KAVAKA 25 : 61-65, 1997

Additions to fungi of India

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ABSTRACT

The present paper reports seven fungi viz., *Anthostomella phoeosticta, Biscogniauxia uniapiculata, Caryospora langloisii, Ceuthospora innumera, Nitschkia floridana, Rhopalostroma africanum,* and *Roussoella hysterioides*, recorded on *Lagerstroemia parviflora, Eugenia jambolana, Grewia asiatica, Eucalyptus globulus, Shorea robusta* and *Bambusa arundinaceae* respectively, constitute addition to the fungi of India. Three genera viz., *Biscogniauxia, Caryospora* and *Roussoella* constitute maiden record from India.

During periodical survey of different localities of tropical forests of south Shahdol region, seven fungi which are hitherto unrecorded from India were collected and maintained as per standard techniques (Ellis, 1960; Hawksworth, 1974; Agarwal and Hasija, 1986). The fungi were observed under microscope after free hand transverse and longitudinal sections of fruiting bodies and mounted in cottonblue-lactophenol. Camera lucida drawings were made in water mounts at 15 × 45 magnifications. The colour terminology used is as per Rayner (1970). The specimens have been deposited in the herbarium department of Biological Science, Rani Durgavati University, Jabalpur, Herbarium Cryptogamae, Indiae Orientalis, Indian Agricultural Research Institute, New Delhi and C. A. B. International Mycological Institute, Kew Surrey, England, as indicated in the text by HDBJ, HCIO and IMI respectively.

Anthostomella phoeosticta (Berk.) Saccardo *Michelia* 1 : 374, 1878 (Fig. 1)

Perithecia immersed, beneath a clypeus, subglobose, separate, occasionally in groups of 2-3, ostiolate, ostiole central, conical, periphysate, single, about 40 µm wide, clypeus composed of fungal and host tissue, covering the whole perithecium, up to 100 µm thick; outer wall 4-7 layered, of brown angular cells, 16-26 µm thick; inner wall 3-4 layered of pale to sub hyaline elongated cells, 10-16 µm thick;

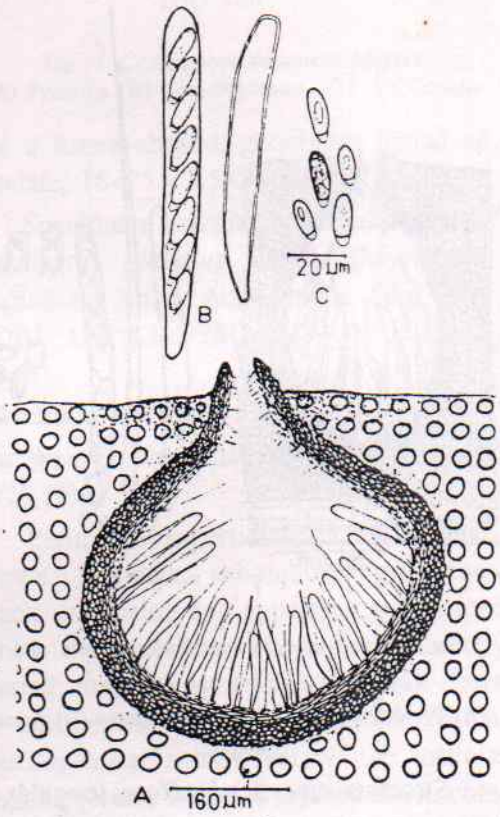

Fig. 1. *Anthostomella phaeosticta* (Berk.) Sacc., (A) Perithecia (B) Asci (C) Ascospores

350–500 × 350–500 µm. Asci cylindrical, sessile, unitunicate, paraphysate, 8-spored, parietal, Iodine negative, 80–112 × 7.5–9.5 µm. Ascospores elliptical, pale brown to dark brown guttulate, usually slit absent, smooth, uniseriate 11–15 × 5–7 µm with a small basal, hyaline cell measuring 1.5–2 × 2–3 µm. Paraphyses filiform,

simple, septate, branched, smooth, 2.5 – 3 µm thick.

Specimens examined: Decorticated wood of *Lagerstroemia parviflora* Roxb. (Lythraceae), Ghunghuti forest, Shahdol, Oct. 1991, HDBJ USP/214, HCIO 41, 516, leg U.S. Patel.

