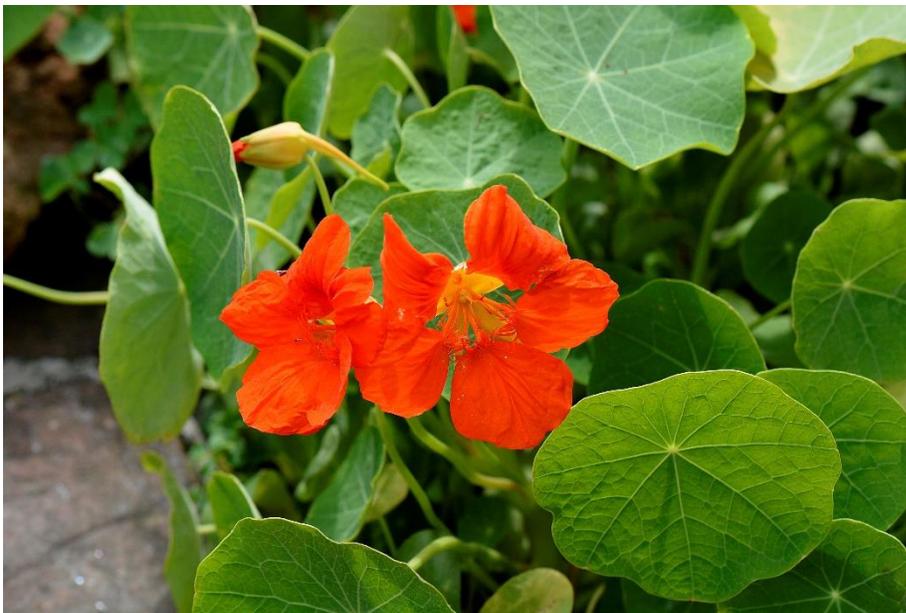


# GUIDE TO THE GENERA OF LIANAS AND CLIMBING PLANTS IN THE NEOTROPICS

## TROPAEOLACEAE

By Pedro Acevedo-Rodríguez (Jul 2020)



*T. majus*, photo by P. Acevedo

A neotropical family of fleshy, herbaceous, dioecious vines with the single genus *Tropaeolum* with about 100 species. They are predominant found in humid forest understory in the Guianas and the Amazonian region in South America.

**Diagnosics:** Herbaceous vines with alternate, entire to palmate leaves with twining petioles; calyx with a conspicuous spur.

### General Characters

1. **STEMS.** Stems are cylindrical in cross section, slender, < 1 cm in diam.; cross section with very large medulla.
2. **CLIMBING MECHANISM.** Most species have prehensile petioles or inflorescence axes, while a few species are scramblers (e.g., *T. majus* L.).

3. LEAVES. Leaves simple to palmately lobed, alternate, commonly peltate, membranaceous; venation commonly palmate; petioles slender, elongated and often prehensile; stipules minute.
4. INFLORESCENCES. Axillary, solitary or less frequently in axillary umbels.
5. FLOWERS. Large, zygomorphic, bisexual, 5-merous; calyx with a conspicuous prominent spur and 5 elongated sepals; petals free, 2 slightly larger, unguiculate; stamens 8, dimorphic; ovary superior, syncarpous, tricarpellate, with a single axile-apical ovule per locule.
6. FRUITS. Schizocarp, splitting into 3 fleshy, 1-seeded mericarps.

## USES

Some species of *Tropaeolum* are cultivated in gardens for their beautiful flowers (e.g., *T. majus*), the leaves, flowers and seeds of this species are also consumed in salads due to their spicy taste. Additionally, some species are cultivated for their edible tubers (e.g., *T. tuberosum* Ruiz & Pav.).

## GENERIC DESCRIPTION

**TROPAEOLUM** Linnaeus, Sp. Pl. 345. 1753.



*T. majus*, photo by P. Acevedo

Scandent or creeping herbs, climbing through the aid of prehensile petioles, annual or perennial, usually with tuberous roots. Leaves alternate, simple or deeply palmately lobed, entire or lobate, peltate, long-petiolate; stipules minute. Flowers bisexual, 5-merous, solitary, axillary

or less frequently in axillary umbels. Calyx deeply lobate, with a long basal spur; petals free; stamens 8, in two whorls, the filaments unequal, the anthers dehiscent by longitudinal sutures; ovary superior, of three connate carpels, the placentation axile-apical, with a single ovule per carpel, the style filiform, with three short stigmatic branches. Fruit a schizocarp, separating into three, 1-seeded, fleshy mericarps.

**Unique features:** Calyx with conspicuous, prominent spur; petals 5, free; plant commonly tuberous; climbing through the aid of prehensile petioles.

**Distribution:** A neotropical genus of about 100 species, in the highlands (above 1500 m) from Mexico south to Panama, the Andes and southern South America; in the Neotropics especially diverse from Colombia to Bolivia, of these, only 57 species reach 2 or more m in length.

#### **RELEVANT LITERATURE**

Acevedo-Rodríguez, P. 2005. Vines and climbing plants of Puerto Rico and the Virgin Islands. Contrib. United States National Herbarium 51: 1-483.

Chavez, F. 2004 Tropaeolaceae. In: N. Smith, et al. (eds.). Flowering plants of the Neotropics. Princeton University Press. N.J., U.S.A.