

Entonaema liquescens Moller, a new report to India

Entonaema A. Moller is one of the poorly understood genera of family Xylariaceae belonging to Ascomycetes (Rogers 1982). Members of *Xylaria* are major saprophytes found on the dead and decaying parts of the plants (Patel et al. 2018). Western Ghats of Karnataka, India is characterized by the diversity in floristic entities including macro fungi. Survey was conducted Aug–Oct 2019 in central Western Ghats region of Karnataka at Jambekoppa forest locality to explore *Xylaria* members. During the study, an interesting fungi belonging to family Xylariaceae was collected and characterized as *Entonaema liquescens* Moller.

Sporocarp were studied in their natural habitat for their morphology, including colour, size and shape. Geographical ranges were recorded using Garmin 650 GPS. Sporocarp were collected carefully and brought to laboratory using paper bags. Stereo microscope was used to observe the surface of collected species. Anatomical characters like size and shape of perithecia, asci and ascospores were studied using binocular compound microscope. By compelling all the morphological, anatomical characters as well as compared to the standard monographs, the species was identified (Rogers 1981; Leacock 2018).

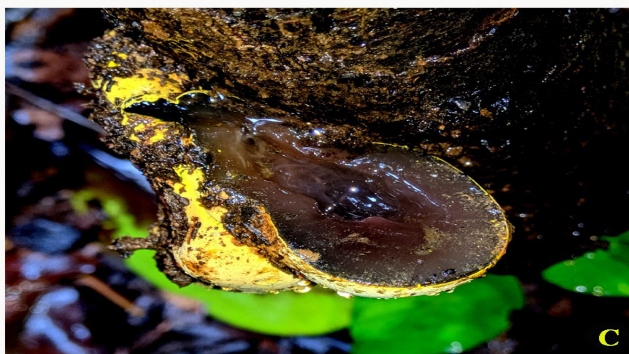
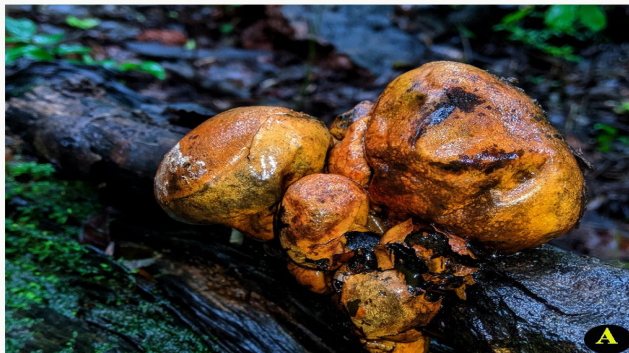
***Entonaema liquescens* Moller, MB#183350 =*Xylaria splendens* Berk. & M.A. Curtis,**

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Stromata globose or cerebriform are irregular shaped with short basal connective attached to the substrate, filled inside with watery liquid and becomes hollow on maturity. 1–12 cm diameter × 1–6 cm height; surface of the stroma generally bright-yellow coloured or light-yellow coloured, surface of stroma will lose their colour if handled when it is young, below the coloured conidial deposits are dark surface characterized by the dotted ostiolar openings.

Stroma is characterized by inner gelatinous layer and core is filled with watery liquid which comes out and collapses if we puncture the stromata. Perithecia 0.3–0.5 mm diameter. Asci consists of eight ascospores, measuring 120–150 µm in length. Apical ring turns blue while treated with the Melzers reagent. Ascospores dark brown, ellipsoid with blunt ends, with straight germ slit 11–11.5 × 5–6 µm in size.

***Entonaema liquescens* Moller**, found on unknown dead trees and branches. Place of collection: Jambekoppa forest locality (14.103 N, 75.142 E), Shivamogga District, Karnataka State, India. Date of collection: 30 August 2019. Collector: Nandan Patel K.J and Krishnappa M. Herbarium samples have been deposited in the Departmental



Entonaema liquescens Moller: A,B—Stroma | C—T.S. of young stroma | D—Matured stroma showing ostioles | E—Opened matured stroma showing liquid inside | F—Perithecia (5X) | G—Asci (10X) | H—Ascospores (40X).

Herbarium, Department of Botany, Kuvempu University, Shankaraghatta (Accession number KUABMK-186).

Earlier mycologists treated genus *Entonaema* as synonym for some other genus like *Penzigia*, *Sarcoxylon*, and *Glaziella* (Rogers 1982). *E. liquescens* is morphologically differentiated from other Xylariaceae members (Stadler et al. 2008). This species was introduced by Moller in 1901. Later in 1981, Rogers studied genus *Entonaema* with other closely related Xylariaceae members and he commented that this species is distributed widely in forests of Africa, Uganda, Argentina, Brazil, China, Colombia, Mexico, and America. This species is not known from India previously and fairly distributed in study area. Hence, this report stands from India and forms an addition to the fungi of India.

Rogers, J.D. (1982). *Entonaema liquescens*: description of the anamorph and thoughts on its systematic position. *Mycotaxon* 15: 500–506.

Stadler, M., J. Fournier, T. Lassoë, C. Lechat, H.V. Tichy & M. Piepenbring (2008). Recognition of hypoxylid and xylarioid *Entonaema* species from a comparison of holomorphic morphology, HPLC profiles, and ribosomal DNA sequences. *Mycological Progress* 7: 53–73. <https://doi.org/10.1007/s11557-008-0553-5>

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References

Leacock, P.R. (2018). *Entonaema*- MycoGuide. Retrieved from <http://www.mycoguide.com/guide/fungi/asco/sord/xyla/hypo/ento/liquescens>

Moller, A. (1901). Phycomyceten und Ascomyceten. Untersuchungen aus Brasilien. *Botanische Mittheilungen aus den Tropen* 9: 1–319.

Patel, K.J.N., S. Abrar, S. Sunilkumar & M. Krishnappa (2018). *Poronia pileiformis* (Berk.) Fr.-A new report to Karnataka. *Kavaka* 50: 78–79.

Rogers, J.D. (1981). *Sarcoxylon* and *Entonaema* (xylariaceae). *Mycotaxon* 73: 28–61.

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