

PROPOSALS TO CONSERVE OR REJECT NAMES

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(1888) Proposal to conserve the name *Glomus* (*Fungi*, *Glomeromycota*, *Glomerales*) as being of neuter gender

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(1888) *Glomus* Tul. & C. Tul. in Giorn. Bot. Ital. Anno 1, 2(1): 63. 11 Mai 1845, nom. et gen. neut. cons. prop. Typus: *G. macrocarpum* Tul. & C. Tul. (*macrocarpus*)

The majority of plant species form mycorrhiza, a mutually beneficial symbiosis between plant roots and certain root-inhabiting fungi. The presence and type of mycorrhiza is also an important character in plant taxonomy and phylogeny. The arbuscular mycorrhizal association is by far the most important kind of these symbioses. Evolution of the group made the conquest of the land by the first rootless plants possible. It has been estimated that over 200,000 species of higher plants form arbuscular mycorrhiza. The arbuscular mycorrhizal fungi form a monophyletic group, phylum *Glomeromycota* (Schüßler & al. in Mycol. Res. 105: 1413–1421. 2001; Hibbett & al. in Mycol. Res. 111: 509–547. 2007). This phylum is likely the sister group of *Ascomycota* + *Basidiomycota* (James & al. in Nature 443: 818–822. 2006; Redecker & Raab in Mycologia 98: 885–895. 2006; White & al. in Mycologia 98: 872–884. 2006). The symbiosis is also very ancient, with fossils dating back 460 Ma (Redecker & al. in Science 289: 1920–1921. 2000). Within the *Glomeromycota* some 200 species are recognised at present (Redecker & Raab in Mycologia 98: 885–895. 2006). The largest genus in the phylum is the genus *Glomus* with 70 recognised species.

When introducing the genus *Glomus*, the Tulasne brothers mentioned two species, *G. microcarpum* Tul. & C. Tul. and *G. macrocarpum* of which the second was chosen as a lectotype by Clements & Shear (Genera of Fungi: 238. 1931). That typification has been accepted by the ING database (<http://botany.si.edu/ing/>). In their paper the Tulasne brothers described four new genera. They provided the etymology of three generic names (*Hydnocystis*, *Genabea*, *Pachyphloeus*), but not in the case of *Glomus*. The Latin word *glomus* refers to a ball of yarn and is neuter, but Tulasne and Tulasne treated the name as masculine as witnessed both by the two epithets and by the description of the species. With the two *Glomus* species the description starts with “globozus sat regularis candidus intus solidus” and “subamorphus, sordide

griseus” respectively, and continues to use the masculine form, whereas new species in the genus *Tuber*, which they treated as neuter, the diagnosis starts as “mediocre globosum”, “globosum” and “rotundatum”. Which gender should then be correct? Article 62 of the ICBN (McNeill & al. in Regnum Veg. 146. 2006) provides the answer to that question. The article mentions three criteria in descending order of importance, viz., botanical tradition, the author’s original usage, and classical usage (even though Note 1 tries to link original usage and classical usage, which is a bit confusing in an otherwise clear rule). I have been unable to find instances of the name *Glomus* in botanical (i.e., pre-Linnaean) tradition. Consequently, the gender assigned by Tul. & C. Tul. (masculine) prevails over classical Latin (neuter). The masculine gender had been used from 1844 to 1982, when Trappe (Phytopathology 72: 1102–1108. 1982) changed all endings of adjectival epithets into neuter. It should be added that no new species were described in *Glomus* between 1844 and 1974 (Gerdemann & Trappe in Mycol. Mem. 5: 1–76. 1974). Mycological usage in the last 30 years has consistently treated the name as neuter. Changing gender (again) does not seem to serve any useful purpose, and I therefore propose to conserve the neuter gender under Art. 14.11 (conservation of gender).

If the name *Glomus* is conserved as being of neuter gender, the stem of the name becomes *Glomer-*, as the classical Latin word, under the 3rd declination. Schüßler & al. (in Mycol. Res. 105: 1413–1421. 2001) were the first to use the stem *Glomer-*; until that time the stem *Glom-* was used (*Glomaceae*, *Glomales*). The case was extensively argued by David (in Constancea 83. 2002). David remarked that “the stem *Glomer-* should be used since *Glomus* is a neuter noun with a genitive singular ‘*Glomeris*’. To adopt the former stem would imply that *Glomus* is a masculine noun with a genitive singular ‘*Glomi*’ and consequently many of the species epithets in the genus would have to be altered.” While the reasoning by David was incorrect, because the Tulasnes’ name was masculine from the start, conservation of the name of neuter gender, leaves no doubt that the stem *Glomer-* should be used.