Camarops alborugosa sp. nov. from French West Indies and *Hypoxylon peleae* sp. nov. from Hawaii

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Two undescribed species of pyrenomycetes are described here. *Camarops alborugosa* features a white wrinkled stromatal surface and ostioles in tiny discs. *Hypoxylon peleae* has a surface ornamented with discs and domes interspersed with delicate ridges. Surfaces of *Hypoxylon* sensu stricto usually lack intricate ornamentation.

Keywords: Boliniaceae, pyrenomycetes, Xylariaceae

Previously undescribed species of *Camarops* (Boliniaceae) and of *Hypoxylon* (Xylariaceae) from French West Indies and Hawaii, U. S. A., respectively, are described herein. The *Camarops* was collected in the execution of an inventory of the mycobiota of French West Indies intiated by Professor Régis Courtecuisse. The *Hypoxylon* was collected by J. D. R. as part of his inventory of the Xylariaceae and various pyrenomycetes of the Hawaiian Islands.

Materials and Methods

Colonies were initiated from ascospores removed with a sterile needle from hydrated perithecia from which the overlying stromatal tissue had been aseptically removed. Ascospore masses were stabbed into plates of SME agar (Kenerley & Rogers 1976). When colonies developed transfers were made to 2 % Oatmeal agar (OMA) (Difco)

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in 9 cm plastic Petri plates and incubated at ca. 20 °C under natural daylight/darkness. Ascospores were measured in water using a Reichert brightfield microscope. The range of spore dimensions is given, rounded to the nearest full or half micrometer, with exceptional dimensions in parentheses. Means and standard deviations of length and width were computed from unrounded measurements. The amyloid reaction of ascus apices in water-mounted material was tested with Melzer's iodine reagent (Stevens 1974). Observations and photomicrography were accomplished with an Olympus differential interference contrast microscope and a Nikon Coolpix 4300 digital camera. Scanning electron microscopy (SEM) was done on a stroma that was sputter-coated with gold under vacuum, then examined with a Hitachi scanning electron microscope. Cultures were deposited at Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan. Color designations follow Rayner (1970).

Taxonomic Part

Camarops alborugosa J. D. Rogers, C. Lechat & J. Fournier, **sp. nov.** – Figs. 5–8.

Stromata pulvinata, rugosa, usque ad 12 mm longa × 7 mm lata × 3 mm crassa, mollia, externe albida cum nervis tenuibus nigris ornata et cum ostiolis in areis discoidis brunneolis (stromatibus saepe cum ascosporis denigratis), interne albida. Perithecia polysticta, ad basim ca. 0.3 mm diam, collis longitudine variabilibus. Ostiola umbilicata in areis discoidis cum margine plus minusve elevata. Asci 8-spori cum ascosporis saepe biseriate dispositis, partibus sporiferis ca. 30 µm longitudine, 4–5 µm crassi, stipitibus ut videtur deliquesentibus, annulo apicali in liquore iodato Melzeri non cyanescente, minuto. Ascosporae brunneae, unicellulares, ellipsoideae, ad extremum unum subacutae, parum applanatae, leves, (4.5–)5–6.5 × 2–3 µm, ad extremum subacutum poro germinativo notatae. Paraphyses sparsae. Status anamorphosis ignotus. Holotypus.-French West Indies, Martinique, 03 Dec 2006, leg. Christian Lechat (WSP).

Stromata pulvinate, rugose, up to 12 mm long × 7 mm broad × 3 mm thick, soft, externally whitish with fine black lines, but often covered with dark ascospores, internally white, with perithecia polystichous, ca. 0.3 mm diam at base, with necks of various lengths. Ostioles umbilicate in vague disc with slightly raised rim. Asci with 8 more or less biseriately arranged ascospores, the spore-bearing part ca. 30 µm, 4–5 µm broad with stipes apparently deliquescent, with ascus apical ring not bluing in Melzer's iodine reagent, minute. Ascospores brown, unicellular, more or less ellipsoid with one end somewhat acute, slightly flattened, smooth, (4.5) 5–6.5 × 2–3 µm (mean length 5.6 µm, SD ± 0.69 µm, mean width 2.5 µm, SD ± 0.36 µm) (n = 20), with germination pore at more acute end. Paraphyses sparse. Anamorph unknown.

