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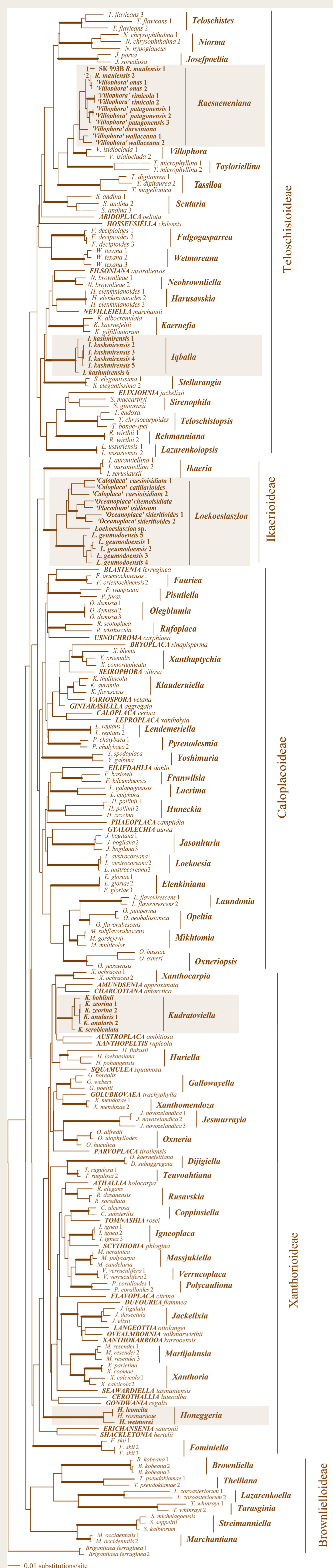
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Taxonomy of the lichen family Teloschistaceae based on multigene phylogeny

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Synopsis

The lichen family Teloschistaceae (Teloschistales, lichenized Ascomycota) included ten genera and ca 500 species prior to the molecular era (Kärnefelt 1989). Since then, molecular studies resulted in today's ca 112 genera and ca 1200 species (e.g., Fayyaz et al. 2022; Kondratyuk et al. 2022a, 2022b). New species and genera in the Teloschistaceae, based on recently discovered monophyletic branches, are presented.

Method

Nuclear ITS sequences have been used in phylogenetic studies since the turn of the millennium. Later, a multigene approach using nrITS, 28S nrLSU, and 12S mtSSU sequences became the common method in molecular phylogeny. The results have formed a basis for the new taxonomy.

Results

The final data matrix of the phylogeny of the whole Teloschistaceae included 229 voucher specimens of the 125 species belonging to the 105 genera of this family and it was rooted with species of the genus *Brigantiaea*. Most genera are divided into four subfamilies of the Teloschistaceae. Only seven genera lack sufficient data for clarifying their systematic positions with certainty.

The new genera *Iqbalia* and *Kudratoviella* in the Teloschistaceae, based on recently discovered monophyletic branches, are shown in the phylogenetic tree (to the left). The genus *Oceanoplaca* Arup, Søchting et Bungartz was found to be a synonym for the genus *Loekoeslaszloa* S. Y. Kondr., Kärnefelt, A. Thell et Hur, and the species *Villophora onas* Søchting, Søgaard et Arup a synonym for the species *Raesaeneniana maulensis* (S. Y. Kondr. et Hur) S. Y. Kondr., Elix, Kärnefelt et A. Thell.

