

KEY TO THE SPECIES OF *DIMEROSPORIELLA*

1. Ascospores generally less than 12  $\mu\text{m}$  long, smooth or finely spinulose ..... 2
1. Ascospores generally more than 12  $\mu\text{m}$  long, smooth or striate ..... 3
2. Ascospores 8–10.5  $\times$  2.5–3  $\mu\text{m}$ , smooth to finely spinulose; ascomata glabrous .....  
..... *D. guarapiensis*
2. Ascospores 9–11  $\times$  3–4  $\mu\text{m}$ , smooth; with modified, hair-like cells arising from around the  
ascomatal apex ..... *D. pipericola*
3. Ascospores (14–)17–22(–27)  $\times$  3–4  $\mu\text{m}$ , striate ..... *D. oidioides*
3. Ascospores smaller, smooth-walled, spinulose or striate ..... 4
4. Ascospores striate, (11–)12.5–16.5  $\times$  3–4  $\mu\text{m}$ ; ascomatal hairs lacking; anamorph not pre-  
sent ..... *D. leucorrhodina*
4. Ascospores smooth; ascomatal hairs present or lacking; ascomata often associated with an  
*Acremonium*-like anamorph having thick-walled conidiophores ..... 5
5. Ascospores (8.5–)11.5–15.5(–18)  $\times$  2.5–4  $\mu\text{m}$ ; ascus apex simple; with hyphal hairs arising  
from around the ascomatal apex ..... *D. cephalosporii*
5. Ascus apex with a small ring; ascomatal lacking hairs ..... 6
6. Ascospores (13.5–)14–16(–17)  $\times$  2–3.5(–4)  $\mu\text{m}$  ..... *D. sensitiva*
6. Ascospores 12–14  $\times$  4–4.5  $\mu\text{m}$  ..... *D. paulistana*

***Dimerosporiella sensitiva*** (Rehm) Rossman & Samuels, *comb. nov.*

≡ *Nectria sensitiva* Rehm, *Hedwigia* 39: 222. 1900.

≡ *Nectriopsis sensitiva* (Rehm) Samuels, *Mem. New York Bot. Gard.* 48: 40. 1988.

This species was described and illustrated in Samuels (1988).

**EMERICELLOPSIS** J.F.H. Beyma, *Antonie van Leeuwenhoek Ned. Tijdschr. Hyg.* 6: 263. 1940.

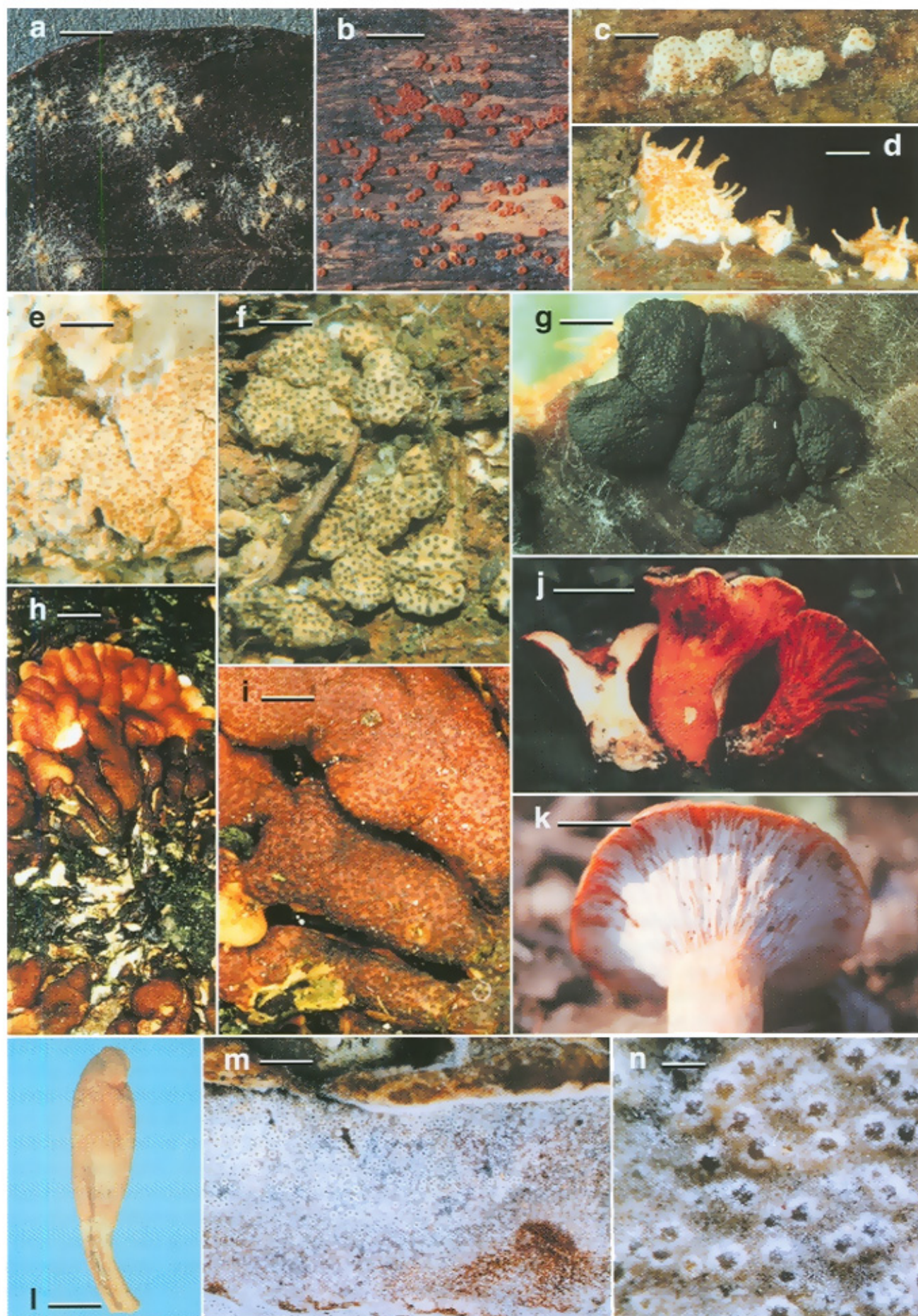
Type: *E. terricola* J.F.H. Beyma.