Etymology. – For the white wrinkled surface of the stroma.

Habitat. - On bark of unidentified tree.

Distribution. – Known only from the type location in Martinique.

Material examined. – French West Indies, Martinique, Pointe Bateau, Trinité, on bark, 03 Dec 2006, Christian Lechat, CLL6165 bis, WSP 71374, holotype.

The stromatal color of *Camarops alborugosa* differs from other described species. It resembles *Apiocamarops alba* Samuels & J. D. Rogers in color, but differs in stromatal structure and ascospore morphology (Samuels & Rogers 1987).

Hypoxylon peleae J. D. Rogers & Y.-M. Ju., **sp. nov.** – Figs. 1–4.

Stromata pulvinata, specie ornatis discis vel tholis perforatis et cristis subtilis, ca. 1.5 cm longa × 1.5 cm lata × 1–3 mm crassa. Externe atra interdum rubiginosa suffusa, subsuperficie et inter perithecia granulis aurantiacis conspersa. Granulis aurantiacis in KOH dissolutis; textura sub peritheciis atra. Perithecia globosa, 0–3–0.5 mm diam. Ostiola umbilicata plerumque in discis vel tholis. Asci 162–206 µm longitudine tota, ca. 8 µm crassi, partibus sporiferis ca. 110 µm, stipitibus 60–96 µm longitudine, annulo apicali in liquore iodato Melzeri cyanescente, discoideo, 0.75 µm alto, 2.9 µm crasso. Ascosporae brunneae, unicellulares, ellipsoideae vel leviter inequilaterales, leves, (10.5) 12–13.5 (14.5) × (6) 6.5–7.5 µm, rima germanitiva recta longa indistincta praeditae. Perisporium in KOH indehiscens; episporium leve. Paraphyses abundans. Status anamorphosis ignotus. Holotypus. – U. S. A., Hawaii, 10 Mar 2007, leg. J. D. Rogers, (BISH).

Stromata pulvinate, with surface ornamented with perforated discs or domes and delicate ridges, 1.5 cm × 1.5 cm × 1–3 mm thick. Externally blackish with trace of Rust (39), Orange (7) granules surrounding perithecia, with KOH-extractable pigments Orange (7) to Luteous (12). Perithecia globose, 0.3–0.5 mm diam. Ostioles umbilicate, often within a disc or beneath perforated domes. Asci 162–206 µm total length × ca. 8 µm broad, the spore-bearing parts ca. 110 µm long, the stipes 60–96 µm long, with apical ring bluing in Melzer's iodine reagent, discoid, 0.75 µm high, 2.9 µm broad. Ascospores brown, unicellular, ellipsoid or slightly inequilateral, smooth, (10.5) 12–13.5 (14.5) × (6)6.5–7.5 µm (mean length 13 µm, SD ± 0.87 µm, mean width 6.8 µm, SD ± 0.78 µm) (n = 25), with germ slit long and indistinct. Perispore indehiscent in KOH. Paraphyses abundant. Anamorph unknown.

