ANAMORPH: *Acremonium* sp.
Ascomata superficial, effused stroma of *Nectriopsis* intermixed with host hyphae, densely gregarious to caespitose with a sparse basal fringe, subglobose, 60–78 × 75–82 μm, yellow to orange, KOH–, becoming cupulate, smooth, apex not differentiated. Cells at surface angular to *textura epidermoidea*. Ascomatal wall 7–10 μm thick, of a single region of compressed cells, cells 3–7 μm diam, walls slightly thickened. Asci cylindrical, 53–75 × 6.5–9.1 μm, apex simple, sessile, 8-spored. Ascospores oblong to subglobose, 3–4.5 × 2–3 μm, 1-septate, hyaline, smooth.
ANAMORPH.— Conidiophores 23–36 × 2.5–4.5 μm at the base, apex not thickened, not flared, smooth-walled. No conidia seen on the type.
HABITAT.— On hymenium of *Phlebia albida*.
DISTRIBUTION.— Finland and Sweden.

HOLOTYPE.— FINLAND. Near Mustiala, in hymenium of *Stereum subcostatum* P. Karst. [host identified as *Phlebia albida*], on fallen stems of *Betula* in shady places, 10 Oct 1881, ex Herb. Karsten 1367b (H).

ILLUSTRATION.— Eriksson *et al.* (1981, Fig. 553, as *Nectriella queletii*).

NOTES.— The small, pallid, superficial ascomata and mycoparasitic habit place this species in *Nectriopsis* as defined by Samuels (1988), unlike the immersed ascomata on decaying herbaceous or lignicolous substrata characteristic of *Nectriella*. *Nectriopsis queletii* is similar to *N. oropensoides* in having very small ascospores and occurring on basidiomycetes in temperate regions; however, the ascospores of *N. queletii* are among the smallest in *Nectriopsis*, even smaller than those of *N. oropensoides*. Eriksson *et al.* (1981) noted that *N. queletii* occurs in both Finland and Sweden.
For a comprehensive account and a key to the remaining species of *Nectriopsis*, see Samuels (1988).

OCHRONECTRIA Rossman & Samuels, *gen. nov.*

Type: *Ochronectria calami* (Henn. & E. Nyman) Rossman & Samuels (≡ *Nectria calami* Henn. & E. Nyman).

Ascomata superficialia, vulgo aggregata super stromate bene effecto, subglobosa vel globosa vel ellipsoidea, alba vel luteola, KOH–, parietes > 45 μm crassi, cellulae strati exterioris hyalinae, globosae; cellulae strati medii guttulis aurantiis oleaginosis interspersae. Asci 4–8-spori. Ascosporae fusiformes, pluriseptatae, hyalinae, laevigatae vel striatae.

Ascomata superficial, solitary to gregarious on a thin subiculum. Ascomata subglobose to globose, cupulate when dry, pale yellow to yellow-orange, KOH–, ascomatal surface smooth to slightly roughened, walls more than 45 μm thick, of three regions: outermost region of hyaline, thin-walled, globose cells; middle region of angular to globose, thin-walled cells, with abundant, orange, oily droplets between the cells; inner region of hyaline, thin-walled, elongate cells. Asci narrowly clavate, 4–8-spored. Ascospores fusiform, multiseptate, hyaline, smooth to faintly striate. Anamorph *Acremonium*-like. On dead woody, often monocotyledonous, also dicotyledonous substrata.

NOTES.— This unispecific genus is similar to *Hydropisphaera* recognized for members of the *Nectria peziza*-group in which the relatively thick ascomatal wall is composed of large, thin-walled, inflated cells resulting in a cupulate collapse when dry. The characteristic wall structure consists of three regions with orange oil droplets in the middle region. Recent unpublished molecular studies of the *Bionectriaceae* suggest that the type species, *O. calami*, is distinct from species of *Hydropisphaera*. *Ochronectria calami* is relatively common in tropical regions.

Ochronectria calami (Henn. & E. Nyman) Rossman & Samuels, *comb. nov.* — Plate 4, b (see page 25).

≡ *Calonectria calami* Henn. & E. Nyman, *in* Warburg, Monsunia 1: 163. 1899.
≡ *Nectria calami* (Henn. & E. Nyman) Rossman, Myxotaxon 8: 494. 1979.
= *Calonectria blumenaviae* Henn., Hedwigia 41: 6. 1902.
= *Calonectria oödes* Petch, Ann. Roy. Bot. Gard. (Peradeniya) 7: 135. 1920.
= *Calonectria ignota* Chardón, Scientific Survey of Porto Rico and Virgin Islands 8: 41. 1926.
= *Calonectria kampalensis* Hansford, Proc. Linn. Soc. Lond. 153: 34. 1941.

Anamorph: *Acremonium*-like.

Ascomata solitary to gregarious, superficial on a thin subiculum of hyaline, thin-walled, 2–3 μm wide hyphae. Ascomata pale yellow to orange, becoming darker when dry, KOHN-, globose to subglobose, cupulate when dry, 185–240 μm high × 175–260 μm diam, with small, pointed papilla 10–20 μm high, ascomatal surface smooth to slightly roughened. Ascomatal wall 45–60 μm thick, of three regions: outer region of one layer of hyaline, globose, thin-walled cells, 7.5–10 μm diam; middle region 15–30 μm thick, widest near ascomatal apex, of angular to globose, thin–walled cells, 3–10 μm diam, with abundant, orange oily droplets formed between the cells; inner region 10–25 μm thick, thickest near the apex, of hyaline, thin-walled, elongate, 5–10 μm long cells. Asci unitunicate, 47–63 × 8–12 μm, narrowly clavate, without specialized apical discharge mechanism, 8-spored, ascospores obliquely uniseriate. Ascospores 24–38 × 4–5.5 μm, fusiform, sometimes curved or sigmoid, with narrowly rounded

ends, (3–5–)7–9-septate, hyaline, smooth or faintly striate.

