

IDENTIFYING THE NATIVE AZALEAS— Part II

An Identification Key to the Species of *Rhododendron*
sect. *Pentanthera* in North America Using Floral, Fruit
and Vegetative Characters

Dr. Kathleen A. Kron
Winston-Salem, NC

Identifying the native azaleas in their habitat usually requires a hand lens or magnifying glass. It also helps to look at several flowers and flowering stems on the same plant. Natural variation among individuals and populations can make positive identification challenging at times, but in general the following key should be a useful guide to identification. Comparison of closely related species can also be helpful in identification. Some comparison tables (Kron, 1993) have been included at the end of the key to help with identification.

- 1a. Flowers appearing before or with the leaves (at least some of the leaves still folded or the vegetative bud scales still present) 2
- 1b. Flowers appearing after the leaves have expanded (essentially all of the leaves unfolded, and the vegetative bud scales absent) 11
 - 2a. Upper corolla lobe with contrasting blotch often appearing as a darker-colored area at the base of the upper corolla lobe 3
 - 2b. Upper corolla lobe the same color as the other lobes, without a visible contrasting or darker-colored blotch 7
- 3a. Corolla limb nearly as broad as the tube is long, the tube abruptly expanding into the limb; flowers yellow to orange, or red 4
- 3b. Corolla limb shorter than the length of the tube, the tube gradually expanding into the limb; flowers white or yellow to orange 5
 - 4a. Floral bud scales with glandular edges, the outer surface smooth or nearly without hairs; corolla tube densely covered with multicellular glandular hairs *R. calendulaceum* (Flame azalea)
 - 4b. Floral bud scales with ciliate edges, the outer surface smooth to sparsely covered with unicellular hairs; corolla tube covered with multicellular eglandular hairs, occasionally very weakly glandular *R. flammeum* (Oconee azalea)
- 5a. Flowers white, with a contrasting yellow blotch on the upper corolla lobe 6
- 5b. Flowers yellow to orange, sometimes with dark pink or red colors as well; floral bud-scale edges glandular *R. austrinum* (Florida azalea)
 - 6a. Fruits densely covered with unicellular hairs, floral bud scales smooth or only slightly covered with unicellular hairs, the edges ciliate *R. alabamense* (Alabama azalea)
 - 6b. Fruits sparsely covered with unicellular hairs or smooth; floral bud scales sparsely to densely covered with unicellular hairs, the edges ciliate or with glands and cilia mixed or with only glands *R. occidentale* (Western azalea)
- 7a. Multicellular glandular hairs forming lines that continue along the outer surface of the corolla lobes; flowers white, the length of the tube equal to or longer than the distance that the stamens are exerted beyond the corolla; plants low-growing and strongly rhizomatous *R. atlanticum* (Coastal azalea, Dwarf azalea)
- 7b. Multicellular glandular or eglandular hairs scattered on the outer surface of the corolla tube, not forming distinct lines that continue up the corolla lobes; flowers pink to white, the corolla tube shorter than the distance that the stamens are exerted beyond the corolla; plants usually tall and not strongly rhizomatous 8

- 8a. Corolla covered with multicellular eglandular hairs; flowers pink; floral bud scales smooth, occasionally moderately covered with unicellular hairs; leaves smooth or nearly so *R. periclymenoides* (Piedmont azalea, Pinxter flower)
- 8b. Corolla covered with multicellular glandular hairs; flowers pink or pink and white; floral bud scales smooth to densely covered with unicellular hairs 9
- 9a. Floral bud scales smooth; pedicels and sepal edges usually eglandular with the pedicels often lacking unicellular hairs or only sparsely covered with them; leaves smooth or only sparsely covered with unicellular hairs *R. periclymenoides* (Piedmont azalea, Pinxter flower)
- 9b. Floral bud scales densely covered with unicellular hairs; pedicels and sepal edges eglandular or glandular, pedicels usually with dense unicellular hairs; outer surface of leaves moderately to densely covered with unicellular hairs 10
- 10a. Corolla tube narrow and somewhat abruptly expanding into the lobes; pedicels usually eglandular and relatively short, occasionally glandular; leaves inconspicuously ciliate, the cilia pointing toward the apex of the leaf; fruits densely covered with unicellular hairs *R. canescens* (Sweet azalea, Wild azalea)
- 10b. Corolla tube broader, and gradually expanding into the limb; pedicels usually glandular and relatively long; leaves conspicuously ciliate, the cilia pointing away from the margin of the leaf, fruits smooth or nearly so *R. prinophyllum* (early azalea, election pink, roseshell azalea)
- 11a. Stems smooth; outer surface of leaves smooth or nearly so 12
- 11b. Stems with multicellular hairs (glandular or eglandular) and/or unicellular hairs 13
- 12a. Flowers deep yellow to red; fruits lacking multicellular glandular hairs *R. prunifolium* (Plumleaf azalea)
- 12b. Flowers white with dark pink to red filaments and style; fruits covered with multicellular glandular hairs *R. arborescens* (Smooth azalea, Sweet azalea)
- 13a. Flowers yellow to orange and red, with a blotch or darker-colored spot on the upper corolla lobe, the tube abruptly expanding into the limb; floral bud-scale edges glandular, the outer surface smooth *R. cumberlandense* (Cumberland azalea)
- 13b. Flowers white, the style and filaments white or greenish-white; upper corolla lobe the same color as the rest of the lobes, without a blotch (flowers occasionally pink, but still lacking a blotch on the upper corolla lobe), the tube gradually expanding into the lobes; floral bud-scale edges usually ciliate, occasionally with glands and unicellular hairs mixed along the edges, the outer surface smooth to densely unicellular pubescent *R. viscosum* (Clammy azalea, Swamp azalea).

