Ericaceae A. L. de Jussieu
(Heath Family)

Trees, shrubs, lianas, sometimes epiphytic, occasionally mycoparasitic herbs lacking chlorophyll, strongly associated with mycorrhizal fungi. Hairs simple, usually multicellular and unicellular, sometimes dendritic, gland-headed, or peltate scales, but not stellate. *Leaves alternate, sometimes opposite or whorled, simple,* entire to serrate, sometimes revolute, with pinnate, ± parallel, or palmate venation, blade reduced in mycoparasites; stipules lacking. Inflorescences various, *flowers usually bisexual,* rarely unisexual (then plants usually dioecious), radial to slightly bilateral, usually ± pendulous. Sepals usually 4 or 5, distinct to slightly connate. Petals *usually 4 or 5 and* connate, often cylindrical to urn-shaped, *with small to large, imbricate to valvate lobes, but sometimes ± bell-shaped or funnel-like,* occasionally distinct (a reversal). Perianth reduced to 2 or 3 sepals and petals, or 3 or 4 tepals in a few genera that are wind-pollinated. *Stamens 8-10,* but reduced to 2 or 3 in wind-pollinated species; filaments free or adnate to corolla, sometimes connate, sometimes with paired projections (spurs) near or at junction with anther; *anthers becoming inverted, 2-* or 1-locular, *usually opening by 2 apical pores,* sometimes with 2 projections (awns) *or with apex narrowed, forming a pair of tubules; pollen grains usually in tetrads,* usually tricolporate, sometimes associated with viscin threads. Carpels 2-10; ovary superior to inferior, usually with axile or deeply intruded parietal placentation; style 1, *hollow, internally fluted;* stigma capitate or slightly lobed. Ovules 1 to numerous per locule, with 1 integument and a thin-walled megasporangium. Nectariferous tissue around base or apex of ovary. *Fruit a septicidal or loculicidal capsule, berry, 1 or several-pitted drupe,* usually erectly held due to movement of pedicel; seed coat thin (Figure 8.105).

Floral formula: * or X, (4–5), (4–5), (4–10), (2–10);
capsule, berry, drupe

Distribution and ecology: Cosmopolitan, but especially common in tropical montane habitats, southern Africa, eastern North America, and eastern Asia; usually light-loving shrubs of acid soils.

Genera/species: 130/2700. *Major genera: Rhododendron* (800 spp.), *Erica* (600), *Vaccinium* (400), *Gaultheria* (150), *Leucopogon* (140), *Cavendishia* (100), and *Arctostaphylos* (50). Noteworthy genera (in addition to most of the above) in the continental United States and/or Canada are *Andromeda, Arbutus, Bejaria, Ceratiola, Chamaedaphne, Chimaphila, Corema, Empetrum, Gaylussacia, Kalmia, Leucothoe, Lyonia, Monotropa, Monotropsis, Oxydendrum, Pieris, Pterospora,* and *Pyrola.*

Economic plants and products: The edible fruits of *Vaccinium* (blueberries, cranberries) are economically important. The family contains many showy ornamentals, including *Arbutus* (madrone), *Calluna* (heather), *Erica* (heath), *Gaultheria* (wintergreen), *Kalmia* (mountain laurel), *Oxydendrum* (sourwood), *Pieris, Rhododendron* (azalea, rhododendron), and *Leucothoe* (fetterbush). *Gaultheria procumbens* is the original source of oil of wintergreen (methyl salicylate).

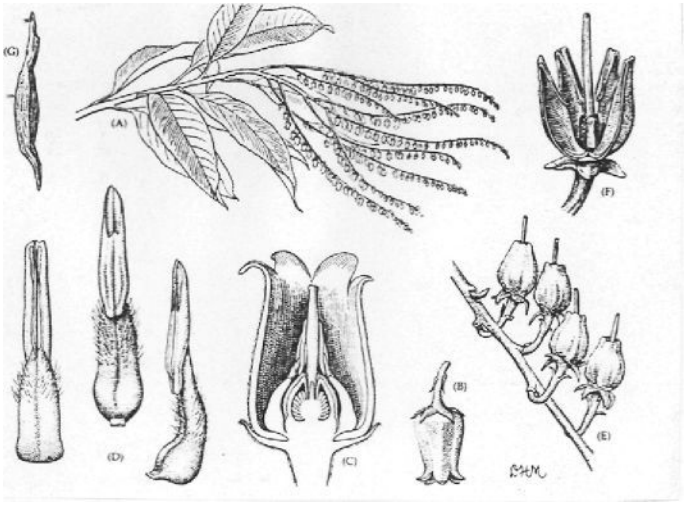

Figure 8.105 Ericaceae. (A-G) *Oxydendrum arboreum:* (A) flowering branch (x 0.4); (B) flower (x 3); (C) flower in longitudinal section (x 9); (D) outer, inner, and lateral views of stamens (x 18); (E) portion of raceme with immature fruits (x 3); (F) opened capsule, one valve removed, note deeply immersed style (x 6); (G) seed (x 15). (From Wood ***1961, J. Arnold Arbor. 42;*** **p. 57.)**