócs 03293. – Pantropical. New for Fiji (Viti Levu and Taveuni).

\* *Sporopodium phyllocharis* (Mont.) Massal – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6274, 6318 (on *Syngramma* sp., Hemionitidiaceae); 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6411, 6414, 6424. – Pantropical. New for Fiji (Viti Levu).

\* *Sporopodium* cf. *subflavescens* Lücking – Viti Levu, Rewa district, near Suva, 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6447. – Amphipacific. New for Fiji (Viti Levu).

\* *Strigula concreta* (Fée) R. Sant. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6291; Taveuni, in the crater of the extinct Tavuyagea volcano, 16° 59.660–662' S, 179° 55.296–360' E, wet rainforest, 150–295 m, leg. S. and T. Pócs 03293. – Pantropical. New for Fiji (Viti Levu and Taveuni).

\* *Strigula janeirensis* (Müll. Arg.) Lücking – Taveuni, near Navaka-Wau, 17° 00.151' S, 179° 55.926' E, *Barringtonia asiatica* dominated coastal forest, 8 m, leg. S. and T. Pócs 03295. – Pantropical. New for Fiji (Taveuni).

\* *Strigula multipunctata* (G. Merr. ex R. Sant.) R. C. Harris – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6294 (on *Syzygium* sp., Myrtaceae); Kadavu, near Tavuki, 19° 04.097–101' S, 178° 07.980–08.249' E, dry evergreen microphyllous forest, 150–175 m, leg. S. and T. Pócs 03309. – Pantropical. New for Fiji (Viti Levu and Kadavu).

\* *Strigula nitidula* Mont. – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6247; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6188. – Pantropical. New for Fiji (Viti Levu).

\* *Strigula phyllogena* (Müll. Arg.) R. C. Harris – Taveuni, between Qeleni and Welagi, 16° 45.285' S, 179° 54.306' W, submontane rainforest, 500 m, leg. S. and T. Pócs 03281. – Pantropical. New for Fiji (Taveuni).

\* *Strigula smaragdula* Fr. – Viti Levu, Rewa district, near Suva, 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6291; 18° 02' S, 178° 28' E, tropical rainforest, 150–300 m, leg. G. Thor 6415. – Pantropical. New for Fiji (Viti Levu).

\* *Tamasia fijiensis* Farkas – New for science from Fiji (Viti Levu), as it is described above.

\* *Tapellaria nigrata* (Müll. Arg.) R. Sant. – Viti Levu, Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6344. – Pantropical. New for Fiji (Viti Levu).

\* *Tricharia* cf. *triseptata* R. Sant. – Viti Levu, Nandronga district, near Singatoka, 18° 04' S, 177° 41' E, open tropical rainforest, ca 450 m, leg. G. Thor 6345. – Previously known from tropical America and Africa. New for Fiji (Viti Levu).

\* *Trichothelium africanum* Lücking – Taveuni, between Wairiki and Des Voeux Peak, 16° 49.831–915' S, 179° 58.643–731' W, mossy montane rainforest with transitions to elfin forest, 715–750 m, leg. S. and T. Pócs 03289. – Pantropical, but most common from tropical Africa. New for Fiji (Taveuni).

\* *Trichothelium assurgens* (Cooke) Aptroot et Lücking – Viti Levu, Rewa district, near Suva, 18° 05' S, 178° 23' E, tropical rainforest, 150–400 m, leg. G. Thor 6233, 6239, 6240; 18° 04' S, 178° 28' E, tropical rainforest, 75–150 m, leg. G. Thor 6292, 6296; Taveuni, between Salialevu and Naqarawalu, 16° 57.934–58.598' S, 179° 57.431–678' E, wet, degraded lowland rainforest and coconut plantations, 100–200 m, leg. S. and T. Pócs 03296. – Previously known from tropical Asia and Australia (cf. Lücking 2008a: 346). New for Fiji (Viti Levu and Taveuni).

\* *Trichothelium intermedium* Herrera-Campos et Lücking – Taveuni, between Wairiki and Des Voeux Peak, 16° 49.639–758' S, 179° 58.826–943' W, montane rainforest, 600–700 m, leg. S. and T. Pócs 03288. – Earlier known only from tropical America (Mexico). New for Fiji (Taveuni).

## DISCUSSION

Nine species of foliicolous lichens have been known from the Fiji Islands since 1860 until the beginning of this century (Santesson 1952, Santesson and Tibell 1988). Then, according to the poster presentation by Farkas (2008) 70 species were new for the foliicolous lichen flora of the Islands. It was followed by the monograph of Lücking (2008a) mentioning one additional species and a paper of Lumbsch *et al.* (2011), which contained 8 foliicolous lichen species from their own collections. Four of those were overlapping with the species listed on the poster and 4 were newly reported. Since the published abstract of the poster did not contain the list of species, the results had to be re-evaluated according to the subsequent publications.