Ascomata globose, hyaline but appearing brown due to the ascospores, wall of hyaline, flattened cells, non-ostiolate. Asci globose, hyaline, 8-spored. Ascospores ellipsoid, pale brown, initially smooth, wide, gelatinous layer collapsing to form 3–6 longitudinal wings at ma-

turity' (Domsch *et al.*, 1980, vol. 1, p. 272). Anamorph *Acremonium*. Isolated from soil and numerous organic substrata.

NOTES.—*Emericellopsis* was described as a member of the *Eurotiaceae* and assumed to bear a relationship with the teleomorph of *Emericella nidulans* based on the distinctively ornamented ascospores. Recent molecular studies have confirmed accounts that place this genus in the *Hypocreales*. Based on both 18S and 28S sequence data, *Emericellopsis* grouped within the *Hypocreales* (Glenn *et al.*, 1996; Ogawa *et al.*, 1997), allied with *Mycocarachis* in a subclade of the *Bionectriaceae* along with several anamorph genera. A nomenclatural account of the genus *Emericellopsis* with descriptions of six accepted species is provided by Gams (1971); since then three more species have been published.

**Plate 4.** a. *Dimerosporiella leucorrhodina*. b. *Ochronectria calami*. c. *Protocreopsis fusigera*. d. *Stilbocrea macrostoma*. e. *Arachnocrea stipitata*. f. *Hypocrea aureoviridis* f. *macrospora*. g. *Hypocrea pseudokoningii*. h–i. *Hypocreopsis lichenoides*. j. *Hypomyces lactiflorum*. k. *Hypomyces lateritius*. l. *Podostroma alutaceum*. m–n. *Protocrea farinosa*. a. BPI 631957. b. Holotype of *Calonectria oödes* – K. c. EC 682. d. BPI 744508; e. Fuckel 2358, BPI. f. G.J.S. 96-189, BPI 744424. g. PDD 23871. h, i. Photograph by J.-F. Magni, A8907. j. BPI slide 2030, photograph by K.H. McKnight. k. Photograph by S. Stein, Wayne, Maine, 1963. l. Holotype of *Podostroma leucopus* – H. m. n. Photograph by J.-F. Magni, specimen A94131. Scale bars: a = 2 mm, b = 2.7 mm, c = 1.8 mm, d = 1.6 mm, e = 3 mm, f = 5 mm, g = 2.5 mm, h = 4 mm, i = 1 mm, j = 50  $\mu\text{m}$ , k = 25 mm, l = 4 mm, m = 2.5 mm, n = 500  $\mu\text{m}$ .



**Emericellopsis terricola** J.F.H. Beyma, Antonie van Leeuwenhoek Ned. Tijdschr. Hyg. 6: 263. 1940.  
ANAMORPH: *Acremonium*.

Ascomata 30–125(–300)  $\mu\text{m}$  diam, non-ostiolate, wall 6–15  $\mu\text{m}$  thick. Asci 14–16  $\mu\text{m}$  long. Ascospores ellipsoid, pale brown, 4.5–6.5  $\times$  2.5–4  $\mu\text{m}$ , surrounded by 4–6 longitudinal, subhyaline wings, finely spinulose. Anamorph *Acremonium*, with phialides 30–45  $\mu\text{m}$  long, tapering from 1.5–2.5  $\mu\text{m}$  at the base to 1–1.5  $\mu\text{m}$  at the apex. Conidia narrowly ellipsoid, 5.5–8.5  $\times$  2–2.5  $\mu\text{m}$ , about the same length as but narrower than the ascospores, hyaline. Description modified from Domsch *et al.* (1980).

