

## Outlineoffungi.org - Note 612 *Chrysosphaeria*

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***Chrysosphaeria*** W.J. Nel, Z.W. de Beer & T.A. Duong

This monotypic genus, typified by *Chrysosphaeria jan-nelii* W.J. Nel, Z.W. de Beer & T.A. Duong, is associated with *Termitomyces* fungus combs ([Nel et al. 2021](#)). It is one of the two genera in *Ophiostomataceae* which have been reported from this unique niche. The establishment of this new taxon is supported by morphological, phylogenetic and phylogenomic evidence ([Nel et al. 2021](#)). Morphologically, the ascomata of *C. jan-nelii* are distinct from other taxa of *Ophiostomataceae* in that they remain golden brown throughout all developmental stages. They also comprise short, hyaline to lightly pigmented hairs and their pale brown necks are very flexible, with tapered hyaline apices. The latter in turn consist of marginally divergent, hyaline ostiolar hyphae ([Nel et al. 2021](#)). While asci have not been observed, the ascospores have been described as aseptate, hyaline, cylindrical to bean-shaped and without any sheath. The asexual morph is characterized by sporothrix-like conidiophores and conidiogenous cells. The conidia are dimorphic, with the primary conidia being oblong while the secondary conidia being obovoid ([Nel et al. 2021](#)).

Sequence data from LSU and ITS loci (attempts to amplify the *tub2* region were continuously unsuccessful as reported in the study) were initially used in single-locus phylogenetic analyses to determine the placement of the isolates of *C. jan-nelii*. The latter formed a distinct clade in the phylogenetic trees, separate from other taxa of *Ophiostomataceae*, with, a however uncertain generic placement in the family (Nel et al. 2021). Phylogenomic analyses were thus conducted using the genomic data for one of the strains of *C. jan-nelii*, which in turn confirmed the placement of *Chrysosphaeria* as a distinct lineage in *Ophiostomataceae*, thereby, supporting its establishment as a new genus ([Nel et al. 2021](#)).

While its growth in culture has been reported to be independent of *Termitomyces* comb materials, media supplemented with different parts of *Termitomyces* combs promoted the growth and development of *C. jan-nelii* as compared to other growth medium ([Nel et al. 2021](#)). Moreover, *Chrysosphaeria* was isolated from *Termitomyces* fungus combs which had already been abandoned by termites ([Nel et al. 2021](#)). The opportune appearance and association of the taxon with the combs as well as a plausible association between *Chrysosphaeria* and termites still need to be further elucidated ([Nel et al. 2021](#)).

### Reference

Nel WJ, de Beer ZW, Wingfield MJ, Poulsen M, Aanen DK, Wingfield BD, Duong TA. 2021 – Phylogenetic and phylogenomic analyses reveal two new genera and three new species of ophiostomatalean fungi from termite fungus combs. *Mycologia* 113:1199–1217. <https://doi.org/10.1080/00275514.2021.1950455>

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