

**Polygonaceae** A. L. de Jussieu  
(Knotweed Family)

*Herbs, shrubs, trees, or vines; nodes often swollen; usually with tannins; often with oxalic acid. Hairs various. Leaves usually alternate, simple, usually entire, venation pinnate; stipules present and connate into an often thin sheath (or ocrea) around the stem (lacking in *Eriogonum*). Inflorescences determinate, terminal or axillary. Flowers usually bisexual, sometimes unisexual (and plants then usually dioecious), radial. Perianth of 6 tepals, usually petaloid, sometimes differentiated, with 3 sepals and 3 petals, or 5, due to the fusion of 2 tepals, distinct to slightly connate, imbricate, persistent. Stamens usually 5-9; filaments distinct to slightly connate; pollen grains usually tricolporate to multiporate. Carpels usually 2 or 3, connate; ovary superior, with basal placentation; stigmas punctate, capitate to ± dissected. Ovule 1, usually orthotropous. Nectary a disk around base of ovary, or paired glands associated with the filaments. Fruit an achene or nutlet, and often associated with enlarged (fleshy or dry) perianth parts, these sometimes with various outgrowths; embryo straight to curved (Figure 8.51).*

*Floral formula:* \* $\overline{5-6}$ ,  $\overline{6-9}$ ,  $\underline{2-3}$ ; achene

*Distribution:* Widely distributed; especially common in northern temperate regions.

*Genera/species:* 43/1100. *Major genera:* *Eriogonum* (240 spp.), *Rumex* (200), *Persicaria* (150), and *Coccoloba* (120). Some genera occurring in the continental United States and/or Canada, in addition to those listed above, are *Antigonon*, *Chorizanthe*, *Nemacaulis*, *Oxytheca*, *Oxyria*, *Polygonum*, *Polygonella*, and *Stenogonum*.

*Economic plants and products:* *Fagopyrum* (buckwheat) and *Coccoloba* (sea grape) produce edible fruits. The petioles of *Rheum* (rhubarb) are edible, as are the leaves of some species of *Rumex* (dock, sorrel). A few genera contain ornamental species, including *Antigonon* (coral vine) and *Coccoloba*. Many species of *Rumex*, *Persicaria* (knotweed), and *Polygonum* (knotweed) are common weeds.



**Figure 8.51** Polygonaceae. (A-F) *Polygonum scandens*: (A) fruiting branch (x 1); (B) flower (x 15); (C) accrescent perianth enclosing achene (x 4); (D) achene (x 5); (E) achene in cross-section, note embryo (lower right) and endosperm (stippled) (x 20); (F) embryo (greatly magnified). (G-J) *P. cuspidatum*: (G) branchlet with fruits (x 0.25); (H) tip of inflorescence (x 5); (I) flower (x 15); (J) gynoecium in longitudinal section, with basal, orthotropous ovule (x 15). (K-L) *P. sagittatum*: (K) flowering branch, with an ocrea at each node (x 1); (L) stem with retrose prickles (x 4). (From Wood 1974, *A student's atlas of flowering plants*, p. 22.)