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Journal of Threatened Taxa

10.11609/jott.2023.15.2.22559-22770
www.threatenedtaxa.org

26 February 2023 (Online & Print)
15(2): 22559-22770
ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)



Open Access

2000





ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

Publisher
Wildlife Information Liaison Development Society
www.wild.zooreach.org

Host
Zoo Outreach Organization
www.zooreach.org

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Cover: Pseudo-flying animals and wind-dependent seed & spore dispersers – made with digital painting in Krita. © Melito Prinson Pinto



First report of *Meliola panici* on *Ottochloa nodosa* (Kunth) Dandy (Poaceae)

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Black mildews are ectoparasites forming black colonies on surface of leaves, tender stem, and fruits of host plants (Hansford 1961; Hosagoudar 1996, 2008, 2013; Hongsanan et al. 2015). These fungi are minor plant pathogens and their distribution is reported mostly from tropical parts of the world (Hansford 1961; Hosagoudar 1996, 2008, 2013; Saenz & Taylor 1999; Hongsanan et al. 2015). Black Mildews are host specific and have narrow host range that rarely extend to more than one host family (Zeng et al. 2017). Meliolales are the largest order of black mildew fungi represented by 3,064 epithets listed in Index Fungorum (Jayawardena et al. 2020). This order comprises two families Armatellaceae and Meliolaceae (Hosagoudar 2013; Hongsanan et al. 2015; Zeng et al. 2017; Hyde et al. 2020). *Meliola* is the type genus of the family Meliolaceae. The description of the species *Meliola panici* causing black mildew disease on *Ottochloa nodosa* (Kunth) Dandy is included in this report.

The infected plants were collected from the Konni Forest Division located in the southern part of the Western Ghats in peninsular India. Infection patterns and other characteristics of colonies were noted during collection and photographs were taken. The infected leaves were collected in clean polythene bags and separate field numbers were given to collections from

different localities. From the fresh samples, scrapes of surface mycelia taken were treated with 10% KOH for 30 minutes and then mounted in lactophenol in cotton blue. Appropriately dried specimens were used to prepare permanent slides of colonies (Hosagoudar & Kapoor 1985).

Meliola panici Earle, Muchlenbergia 1: 12, 1901; Hansf., Sydowia Beih. 2: 745, 1961; Gupta & Gupta, Indian Phytopath. 58: 390, 1985; Hosag. & Goos, Mycotaxon 42: 136, 1991; Hosag., Meliolales of India, p. 276, 1996; Hosag. & Sabeena, J. Threat. Taxa 6(7): 5971, 2014. (Image 1).

Materials examined: On leaves of *Ottochloa nodosa* (Kunth) Dandy (Poaceae) from Konni Forest Division, Pathanamthitta District, Kerala, India, 9.2281°N, 76.8171°E, 10 February 2019, coll. Gokul G. Nair, MTCHT 271.

Colonies amphigenous, subdense, up to 3 mm in diameter. Mycelium straight to flexuous, branching opposite to irregular at acute to wide angles, loosely reticulate, cells 26–32 × 4–8 μm. Appressoria alternate, straight to curved, antrorse to spreading, 14–20 μm long; stalk cells cylindrical to cuneate, 3–8 μm long; head cells ovate, globose, entire, angular to sublobate, 10–15 × 9–11 μm. Phialides borne on a separate mycelial branch, alternate to opposite, ampulliform, 14–20 ×

Editor: Anonymity requested.

Date of publication: 26 February 2023 (online & print)

Citation: Gokul, G.N. & J. Thomas (2023). First report of *Meliola panici* on *Ottochloa nodosa* (Kunth) Dandy (Poaceae). *Journal of Threatened Taxa* 15(2): 22761–22763. <https://doi.org/10.11609/jott.7636.15.2.22761-22763>

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Funding: None.

Competing interests: The authors declare no competing interests.

Acknowledgements: We thank the Department of Botany, Catholicate College, Pathanamthitta and Mar Thoma College, Tiruvalla for providing facilities. Forest Department of Kerala is thankfully acknowledged for granting permission to conduct the field study.



Image 1. *Meliola panici*: A—Infected plant | B—Colonies on adaxial surface of leaf | C—Surface mycelium | D—Perithecia and setae | E—Appressorial Hyphae | F—Hypha with phialides | G—Mature Ascospore | H,I—Germinating ascospores. © G.N. Gokul.

5–7 µm. Mycelial setae numerous, straight, simple, acute to obtuse at the tip, up to 550 µm long. Perithecia mostly grouped, verrucose, up to 158 µm in diameter; ascospores oblong cylindrical, 4-septate, slightly constricted at the septa, 33–42 × 10–14 µm.

Single species of *Asteridiella* and 12 species of *Meliola* were reported infecting members of Poaceae (Hansford 1961). Now 28 species of *Meliola* are known to associate with 39 host plants of the family Poaceae (Hosagoudar 2008, 2013; Hosagoudar & Sabeena 2014; Zeng et al. 2017). *Meliola panici* and its varieties were reported infecting eight species, namely, *Vetiveria zizanioides* (L.) Nash, *Cyrtococcum longipes* (Wight & Arn. ex Hook.f.) A.Camus, *Olyra latifolia* L., *Acroceras munroanum* (Balansa) Henrard (*Panicum latifolium*), *Setaria palmifolia* (Koenig) Stapf, *Stipa dregeana* Steud., *Uniola virgata* (Poir.) Griseb., and an unidentified species of *Panicum* (Zeng et al. 2017). Based on morphological characteristics and Beeli digital formulae (3111.4223) the present collection is identified as *Meliola panici*. This is the first report of the pathogen growing as a biotrophic associate on *Ottochloa nodosa*.

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NAAS rating (India) 5.64

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The Managing Editor, JoTT,
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ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

February 2023 | Vol. 15 | No. 2 | Pages: 22559–22770

Date of Publication: 26 February 2023 (Online & Print)

DOI: 10.11609/jott.2023.15.2.22559-22770

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