Anamorph.— Conidiophores solitary, cylindrical, 35–100 µm long, 3.5–4 µm wide at the base, straight to slightly sinuous, thin-walled, smooth, developing from aerial fascicles or from the agar surface. Conidiogenous cells monophialidic, integrated, solitary, terminal, cylindrical, 30–80 × 3–3.5 µm wide at the base, tapering slightly, becoming 2–2.5 µm wide at the apex, apex with flaring collarette up to 2 µm long. Conidia broadly cylindrical, straight, (0–)1–3–(5–7)-septate, 0-septate 8–13 × 3.5–4 µm, 1-septate 8–13 × 3.5–4 µm, 2-septate 11–13 × 4–4.5 µm, 3-septate 15–26 × 4–5.5 µm, 5-septate 22–25 × 5–6 µm, 7-septate, 21–36 × 5–6 µm, hyaline, smooth. Hyphae hyaline, smooth, 2.5–4 µm wide, chlamydospores lacking. Ascomata forming on PDA and V-8 after four weeks.

Habitat.— On monocotyledonous wood and woody parts such as palm fruits, leaves and leaf sheaves, rarely also on tree ferns and dicotyledonous wood known from *Calamus, Cocos, Heliconia, Hoya, Musa, Pipturus* and *Sabal*.

Distribution.— Pantropical, known from Bermuda, Brazil, French Guiana, Guadeloupe, Indonesia, Jamaica, Java, Panama, Peru, Puerto Rico, Sri Lanka, Uganda, United States (Hawaii), Venezuela (Rossman, 1983; Samuels *et al.*, 1990).

Type.— JAVA. Hort. Bogor, on leaf sheaths of *Calamus* sp., E. Nyman, 4 Mar 1898, FH-general, lectotype, designated by Rossman, 1979b, isolectotypes FH – Höhnel, GZU. Cultures: CBS 125.87, 445.96, 454.96. Additional specimens examined listed in Rossman (1983) and Samuels *et al.* (1990).

Illustrations.— Rossman (1983, Fig. 33, Pl. 11 C–F, as *N. calami*); Samuels *et al.* (1990, Fig. 23 D–F, as *N. calami*).

Specimen illustrated.— SRI LANKA (Ceylon). Peradeniya, on a decaying stem, Jun 1919, Petch 6009 (K – holotype of *Calonectria oödes*).

PARANECTRIA Sacc., Michelia 1: 317. 1878.

Type: *P. affinis* (Grev.) Sacc. (≡ *Sphaeria affinis* Grev.).
= *Ciliomyces* Höhn., Sitzungsber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl., Abt. 1, 115: 673. 1906. — Type: *C. oropensis* (Ces.) Höhn. (≡ *Nectria oropensis* Ces.), recognized as *Paranectria oropensis* (Ces.) D. Hawksw. & Piroz.

Ascomata solitary, superficial on a white, thin, byssoid stroma or stroma lacking. Ascomata hyaline to pale orange or pale pink when fresh, KOH–, broadly pyriform to globose or subglobose, collapsing laterally or not at all when dry, smooth, scurfy or with short, septate hairs, wall relatively thin, less than 30 mm thick, of two regions. Asci cylindrical, 8-spored. Ascospores fusiform to ellipsoid with long, attenuated ends, multiseptate to muriform, hyaline, smooth. Anamorph unknown. On decaying lichens.

Notes.— The genus *Paranectria* was established for species with *Nectria*-like ascomata and long-attenuated, 3-septate ascospores. Within the *Hypocreales*, *Paranectria* is distinguished by the lichenicolous habit, white to pale yellow, often orange when fresh, KOH–, relatively thin-walled ascomata, and multiseptate to muriform ascospores with thin, attenuated ends. *Paranectria* belongs to the nectrioid *Hypocreales* affiliated with *Ijuhya* and *Trichonectria* based on similarities in ascomatal morphology and habitat. The type species, *P. affinis*, has been well-characterized (Rossman, 1983) and two additional species are included in *Paranectria*. Hawksworth & Pirozynski (1977) clarified the nomenclature of the generic names, *Paranectria* and *Paranectriella*. *Ciliomyces* was introduced by Von Höhnel for a *Nectria*-like species having muriform ascospores with attenuated ends. The type and only species, *Ciliomyces oropensis*, is found to be congeneric with *Paranectria* (Hawksworth & Pirozynski, 1977; Rossman, 1983).

Paranectria affinis (Grev.) Sacc., Michelia 1: 317. 1878.

≡ *Sphaeria affinis* Grev., Scott. Crypt. Flor. 4: 186. 1826.
≡ *Nectria affinis* (Grev.) Cooke, Grevillea 8: 9. 1879.

Anamorph: Unknown.

Key to the species of *Paranectria*

1. Ascospores transversely 3-septate, narrowly ellipsoid to fusiform, 24–34 × 6–8 µm; on *Ephebe* spp. ..... *P. affinis*
1. Ascospores muriform, ellipsoid to broadly ellipsoid 2

2. Ascospores ellipsoid, 28–36 × 9–11 µm; asci 8-spored; on various squamulous lichens .... *P. oropensis*
2. Ascospores broadly ellipsoid, 30–46 × 13–18 µm; asci 2- or 4-spored; on *Peltigera rufescens* ..... *P. superba*