Altogether, 18 species of foliicolous lichens have been mentioned in various literature sources (Santesson 1952, Santesson and Tibell 1988, Lücking 2008a, Lumbsch *et al.* 2011) prior to this current publication. *Byssoloma discordans* (Vain.) Zahlbr. was the first lichen originated from the Fiji Islands (un-

known locality) collected by B. Seemann in 1860 (Santesson 1952: 488). Data of further species were also published by Santesson and others, listed alphabetically: *Aderkomyces albostrigosus* (R. Sant.) Lücking, Sérus. et Vězda, *Anisomeridium foliicola* R. Sant. et Tibell, *Aulaxina opegraphina* Fée, *Badimia elegans* (Vain.) Vězda, *Byssoloma leucoblepharum* Nyl. Vain, *Calenia depressa* Müll. Arg., *Echinoplaca epiphylla* Fée, *E. pellicula* (Müll. Arg.) R. Sant., *Gyalectidium filicinum* Müll. Arg., *G. imperfectum* Vězda, *Gyalideopsis intermedia* Lücking, *G. rubescens* Vězda, *Loflammia epiphylla* (Fée) Lücking et Vězda, *Phyllobathelium nigrum* R. Sant. et Tibell, *Porina atriceps* (Vain.) Vain., *Racoplaca maculata* (Cooke et Masee) S. H. Jiang, Lücking et J. C. Wei (syn.: *Strigula maculata* (Cooke et Masee) R. Sant. and *R. subtilissima* Fée (syn.: *S. subtilissima* (Fée) Müll. Arg.)).

The identification of two further collections resulted in a considerable increase in our knowledge on the foliicolous lichen flora of the Fiji Islands which is now holding 85 species including 67 species new for the area. The most interesting records belong to three groups: 1) species with wider (pan-tropical, palaeotropical) distribution, e.g., *Arthonia cyanea*, *Calenia thelotremella*, *Coenogonium subluteum*, *Eremothecella macrocephala*, *Mazosia phyllosema*, *Tapellaria nigrata*; 2) rare species described from other areas, e.g. *Aspidothelium geminiparum* (from Paraguay), *Badimia elixii* (from New Caledonia), *Coenogonium usambarensis* (from Tanzania), *Fellhanera mastothallina* (from the Philippines), *Mazosia tumidula* (from Brazil), *Phyllocratera papuana* (from Papua New Guinea), *Racoplaca tremens*, syn.: *Strigula tremens* (from Brazil); 3) *Phylloblastia taveuniensis*, *Porina kadavuensis* and the cyanobacterial genus *Tamasia* and *Tamasia fijiensis* are described as new for science.

Though the knowledge on the foliicolous lichen flora of the Fiji Islands increased considerably due to these collections, further species are expected to be described in the future. Some lichens were impossible to be identified due to the amount occurred in the collections studied here. A more detailed systematic investigation is necessary to reveal the entire number of foliicolous lichen species living on the islands of Fiji. For a comparison of its foliicolous lichen biota, data from the neighbouring major lichenogeographical regions can be considered. The larger Malesian region holds 290 foliicolous lichen species, the also larger Polynesian region is characterised by only 36 species, while the smaller Neocaledonian region is richer (111) in species (cf. Lücking 2003 and Fig. 42 in Lücking 2008a). A further biogeographical assessment of the species known from Fiji is necessary in a following compilation.

