Rhododendron indicum and *Indicus, -a, -um*: A Slippery Slope

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Why would someone in the 21st century associate a Southern Indian hybrid evergreen azalea such as the large-leaved, large-flowered 'Formosum' or 'Red Formosum' with the relatively small-leaved, small-flowered *Rhododendron indicum*? In the 19th century, "Indicas" became a convenient vernacular name for the Southern Indian hybrids. Unfortunately, that usage persists and leads down the slippery slope of fallaciously attributing to *Rhododendron indicum* many plants belonging to other species.

The Latin adjective *indicus* in one or another of its forms has two quite different applications in plant nomenclature. In scientific botanical nomenclature, this adjective may be used as an epithet in the Latin name of a particular species or infraspecific taxon. In horticulture, it (or its English derivative "Indian") often appears in vernacular names to indicate the geographic origin of plants such as those which became parents of the Belgian Indian hybrids. As Stearn points out, the origin indicated thereby is none too clear:

> ***indicus, -a, -um*** Literally of India but also applies to plants originating throughout the East Indies and from as far away as China. . . . It seems as if any plant that came home in an Indiaman might be given this specific epithet without any further ado—to the confusion of future generations.(1)

In his well-known compendium, *Azaleas*, Galle points out that confusion in the use of "indica" dates back to the early 19th century when *Rhododendron simsii* was introduced in England and called *Azalea indica*. Under that name, Dr. John Sims in 1812 published a colored plate of the plant, together with a discussion of *Azalea indica* broad enough to embrace many familiar species of azaleas, thereby surely contributing to the confusion noted by Stearn (see sidebar).(2)

Shortly after this, *R. mucronatum* arrived in England and Lindley named it *Azalea indica alba* in 1824. (Blume had named this plant *A. mucronata* in 1823, and under the Botanical Code's rule of priority, *Rhododendron mucronatum*, based on Blume's name, is correct for this species.) Seedlings and hybrids of these and other introductions were soon being marketed as "Indica." In 1851, three forms of *R. simsii* ('Vittatum', 'Vittatum Punctatum', and 'Vittatum Bealii') came to England from Shanghai under the name "Indica." When these plants reached Belgium, they were used extensively in hybridizing. The Belgian Indian hybrids became popular conservatory and florist plants in Europe and were widely exported. Because these plants were largely intended for forcing, the Japanese *R. indicum* (which does not force well) was not used as a parent. (3)

In the United States, development of the Southern Indian hybrids was spurred by the popularity of the Belgian Indian hybrids, some of which proved to be hardy in the gardens of Georgia and South Carolina. The Fruitland Nursery of P. J. Berckman in Augusta, Georgia, played an important role in introducing and supplying plants of both series. The parentage of the Southern Indian hybrids is indeed a potpourri: Galle lists Belgian hybrids, forms of *R. mucronatum* (including a double), *R. indicum* (including hybrids with *R. simsii* and *R. mucronatum*), *R. simsii*, and forms of 'Vittatum' and 'Coccineum'. The page from Berckman's 1883 Spring Catalogue reproduced by Galle illustrates the vernacular use of "Indica" that still results in confusion. The page is headed "AZALEA INDICA" but contains 'Amoena' (*R. kiusianum* 'Amoenum') and 'Indica Alba' (*R. mucronatum* var. *mucronatum*), as well as Southern Indian hybrids including 'Formosa' (the feminine -a endings reflect Berckman's preference for *Azalea* as the genus name).(3)

The history of the term "Indica" in the genus *Rhododendron* (including the subsumed genus *Azalea*) confirms the wide use of the term as a geographical descriptor for plants of various species native to the Orient. Although Linnaeus in 1753 named a particular plant as *Azalea indica* (*Rhododendron indicum* (L.) Sweet is derived from the Linnean basionym), during the two intervening centuries

Excerpt from Sims' "*Azalea Indica* Indian Azalea"

Kaempfer enumerates 21 varieties cultivated in Japan. . . . Among the varieties enumerated by Kaempfer, besides the many different colored flowers . . . with spots of the most contrary hues, the foliage of some is hairy, of others smooth; some produce their flowers before the leaves, some after; others are evergreen [and, implicitly, some are deciduous! DHV]; some have five, some ten stamens.

. . . in our plant there were ten [stamens DHV], unequal in length, and slightly declined, which together with the form of the corolla and the spotting of the superior laciniae [petal lobes DHV], seemed to unite it with Rhododendron, rather than with Azalea; but in fact there are no natural limits between these genera, or at least the number of stamens affords none; and most of the varieties of this species recorded by Kaempfer are pentandrous [have five stamens DHV].

botanists added numerous varieties to *R. indicum* as plant explorers returned new plant material to centers of study. Many of these varieties are now recognized as separate species; for example: *eriocarpum, kaempferi, kiusianum,* x *pulchrum*, *scabrum*, *simsii,* and *transiens* (*R. kaempferi* x *R. macrosepalum*).

