

## Outlineoffungi.org - Note 1088 *Hyalopsoraceae*

**Web-links:** [Index Fungorum](#), [Facesoffungi](#), [MycoBank](#), [GenBank](#)

### *Hyalopsoraceae* P. Zhao & L. Cai

*Hyalopsoraceae* was introduced in Zhao et al. (2022) to accommodate three closely related clades, representing the genera *Coleopuccinia*, *Hyalopsora* and *Melampsoridium*. *Hyalopsora* and *Melampsoridium* were previously included in *Pucciniastraceae* (Cummins & Hiratsuka 1983, 2003), a highly polyphyletic family (Aime et al. 2018, Aime & McTaggart 2020, Zhao et al. 2021), while *Coleopuccinia* was considered a synonym of *Gymnosporangium* (*Gymnosporangiaceae*). However, Cao et al. (2018) recognised the phylogenetic distinctiveness of the latter two genera. Zhao et al. (2022) included six species (including one un-named species) of *Hyalopsora* in their phylogenetic tree. The genus *Hyalopsora* contains 22 species (Index Fungorum), all occurring on ferns with their alternate hosts in *Pinaceae*. *Melampsoridium* comprises ten species (Index Fungorum) parasitic on *Betulaceae* and *Magnoliaceae*, also with their alternate hosts in *Pinaceae*, of which three species were included by Zhao et al. (2022). Both *Hyalopsora* and *Melampsoridium* are widely dispersed around the world. *Coleopuccinia* comprises only two species (Index Fungorum), both described from China on *Rosaceae*, with *C. sinensis* included in the phylogenetic analysis by Zhao et al. (2022). The family *Hyalopsoraceae* can be distinguished from phylogenetically allied families by possessing intraepidermal telia with sessile and unicellular teliospores with intercalary cell. Based on analysis of ITS and LSU sequence data, Zhao et al. (2022) showed that the three genera lie in a separate clade, which was defined as the new family.

### References

- Aime MC, McTaggart AR. 2020 [‘2021’] – A higher-rank classification for rust fungi, with notes on genera. *Fungal Systematics and Evolution* 7, 21–47.  
<https://doi.org/10.3114/fuse.2021.07.02>
- Aime MC, Castlebury LA, Abbasi M, Begerow D et al. 2018 – Competing sexual and asexual generic names in *Pucciniomycotina* and *Ustilaginomycotina* (Basidiomycota) and recommendations for use. *IMA Fungus* 9, 75–89.  
<https://doi.org/10.5598/imafungus.2018.09.01.06>
- Cao B, Tao SQ, Tian CM, Liang YM. 2018 – *Coleopuccinia* in China and its relationship to *Gymnosporangium*. *Phytotaxa* 347, 235–242.  
<https://doi.org/10.11646/phytotaxa.347.3.4>
- Cummins GB, Hiratsuka Y. 1983 – *Illustrated Genera of Rust Fungi*, Revised Edition. American Phytopathological Society, St Paul, MI. 152 p.
- Cummins GB, Hiratsuka Y. 2003 – *Illustrated Genera of Rust Fungi*, 3<sup>rd</sup> edn. American Phytopathological Society, St Paul, MI. 225.
- Zhao P, Zhang ZF, Hu DM, Tsui, KM et al. 2021 – Contribution to rust flora in China I, tremendous diversity from natural reserves and parks. *Fungal Diversity* 110, 1–58.
- Zhao P, Li Y, Li Y, Liu F et al. 2022 – Applying early divergent characters in higher rank taxonomy of *Melampsorineae* (Basidiomycota, *Pucciniales*). *Mycology* 14(1), 11–36.  
<https://doi.org/10.1080/21501203.2022.2089262>

### Entry by

**Eric H.C. McKenzie**, Manaaki Whenua–Landcare Research, Private Bag 92170, Auckland Mail Centre, Auckland 1142, New Zealand

(Edited by **Maryam Tavakol Noorabadi & Kevin D. Hyde**)

Published online 7 May 2024