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Note to the phylogenetic tree:

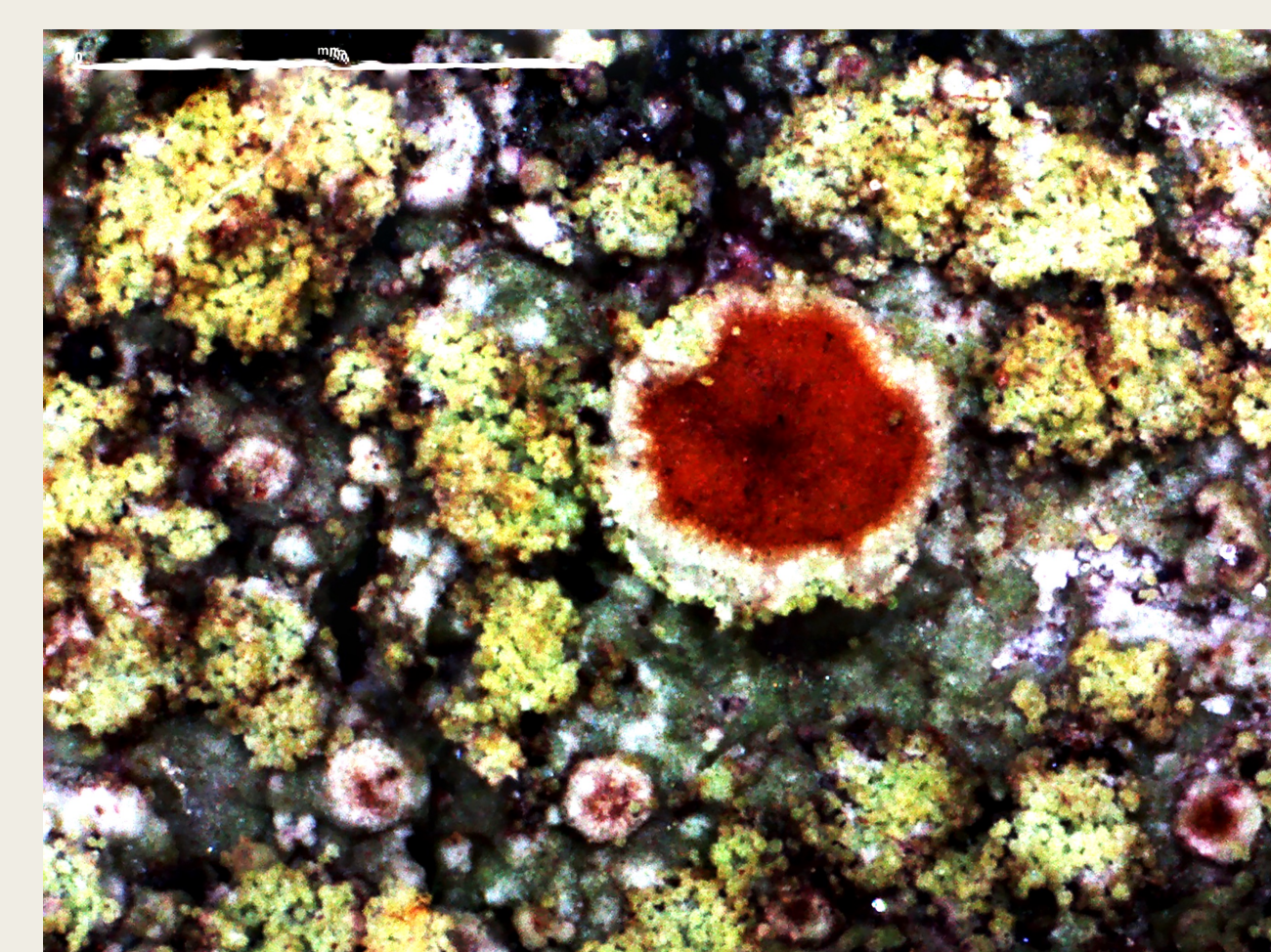
Most likely phylogenetic relationship of *Iqbalia* and *Kudratoviella* with their associated taxa inferred from nrITS, nrLSU and mtSSU data on rooting with *Brigantiaea ferruginea* as outgroup.

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Jackelixia hosseussii, holotype.



Loekoeslaszloa reducta, holotype.



Orientophila viticola, holotype.



Ovealmbornia ovei, holotype.



Oxneria imshaugii, holotype.



Xanthokarroa elsiae, holotype.

