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*

Ascomata solitary, superficial, loosely attached to the substratum by a sparse, white subiculum of hyphae, 5–6 µm wide. Ascomata white to pale yellow, KOH–, globose, cupulate when dry, *ca* 235 µm high × 215 µm diam, with a small, pointed papilla, ascomatal surface smooth, slightly roughened, or with loose strands of hyphae. Ascomatal wall 25–30 µm thick, of two intergrading regions: outer region 20–25 µm thick, of angular to elongate cells, 8–13 × 4–6 µm, with up to 1 µm thick walls; inner region *ca* 5 µm thick, of hyaline, thin-walled, elongate cells. Asci clavate, 45–70 × 15–18 µm, simple, 8-spored, pluriseriate. Ascospores narrowly ellipsoid to fusiform, 24–34 (excluding ends) × 6–8 µm, with long, thin, attenuated ends, 8–15 µm long × 0.8 µm wide; ascospores 3-septate, hyaline, smooth-walled.

Habitat.— On thalli of lichens, *Ephebe lanata* and *E. pubescens*.

Distribution.— Great Britain and France.

Holotype.— GREAT BRITAIN. Scotland: Appin, Carmichael (K, not examined; PC, possible isotype).
Specimen examined.— FRANCE. Fontainebleau, on *Ephebe pubescens*, 1893, De Notaris (RO).

Illustrations.— Dennis (1978, Pl. 31H); Greville (1826, Figs. 1 a–d, as *Sphaeria affinis*); Petch (1938, Fig. 21); Rossman (1983, Pl. 13E, Fig. 45).

Paranectria oropensis (Ces.) D. Hawksw. & Piroz., Canad. J. Bot. 55: 2555. 1977.

≡ *Sphaeria oropensis* Ces., *in* Rabenh., Bot. Zeitung 15: 406. 1857.
≡ *Ciliomyces oropensis* (Ces.) Höhn., Sitzungsber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl., Abt. 1, 115: 673. 1906.
= *Nectria lichenicola* P. Crouan & H. Crouan, Fl. Finistère. p. 256. 1867.
≡ *Pleonectria lichenicola* (P. Crouan & H. Crouan) Sacc., Michelia 1: 325. 1879.
= *Pleonectria appendiculata* Vouaux, Bull. Trimestriel Soc. Mycol. France 28: 193. 1912.

This species is described and illustrated in Samuels (1976a, as *Ciliomyces oropensis*) and Hawksworth (1982a). It is known from Austria, France, Ireland, Italy and Scotland on the lichens *Cladonia* sp., *Lecidea enteroleuca*, *Parmeliella atlantica*, and an undetermined leprose thallus.

Paranectria superba D. Hawksw., Notes Roy. Bot. Gard. Edinburgh 40: 390. 1982.
Hawksworth (1982a) described and illustrated this species that is known only from the type collection on thallus of *Peltigera rufescens* in Great Britain.

PEETHAMBARA Subram. & D.J. Bhat, Rev. Mycol. (Paris) 42: 49. 1978.

Type: *P. sundara* Subram. & D.J. Bhat.

Ascomata scattered, solitary to aggregated in small groups; superficial, on a thin, pseudoparenchymatous stroma. Ascomata bright- or dark yellow, globose to subglobose with a flattened apex, ostiolate. Ascomatal wall very thick, over 50 µm, of two regions: the outer region of very thick-walled, angular cells. Asci cylindrical, clavate, to broadly clavate, simple. Ascospores broadly reniform, 1- to 3-septate, hyaline. Anamorph synnematous, *Didymostilbe*. On dead woody substrata.

Notes.— The genus *Peethambara* was established for the teleomorph of *Putagraivam sundaram*, now *Didymostilbe sundara*. The type specimen of *Peethambara sundara* is apparently lost. The description included here is based on the original publication. *Peethambara* was described as having a *Nectria*-type centrum with a distinct ascomatal wall of two regions, one of which consists of extremely thick-walled, sclerenchyma-like cells. Seifert (1985) examined the type and additional specimens of the anamorph from Indonesia and Sierra Leone on woody hosts. Despite the lack of a type specimen, *Peethambara* is included in the *Hypocreales* based on the ascomatal wall characteristics and distinctive anamorph. *Peethambara* resembles members of *Bionectria* in having large, pale yellow to yellow, thick-walled ascomata, large, ascospores, and a synnematous anamorph. Preliminary molecular data suggest that *Peethambara* belongs in the *Bionectriaceae* allied with several anamorph genera having synnema and green, often multiseptate conidia (Rossman *et al.*, 1998).

Peethambara spirostriata and *P. sundara* are similar in their thick-walled ascomata, broadly fusiform ascospores, and synnematous anamorphs producing multiseptate, greenish conidia. In addition, molecular data also suggest a close relationship between these species and the anamorph species, *Albosynnema elegans* E.F. Morris (Rossman *et al.*, unpubl.).

Peethambara sundara Subram. & D.J. Bhat, Rev. Mycol. (Paris) 42: 49. 1978.

Anamorph: *Didymostilbe sundara* (Subram. & D.J. Bhat) Seifert, Stud. Mycol. 27: 140. 1985.

≡ *Putagraivam sundarum* Subram. & D.J. Bhat, Proc. Indian Acad. Sci., Sect. B, 87: 103. 1978.

Ascomata scattered, solitary to aggregated in small groups; superficial, with thin, pseudoparenchymatous stroma, stroma 148–162 × 33 µm, of golden-yellow hyphae. Ascomata golden-yellow, globose to subglo-