Biscogniauxia uniapiculata (Penz. and Sacc.) Whaley and Laesse

Mycol. Res. 94 : 237-239, 1990 (Fig. 2)

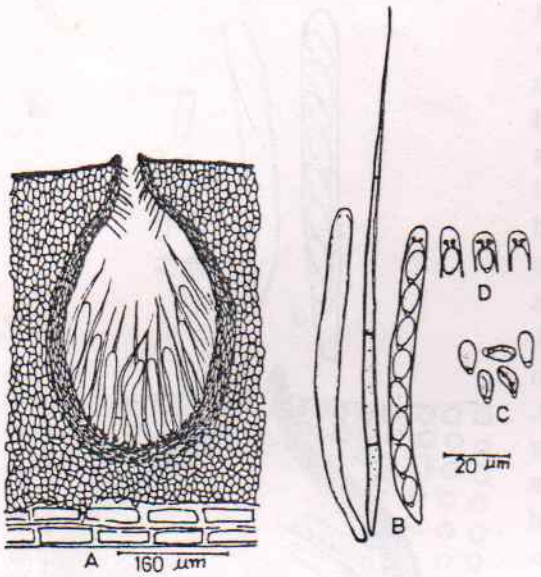

Fig. 2. *Biscogniauxia uniapiculata* (Penz. and Sacc.) Whaley and Laesse.
(A) Perithecia (B) Asci (C) Ascospores (D) Ascus apparatus

Stromata superficial, effuse, irregular in outline, surface black to shiny black, smooth, brittle, carbonaceous ectostroma absent, entostroma dark brown, composed of thick walled, angular cells measuring 4–16 × 4–12 µm.

Perithecia subglobose, ovate, oblong, completely immersed in the stroma; ostiolate; ostiole central, circular, conical, pimple like raised on the stromatal surface, periphysate, 35–45 µm wide; wall 16–28 µm and 4-7 layered thick, brittle, dark brown, single zoned, cells 8–20 × 3–4 µm; 300–380 × 300–450 µm. Asci cylindrical, sub-sessile to short stalked, unitunicate, 8-spored, paraphysate, ascus apex obtuse, ascal plug 3–3.5 × 3–4 µm, not blued by Melzer's reagent; 80–105 × 8–9.5 µm. Acospores elliptica, 0-septate, light brown to dark brown, smooth, guttulate, with longitudinal slit. uniapiculate, obtuse on upper end and truncate or flat on the lower end with an apiculum, measuring 2–3 × 3–4.5 µm, uniseriate, 8–12 × 5–7 µm (10–15 × 5–7 µm with apiculum). Paraphyses unbranched, 1–2 septate, slender, tapering into an obtuse apex, smooth, guttulate, hyaline to subhyaline, 6-9 µm thick just above the base and 1.5–2 µm at the apex. Specimens examined: Bark of *Eugenia jambolana* Lam. (Myrtaceae) Kapildhara, Amarkantak, Feb. 1992, HDBJ USP/321, HCIO 41, 525, IMI 361429, leg U.S. Patel.

Caryospora langloisii Ellis. and Eve.

Mycotaxon 7 : 17-37, 1979 (Fig. 3)

Perithecia semi-immersed, becoming superficial, subglobose, conical, scattered, separate, smooth, black to shiny black, ostiolate; ostiole central, circular, conical up to 100 µm wide; wall about 100 µm thick, hard, brittle, outer wall dark brown, 8-10 layered, thick-walled, angular cells measuring 4–8 × 4–8 µm; inner wall pale-subhyaline, 2-4 layered thin-walled, angular cells measuring 6–12 × 4–8 µm; 560–660 × 550–660 µm. Asci clavate, subsessile, unitunicate, paraphysate, 8 spored, Iodine positive evanescent, 140–180 × 50–70 µm. Ascospores broadly elliptical 1-septate, septum median, constricted at septum, thick-walled, brown to dark brown, smooth, guttulate, one guttule per cell, mucronate or conic at each end, with hyaline, 2–4.5 µm thick mucilagenous sheath, remaining attached with each other for some time after release,