\*

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## REFERENCES

- Aptroot, A., Diederich, P., Sérusiaux, E. and Sipman, H. J. M. (1997): Lichens and lichenicolous fungi from New Guinea. – *Bibl. Lichenol.* **64**: 1–220.
- Arup, U., Ekman, S., Lindblom, L. and Mattsson, J. (1993): High performance thin layer chromatography (HPTLC), an improved technique for screening lichen substances. – *Lichenologist* **25**: 61–71. <https://doi.org/10.1006/lich.1993.1018>
- Elix, J. A. and McCarthy, P. M. (1998): Catalogue of the lichens of the Smaller Pacific Islands. – *Bibl. Lichenol.* **70**: 1–361.
- Elix, J. A. and McCarthy, P. M. (2008): *Checklist of Pacific Island Lichens*. – Australian Biological Resources Study, Canberra. Version 21 August 2008. [http://www.anbg.gov.au/abrs/lichenlist/PACIFIC\\_introduction.html](http://www.anbg.gov.au/abrs/lichenlist/PACIFIC_introduction.html)
- Farkas, E. (2008): *Contributions to the foliicolous lichen flora of the Fiji Islands*. – In: “Biology of lichens and bryophytes”. The 6th IAL Symposium and Annual ABLs Meeting, Asilomar, USA, 13–19 July 200, p. 17.
- Hafellner, J. (1984): Studien in Richtung einer naturlicheren Gliederung der Sammelfamilien Lecanoraceae und Lecideaceae. – *Beih. Nova Hedwigia* **79**: 241–371.
- Jaklitsch, W., Baral, H.-O., Lücking, R., Lumbsch, H. T. and Frey, W. (2016): *Syllabus of plant families – A. Engler’s Syllabus der Pflanzenfamilien, 13th ed., Part 1/2 Ascomycota*. – Gebrüder Borntraeger Verlagsbuchhandlung, Stuttgart, 322 pp.
- Kalb, K. and Vězda, A. (1988): Neue oder bemerkenswerte Arten der Flechtenfamilie Gomphillaceae in der Neotropis. – *Bibl. Lichenol.* **29**: 1–80.
- Konrat, M., Naikatini, A., Tuiwawa, M., Söderström, L., Fife, A., Renner, M., Brownsey, P., Perrie, L., Hagborg, A., Pócs, T., Lumbsch, H. T., Braggins, J., Séneca, A. and Brown, E. (2011): A brief history of the cryptogams of Fiji and prospects for the future. – *Telopea* **13**: 361–374. <https://doi.org/10.7751/telopea20116028>
- Lumbsch, H. T., Papong, K. and Naikatini, A. (2009): A new terricolous species of Gyalidea (Gomphillaceae, Ascomycota) from Fiji. – *Nova Hedwigia* **88**: 111–116. <https://doi.org/10.1127/0029-5035/2009/0088-0111>
- Lumbsch, H. T., Lücking, R., Divakar, P., Konrat, M. and Naikatini, A. (2011): New records of lichen-forming fungi from Fiji. – *Telopea* **13**: 375–404. <https://doi.org/10.7751/telopea20116029>
- Lücking, R. (1992): Foliicolous lichens – A contribution to the knowledge of the lichen flora of Costa Rica, Central America. – *Beih. Nova Hedwigia* **104**: 1–179.
- Lücking, R. (1997a): Additions and corrections to the knowledge of the foliicolous lichen flora of Costa Rica. The family Gomphillaceae. – *Bibl. Lichenol.* **65**: 1–109.
- Lücking, R. (1997b): Additions and corrections to the knowledge of the foliicolous lichen flora of Costa Rica. The genus *Fellhanera*, with notes on *Bacidia pauciseptata*. – *Trop. Bryol.* **13**: 141–173.

