

HABITAT.— On wood and bark.

DISTRIBUTION.— Costa Rica, Indonesia (Boedijn, 1934; Rifai, 1969b), French Guiana (Lusk, 1990), Sri Lanka, United States (Florida; Lusk, 1990).

TYPE SPECIMENS NOT EXAMINED.

SPECIMENS EXAMINED.— COSTA RICA. Finca 1. Standard Fruit Co., Pandorra, host unknown, 20 June 1962, Carroll 36 (NY). FRENCH GUIANA. Paul Isnard Area, Mts. Lucifer and Decou Decou, ca 150 km S of St. Laurent du Maroni, on recently dead tree, 7–17 Mar 1986, Samuels 4102 (NY); Saül, elev. ca 200 m, on well rotted wood, 3–16 Feb 1986, Samuels 3739 (NY); ca 17.5 km SW of Saül (03°60' N, 53°20' W) toward Mt. Galbao, elev. 250 m, on bark, 24–28 Jan 1986, Samuels 3368 (CAY, NY). UNITED STATES. Florida: Alachua Co., Gainesville, San Palasco Hammock, in woods across road from nature trail, on downed sweet gum, 13 and 27 Jan 1987, Lusk 205 (NY).

ILLUSTRATIONS.— Boedijn (1934, Fig. 1), Rifai (1969b, Figs. 1, 2a), Samuels & Rossman (1992, Figs. 18–27).

SPHAEROSTILBELLA (Henn.) Sacc. & D. Sacc., Syll. Fung. 17: 778. 1905.

≡ *Sphaerostilbe* subgenus *Sphaerostilbella* Henn., Bot. Jahrb. Syst. 30: 40. 1901. — Type: *S. lutea* (Henn.) Sacc. (≡ *Sphaerostilbe lutea* Henn.).

Subiculum not conspicuous, at most, forming a thin compact layer on the host hymenium. Ascomata superficial, solitary to gregarious, obpyriform, non-papillate, smooth, ascumatal wall less than 25 µm thick. Asci cylindrical, apex slightly thickened, ascospores uniseriate. Ascospores naviculate to ellipsoid, with one median or slightly sub-median septum, non-disarticulating in asci, hyaline, finely spinulose.

Anamorph *Gliocladium*. On decaying Aphyllphorales, rarely wood.

NOTES.— *Sphaerostilbella* was originally established as a subgenus of *Sphaerostilbe* that included one species, *S. lutea*. Seifert (1985) examined the holotype specimen and provided a detailed redescription and account of *Sphaerostilbella lutea* and its anamorph, *Gliocladium aurifilum*, as well as two additional species. Ascomata of *S. lutea* are known only from Africa and southeast Asia (Indonesia, Thailand), although its anamorph is cosmopolitan. *Sphaerostilbella aureonitens* with its anamorph, *Gliocladium penicillioides*, type of the genus *Gliocladium*, is a common cosmopolitan species, occurring in temperate and tropical regions. *Sphaerostilbella novaezelandiae* and its anamorph, *G. novaezelandiae*, are known only from New Zealand. A fourth species, *S. berkeleyana*, occurs in Europe, New Zealand, and North America in temperate regions.

Species of *Sphaerostilbella* have been variously included in *Hypomyces* because of their habit, parasitic

on members of the Aphyllphorales, and in *Nectria sensu lato*, because of their non-apiculate, one-septate, ascospores and the lack of a conspicuous subiculum. Rehner & Samuels (1994) presented evidence from sequence analyses of 28S rDNA that *Sphaerostilbella* is distinct from both *Hypomyces* and *Nectria*, but closer to *Hypomyces*. In the anamorph, habit, and, to a lesser extent, ascospore characteristics, *Sphaerostilbella* is similar to *Hypocrea pallida*. The most obvious difference between the two is the disarticulation of the ascospores in *H. pallida*. The anamorphs of *Sphaerostilbella* and *H. pallida* are species of *Gliocladium sensu stricto* and, in the absence of the teleomorph, they could not be distinguished at the generic level. However, sequence data correlate with the teleomorph differences in distinguishing *Sphaerostilbella* from *H. pallida* (Rehner & Samuels, 1994).

SPECIES OF *SPHAEROSTILBELLA*:

Sphaerostilbella aureonitens (Tul. & C. Tul.) Seifert, Samuels & W. Gams, Stud. Mycol. 27: 145. 1985. — Plate 24, g–j.

≡ *Hypomyces aureonitens* Tul. & C. Tul., Sel. Fung. Carpol. 3: 64. 1865.

≡ *Hypolyssus aureonitens* (Tul. & C. Tul.) O. Kuntze, Rev. Gen. Pl. 3(3): 488. 1898.

≡ *Nectriopsis aureonitens* (Tul. & C. Tul.) Maire, Ann. Mycol. 9: 323. 1911.

≡ *Hyphonectria aureonitens* (Tul. & C. Tul.) Petch, J. Bot. 75: 220. 1937.

= *Nectria mycetophila* Peck, Bull. Buffalo Soc. Nat. Sci. 1: 71. 1873.

