

# Key to the Genera of Neotropical Ericaceae with Superior Ovaries

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## Notes on using the key

The keys and descriptions below are based primarily on herbarium specimens, but we have also used characters from living (in situ), greenhouse-grown plants, material preserved in FAA or alcohol, and photographs taken from fresh, field or greenhouse-grown material. Floral measurements are taken from herbarium material at anthesis unless otherwise stated; colors when given are from fresh material observed by the author unless otherwise stated; measurements separated by the times sign (x) signify length by width, respectively; if a range of measurements is not available, the known measurement is preceded by the abbreviation ca (about); calyx limb length includes measurement of the lobes, and anther length includes thecae and tubules.

1. Plants without chlorophyll, mycotrophic; pollen in monads.
  2. Corolla polypetalous; sepals glabrous; plants to 30 cm tall; fruit opening from distal end; floral axes eglandular, emerging from soil in a nodding position; pine-oak forest to N Colombia ..... *Monotropa*.
  2. Corolla sympetalous; sepals glandular pubescent; plants to 2 m tall; fruit opening from base toward apex; floral axes viscid, glandular pubescent, emerging from soil in an erect position; N Mexico .....  
..... *Pterospora*.
1. Plants with chlorophyll, autotrophic; pollen in tetrads (or monads in *Orthilia*).
  3. Plants with ± herbaceous habit; embryos undifferentiated, without developed cotyledons.
    4. Stems leafy; inflorescence a corymb or flowers solitary; filaments conspicuously dilated at or below the middle; stigmas sessile; capsule valves without connecting threads, smooth at dehiscence; pollen grouped into polyads of tetrads; Hispaniola and Mexico-Panama ..... *Chimaphila*.
    4. Stems scapose, leaves clustered near the base; inflorescence a raceme; filaments tapering gradually to base; stigmas with long styles; capsule valves connected by cobwebby threads at

- dehiscence; pollen in single tetrads or monads.
5. Racemes secund; styles straight at anthesis; stigmas not surrounded by a collar or ring; leaves finely serrate with acute teeth; pollen in monads; Mexico-Guatemala .....*Orthilia*.
  5. Racemes spiral; styles declinate at anthesis; stigmas surrounded by a collar or ring; leaves entire or obtusely and inconspicuously crenate; pollen as single tetrads; Mexico-Guatemala .....*Pyrola*.
3. Plants shrub- or tree-like, with woody habit; embryos well-developed, with cotyledons.
6. Corolla usually widely campanulate, rotate, salverform, infundibular or tubular, polypetalous or sympetalous; viscin threads mixed with pollen tetrads; ovary superior; fruit a septicidal capsule.
    7. Corolla polypetalous; flowers 5-7(-9)-merous.
      8. Ovary smooth; stamens and style exerted at anthesis; leaves more or less plane, not ericoid, alternate; anther dehiscence by terminal pores; widespread in Andes .....*Bejaria*.
      8. Ovary warty; stamens and style inserted at anthesis; leaves ericoid, whorled; anther dehiscence by slits running the entire length; endemic to Guayana Highland ..... *Ledothamnus*.
    7. Corolla sympetalous; flowers 5-merous.
      9. Corolla rotate, with 10 pouches which hold the anthers in bud; capsule globose; Cuba .....*Kalmia*.
      9. Corolla salverform, without pouches,  $\pm$  zygomorphic; capsule cylindrical; infrequently cultivated .....  
.....*Rhododendron*.
  6. Corolla urceolate, cylindric-urceolate or tubular, sympetalous; viscin threads absent; ovary superior or inferior; fruit a loculicidal capsule, drupe, or berry.
    10. Inflorescence terminal; mesocarp of fruit fleshy either dry or  $\pm$  juicy.
      11. Surface of ovary and fruit smooth; inflorescence usually condensed; fruit dry or mealy; only found in Mexico to W Guatemala ..... *Arctostaphylos*.
      11. Surface of ovary and fruit papillate; inflorescence

usually elongate, often paniculate; fruit ± juicy.

12. Fruit a drupe, ovule 1 per locule; leaf length/width ratio usually greater than 3; leaf length/petiole length ratio usually greater than 10; leaf base usually cuneate; fruit dark purple to black at maturity (red in *C. diversifolia*); Mexico to W Panama ..... *Comarostaphylis*.
12. Fruit a berry, ovules more than 1 per locule; leaf length/width ratio usually less than 3; leaf length/petiole length ratio usually less than 10; leaf base usually rounded to truncate or slightly cordate; fruit orange or red at maturity Mexico to Nicaragua ..... *Arbutus*.
10. Inflorescence rarely terminal, if so then fruit a capsule.
  13. Stamens with filaments usually geniculate and/or spurred at or just below anther/filament junction; anthers without terminal awns or tubules.
  14. Capsule with ribs prominently thickened; multicellular hairs eglandular and lepidote (except in *L. lucida*); filaments spurred and smooth to minutely papillate; Mexico & Hispaniola ..... *Lyonia*.
  14. Capsule without ribs thickened; multicellular hairs, when present, glandular-headed, never lepidote; filaments spurred or not, and with unicellular hairs.
    15. Filaments clearly geniculate, without spurs; venation of lower leaf surface very dense, all veins ± equally prominent; 3 species in Andes & 25 SE Brazil ..... *Agarista*.
    15. Filaments straight to very slightly geniculate, spurred at anther/filament junction; venation of lower leaf surface not equally prominent; Cuba ..... *Pieris*.
13. Stamens with filaments straight; filaments never spurred, but anthers with terminal awns or tubules.
  16. Anthers extended into terminal tubules, without white disintegration tissue on abaxial side; fruit a berry; leaves with 1-3 pairs of marginal

glands near base; endemic to Guayana Highland ..  
.....*Tepuia*.

16. Anthers with terminal awns, with white disintegration tissue on abaxial side; fruit a berry or capsule; leaves without marginal glands as described above; widespread in Neotropics.
17. Fruit a berry, rarely calyx becoming fleshy at base but never surrounding the berry  
..... *Pernettya*.
17. Fruit a capsule, surrounded by the fleshy, accrescent calyx (calyx rarely not fleshy) ...  
..... *Gaultheria*.