The Funariales compose a diverse lineage that arose from the earliest diversification events in the evolution of mosses with articulate teeth. A single family is currently recognized within the order, namely the Funariaceae. Members of the order are annuals, and grow on soil. The vegetative plants are typically unbranched, and short. They produce both male and female sex organs, and hence almost always produce abundant sporophytes. The architecture of the latter varies from complex, with a long seta, asymmetric, operculate, and double peristome capsules with a well-differentiated annulus in Funaria, to short setae, bearing a spherical, indehiscent and gymnostomous capsule in various species of Physcomitrium. Recent phylogenetic inferences revealed that reduction in sporophyte architecture occurred multiple times, in particular throughout the Entosthodon-Physcomitrium complex, and that Entosthodon composed a grade subtending Physcomitrium. Consequently, the family has undergone dramatic revision in its generic circumscription. We aim for participants being able to study plants of the various lineages, primarily from culture collections since the plants are ephemeral in the field. We intend to engage the class in an exercise seeking to identify diagnostic traits of species and species groups. The laboratory time will be complemented with lectures highlighting the history of the Funariaceae, recent advances in our understanding of the diversification of the family and the contribution studies of species such as Funaria hygrometrica and Physcomitrium patens had on the development of bryology.

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