HABITAT.— Isolated from forest- and cultivated soils, fresh and estuarine water, sputum, slime fluxes, bean and potato rhizosphere, mycorrhizae, bee provisions, and air.

DISTRIBUTION.— Worldwide.

EX-TYPE CULTURE.— NETHERLANDS. Isolated from soil, F.H. van Beyma, CBS 120.40, not examined.  
ILLUSTRATIONS.— Domsch *et al.* (1980, Fig. 113); Gams (1971, Fig. 9 d, e).

**HALONECTRIA** E.B.G. Jones, Trans. Brit. Mycol. Soc. 48: 287. 1965.

Type: *H. milfordensis* E.B.G. Jones.

Ascomata partly or totally immersed in the substratum, solitary or gregarious, ascomata orange, globose, each with an elongate neck emerging from the substratum, fleshy. Asci clavate, deliquescing at maturity, 8-spored. Ascospores fusiform, non-septate, thin-walled, hyaline, smooth. Anamorph unknown. On intertidal wood.

NOTES.— Jones (1965) described this unispecific genus as being similar to *Nectria* but differentiated by the immersed perithecia with long necks. Kohlmeyer & Kohlmeyer (1968, 1979) provided a description and illustrations of *H. milfordensis* noting its occurrence on intertidal wood from northern regions of both the Atlantic and Pacific Oceans. They considered the genus to be a member of the *Hypocreaceae* similar to *Trailia* stating, however, that '*Halonectria* has many characters in common with members of the family *Halosphaeriaceae* von Arx & E. Müll.', from which it was excluded due to the lack of appendaged ascospores. In a recent classification of filamentous marine ascomycetes, Kohlmeyer (1986) retained *Halonectria* as one of the four marine hypocrealean genera. The immersed ascomata with long necks and the elongate, aseptate ascospores of *H. milfordensis* are unlike most

hypocrealean fungi. However, the wall surface anatomy and negative reaction in KOH indicate that it could be hypocrealean and, at present, is best included in the *Bionectriaceae*.

**Halonectria milfordensis** E.B.G. Jones, Trans. Brit. Mycol. Soc. 48: 287. 1965.

Ascomata immersed, solitary, scattered, orange, becoming dark orange with age, KOH–, yellow in lactic acid, globose to subglobose, 130–250  $\mu\text{m}$  tall  $\times$  105–180  $\mu\text{m}$  diam, each with an elongate, orange neck 108–252  $\mu\text{m}$   $\times$  30–54  $\mu\text{m}$ ; in immature ascomata, necks filled with elongate, hyaline, thin-walled cells. Cells of wall surface forming a *textura angularis*, thin-walled. Asci clavate, deliquescing at maturity, 21.5–28.5  $\times$  4–6.5  $\mu\text{m}$ , 8-spored. Ascospores fusiform, slightly curved, 16.5–29  $\times$  2–3.5  $\mu\text{m}$ , non-septate, hyaline, smooth-walled. Associated anamorph with pycnidia partly immersed or superficial, solitary or gregarious, reddish brown, obpyriform or cylindrical, coriaceous, 140–170  $\times$  45–55  $\mu\text{m}$ ; conidia filiform, non-septate, hyaline.

HABITAT.— On intertidal wood.

DISTRIBUTION.— Temperate regions of the Atlantic and Pacific Oceans.

HOLOTYPE.— GREAT BRITAIN. South Wales: Pembrokeshire, Dale Fort Field Centre, on blocks of Scots pine, 19 Apr 1961, E.B.G. Jones (IMI 86722). This specimen consists of thin slices of wood without bark. A few ascomata lying near the surface were examined but the specimen is in poor condition.

ILLUSTRATIONS.— Jones (1965, Fig. 1), Kohlmeyer & Kohlmeyer (1968, Figs. 1–8).

NOTES.— This description is based primarily on the original publication and Kohlmeyer & Kohlmeyer (1979).

**HELEOCOCCUM** C.A. Jørg., Bot. Tidsskr. 37: 417. 1922.

Type: *H. aurantiacum* C.A. Jørg.

Ascomata superficial, white, pale pink, pale orange, pale brown to greyish or bright yellow. KOH–, globose, surface of loosely interwoven hyphae, wall pseudoparenchymatous, non-ostiolate, disintegrating at maturity. Asci subglobose, globose to broadly clavate or cylindrical, irregularly arranged. Ascospores ovoid to ellipsoid, 1-septate, slightly constricted or not, hyaline to pale yellow, smooth, slightly roughened, irregularly striate, or having irregular wing-like ridges, with or without an irregular gelatinous sheath. Anamorph, where known, *Acremonium*- or *Trichothecium*-like. Isolated from soil or water submerged in seawater.