

## Outlineoffungi.org - Note 1444 *Heinzbutinia*

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### *Heinzbutinia* Z.W. de Beer & M. Procter

De Beer et al. (2023) introduced *Heinzbutinia* to accommodate *Heinzbutinia grandicarpa* (Kowalski & Butin) Z.W. de Beer & M. Procter as the type species based on morphology and phylogenetic analyses using ITS, LSU, TEF1- $\alpha$ , and RPB2 sequence data. Three species have been identified in the genus *Heinzbutinia*, namely *H. grandicarpa* (Kowalski & Butin) Z.W. de Beer & M. Procter, *H. microspora* (Arx) Z.W. de Beer & M. Procter, and *H. solheimii* (Strzałka & Jankowiak) Z.W. de Beer & M. Procter. All three new species are reclassification of *Ophiostoma grandicarpum* [as ‘grandicarpa’] (Kowalski & Butin) Rulamor, *Ophiostoma microsporum* Arx, and *Ophiostoma solheimii* Strzałka & Jankowiak (De Beer et al. 2022). Both sexual and asexual morphs have been seen. In the sexual structure, ascomata are subglobose to globose-shaped and have a black base. The necks are black, cylindrical, and curved. Ostiolar hyphae are absent. Asci are elongated ovoid or clavate-shaped, and evanescent. Ascospores are hyaline, one-celled, orange segment-like in side view, and ellipsoid-shaped in face view. The asexual structure is *Sporothrix*-like. Conidiophores are micronematous, macronematous, mononematous, simple or branched, and hyaline. Conidiogenous cells are sympodial and denticulate. Conidia are hyaline, one-celled, ellipsoid, often curved, reniform, secondary conidia that develop from swollen ellipsoidal conidia, which can be oblong, straight, or curved (De Beer et al. 2022). Phylogenetically, *Heinzbutinia* formed a distinct clade from other genera. In larger phylogenetic trees, the two species consistently grouped as a distinct lineage separate from all other genera in the *Ophiostomatales* order. Both species have long necks on their reproductive structures (ascomata) measuring more than 1 millimeter in length, produce asexual forms resembling *Sporothrix*, and have reniform-shaped ascospores. They were both found on hardwood trees. Due to their unique placement in the phylogenetic tree, as well as their distinctive physical characteristics and ecological niche, we have classified the *O. grandicarpum* complex as a new genus called *Heinzbutinia* (De Beer et al. 2022). This species is closely related to and shares a well-supported lineage with *H. grandicarpa* and *H. microspora* (Jankowiak et al. 2019). The family taxonomic classification of the genus *Heinzbutinia* is uncertain, but it is placed in *Ophiostomatales*, *Sordariomycetidae*, *Sordariomycetes*, *Pezizomycotina*, and *Ascomycota* (De Beer et al. 2022).

### References

- De Beer ZW, Procter M, Wingfield MJ, Marincowitz S et al. 2022 – Generic boundaries in the *Ophiostomatales* reconsidered and revised. *Studies in Mycology*. 101(1), 57– 120.
- Jankowiak R, Bilański P, Strzałka B, Linnakoski R et al. 2019 –Four new *Ophiostoma* species associated with conifer-and hardwood-infesting bark and ambrosia beetles from the Czech Republic and Poland. *Antonie van Leeuwenhoek* 112, 1501– 21.

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