

LETROUTITIA

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Letrouitia Hafellner & Bellem., *Nova Hedwigia* 35: 281 (1982); named after the French lichenologist, Marie-Agnes Letrouit-Galinou (b. 1931).

Type: *L. domingensis* (Pers.) Hafellner & Bellem.

Thallus crustose, superficial, spreading, thin and smooth to verrucose, pale yellow, olive-grey, greenish yellow to orange-yellow, corticate; K+ purple or blue-violet (anthraquinones); isidia and/or soredia present or absent. Photobiont a unicellular green alga. Ascomata apothecia, biatorine, sessile, commonly basally constricted, ±round, plane to slightly concave or convex; disc yellow-orange, dark orange, red-brown to blackberry-red or black; thalline exciple concolorous with the thallus, usually reduced or absent; proper exciple usually prominent, entire, often paler than the disc, composed of agglutinated thick-walled radially orientated hyphae; exciple and disc usually encrusted with orange anthraquinone crystals, crystals on the disc becoming eroded or not, K+ purple or blue-violet. Epihymenium yellow-orange to orange-brown, with orange-red to brownish crystals, K+ purple or blue-violet; hymenium colourless, clear or interspersed with oil droplets, 60–150 µm tall; hypothecium colourless or yellow or pale brown, 25–65 µm tall. Asci broadly clavate, of the *Letrouitia*-type, with a thick diffuse intensely amyloid layer on the outer side of the apical cap which includes the outer ascus wall layer and masks the internal apical apparatus. Paraphyses thin, septate, rarely branched or anastomosing, 1.5–2.0 µm wide, not or only slightly thickened at the apex. Ascospores 1–8 per ascus, colourless, narrowly ellipsoidal to ellipsoidal, transversely septate, with lens-shaped locules and no vertical septa, or transversely or spirally septate and becoming submuriform with a few vertical septa, or densely muriform, 20–60 × 8–22 µm, the external ascospore wall thicker than the septa, without a prominent endospore. Conidiomata present or absent, pycnidial, immersed; conidiogenous cells intercalary and terminal; conidiophores intermediate between types VII and VIII (*sensu* G.Vobis, *Biblioth. Lichenol.* 14: 1–141, 1980). Conidia short-bacilliform, c. 3 × 1 µm.

Letrouitia is a genus of 20 species, and 14 occur in Australia. It is found in tropical to warm-temperate areas, growing on bark, and very rarely on decorticated wood and rock.

J.Hafellner & A.Bellemère, Elektronenoptische Untersuchungen an Arten der Flechtengattung *Letrouitia* gen. nov., *Nova Hedwigia* 35: 263–312 (1982); J.Hafellner, Monographie der Flechtengattung *Letrouitia* (Lecanorales, Teloschistineae), *Nova Hedwigia* 35: 645–729 (1983); D.D.Awasthi & P.Srivastava, Lichen genera *Brigantiaea* and *Letrouitia* from India, *Proc. Indian Acad. Sci. (Plant Sci.)* 99: 165–177 (1989); S.Johansson, U.Søchting, J.A.Elix & J.H.Wardlaw, Chemical variation in the lichen genus *Letrouitia* (Ascomycota, Letrouitiaceae), *Mycol. Progr.* 4: 139–148 (2005); J.A.Elix, Further new crustose lichens (Ascomycota) from Australia, *Australas. Lichenol.* 61: 21–25 (2007); J.A.Elix & S.Y.Kondryatuk, Two new species of *Letrouitia* (Letrouitiaceae: Ascomycota) from Australia, *Australas. Lichenol.* 62: 16–19 (2008).

1	Thallus sorediate and/or isidiate.....	2
1:	Thallus lacking soredia and isidia	6
2	Thallus with soredia and ±pseudoisidia; true isidia absent (1)	4. L. coralloidea
2:	Thallus isidiate; soralia present or absent	3
3	Isidia wart-like, erumpent or flattened; soralia absent (2:)	4
3:	Isidia cylindrical, finger-like or coralloid; soralia present or absent	5
4	Isidia wart-like, erumpent; asci (2–) 4 (–8) spored; ascospores transversely septate, 18–30 × 8–13 µm (3)	8. L. leprolyta
4:	Isidia ±flattened; asci 1- or 2-spored; ascospores submuriform, 36–42 × 15–20 µm	3. L. corallina

5	Soralia present; asci 8-spored; ascospores $25-37 \times 9-15 \mu\text{m}$ (3:)	7. L. hafellneri
5:	Soralia absent; asci (4-) 6-8-spored; ascospores $17-31 \times 8-14 \mu\text{m}$	9. L. leprolytoides
6	Asci 6-8-spored (I:)	7
6:	Asci 2-4-spored	11
7	Ascospores transversely septate, with ovoid to lens-shaped locules, lacking vertical septa (6)	8
7:	Ascospores transversely or spirally septate; locules becoming submuriform, some with 1-4 vertical septa	10
8	Ascospores 5-6 μm wide; locules ovoid to lens-shaped; dibenzofurans absent (7)	1. L. aureola
8:	Ascospores 8-16 μm wide; locules lens-shaped; dibenzofurans present or absent	9
9	Ascospores with 6-8 locules, $17-29 \times 8-11 \mu\text{m}$; dibenzofurans present (8:)	6. L. flavocrocea
9:	Ascospores with 6-10 locules, $25-48 \times 8-16 \mu\text{m}$; dibenzofurans absent	5. L. domingensis
10	Ascospores transversely septate, with 8-12 primary locules, $27-50 \times 11-18 \mu\text{m}$ (7:)	13. L. transgressa
10:	Ascospores spirally septate, with 6-8 primary locules, $25-35 \times 12-18 \mu\text{m}$	11. L. parabola
11	Ascospores densely muriform (6:)	12
11:	Ascospores basically transversely or spirally septate, submuriform, with 1-4 vertical septa in most locules	13
12	Apothecia uniformly dark rust-red to blackberry-red, K+ blue to blue-violet; dibenzofurans absent (11)	12. L. sayeri
12:	Apothecia uniformly red-orange to orange, or the disc becoming brown, K+ purple; dibenzofurans present	14. L. vulpina
13	Ascospores spirally septate (11:)	14
13:	Ascospores transversely septate	15
14	Asci usually 2-spored, rarely 3- or 4-spored; ascospores $32-49 \times 14-21 \mu\text{m}$ (13)	2. L. bifera
14:	Asci (4-) 6-8-spored; ascospores $25-35 \times 12-18 \mu\text{m}$	11. L. parabola
15	Asci 2-4-spored; ascospores $35-70 \times 15-22 \mu\text{m}$ (13:)	10. L. muralis
15:	Asci (4-) 6-8-spored; ascospores $25-60 \times 11-20 \mu\text{m}$	13. L. transgressa