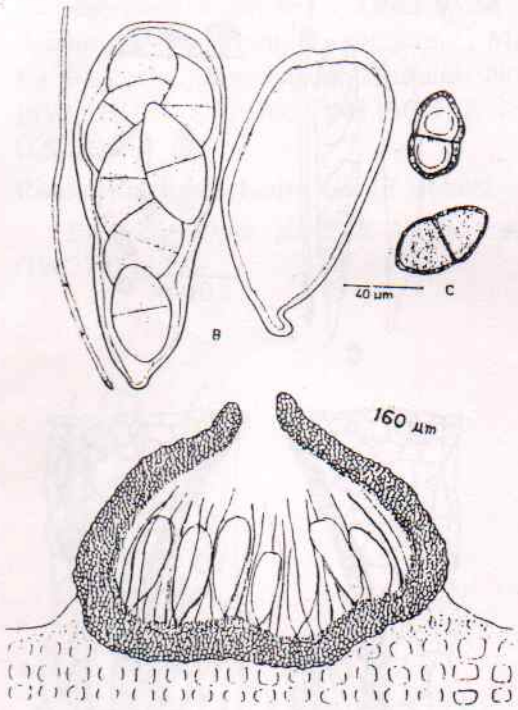

Fig. 3. *Caryospora langloisii* Ellix and Eve., (A) Perithecia (B) Asci (C) Ascospores

40–58 × 24–32 µm. Paraphyses filiform, septate, simple 2–3.5 µm thick.

Specimens examined : Dead wood *Grewia asiatica* Linn. (Tiliaceae), Rudraganga, Amarkantak, Feb. 1992, HDBJ USP/306b, IMI 356759, leg U.S. Patel.

Ceuthospora innumera Massee

Bull. Misc. Inf. (Kew) : 182 (1899) (Fig. 4)

Conidiomata pseudostromatic, immersed, amphiphillous, globose to subglobose, separate, blackish, unilocular, ostiolate; ostiole single, central, circular, papillate; wall rather thick textura angularis, brown to dark brown, 5-7 layered thick, cells 4-8 µm in diam., hyaline and textura intricata in two-three inner layers; 50-100 µm diam. Conidiophores very small. Conidiogenous cells enteroblastic, discrete, flask-shaped to cylindrical, hyaline, with a narrow channel, 4–5 × 2–2.5 µm. Conidia cylindrical, obclavate, aseptate, hyaline, smooth, thin-walled, with rounded ends,

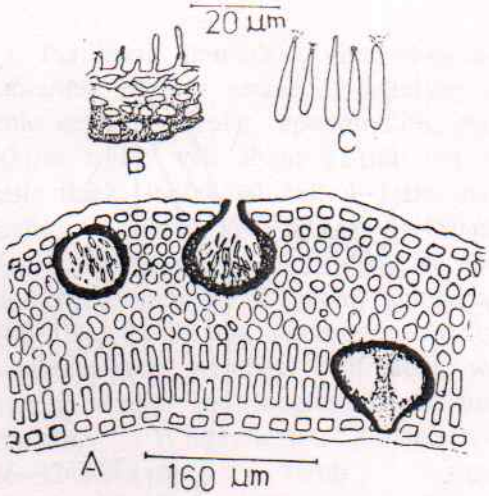

Fig. 4. *Ceuthospora innumera Massee* (A) Pycnidia (B) Conidiogenous cells (C) Conidia

and a funnel-shaped, gelatinous apical appendate, 16–25 × 2.5–3 µm.

Specimens examined : Dead leaves of *Eucalyptus globulus* Labill. (Myrtaceae). Kapildhara Road, Amarkantak, Sep. 1990, HDBJ USP/230, IMI 348400, leg U.S. Patel.

Nitschikia floridana Fitzpatr.,

Svensk. Bot. Tidk. 69 (1) : 289-335, 1975 (Fig. 5)

Perithecia superficial on thin, small, brown, stromata, subglobose, gregarious, black, collapsing and appearing cup-shaped when dry, surface rough or minutely warted, non-ostiolate, open by break down of perithecial wall at the ostiolar region, mucilagenous sheath below the ostiolar region present; wall 6-8 layered thick, composed of thick-walled, brown, angular cells, thicker at the base 400–470 × 448–530 µm. Asci clavate, long stalked, unitunicate, paraphysate, more or less basal, 8-spored, 100–140 × 10–12 µm. Ascospores allantoid, cylindrical, fusiform, hyaline to pale, 0-1 septate, 2-5 guttulate, spirally borne, 14–20 × 4–5 µm. Paraphyses simple, aseptate, filiform, 2.5–3 µm thick.

