

Family Hirmeriellaceae nom. nov.

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SCHIMPER (1870) instituted the genus *Cheirolepis* for certain coniferous twigs found in Rhaetic of Germany and earlier named as *Brachyphyllum münsteri* by Schenk (1869). Hörhammer (1933) reported *C. münsteri* and a new taxon of coniferous female cone-scales, namely, *Hirmeriella rhätoliassica* from Rhaetic of France. Hirmer and Hörhammer (1934) placed both the genera in Cheirolepidiaceae, a taxon of family rank.

Takhtadjan (1956) pointed out that Schimper's genus *Cheirolepis* was a later homonym of *Cheirolepis* Boissier 1849, an extant genus of Asteraceae [see also Note 4, Article 11, International Code of Botanical Nomenclature (St. Louis Code) 2000 - "Names of plants (diatoms excepted) based on a non-fossil type are treated as having priority over names of the same rank based on a fossil (or subfossil) type."]. He therefore instituted a new genus *Cheirolepidium* to accommodate *C. münsteri* (Schenk) Schimper, and named the family as Cheirolepidiaceae.

Jung (1967, 1968) made a detailed investigation of equivalent material and noted that *Cheirolepidium* (*Cheirolepis*) *münsteri* was a female bract-scale-complex, and *Hirmeriella rhätoliassica* was in fact its subtending persistent bract. Thus, both genera refer to a single natural taxon and hence *Cheirolepidium* is considered to be a junior synonym of *Hirmeriella* (see also Article 11.7, ICBN). On the other hand, *H. rhätoliassica* Hörhammer, type of the genus *Hirmeriella* was instituted later to *C. münsteri*

(Schenk) Takhtadjan, type of the genus *Cheirolepidium* and hence the epithet *münsteri* has priority over *rhätoliassica* as the type of the genus *Hirmeriella* (Article 10.5, ICBN). Jung also placed this newly defined taxon in a new subfamily Hirmerielloidae.

The question now arises whether in view of the above nomenclatural reconfigurations, the family epithet Cheirolepidiaceae (type *Cheirolepidium*) can be retained under Article 18.1 of ICBN ("The name of a family is formed from a legitimate name of an included genus...."), or the subfamily Hirmerielloidae should be raised to the rank of family and named as Hirmeriellaceae (type *Hirmeriella*)? According to Article 11.3 of ICBN "For any taxon from family to genus inclusive, the correct name is the earliest legitimate one with the same rank, except in cases of limitation of priority by conservation". *Cheirolepidium* is a legitimate and validly published name but being the junior synonym of *Hirmeriella* is neither available nor in competition for typification of the family (Article 11.5, ICBN). Genus *Hirmeriella* thus replaces *Cheirolepidium* as the type of the family, as long as the two generic names are considered to be synonyms. This necessitates a change in the name of the family.

The family name Cheirolepidiaceae could probably be conserved under Article 14.1 of ICBN ("In order to avoid disadvantageous nomenclatural changes entailed by the strict application of the rules, and especially of the principle of priority.....") read together with Article 14.2 ("Conservation aims at retention of

those names which best serve stability of nomenclature.”). But there being no competitive family name or spelling, conservation may not be applied for Cheirolepidiaceae. A name can also not be conserved against itself, or against any future proposal(s) to replace the name.

It is therefore proposed that the family name Cheirolepidiaceae Takhtadjan may be replaced by family name Hirmeriaceae, nom. nov., with the genus *Hirmeriella* Hörhammer 1933 as its type. On the basis of characteristic occurrence of *Classopollis* producing male cones (*Classostrobus*), species of *Cupressinocladus*, *Frenelopsis* and *Pseudofrenelopsis*, earlier considered to be members of family Cupressaceae are also included in this family (Watson 1988). *Tomaxellia biforme* from the Early Cretaceous of Argentina is the only recognised megafossil representative of this family in the Gondwana. The pollen *Classopollis*, however, is frequently encountered in the Jurassic-Early Cretaceous sediments of the Gondwana.

Family - Hirmeriaceae nom. nov.

Synonym - Cheirolepidiaceae Takhtadjan 1956 in Vakhrameev et al. 1963.

Type - *Hirmeriella* Hörhammer 1933 [syn. *Cheirolepidium* Takhtadjan 1956].

Diagnosis (compiled from Watson 1988) - Shoot morphology either araucarioid or cupressioid, that is, leaves borne helically or in opposite and decussate manner; cuticle thick, stomata sunken in a pit, subsidiary cells with prominent papillae which extend into the stomatal pit; male cones oval or round in shape

with spirally arranged microsporophylls, pollen sacs 2 to 8 per microsporophyll, borne abaxially, pollen invariably of sporae dispersae *Classopollis*-type; ovuliferous scales distinctly lobed, borne in the axil of a bract, ovule(s) apparently covered by a flap-like structure.

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