An example of the persisting confusion between application of the name *Rhododendron indicum* and the broad array of taxa included in the vernacular terms "Indica" or "Indian" is found in three 2003 plant patents. These relate to sports and sports of sports as follows: (4)

'Crimson Majesty' USPP14,362
branch sport of 'Red Formosum'

'Crimson Princess' USPP14,360
whole plant sport of 'Crimson Majesty'(5)

'Crimson Queen' USPP14,343
branch sport of 'Crimson Princess'

In each of the listed patents, the section "Background of the Invention" begins with the statement: "The present invention relates to a new and distinct variety of evergreen azalea, botanically known as Rhododendron indicum." In apparent contradiction, the section "Botanical Description of Plant Scientific Name," compiled with the assistance of Dr. Lowell E. Urbatsch, Director of the LSU Herbarium, Louisiana State University, includes the following:

> The plant belongs to a group of azaleas called the "Southern Indian azaleas" or "indicas" that are hybrids derived from various species of Rhododendron or derived directly from various species in that genus. *Rhododendron indicum* (L.) Sweet, although often given as the scientific name for this group of plants, has had little or no part in the parentage of the indicas. Most indicas are descendents of *Rhododendron simsii* Planch., *R. mucronatum* G. Don and/or *R. pulchrum* Sweet or their hybrids; in the industry, however, the accepted parentage is that of Rhododendron indicum.

The International Rhododendron Register and Checklist (2d ed.) states, however, that *R.* 'Formosum' (the source of 'Red Formosum' and indirectly the source of 'Crimson Majesty') is of uncertain origin, but may be a 'Phoeniceum' hybrid. 'Phoeniceum' in turn may be a form of *R. scabrum* or (*scabrum* × *mucronatum*).(6)

The highly questionable nature of the "industry" view mentioned in the cited patents may be judged by a brief review of leaf and corolla dimensions of *R. indicum*, *R. scabrum*, and the three patented plants listed above (all measurements in millimeters): (7)

	Spring Leaf		Petal	Corolla
	Length	Width	Length	Diameter
R. indicum	20-30	8-10	30-50	51-64
R. scabrum	30-90	20-35	45-60	50-100
'Crimson Majesty'	38-89	13-38	45-53	70-80
'Crimson Princess'	25-51	13-25	45-60	70
'Crimson Queen'	32-64	13-25	45-50	55-60

Anyone who has seen old, towering, midseason-flowering specimens of the Southern Indian 'Formosum' in southern gardens and who is also familiar with the compact, late-flowering *R. indicum* 'Balsaminiflorum' must entertain severe doubts about the assertion of *R. indicum* as the proper species for plants derived from 'Formosum'. The tabulation above points to other obvious differences: 'Crimson Majesty' has maximum leaf length three times and width nearly four times that of *R. indicum*; flower diameter averages about 30 percent greater.

Two centuries after Sims in 1812 misapplied the name *Azalea indica* to the plant now recognized as *Rhododendron simsii* (a species different from that named *Azalea indica* by Linnaeus in 1753), the time is well past for "industry," horticultural writers, horticulturists in general, and yes, even U.S. plant patent examiners, to heed azalea experts such as Galle and Lee and take note of the fact that the terms Southern Indian hybrid and "Indica" do not equate to *Rhododendron indicum* (L.) Sweet.(8)

Notes

1. Stearn, William T. 1992. *Stearn's Dictionary of Plant Names for Gardeners*. London: Cassell.
2. Sims, John. 1812. *Azalea Indica* Indian Azalea. in *Curtis' Botanical Magazine*. 35:t.1480. London: Sherwood, Neely, and Jones.
3. Galle, Fred C. 1987. *Azaleas*. Revised and enlarged edition. Portland, OR: Timber Press.
4. U.S. plant patents may be viewed on the Internet at www.uspto.gov; select Patents/Search/Patent Number Search/enter PP14362. Note that in this article matter quoted from patents follows the Patent Office practice of not italicizing Latin botanical names.
5. The term "whole plant sport" has appeared in U.S. plant patents Nos. 6,217; 8,212; 13,260; 14,360; 16,290; 17,002; 17,044. In these patents, the term refers to a mutant plant discovered in cultivation among a group of propagules from a given clone. It thus differs from a bud- or branch-sport, which is first discovered as mutant growth on a source plant and subsequently propagated asexually. Where mutation is not induced (e.g., by X-ray or colchicine), the discovery is serendipitous. In both cases, subsequent propagation of the mutant is required to establish that the new variety is stable.
6. Leslie, Alan C. (comp.). 2004. *International Rhododendron Register and Checklist* (2d ed.). London: Royal Horticultural Society.
7. Cultivar data is from the respective patents. For *R. indicum* and *scabrum,* leaf data and petal length are from Chamberlain, D.F. et al. 1990. A Revision of *Rhododendron*: IV Subgenus *Tsutsusi*. *Edinb. J. Bot.* 47(2):120; corolla diameter, from Galle *supra,* and from Cox, Peter A. and Cox, Kenneth N. E. 1997. *Encyclopedia of Rhododendron Species*. Scotland: Glendoick Publishing
8. Galle, *op. cit.*; Lee, Frederic P. 1958. *The Azalea Book.* Princeton: D. Van Nostrand.

The author expresses appreciation to Mr. William C. Miller III for calling attention to the misapplication of the botanical name Rhododendron indicum *in the patents discussed in this article and for guidance relating to whole plant sports.*