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On *Camarops lutea* fruiting in culture

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Abstract

Petrini L. E. On *Camarops lutea* fruiting in culture. Bot Helv. 96: 269–271.

Multispore isolates of *C. lutea* formed the telemorph in culture. The cultural characters and the morphology of the telemorph of *C. lutea* on wood and in culture are described.

Keywords: *Camarops lutea*, telemorph, culture, taxonomy.

Fresh material of *Camarops lutea* (Boliniaceae, Ascomycetes) was collected on coniferous wood in northwestern United States and in southwestern France (Europe). Multispore isolates obtained from the U.S. collection formed the telemorph in culture, whereas the only culture from French material remained sterile. So far, only *C. petersii* (Berk. & Curt.) J. A. Nannfeldt has been reported to produce fertile stromata on artificial medium (Horn 1984).

Cultures were grown on SME media (20 g malt extract, 17.7 g agar, 1000 ml water) (Kenerley & Rogers 1976) and incubated at 23 °C with alternating fluorescent light and darkness. Additional herbarium specimens from Europe and the United States were examined. They were kindly provided by Prof. J. D. Rogers (Washington State University) and by the curator, herbarium ZT.

Camarops lutea (Alb. & Schw.: Fr.) J. A. Nannfeldt, Svensk Bot. Tidskr. 66: 363. 1972. – Fig. 1.

Basionym and synonyms see Nannfeldt (1972).

Stromata 2–25 × 1–11 × 2–5 mm, discoid to elongate, with flattened to slightly concave surface, delimited by a sharp margin, developing within the wood and exposing only the truncate top, yellow brown, light to dark brown or black; surface covered with warts perforated by the ostioles, or almost smooth with punctate or non protruding ostioles. Entostroma bright yellow to yellow grey, soft, bearing polystichously arranged perithecia. Perithecia up to 0.8 mm in diam. and 1.5 mm high, pear-shaped, collapsing when dry and easily taken out of the entostroma, with 1–3 mm long ostioles, bending towards the center of the surface. Paraphyses up to 2 µm wide, filiform, hyaline. Asci 47–81 µm total length (median 64 µm) × 5–8 µm wide, with spore bearing parts 29–53 µm (median 40.5 µm) and stipes 8–43 µm (median 23 µm). Ascospores 5–7.5 (median 6.3 µm) × 2.5–4 × 2–3.5 µm, oblong with obtuse ends, slightly flattened, light grey brown, with a conspicuous germ pore at the more tapering end.

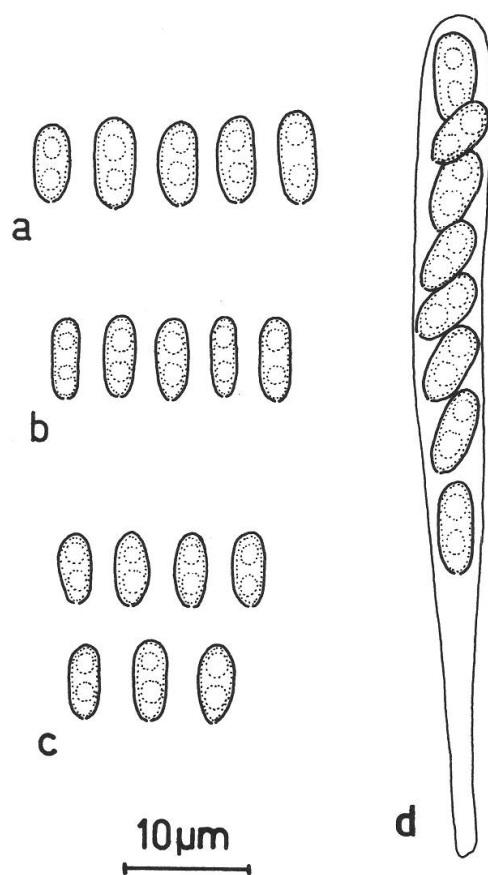


Fig. 1. Ascospores: *a.* in nature, wide side; *b.* in nature, flattened side; *c.* in culture. Ascus: *d.* in nature.

