South Indian Valsaceae (Diaporthales, Ascomycotina). I.

D. ANANTHAPADMANABAN*

Centre of Advanced Study in Botany, University of Madras, Madras – 600 005, India

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D. beckhausii and *D. sociata* are described and illustrated for the first time from India. *D. beckhausii* produced a *Phomopsis* state from single ascospore cultures and the anamorph-teleomorph connection is established here for the first time.

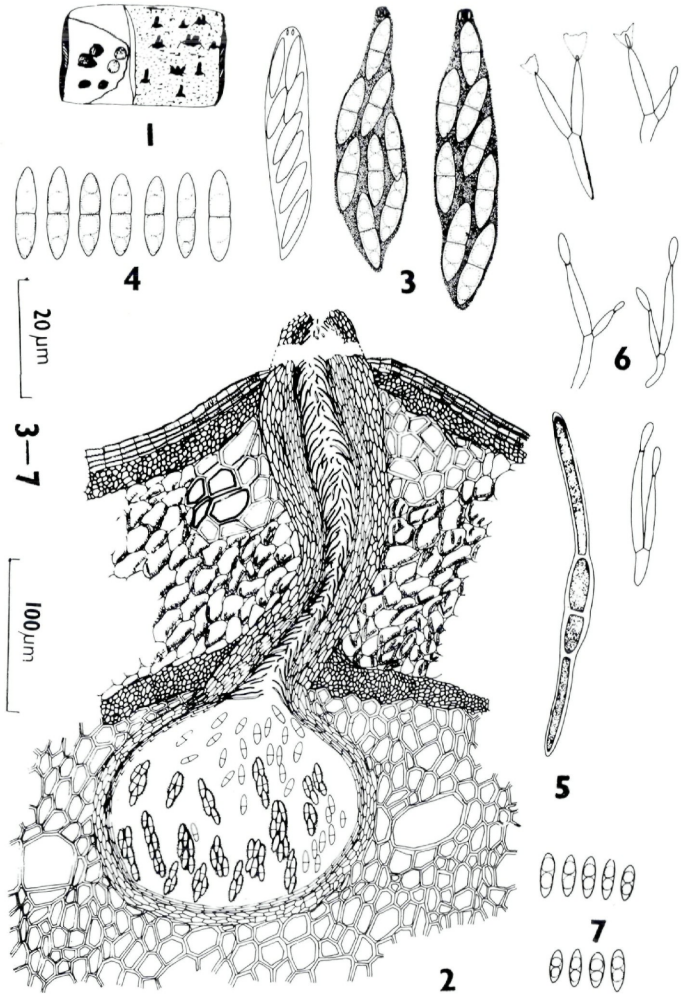
Two species of *Diaporthe* NITSCHKE are described and illustrated in this paper. Both species are recorded for the first time from India (BILGRAMI et al., 1979; BUTLER & BISBY, 1960). One species produced conidia from single ascospore cultures. The conidial state is assigned to the form-genus *Phomopsis* (SACC.) BUBÁK. The collections are deposited in the herbarium of Madras University Botany Department.

1. *Diaporthe beckhausii* NITSCHKE, Pyren. Germ.: 295. 1870. – Figs. 1–7.

On woody stems. Dorsal blackening mostly present, entering into the wood and forming a clypeus over perithecia. Dark lines delimiting perithecial groups within the substratum and covering large areas, usually more than 2.0 mm across.

Perithecia scattered, irregularly crowded or in groups of 2–5, usually collectively erumpent, globose to sub-globose, ostiolate, brown, 330–390 × 360–420 µm. Perithecial wall 13–16 µm thick, pseudoparenchymatous, with smooth surface, consisting of distinct outer and inner regions. Outer region 10-12 µm thick, composed of 3–4 layers of tangentially elongated, thin-walled, light-brown cells. Inner region 3–4 µm thick, composed of 2–3 layers of loosely arranged, thin-walled, hyaline cells. Neck central, short, stout, straight to oblique, thick-walled, 420–480 × 120–150 µm; its wall 16–22 µm thick, composed of small, compactly arranged, dark-brown cells 5–10 deep. Ostiole simple, periphysate; periphyses short, slender and upwardly projecting.

* Present address: Institute of Microbiol. Technology, G. – 177, Industrial area, Chandiganh 160002, India



Figs. 1–7. – *Diaporthe beckhausii*. – 1. habit. – 2. longitudinal section of a perithecium. – 3. asci with ascospores. – 4. ascospores. – 5. germinating ascospore. – 6. conidiogenous cells with conidia. – 7. conidia.

Asci unitunicate, thin-walled (the wall evanescent at maturity), cylindric clavate, without stipes, non-amyloid, becoming free in the perithecial cavity, 8-spored, 43.4–53.4 × 10.0–11.7 µm. – Ascospores irregularly biseriate, thin-walled, hyaline, fusiform, with round ends, 4-guttulate, medianly 1-septate and with a slight constriction at the septum, 13.3–15.0 × 3.0–4.2 µm. – Paraphyses absent.

Ascospores germinating overnight in potato dextrose agar and oatmeal agar. Colony moderately growing, attaining a diam. of 5 cm in 10 days, with surface floccose, white turning black, with light-yellow slimy conidial masses oozing out from the conidiomata at the periphery, with reverse black.

Mycelium immersed, branched, hyaline to sub-hyaline, septate. – Pycnidia erumpent, solitary or rarely in groups of two to three, black, globose to subglobose, unilocular, 480–510 × 530–560 µm; conidiomatal wall up to 10 µm thick, composed of 5–8 layers of plectenchymatous tissue which is heavily pigmented on the outer side. – Ostiole simple, circular, often papillate, more than 200 µm long.