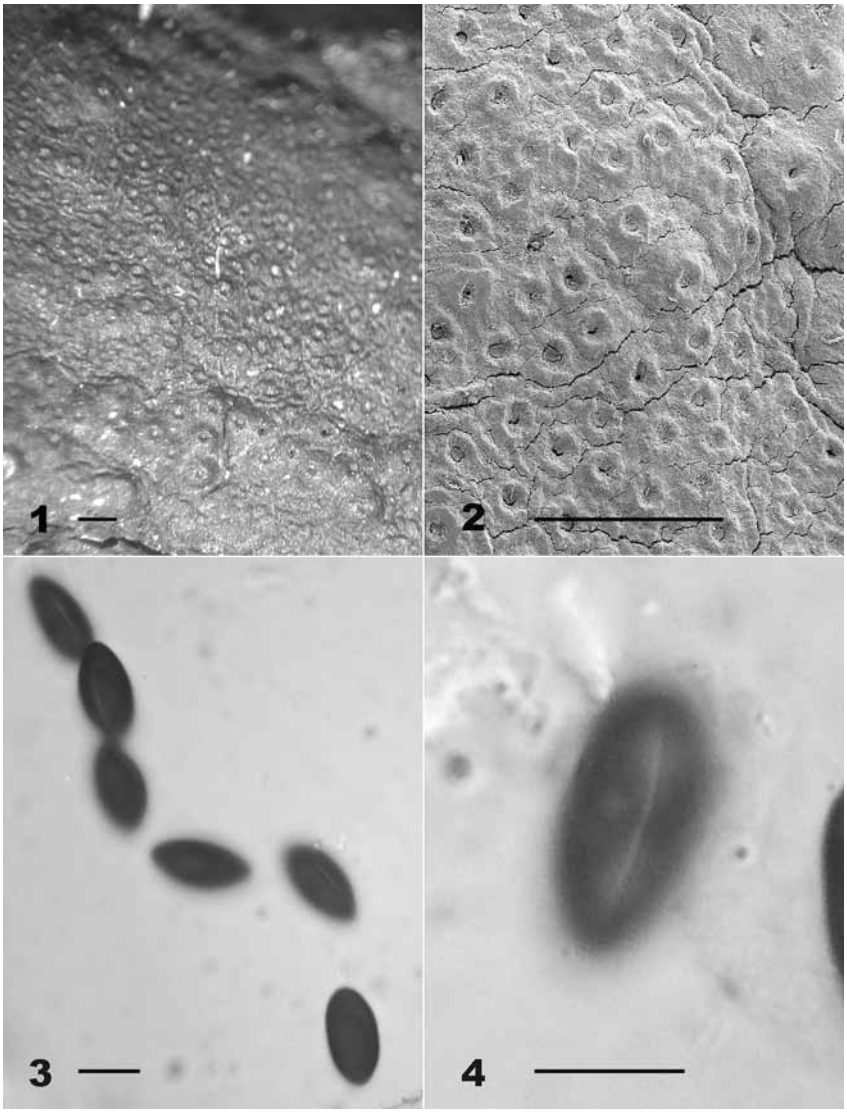
Colony on OMA covering Petri plate in 3 wk, at first Honey (64) darkening to Hazel (88) and Isabelline (65), velutinous to tomentose with dark liquid drops. Reverse Dull Green (70) to Dark Green (21). Conidia not observed

Etymology. – For the volcano goddess, Pele. Also, for the surface of stromata that resembles rough lava, also called "pele."

