

## **Abstract**

Flowers are the flagship structure of angiosperms (flowering plants). This spectacular innovation has probably contributed in a significant way to the extraordinary success of angiosperms, which today make up 90% of land plant species. Flowering plants display a beautiful and spectacular diversity of floral forms that results largely from the diversification of reproductive strategies, including co-adaptation with pollinators. One of the most spectacular variations concerns flower colour, with an almost endless range of shades varying from pure white to near black. In many plants, floral colours contrast with the rest of the plant, and are generally produced by the presence of pigments other than chlorophyll, although in some cases colour is created by light-reflecting structures. The biosynthetic pathways of carotenoids, anthocyanins and betalains, the three main classes pigment, have been deciphered. In many species, flower colour plays a key role in pollination as a visual cue to attract biotic pollinators. Although petals are often the most colourful and showy part of the flower, there are many exceptions, including examples where bracts are showier than the flowers themselves. Colour is usually stable within a species, resulting from adaptive processes linked to plant-pollinator relationships. The evolutionary and genetic mechanisms involved in flower colour shifts have been described in several taxa, providing insights into some of the processes that have shaped the diversity of flowering plants.