Xu, Shenglan [1], Kodrul, Tatiana [2], Maslova, Natalia [3], Tobias, Anna [4], Quan, Cheng [5], Jin, Jianhua [6].

Fossil fruits of *Nyssa* and associated fungi from the late Oligocene of South China.

Nyssa Gronov. ex L. (Nyssaceae) became widely distributed in the Northern Hemisphere during the Cenozoic, then suffered wide extinctions probably because of climatic changes in the late Cenozoic and Quaternary. Extant species of *Nyssa* have a disjunct distribution between eastern North America, Central America, and eastern Asia.

A new species of *Nyssa* is defined based on fruit endocarps from the upper Oligocene Yongning Formation in Nanning Basin, South China. These unilocular endocarps have obovate, rarely elliptical outline, dorsally flattened, generally with the widest point above the midline. From five to seven longitudinal narrow grooves and as many rounded wide ridges appear on ventral surface. The dorsal midline is marked by a conspicuous longitudinal ridge. Broadly triangular germination valve with rounded lateral edges and acute apex is confined to the apical third of endocarp on dorsal side. Peripheral vascular bundles are sunken in the grooves. Locule is roughly M-shaped in transverse section. Fibrous endocarp walls are 0.5–0.9 mm thick. The fossils found in the Nanning Basin are the earliest fossil record of *Nyssa* in Asia.

Associated fossil ascomata on *Nyssa* endocarp has affinities to extant genus *Amphisphaeria*. Dome-shaped ascomata with rounded or oval base range from 0.5 to 0.8 mm in diameter. The ascoma height in vertical section is up to 0.6 mm. The ascomata have a single central protruding ostiolar canal with a papillar central pore up to 100 μm in diameter. Ascoma wall is up to 25 μm thick, a paraplectenchyma is formed by short-celled hyphae. Ascospores are 1-septate, ellipsoid to fusoid, tapering to the ends, slightly constricted at the septum. The spore surface is mostly finely granulate, with flattened sculpture elements. Endocarps may be released from mesocarps after the animal feeds and be available to wood-destructed amphisphaeriaceous fungi.

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