

Ascomata solitary, superficial, loosely attached to the substratum by a sparse, white subiculum of hyphae, 5–6  $\mu\text{m}$  wide. Ascomata white to pale yellow, KOH–, globose, cupulate when dry, ca 235  $\mu\text{m}$  high  $\times$  215  $\mu\text{m}$  diam, with a small, pointed papilla, ascromatal surface smooth, slightly roughened, or with loose strands of hyphae. Ascromatal wall 25–30  $\mu\text{m}$  thick, of two intergrading regions: outer region 20–25  $\mu\text{m}$  thick, of angular to elongate cells, 8–13  $\times$  4–6  $\mu\text{m}$ , with up to 1  $\mu\text{m}$  thick walls; inner region ca 5  $\mu\text{m}$  thick, of hyaline, thin-walled, elongate cells. Asci clavate, 45–70  $\times$  15–18  $\mu\text{m}$ , simple, 8-spored, pluriseriate. Ascospores narrowly ellipsoid to fusiform, 24–34 (excluding ends)  $\times$  6–8  $\mu\text{m}$ , with long, thin, attenuated ends, 8–15  $\mu\text{m}$  long  $\times$  0.8  $\mu\text{m}$  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. Ascromatal wall very thick, over 50  $\mu\text{m}$ , 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 ascromatal 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 ascromatal 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  $\times$  33  $\mu\text{m}$ , of golden-yellow hyphae. Ascomata golden-yellow, globose to subglo-

bose with a flattened apex, 380–440 × 360–420 µm, smooth, ostiolate. Ascromatal wall 60–70 µm thick, of two regions: outer region 38–46 µm thick, of very thick-walled, angular cells, 7–16.5 × 5–6.5 µm; inner region 16–23 µm thick, of thin-walled, elongate cells. Periphyses cellular, cylindrical, 15–20 × 1.5–2.2 µm, ends rounded. Apical paraphyses evident in young ascromata, visible as remnants in mature ascromata. Asci cylindrical, clavate to broadly clavate, 81–105 × 21–28 µm, simple, 4–8-spored, ascospores uniseriate above to biseriate below. Ascospores broadly reniform with rounded ends, 31–42 × 14.5–21 µm, 1-septate, hyaline, smooth.

**HABITAT AND DISTRIBUTION.**— Known only from the type collection.

**HOLOTYPE.**— INDIA, Karnataka State: South Kanara district, near Irde, at Darbhe, on dead twigs of *Macaranga indica* Wight, 22 Dec 1976, D.J. Bhat (MUBL 2358 – apparently lost; ex-type culture CBS 646.77). Culture CBS 521.96.

**ILLUSTRATIONS.**— Seifert (1985, Fig. 47; 1990, Fig. 5F, anamorph); Subramanian & Bhat (1978b, Figs. 1–22, anamorph; 1978c, Figs. 1–2, Pl. 1).

***Peethambara spirostriata*** (Rossman) Rossman, *comb. nov.*

≡ *Nectria spirostriata* Rossman, Mycol. Pap. 150: 61, 1983.

**ANAMORPH:** *Didymostilbe echinofibrosa* (E.F. Morris) Rossman, *comb. nov.*

≡ *Virgatospora echinofibrosa* E.F. Morris, Mycologia 59: 538, 1967.

Ascromata superficial, solitary or in groups of up to five, without stroma, yellow to dark yellow, becoming darker when dry, KOH–, globose to subglobose, irregularly cupulate or not collapsing when dry, 305–470 µm high × 360–575 µm diam, without papilla, smooth. Ascromatal wall 50–70 µm thick, of two regions: outer region 25–35 µm thick, of angular to globose cells 10–18 µm diam, with hyaline up to 1.5 µm thick walls; inner region 25–35 µm thick, of small angular to slightly elongate cells, 7.5–12 × 5–7.5 µm, with 2–3 µm thick walls, the cells with only a small lumen; empty shell of ascromatal wall remaining when overmature. Asci clavate, 87–100 × 17–23 µm, simple, number of ascospores in

each ascus variable, often only 4–6, ascospores irregularly biseriate. Ascospores broadly fusiform with narrowly rounded ends, curved, 38–55 × 10–13 µm, 3–(4–5)-septate, with large guttules in each cell, hyaline, spirally striate, with 10–12 striae per half spore.

**ANAMORPH.**— Synnemata scattered, solitary, 400–1500 µm tall × 40–70 µm wide at the apex, broadening to 150 µm at the base, stalk dark olivaceous-grey, paler toward the base, cells of stalk with dark walls, elongate, 12–25 × 2–3 µm, head of synnemata globose, 125–200 µm diam, with conidia in a slimy, olivaceous-black mass. Conidiophores unbranched along most of their length, branching penicillately toward their apices. Conidiogenous cells phialidic, determinate, cylindrical to clavate, 10–30 × 3–4 µm. Conidia broadly fusiform with papillate, truncate ends, straight or curved, 3-septate, 38–45 × 10–15 µm, olivaceous-grey, coarsely striate.

**HABITAT.**— On decaying woody substrata.

**DISTRIBUTION.**— Tropical, known primarily from the Neotropics, also Gabon and Malaysia.

**TYPES.**— PANAMA: Prov. Panama, vicinity of Altos de Pacora, 26–31 km N of Pan American Hwy, on old road to Mandinga, elev. ca 700–730 m, on trunk of *Cecropia* sp., associated with *Virgatospora echinofibrosa*, K. P. Dumont *et al.*, 30 June 1975, PA 1553 (holotype of *Nectria spirostriata* NY); Barro Colorado Island, Pierson Trail, on dead twigs, 3 Aug 1964, E.F. Morris & J.W. Strain 780, (lectotype of *Virgatospora echinofibrosa*, designated by Rossman, 1983; BPI 449174, isolectotype ILLS).

Additional specimens examined are cited in Rossman (1983).

**ILLUSTRATIONS.**— Ellis & Ellis (1971, Fig. 401, anamorph only); Rossman (1983, Fig. 32, Pl. 11 A, B).

**PRONECTRIA** Clem., in Clem. & Shear, Gen. Fungi p. 282, 1931.

Type: *P. lichenicola* (Ces.) Clem. (≡ *Cryptodiscus lichenicola* Ces. ≡ *Nectria lichenicola* (Ces.) Sacc.), a synonym of *Pronectria robergei* (Mont. & Desm.) Lowen.

Ascromata immersed in the host thallus, scattered or in groups, non-stromatic, subglobose to obpyriform, 100–500 µm diam, pale yellow to orange or red, rarely yellow, KOH– or rarely reacting. Setae rarely present. Cells on the ascromatal surface usually angular. Ascromatal wall 10–40 µm thick, generally of one region, also of two, rarely three, regions. Ascromatal apex of rows

#### KEY TO THE SPECIES OF *PEETHAMBARA*

1. Ascospores 1-septate, broadly reniform with rounded ends, 31–42 × 14.5–21 µm, smooth ..... *P. sundara*
1. Ascospores 3–(4–5)-septate, broadly fusiform with narrowly rounded ends, curved, 38–55 × 10–13 µm, spirally striate ..... *P. spirostriata*