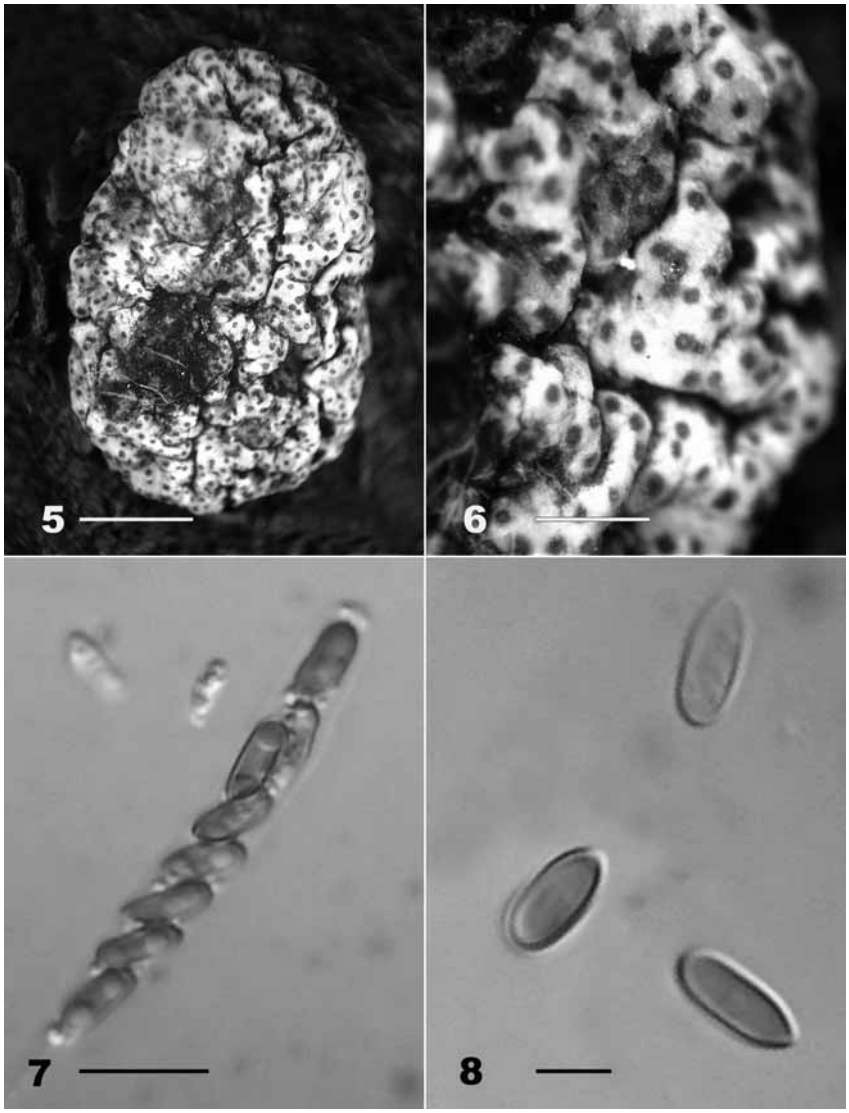
Host. – Unidentified dead angiospermous stems.

Distribution. – Known only from type location in Hawaii.

Material examined.-U. S. A., Hawaii, Island of Hawaii, Hawaii Volcanoes National Park, Kipuka Puaulu (Bird Park), on angiospermous stems, 10 Mar 2007, leg. J. D. Rogers, BISH, holotype; WSP 71367, isotype.



Figs. 1–4. *Hypoxylon peleae*. **1.** and **2.** Surface ornamentation of stromata. Fig. 1 by macrophotography and Fig. 2 by SEM. **3.** Ascospores. **4.** Ascospore showing germination slit. Figs. 3 and 4 from water mounts. Scale bars: 1: 1 mm; 2: 1 mm; 3: 13 µm; 4: 6 µm.



Figs. 5–8. *Camarops alborugosa*. **5.** Stroma. **6.** Stroma showing details. **7.** Ascus with 8 ascospores, 2 of them biseriately arranged. **8.** Three ascospores, the lowermost one showing the subacute end that bears the germination pore. Figs. 5. and 6. by macrophotography, 7. and 8. from water mounts. Scale bars: 5: 2.5 mm; 6: 1.25 mm; 7: 8 μm; 8: 3 μm.

Hypoxylon peleae appears to be unique in its surface features. The ostioles are umbilicate as in most *Hypoxylon* species, but frequently open through discs with low rims or raised domes. The prevalence of discs and/or domes varies among stromata and within areas of an individual stroma. Intricate networks of low ridges are extant among the ostiolar areas. A cursory examination of *H. peleae* stromata appears to place them in *Annulohypoxylon* Y.-M. Ju, J. D. Rogers & Hsieh (Hsieh, Ju & Rogers 2005). That genus, however, features papillate ostioles, usually located in regular rimmed discs. *Hypoxylon peleae* resembles *H. cinnabarinum* (Henn.) Y.-M. Ju & J. D. Rogers in ascospore size and shape, in color of pigment extracted in KOH, and in general cultural features, but differs from the latter in its ornamented stromata and nontubular perithecia (Ju & Rogers 1996).

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