

## TRIOECY IN FLOWERING PLANTS

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The populations of trioecious plants consist of individuals with staminate, pistillate, and hermaphrodite flowers. Trioecy is very rare in angiosperms and information about it is extremely insufficient. On the basis of published data and original research, a list of trioecious plants in the world flora is compiled, comprising 80 species from 46 genera belonging to 33 families and 21 orders of flowering plants. In angiosperms, trioecy is found in 7.9% of families, 0.3% of genera, and 0.03% of species. Currently, trioecious species are not found in the group of basal angiosperms, are uncommon among magnolids and rather few among monocotyledonous plants. The great majority of trioecious plants, namely 87.5% of all species, belong to the Superrosids (30 species) and Superasterids (40 species). The largest number of trioecious species were found in the next five families: Rosaceae (9 species from 2 genera), Caprifoliaceae (7 species from 1 genus), Scrophulariaceae (7 species from 1 genus), Caryophyllaceae (6 species from 2 genera), and Celastraceae (6 species from 2 genera). Slightly less than half of the identified trioecious species are found in five genera: *Fragaria* L. (8 species), *Valeriana* L. (7 species), *Buddleja* L. (7 species), *Maytenus* Molina (5 species), and *Silene* L. (5 species). In tropical floras, trioecious plants are most often phanerophytes, i.e. trees or shrubs with a biotic pollination mode, dry or fleshy fruits, and white or yellow flowers. In temperate latitudes, trioecious plants are mainly represented by hemicryptophytes, i.e. herbaceous polycarpic species with biotic pollination mode, dry fruits, and white flowers. Trioecious plants are most often occur in temperate latitudes (Boreal subkingdom of the Holarctic kingdom, 36% of all species) or in tropical latitudes (Neotropical kingdom, 21.3% of all species) and are confined to genera in which dioecy is widespread. The variety of sexual differentiation of some trioecious plants, sex ratios in their populations, a possible connection with polyploidy, as well as the mechanisms of self-maintenance and evolution of trioecy in flowering plants are discussed.

*Keywords:* trioecy, flowering plants, sexual polymorphism

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