

KEY TO THE SPECIES OF *BIONECTRIA*

1. Ascospores more than 15 μm long, warted 2
1. Ascospores generally less than 15 μm long, smooth, warted or spinulose 3
2. On living leaves, possibly associated with stromatic fungi; ascomata with warts up to 50 μm high; ascospores 19.5–24.5 \times 5.5–6.5 μm *B. tonduzii*
2. On decaying bark or wood; ascomata smooth; ascospores 16–33 \times 4.5–9.5 μm *B. apocyni*
3. Ascomata orange with conspicuous white warts; ascospores ellipsoid, (10–)11–14(–16) \times 4–5(–6) μm , smooth or spinulose *B. byssicola*
3. Ascomata orange to brown, smooth to slightly scaly or covered with a thin layer of hyphae 4
4. Ascomata smooth; ascospores 8.5–15 \times 2.5–5 μm , spinulose or warted *B. aureofulva*
4. Ascomata slightly scaly or covered with a thin layer of hyphae; ascospores 7.5–14.5 \times 2.5–4.5 μm , slightly spinulose *B. ochroleuca*

BRYONECTRIA Döbbeler, Nova Hedwigia 66: 334. 1998.

Type: *B. hylocomii* (Döbbeler) Döbbeler (\equiv *Nectria hylocomii* Döbbeler, Mitt. Bot. Staatssamml. München 14: 78. 1978).

Ascomata superficial, with hyphae penetrating the host cells, solitary or rarely aggregated, non-stromatic, globose to obpyriform, 80–200 μm diam, hyaline to white, not changing color in KOH or lactic acid or rarely reacting. Smooth or with short setae. Ascomatal wall of thick-walled cells. Asci ellipsoid to cylindrical, with or without an apical ring. Ascospores ellipsoid, 1- or 2-septate, hyaline, often with a guttule in each cell. Anamorph unknown. Parasitic on liverworts and mosses.

NOTES.—*Bryonectria* was described to accommodate six species of hypocrealean fungi that occur on foliose liverworts and mosses.

CLIBANITES P. Karst., Bidrag Kännedom Finlands Natur Folk 19: 14. 1871.

\equiv *Peziza* sect. *Clibanites* P. Karst., Monogr. Peziz. Fenn. p. 155. 1869. — Type: *C. paradoxa* (P. Karst.) P. Karst. (\equiv *Peziza paradoxa* P. Karst.).

Stroma of intertwined hyphae in the middle and at the base, with highly compacted hyphae near the surface, ascomata immersed in a stroma, loosely united in groups up to ten. Ascomata globose, dark yellow, non-papillate, apex not differentiated, ostiolar canal periphysate, not collapsed upon drying. Ascomatal wall ca 10 μm thick, of several layers of small, flattened cells. Asci subcylindrical, apex broad, blunt, with a ring, as-

cospores biserial. Ascospores narrowly cylindrical, equally 2-celled, not constricted, hyaline, smooth. Anamorph unknown. On well-rotted wood of *Quercus*. NOTES.—*Clibanites* is a unispecific genus originally described by Karsten as a discomycete. An examination of the type specimen reveals that, based on the small, thin-walled, pallid ascomata and non-disarticulating ascospores, *C. paradoxa* is similar to *Nectriopsis* in the *Bionectriaceae*. It differs from *Nectriopsis* in having relatively thick-walled ascomata loosely united in a common stroma and in the non-fungicolous habit.

Clibanites paradoxa P. Karst., Bidrag Kännedom Finlands Natur Folk 19: 14. 1871. — Plate 1, g–i, Plate 2, a.

\equiv *Peziza paradoxa* P. Karst., Monogr. Peziz. Fenn. p. 155. 1869.

Stroma superficial on decorticated wood, evident as pallid scurf, dissected and squamose (possibly as an artifact of drying), entire stromal aggregate easy to remove; ascomata loosely united into groups of up to 10, immersed in a stroma, adjacent ascomata evident as slightly tuberculate, ostiolate areas, ascomata joined by a subiculum of smooth-walled, 2–3 μm wide, branched, septate hyphae with few free ends, thin-walled, hyaline in transmitted light. Stroma 25–30 μm thick, surface consisting of highly compacted, ca 3 μm wide hyphae; internally hyphae more loosely disposed. Ostioles visible as viscid dots against the dull background of the ascomatal wall. Ascomata globose, ca 100–160 μm diam, pale yellow, KOH–, non-papillate, not collapsed on drying, ostiolar canal periphysate. Ascomatal wall ca 10 μm thick, of one region of small,