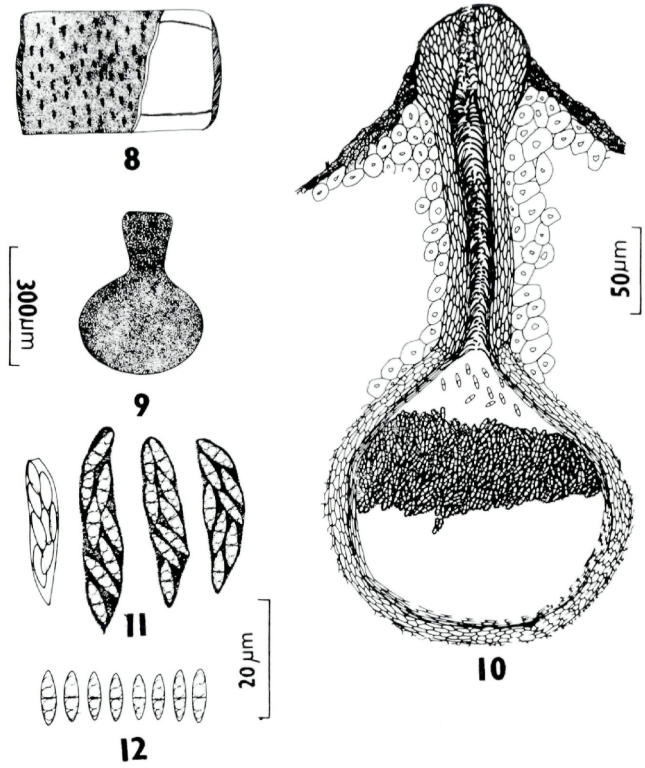
Conidiophores hyaline, simple, cylindrical, rarely branched, formed from the innermost cells of the locular walls. – Conidiogenous cells enteroblastic, phialidic, determinate, integrated, rarely discrete, hyaline, collarette, 8.4–16.2 × 1.5–2.5 µm; collarette hyaline, conical, 4.0–6.2 × 3.2–4.0 µm. – Conidia of only one type, produced singly, hyaline, thin-walled, fusiform, 2-guttulate, 1-celled, 5.0–8.2 × 2.0–2.5 µm.

Specimens examined. – On unidentified dead twigs: Tamil Nadu State, Madurai Dt., Berijam Kodaikanal, Madhikettan Shola, 11.8.1982; FSI No. 5194; Kerala State, Palghat Dt., Silent Valley, 8.2.1980, FSI No. 5149; Kodaikanal, Silver Cascade, 26.2.1980, FSI No. 2824c; Kodaikanal, Berijam, 28.9.1980, FSI No. 4792; Kodaikanal, Silver Cascade, 3.2.1981, FSI No 5109.

2. *Diaporthe sociata* (Cooke & Ell.) Sacc., Sylloge Fung. 1: 614. 1882. – Figs. 8–12.

On woody stems. Dorsal zone feebly developed, not entering into the wood. Dark lines delimiting perithecial groups within the host and covering large areas.

Perithecia solitary or very rarely in groups of two, globose to sub-globose, ostiolate, brown, 240–360 × 225–240 µm. Perithecial wall 12–15 µm thick, pseudoparenchymatous, with smooth surface, consisting of distinct outer and inner regions. Outer region 10–12 µm thick, composed of 3–4 layers of tangentially elongated, thin-walled, light-brown cells. Inner region 2–3 µm thick, composed of 1–3 layers of loosely arranged, thin-walled, hyaline cells. Neck central, short, stout, straight to slightly bent, 300–360 × 45–75 µm; its wall 10–



Figs. 8–12. – *Diaporte sociata*. – 8. habit. – 9. perithecium – whole mount. – 10. longitudinal section of a perithecium. – 11. asci with ascospores. – 12. ascospores.

12 µm wide, composed of about 3–5 layers of small, compactly arranged, dark-brown cells. Ostiole simple, periphysate; periphyses short, slender and upwardly projecting.

Asci unitunicate, thin-walled (the wall evanescent at maturity), cylindric-clavate, non-stalked, non-amyloid, becoming free in the perithecial cavity, 8-spored, 25.1–33.4 × 6.0–7.8 µm. – Ascospores irregularly biseriate, hyaline, fusiform, with round ends, 4-guttulate, medianly 1-septate, 8.2–9.5 × 2.5–3.0 µm. – Paraphyses absent.

Specimens examined. – On unidentified dead twigs: Andhra Pradesh, Karnool Dt., Cinthal, 15 km towards Sri sailam, 13.10.1976, FSI Nos. 91, 103; Tamil Nadu State, Madurai Dt., Kodaikanal, Tiger Shola, 23.8.1977, FSI No.ō555; Tamil Nadu State, Tirunelveli Dt., Chengeltheri, Manimuthar, 25.8.1980, FSI No. 4646; Karnataka State, Belgaum Dt., Londa Bus stand, 19.11.1980, FSI No. 4854; Kodaikanal, Berijam, 2.2.1981, FSI No. 5062b; Kodaikanal, Tiger Shola, 3.2.1981, FSI No. 5128; on dead twigs of *Eupatorium* (Compositae): Tamil Nadu State, Nilgiris Dt., Mudumalai, 10.1.1981, FSI No. 4957.

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