Colonies on SME covering 9 cm diam. Petri plates in approximately 4 weeks, bright yellow at the center, yellow to white yellow towards the margin, mycelium first appressed, later slightly cottony to floccose, turning felty when older; reverse first yellow orange, later turning brown orange. Stromata formed after two months within dense mycelial aggregations at the margin and in the center of colony, poorly developed, 0.5–10 × 0.5–1 × 0.5 mm, linear, seldom spherical, always covered with yellow mycelium. Entostroma at first light yellow, composed of loose 3–5 µm wide hyphae, later turning yellow orange and becoming more firm in structure, containing one or only few perithecia. Perithecia minute, nearly globose, with inconspicuous ostioles. Paraphyses up to 2 µm wide, filiform, hyaline. Asci 49–63 µm total length (median 58 µm) × 4–6 µm wide, with spore bearing parts 34–51 µm (median 43.5 µm) and stipes 12–15 µm (median 14 µm). Ascospores 5–6.5 (median 6 µm) × 2.5–3.5 µm, oblong with obtuse ends, not obviously flattened, light grey brown, with a germ pore at the more tapering end.

Specimens examined

France. – Pyrénées Atlantiques, Ile de Sauveterre: on *Buxus sempervirens*: 14. IV. 1983, J. Vivant, sub *Bolinia lutea* (Alb. & Schw.: Fr.) J. H. Miller, ZT; 24. IV. 1983, F. Candoussau, sub *B. lutea*, J. D. Rogers herb., ZT; 28. III. 1986, L. Petrini, ZT (2 specimens); on *Corylus avellana*, 28. III. 1986, L. Petrini, ZT, cultured; on

unidentified wood, 28. III. 1986, L. Petrini, ZT; Pyrénées Atlantiques, Mazerolles: on *Quercus* sp., 4. V. 1986, F. Candoussau, ZT.

Germany. – Niederbayern, Bayerisch-Böhmischer Wald, Schwarzbachklause zum Kirchlinger Stand, on unidentified wood, 19. VIII. 1984, J. Poelt, sub *C. tubulina* (Alb. & Schw.) Shear, ZT.

United Kingdom. – Princess Risborough, Bucks, on *Buxus* sp., 4. X. 1975, A. J. S. Whalley, sub *B. lutea*, J. D. Rogers herb.; Northhamptonshire, Irchester Country Park, on *Buxus* sp., 22. V. 1983, L. Petrini, sub *B. lutea*, ZT.

United States. – Idaho, Latah Co., near Deary, on conifer wood, 5. XI. 1985, L. Petrini, J. D. Rogers herb, ZT, cultured (dried cultures in WSP, ZT); New York, Warren Co., Charles Lathrop Pack Demonstration Forest, 5 miles north of Warrensburg, 11. IX. 1982, R. P. Korf & students, # CTR 82–54, ex NY, J. D. Rogers herb.

Major differences between the telemorph in nature and those formed in culture exist mainly in the size and morphology of the stromata and the perithecia, as Horn (1984) also reported for *C. petersii*. The ascospores formed in culture have a size similar to those from the original collection, but they do not show a distinctly flattened side.

Camarops species are characterised, among other features, by lacking anamorphic states (Nannfeldt 1972). Accordingly, as Horn (1984) observed for *C. petersii*, no anamorph was found neither in association with the stromata on wood nor in culture. The warty projections on the *C. lutea* stromatal surface may be very pronounced or even be absent in some material and thus have no diagnostic character. The stromata of the material from New York (# CTR 82–54) were covered with tomentose, yellow to orange mycelium. No traces of such mycelium were observed among the other specimens examined, but the substrate of most of the specimens showed a strong yellow discoloration, which also characterises the cultures.

Nannfeldt (1972) mentioned *C. lutea* as unknown outside Europe, but the two U.S.-specimens demonstrate that its geographical distribution includes also regions of North America.

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