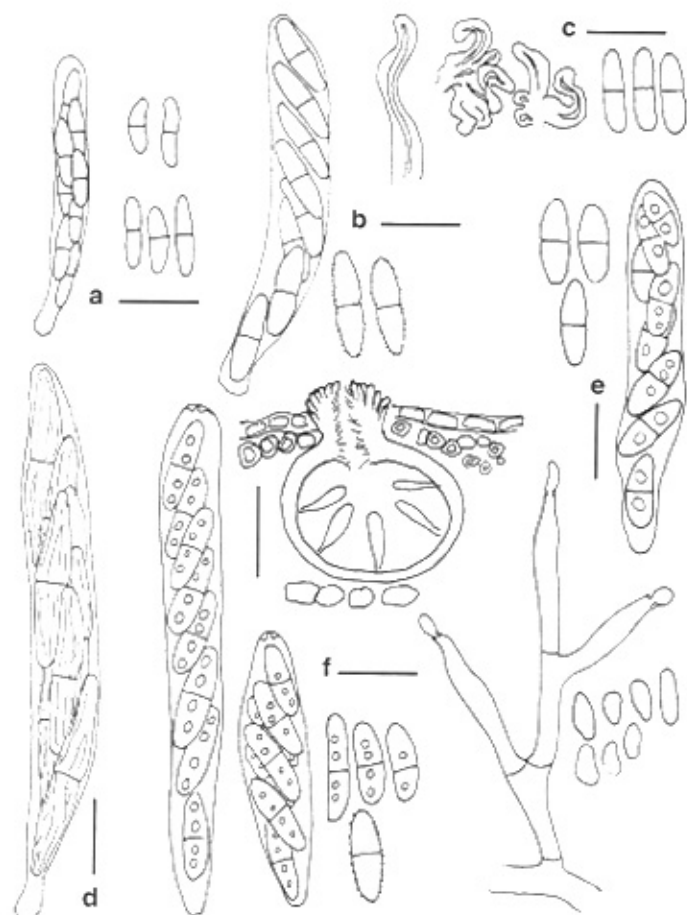


Plate 2. a. *Clibanites paradoxa*, asci and ascospores. b. *Hydrosphaera rufofusca*, ascus and ascospores. c. *Ijuhya aquifolii*, ascomata hairs and ascospores. d. *Ijuhya chilensis*, ascus. e. *Lasioneectria mantuana*, asci and ascospores. f. *Nectriella minuta*, median section of ascoma, asci, ascospores, conidiophores and conidia. a. Holotype - H. b. Holotype of *Nectriella rufofusca* - PAD. c. Lectotype of *Peziza aquifolii* - BPI 1113199. d. Holotype of *Lepidoneectria chilensis* - LPS. e. Holotype - PAD. f. Holotype - NY. Scale bars: a-f = 10 μ m, except upper figure in f = 100 μ m.

flattened cells. Asci subcylindrical, 25–30 \times 4–5 μ m, sessile, apex broad, blunt, with a ring, ascospores biserial. Ascospores narrowly cylindrical, 6–10 \times 1.5–2 μ m, equally 2-celled, not constricted, hyaline, smooth. **HABITAT AND DISTRIBUTION.**— Known only from the type specimen.

HOLOTYPE.— FINLAND. Runsala: 'prope oppid. supra lignum *Quercus vetustum*', 26 May 1861, P. Karsten No. 3365 (H).

DIMEROSPORIELLA Speg., *Revista Mus. La Plata* 15: 10. 1908.

Type: *D. paulistana* Speg.

= *Epinectria* Syd. & P. Syd., *Ann. Mycol.* 15: 215. 1917. — Type: *E. meliolae* Syd. & P. Syd.

Mycelium white, cottony, often bearing conidia, hyphae septate, branching. Ascumata scattered, superfi-

cial on white mycelium or directly on black mycelium of the host fungus, usually easily removed from substratum, subglobose, globose to obovoid, often collapsing by lateral pinching, 100–245(–270) μ m diam, pale yellow, KOH–, non-papillate, smooth or with short, flexuous hairs up to 25 μ m long. Ascumatal wall thin, often about 10 μ m thick, with wall of non-descript, small cells, often forming a *textura epidermoidea*. Asci clavate, usually less than 70 μ m long, often with an apical ring, 8-spored. Ascospores ellipsoid, 1–3-septate, hyaline, smooth, spinulose or striate. Anamorph, where known, *Acremonium*-like. On black, thick-walled hyphae of *Asterina*, *Meliola*, *Schiffnerula* or related species on living leaves in tropical regions.

NOTES.— *Dimerosporiella* is herein recognized for species that have previously been placed in the *Nectria leucorrhodina*-group (Samuels, 1976a; Rossman, 1983) or treated within *Nectriopsis* (Samuels, 1988). Spegazzini placed *Dimerosporiella* near *Dimerosporium* in the *Englerulaceae* differentiated by the presence of an ostiole. Petrak & Sydow (1934) examined the rather sparse type specimen of *D. paulistana*, presented a detailed description, and concluded that this species belonged in *Nectria*. *Dimerosporiella paulistana* represents a species additional to those previously placed in the *N. leucorrhodina*-group and/or *Nectriopsis*. The unispecific genus *Epinectria* was established for a species considered to be close to *Hyalocrea* but having elongate, one-septate ascospores. Several parts of the type specimen of *E. meliolae* were examined and the fungus was determined to be a synonym of *Dimerosporiella pipericola*. Seven species are included in *Dimerosporiella* differentiated primarily by ascumatal wall surface features and characteristics of the ascospores.

Dimerosporiella paulistana Speg., *Revista Mus. La Plata* 15: 10. 1908. — Plate 3, a–d.

Ascumata superficial, on black mycelium of *Schiffnerula* and on the surrounding leaf tissue, obovoidal, minute, 117 μ m high \times 80 μ m diam, pale yellow, ostiolate, thin-walled. Ascumatal wall ca 10 μ m thick, unpigmented, of *textura epidermoidea*. Asci clavate, apex thickened, with a ring, spent asci with open tops following ascospore discharge, ascospores biserial. Ascospores ellipsoid, 12–14 \times 4–4.5 μ m, 1-septate, hyaline, smooth.

HABITAT.— Known only from type specimen.

HOLOTYPE.— BRAZIL. São Paulo: Ipiranga Moça, on wilting leaves of *Buddleja* sp., Sep 1905, A. Uster, No. 143, det. C. Spegazzini, No. 402 (LPS).