Temperate Garden Plant Families

The Essential Guide to Identification and Classification

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PREFACE

This book is primarily addressed to gardeners, horticultriers, and plant enthusiasts working with plants of temperate climates, thus plants that are hard or half-hardy. It is not encyclopedic—many families are not be dealt with because they are entirely tropical in distribution or mostly not in cultivation in temperate gardens. It is intended as an introduction to the concept of plant families, especially in light of the more recent changes in the circumscription of many families and the nomenclature of plants at the level of family, genus, and species.

Sources of primary information include first and foremost Mobberley's 'Plant Book, Fourth Edition' (Mobberley 2017), which treats all families and genera according to the most current classification. Wikipedia provided useful ancillary material. Families are recognized and circumscribed largely following the recommendations of the Angiosperm Phylogeny Group (APG) in its latest publications (APG 2003, 2009), the former offering some alternative treatments. We include several modifications to the APG classification as suggested by later authors. *TAXONOMY OF FLOWERED PLANTS* (Lawrence 1993), though arranged according to an out-of-date classification, is nevertheless a source of invaluable details about many plant families. Specialized terms are defined in the Glossary. Additional sources of useful information are included in the References.

Many colleagues helped us refine our entries for families not well known to us: Haam Al-Shehbaz (Brassicaceae), Peter Bruyns (Apocynaceae), Peter Hoch (Onagraceae), Cornelia Klak (Alstroemercaceae), Peter Linder (Poaceae), P. P. Lowry II (Araliacaeae), Anthony Magoe (Apiales), Deirdre Scijman (Amaryllidaceae), and Charlotte Taylor (Rutaceae). We thank Carmen Ulloa Ulloa for her photographs of Viola spp.
INTRODUCTION

What are plant families you ask? The word family means different things to different people. To biologists, families are a formal and specific rank of classification. Families include a number of genera that share characteristics and are known or believed to be related to one another more closely than to genera of other families.

For the nonscientist it seems legitimate to ask Why develop a knowledge of plant families at all? In a broad sense it provides a framework for thinking about plants and for arranging hundreds or even thousands of plant names in a coherent and predictive pattern. Knowledge of plant families also allows the reader to develop a deeper understanding of the plants you grow and love. No, knowledge of plant families will not make you a better gardener, but it will provide a deeper appreciation of the plant world and the plants you cultivate. Do you love primulas and primroses, members of the genus Primula? Well then, you will surely be fascinated to know that shooting stars, the genus Dodecatheon, belong to the same family, Primulaceae. Cyclamens, the genus Cyclamen, are also members of the Primulaceae. This may give you pause, Why? Look at the arrangement of the flowers—both primulas and shooting stars have flowers clustered together at a single point on the stem, an arrangement called an umbel. Also, the petals are joined together at the base, and the fruits are more or less identical to those of cyclamens. The fruits are dry and of the type known technically as capsules, and in these genera they split open in a circle near the top of the ripe fruit, a feature rare or absent in other plant families. The genus Lythrum, which includes gooseneck loosestrife, yellow loosestrife, and creeping jenny among others, has similar capsules, but often the flowers are arranged in different ways on the stem. And as common names go, they are often confusing. Thus purple loosestrife is a member of a different family, Lythraceae (the loosestrife or crepe myrtle family); common names are frequently a poor guide to family relationships.

Many other Primulaceae are trees, most of them tropical, and so temperate gardeners have probably never heard of them. A recurring theme in many plant families is that their tropical members are trees that do not survive in winter-cold temperate gardens. We mostly grow only the cold-tolerant perennial members of these families and seldom their woody relatives.

How much deeper one's appreciation of plants becomes as these patterns are revealed. Perhaps more fascinating than the primulas—shooting star—cyclamens example is that jasmines and lilacs are olives, or at least all belong in the olive family, Oleaceae. Once again, look at the flowers: jasmines, lilacs, and olives all have four petals partly united in a tube or cup, with the free portions spreading above, and they all have just two stamens (the male portion of the flower). Also, the fruits of jasmines (the genus Jasminum) and olives (Olea) are structurally similar, fleshy with a hard inner stone containing a single seed. Lilacs (Syringa) have just such flowers too (some doubled cultivars excepted) but quite different fruits, dry capsules that split vertically.