- Lücking, R. (1997c): The use of foliicolous lichens as bioindicators. – *Abstracta Bot.* **21**: 99–116.
- Lücking, R. (1998): Additions and corrections to the knowledge of the foliicolous lichen flora of Costa Rica. The genus *Trichothelium* (lichenized Ascomycetes: Trichotheliaceae). – *Nova Hedwigia* **66**: 375–417. <https://doi.org/10.1127/nova.hedwigia/66/1998/375>
- Lücking, R. (2003): Takhtajan's floristic regions and foliicolous lichen biogeography: a compatibility analysis. – *Lichenologist* **35**: 33–54. <https://doi.org/10.1006/lich.2002.0430>
- Lücking, R. (2004): A revised key to foliicolous Porinaceae (Ascomycota: Trichotheliales). – *Bibl. Lichenol.* **88**: 409–426.
- Lücking, R. (2008a): Foliiicolous lichenized fungi. – *Flora Neotrop. Monogr.* **103**: 1–867.
- Lücking, R. (2008b): Foliiicolous lichens as model organisms to study tropical rainforest ecology: background, data, and protocols. Foliiikole Flechten als Modellorganismen für das Studium der ökologie tropischer Regenwälder: Hintergrund, Daten, und Protokolle. – *Sauteria* **15**: 335–362.
- Lücking, R. and Kalb, K. (2000): Foliiikole Flechten aus Brasilien (vornehmlich Amazonien), inklusive einer Checkliste und Bemerkungen zu *Coenogonium* und *Dimerella* (Gyalectaceae). [Foliicolous lichens from Brazil (mainly Amazonia), including a checklist and notes on *Coenogonium* and *Dimerella* (Gyalectaceae)]. – *Bot. Jahrb. Syst., Pflanzenz. Pflanzengeogr.* **122**: 1–61.
- Lücking, R. and Kalb, K. (2001): New Caledonia, foliicolous lichens and island biogeography. – *Bibl. Lichenol.* **78**: 247–273.
- Lücking, R. and Martínez Colín, P. (2004): *Rapid lichen guides: Foliiicolous lichens of the world*. – The Field Museum, Chicago.
- Lücking, R. and Santesson, R. (2001): New species or interesting records of foliicolous lichens. VIII. Two new taxa from tropical Africa, with a key to sorediate *Fellhanera* species. – *Lichenologist* **33**: 111–116. <https://doi.org/10.1006/lich.2001.0312>
- Lücking, R. and Vězda, A. (1998): Taxonomic studies in foliicolous species of the genus *Porina* (lichenized Ascomycotina: Trichotheliaceae) II. The *Porina* epiphylla group. – *Willdenowia* **28**: 181–225. <https://doi.org/10.3372/wi.28.2818>
- Lücking, R., Lumbsch, H. T. and Elix, J. A. (1994): Chemistry, anatomy and morphology of foliicolous species of *Fellhanera* and *Badimia* (lichenized Ascomycotina: Lecanorales). – *Bot. Acta* **107**: 393–401. <https://doi.org/10.1111/j.1438-8677.1994.tb00813.x>
- Lücking, R., Streimann, H. and Elix, J. A. (2001a): Further records of foliicolous lichens and lichenicolous fungi from Australasia, with an updated checklist for continental Australia. – *Lichenologist* **33**: 195–210. <https://doi.org/10.1006/lich.2000.0316>
- Lücking, R., Cáceres, M. E. S., Kalb, K. and Sérusiaux, E. (2001b): Studies in *Bacidia* sensu lato (lichenized Ascomycetes: Lecanorales). II. Six new combinations in *Fellhanera* Vězda. – *Lichenologist* **33**: 189–194. <https://doi.org/10.1006/lich.2000.0318>
- Lücking, R., Farkas, E., Sérusiaux, E. and Sipman, H. J. M. (2000): *Checklist of foliicolous lichens and their lichenicolous fungi*. Version 31 October 2000. – <http://www.old.uni-bayreuth.de/departments/planta2/ass/robert/lichens/checkfol.html>
- Lücking, R., Lawrey, J. D., Sikaroodi, M., Gillevet, P. M., Chaves, J. L., Sipman, H. J. M. and Bungartz, F. (2009): Do lichens domesticate photobionts like farmers domesticate crops? Evidence from a previously unrecognized lineage of filamentous cyanobacteria. – *Amer. J. Bot.* **96**: 1409–1418. <https://doi.org/10.3732/ajb.0800258>
- Makhija, U., Adawadkar, B. and Patwardhan, P. G. (1994): The lichen genus *Porina* (family Trichotheliaceae) from India. – *J. Econ. Taxon. Bot.* **18**: 521–45.



- Mittelmeier, R. A., Robles, G. P., Hoffman, M., Pilgrim, J., Brooks, T., Goettsch, C., Mittelmeier, J. L. and Da Fonseca, G. A. B. (2005): *Hotspots revisited: Earth's biologically richest and most threatened terrestrial ecoregions*. – Conservation International, Chicago.
- Santesson, R. (1952): Foliicolous lichens I. A revision of the taxonomy of the obligately foliicolous, lichenized fungi. – *Symb. Bot. Upsal.* **12**: 1–590.
- Santesson, R. and Tibell, L. (1988): Foliicolous lichens from Australia. – *Austrobaileya* **2**: 529–545.
- Thor, G., Lücking, R. and Matsumoto, T. (2000): The foliicolous lichens of Japan. – *Symb. Bot. Upsal.* **32**: 1–72.
- Vězda, A. (1974): Foliicole Flechten aus der Republik Guinea (W-Afrika). II. – *Acta Musei Silesiae, Opava, Ser. A* **23**: 173–190. <https://doi.org/10.1007/bf02874232>
- Vězda, A. (1980): Foliicole Flechten aus Zaïre. Die Arten der Sammelgattungen Catillaria und Bacidia. – *Folia Geobot. Phytotax.*, Praha **15**: 75–94. <https://doi.org/10.1007/bf02853141>
- Vězda, A. (1986): Neue Gattungen der Familie Lecideaceae s. lat. (Lichenes). – *Folia Geobot. Phytotax.*, Praha **21**: 199–219. <https://doi.org/10.1007/bf02854668>
- Vězda, A. (1991): Bacidina genus novum familiae Lecideaceae s. lat. (Ascomycetes lichensati). – *Folia Geobot. Phytotax.*, Praha **25**: 431–432. <https://doi.org/10.1007/bf02914011>
- Vězda, A. and Farkas, E. (1988): Neue foliicole Arten der Flechtengattung Dimerella Trevisan (Gyalectaceae) aus Tansania. – *Folia Geobot. Phytotax.*, Praha **23**: 187–197. <https://doi.org/10.1007/bf02853348>

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