≡ *Nectriella mycetophila* (Peck) Sacc., Syll. Fung. 2: 449. 1883.

= *Nectria parvispora* G. Winter, Hedwigia 25: 93. 1886.

≡ *Cucurbitaria parvispora* (G. Winter) O. Kuntze, Rev. Gen. Pl. 3(3): 461. 1898.

= *Dialonectria sulfurea* Ellis & Calk., J. Mycol. 4: 57. 1888.

≡ *Nectria sulfurea* (Ellis & Calk.) Sacc., Syll. Fung. 9: 966. 1891.

≡ *Cucurbitaria sulfurea* (Ellis & Calk.) O. Kuntze, Rev. Gen. Pl. 3(2): 461. 1898.

= *Hypomyces arenaceus* A.L. Smith, J. Linn. Soc. Bot. 35: 17. 1901.

Anamorph: *Gliocladium penicillioides* Corda.

This species was described and illustrated by Samuels (1976a, as *Hypomyces aureonitens*) and the anamorph by Seifert (1985).

SPECIMEN ILLUSTRATED.— VENEZUELA. Edo. Sucre, NW Irapa, trail from Los Pocitos, 11/2 h walking toward Santa Isabel, on *Stereum* sp. on unidentified wood, 11 July 1972, K.P. Dumont VE 4752, *et al.* (NY).

Sphaerostilbella berkeleyana (Plowr. & Cooke) Samuels & Candoussau, Mycologist 9: 12. 1995.

≡ *Hypomyces berkeleyanus* Plowr. & Cooke, *Grevillea* 11: 48. 1882.

≡ *Hypolyssus berkeleyanus* (Plowr. & Cooke) O. Kuntze, *Rev. Gen. Pl.* 3(3): 488. 1898.

≡ *Nectriopsis berkeleyana* (Plowr. & Cooke) Maire, *Ann. Mycol.* 9: 324. 1911.

≡ *Hyphoectria berkeleyana* (Plowr. & Cooke) Petch, *J. Bot.* 75: 220. 1937.

≡ *Nectria berkeleyana* (Plowr. & Cooke) Dingley, *Trans. Roy. Soc. New Zealand* 79: 183. 1951.

Anamorph: *Gliocladium* sp.

ILLUSTRATIONS.—Candoussau & Magni (1995, Figs. 1, 3a); Dingley (1951b, Pl. 25, Fig. 3); Plowright (1882, Pl. 155, Fig. 1); Samuels (1976a, Fig. 5).

This species was described and illustrated by Samuels (1976a) as *Hypomyces berkeleyanus*.

Sphaerostilbella lutea (Henn.) Sacc. & D. Sacc., *Syll. Fung.* 17: 778. 1905. — Plate 22, c.

≡ *Sphaerostilbe lutea* Henn., *Bot. Jahrb. Syst.* 30: 40. 1901.

Anamorph: *Gliocladium aurifilum* (Gerard) Seifert, Samuels & W. Gams, *Stud. Mycol.* 27: 148. 1985.

Stilbum aurifilum Gerard, *Bull. Torrey Bot. Club* 5: 39. 1874.
≡ *Ciliciopodium aurifilum* (Gerard) Cooke, *Grevillea* 19: 14. 1890.

≡ *Dendrostilbella aurifila* (Gerard) Seifert & MacKinnon, *Mycologia* 75: 324. 1983.

= *Stilbum zacalloxanthum* Moore, *Amer. Nat.* 93: 41. 1959.

= *Stilbum mycetophilum* S. Ahmad, *Biologia, Lahore* 6: 136. 1961 [‘1960’].

This species was described and illustrated by Samuels *et al.* (1990) and Seifert (1985). Cultures: CBS 405.59, 672.83.

SPECIMEN ILLUSTRATED.—CAMEROON. Bipende, on trunk in virgin forest. July 1899, Zenker 2110 (FH – ex herb. Theissen, holotype of *Sphaerostilbe lutea*).

Sphaerostilbella novaezealandiae Seifert, Samuels & W. Gams, *Stud. Mycol.* 27: 153. 1985.

Anamorph: *Gliocladium novaezealandiae* Seifert, Samuels & W. Gams, *Stud. Mycol.* 27: 153. 1985.

This species was described and illustrated in Seifert (1985). Cultures: CBS 646.83, 648.83.

KEY TO THE SPECIES OF *SPHAEROSTILBELLA*

1. Ascomata and subiculum dark red to purple; ascospores (8.5–)10–12(–14) × 3–4 μm *S. berkeleyana*
1. Ascomata and subiculum in shades of yellow 2
2. Anamorph mononematous; ascospores (7–)8–11(–15) × 2–3 μm *S. aureonitens*
2. Anamorph synnematos 3
3. Synnemata white to yellow, KOH–; ascospores (7–)8–12 × 3–4 μm *S. novaezealandiae*
3. Synnemata yellow to orange-yellow, KOH+ purple; ascospores (6–)7–8.5(–10) × 2–3 μm *S. lutea*