



## DEVELOPMENT, ANATOMY, AND GENETIC CONTROL OF SOME TERATOLOGICAL PHENOTYPES OF RANUNCULACEAE FLOWERS

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Teratological organisms originate from developmental anomalies, and exhibit structures and a body organization that deviate from the species standard. These monsters give essential clues about the formation and evolutionary significance of the wild-type groundplan. We focus on flower terata, which can be affected in their sterile and/or fertile organs, with special emphasis on the Ranunculaceae. The diversity of perianth shapes and organizations in flowers of this family is huge, and is even increased when anomalies occur during organo- and/or morphogenesis.

To begin with, we synthesize the observations and research conducted on the Ranunculacean floral terata, following the most

recent phylogenetic framework published in 2016 by our team.

Then, we report results regarding the morphology of developing meristems, the anatomy of buds, and the genetic control of selected teratological phenotypes of Ranunculaceae flowers. We focus on species and horticultural varieties belonging to the genera *Aquilegia*, *Delphinium*, and *Nigella*. Wild-type flowers of these species are actinomorphic (*Aquilegia*, *Nigella*) or zygomorphic (*Delphinium*), spurred (*Aquilegia*, *Delphinium*) or with pocket-like petals (*Nigella*).

Last, we discuss the evolutionary potential of such teratological phenotypes when they occur in the wild.