

SHORT COMMUNICATION

Sarcoxylon compunctum (Jungh.) Cooke. A new record to Western Ghats of India

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Western Ghats of India received greater importance because of the rich biodiversity. Xylariaceae is one of the largest families among Ascomycota, during exploration of Xylariales members in central Western Ghats regions of Karnataka, India, a gigantic Xylariaceae member was observed, studied and characterized on the basis of morphology and anatomical characters and identified as *S. compunctum*.

Key words: Ascomycota, diversity, saprophytic, Xylariaceae

Xylariaceae of Ascomycota comprises of 85 genera and more than 1300 species across the globe (Patel and Krishnappa, 2017). These members were having variation in their morphology and anatomical characters (Suwannasai *et al.* 2012), they are major saprophytes, weak pathogens also rarely found on termite nests and as Coprophilous (Patel *et al.* 2018). These members play important role in litter decomposition in forest. Western Ghats region of peninsular India characterized by variation in their geography and rich biotic resources including macro fungal diversity. This region covers an area of 16000 km² and lies in between 8°20' - 20° 40' N and 73°-77° E (Ramachandra *et al.* 2012). It covers Gujrat, Maharashtra, Goa, Karnataka, Kerala and Tamilnadu states (Radhakrishnan and Rajmohana, 2012). Many researcher have worked on the macro fungi in this region but Xylariaceae members were still not studied completely, this species record forms an addition to the fungi of Western Ghats of India.

Frequent field survey were conducted to explore the Xylariaceae members in central Western Ghats regions of Karnataka, India, during July to September 2018. A gigantic Xylariaceae member was recorded in the Jambekoppa forest region of Shivamogga district, Karnataka, India. Photographs were taken in their natural habitat

using Nikon 3300 Digital SLR camera, geographical ranges were recorded using Garmin 650 GPS system, and field notes were taken with respect to their morphological characters and collected without causing any damage to sporocarp and brought to laboratory for further analysis. Anatomical and morphological studies were made using Olympus CH20i binocular and Olympus SZ Stereo microscope, hand sections were used for the studying anatomical characters like Perithecia, ascus, asci and ascospores. The name of the taxa was authenticated and confirmed by using <http://www.mycobank.org> and <http://www.indexfungorum.org/names/names.asp>.

Taxonomic description

Sarcoxylon compunctum (Jungh.) Cooke, Grevillea 13 (68): 107 (1885) [MB#118870]
= *Hypoxylon compunctum* (Jungh.) Fr., Nova Acta Regiae Societatis Scientiarum Upsaliensis 1: 114 (1851) [MB#204305]
= *Xylaria compuncta* (Jungh.) Berk. Hooker's Journal of Botany and Kew Garden Miscellany 6: 204 (1854) [MB#184640]
= *Sarcoxylon compuncta* (Jungh.) Cooke (1885) [MB#236026]
= *Penzigia compuncta* (Jungh.) Sacc. & Paol., Attidell' Istituto Veneto Scienze 6: 387-428 (1888) [MB#245471]

Stromata solitary or fused sometime found in cluster, hemispherical to globose stroma, with a

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narrow connective, grows up to 10cm tick, 16cm broad, most often 4-8 cm broad and 4-6 cm thick. Entostroma filled with flesh white matrix and becomes slightly hallow on maturity and surrounded by single perithecial layer on the top. Ectostroma white when young and becomes pale yellow on maturity and surface is dotted with ostioles, stroma becomes fairly solid upon drying. Anatomical characters showed that single perithecial layer measures 850-960 μ m. Asci 70-80 \times 6-7 μ m, 8- spored, apical ring turns blue in Melzers reagent, ascospore dark brown coloured, 10-15 \times 6.2-7.8 μ m in size (Fig.1)

Collection examined

Sarcoxylon compunctum (Jungh.) Cooke, found on unknown dead trees. Place of collection: Jambekoppa forest locality (14.105972220N & 75.143055560E), Shivamogga district, Karnataka state, India. Date of collection: 31/07/2018. Collector: Nandan Patel K.J and Krishnappa M. Herbarium samples has been deposited in the Departmental Herbarium, Department of Botany, Kuvempu University, Shankaraghatta (Accession number KUABMK-120).

Genus *Sarcoxylon* (Jungh) Cooke is comparatively less studied in Xylariaceae. Systematic position were unsettled, Montagne (1841) and Fries (1851)

considered *Sarcoxylon* members were closely related to *Hypoxylon*, Berkley (1854) placed it in *Xylaria*.

Earlier in the middle of the nineteenth century Berkley reported many fungal species from India based on the collections by Hooker and Thompson during 1849-50 from Sikkim and Khasi hills of Assam (Now in Meghalaya), he have reported 12 species belonging to Xylariaceae including *Sarcoxylon compactum* in "Decades of fungi". It was also as reported *S. compactum* from Nicobar Islands with the collections of Didrichson during 1845-1847. Butler (1931) made a check list of fungi reported from India in "Fungi of India" and he have mentioned that this species was distributed only in Khasi hills and rarely observed in Nicobar Island. Hence, this report is stands first from Western Ghats of India.

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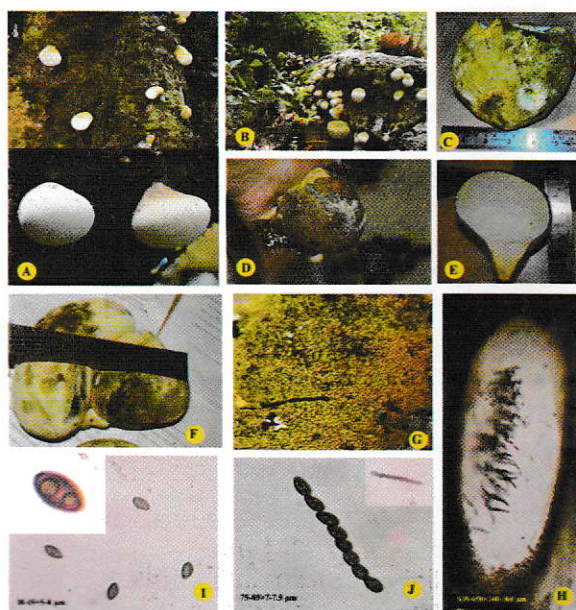


Fig. 1 : *Sarcoxylon compunctum* : A and B. Sporocarps in their natural habitat, C and D. Stromata, E. V.S of Stroma, F. Stromata attached, G. Ostiole on stroma, H. Perithecia, I. Ascospores, J. Asci.