Table 1. Distinguishing Characters of *Rhododendron prinophyllum*, *R. periclymenoides*, and *R. canescens*

Species	Hairs on the Pedicel and Sepal Edges	Outer Surface of Floral Bud Scales	Outer Surface of Corolla	Fruit Hairs
<i>prinophyllum</i>	glandular, rarely eglandular	densely covered with unicellular hairs	densely covered with unicellular and glandular hairs	glandular
<i>periclymenoides</i>	eglandular, rarely glandular	smooth to sparsely covered with unicellular hairs	sparsely covered with unicellular and eglandular hairs occasionally with glandular hairs	eglandular
<i>canescens</i>	eglandular, occasionally glandular	densely covered with unicellular hairs	densely covered with unicellular and glandular hairs	eglandular, occasionally glandular

Table 2. Distinguishing Characters of *Rhododendron calendulaceum* and *R. cumberlandense*

Taxon	Flowering	Hairs on the Pedicel	Sepal edges	Lower leaf surface
<i>calendulaceum</i>	before or with the expansion of the leaves	glandular to eglandular	glandular to eglandular	rarely if ever covered with a whitish or bluish waxy layer
<i>cumberlandense</i>	after the leaves have expanded	eglandular, rarely glandular (never with <u>both</u> the pedicel and sepal edges glandular)	eglandular rarely glandular	often covered with a whitish or bluish waxy layer

Literature Cited

Kron, K. A. 1993. A revision of *Rhododendron* section *Pentanthera*. Edinburgh Journal of Botany 50: 249-364.

Dr. Kron's Ph.D. dissertation was a revision of the Rhododendron sect. Pentanthera. She also published a revision of the rest of the deciduous azaleas with W. S. Judd. She's currently working on the evolutionary relationships among the major groups of Rhododendrons using DNA sequence data in the Department of Biology at Wake Forest University.

Exbury Gardens Visitor Information

Exbury Gardens, highlighted in the article "Mr. Lionel's Azaleas," (**THE AZALEAN**, March 1997) is a wonderful place to visit if you are planning a trip to England. It is a showplace not to be missed by lovers of fine azaleas or those interested in the heritage of today's azaleas and rhododendrons. The Gardens are open to the public daily from March 1 - November 2, 10 AM - 5:30 PM (or dusk if earlier). Admission prices range from approximately \$7 (£3.30) from 7 March - mid April and again from mid-June to mid-July, to approximately \$10 (£4.80) during the peak of azalea season, mid-April to mid-June.

Exbury Gardens is located in the New Forest, near Beaulieu, twenty minutes' drive south from M27 junction 2. Discounts are available for senior citizens and are even greater on Wednesdays and Thursdays. Children under 10 are admitted free; children over 10 pay a reduced rate. Your visit will be well worth the effort.

Dr. Kathleen A. Kron, Dept. of Biology, Wake Forest University, Winston-Salem, NC 27109-7325. □

Where Can I Find That Azalea?

Native Azalea Collector trying to find a double *R. viscosum*, and also strap-petal forms of *R. viscosum*, *R. austrinum*, and *R. periclymenoides*. Any information will help.

For further information, contact the Gardens directly:

24-hour information line: 011-44-1703-899422;
General inquiries: 011-44-1703-891203,
Mailing address:
Exbury Gardens
Exbury
Southampton SO451AZ
UNITED KINGDOM

Allen Cantrell
2586 Hwy. 11 West
Chesnee, S.C. 29323

Kathleen Kuehn, Lucernimines, Pa □

Phone: (864)461-7146