Specimens examined : Bark of *Shorea robusta* Gaertn (Dipterocarpaceae), Jalesh-

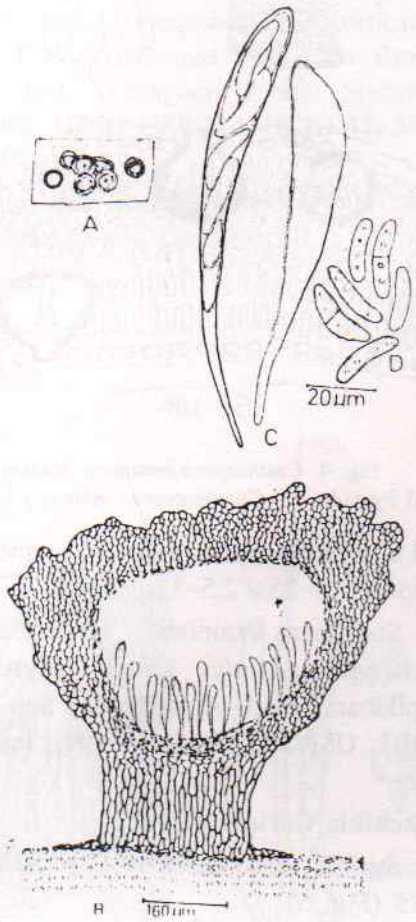

Fig. 5. *Nitschkia floridana* Fitzpatr.,
(A) Habitat (B) Perithecia (C) Asci (D) Ascospores

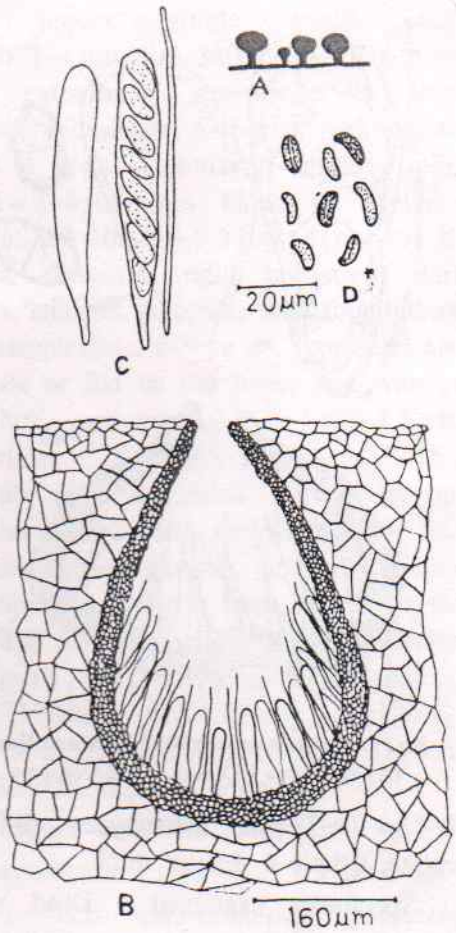

Fig. 6. *Rhopalostroma africanum* (Wakef.) D. Hawksw
(A) Habitat (B) Perithecium (C) Asci (D) Ascospores

war, Amarkantak, Oct, 1991, HDBJ USP/264, HCIO 41522, IMI 35 7484, leg. U.S. Patel.

Rhopalostroma africanum (Wakef.) D. Hawksw.,

Kew Bul. 31 (3), 421-431, 1977 (Fig. 6).

Stromata arising singly or in tufted groups, stalked, pinkish brown at first, black when mature, smooth, true, upto 6 mm tall, stalk 1.5-2 m long and 1.5-2 mm wide. Head abruptly expanded, convex, 2-4 mm wide, flesh of stripe blackish, carbonaceous, flesh of head greyish brown at first dark brown when mature, less compact, soon disintegrate. Perithecia forming a single layer below the convex surface of the head, immersed, subspherical to flask shaped, evanescent, ostiolate; Ostiole single, central, circular, not papillate; wall thin, composed of angular, thin walled cells measuring 4-6 µm diam., 5-6 layered thick; 400–480 × 240–320 µm. Asci cylindric-clavate, 8-spored, unitunicate, paraphysate, non-amyloid, stalked, evanescent, 70–90 × 6–8 µm. Ascospores bean shaped, aseptate, brown, smooth, eguttulate, with a distinct longitudinal germ slit, 9–13 × 4–5 µm. Paraphyses, filiform, aseptate, unbranched, evanescent, 3–5 µm thick.

Specimen examined : Dead wood of *Bauhimia retusa* Ham. (Leguminosae) Maii Ka Bageecha, Amarkantak, Shahdol, Nov. 1992, HDBJ USP/366, IMI 361432, leg. U.S. Patel.

Roussoella hysterioides (Ces.) Hohnel

Beit. Zur Krypt. der Sch. 11 (2) : 922 (1962) (Fig. 7).

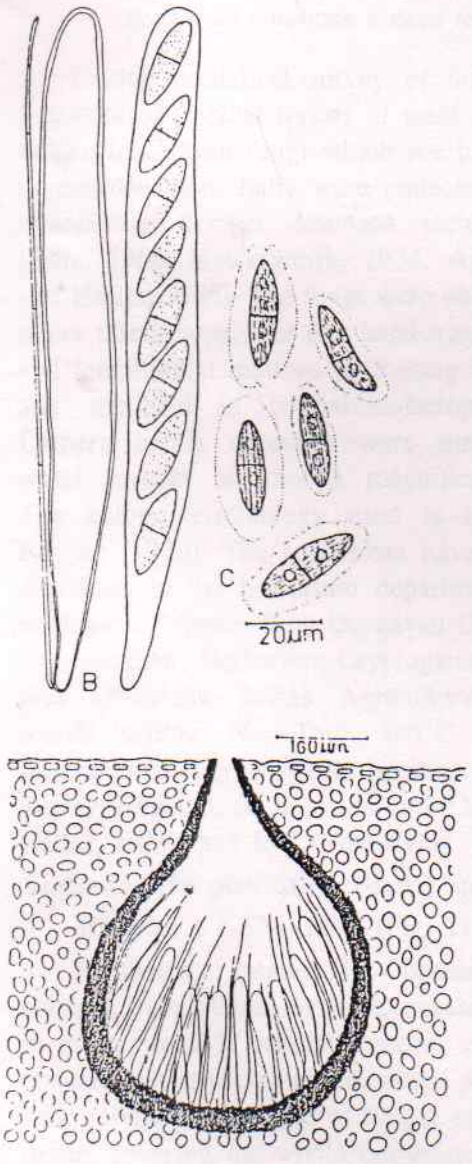

Fig. 7. *Roussoella hysterioides* (Ces.) Hohnnel (A) Perithecia (B) Asci and Paraphyses (C) Ascospores

Perithecia immersed, semi-immersed, more/less linearly arranged, ostiolate; ostiole central, circular, eperiphysate, about 50 µm wide; wall about 25 µm and 6-7 cells thick, individual cell 4–5 µm diam, textura angularis; 640–672 × 400–480 µm. Asci cylindric-clavate, sub-sessile to short stalked, paraphysate 8-spored, unitunicate, 160–180 × 20–22 µm. Ascospores fusifom, 1-septate, pale guttulate, continuous, with hyaline sheath and longitudinal striation, smooth, more/less uniseriate, 26–32 × 6–8 µm (with sheath 32–40 × 12–18 µm. Paraphyses filiform, septate, simple, branched, 2–3 µm thick.

Specimens examined : Dead stem of *Bambusa arundinaceae* Willd. (Gramineae), Shambhudhara. Amarkantak, Sep. 1990, HDBJ USP/123, HCIO 41510, IMI 354053, leg. U.S.Patel.

ACKNOWLEDGEMENT

The authors are grateful to Dr. B.C. Sutton and Dr. P.F. Cannon, C.A.B. International Mycological Institute Kew, England for identification of the fungi, Prof. S.K. Hasija, Head of the Department of Bioscience, R.D. University, Jabalpur, for providing laboratory facilities, and MAPCOST for financial assistance.

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