

**A Notice of some species of Rhododendron  
inhabiting Borneo**

**John Lindley, Ph.D., F.R.S., Vice-Secretary**

**from The Journal of the Horticultural Society of London**

**Volume III, 1848**

When Mr. Hugh Low returned from his visit to Borneo, he was so obliging as to place in my hands some drawings and dried specimens of certain species of Rhododendron which occur in that island *growing upon trees*. They are found to be very distinct from all previously known, and in many respects so deserving of notice, that it has been thought advisable to prepare the following short memorandum concerning them.

In Mr. Low's account of Sarawak (*Sarawak; its Inhabitants and Productions, &c.* By Hugh Low, Colonial Secretary at Labuh-an.) they are spoken of thus :- "Perhaps the most gorgeous of the native plants are the various species of the genus Rhododendron, which here assume a peculiar form, being found epiphytal upon the trunks of trees, as in the genera of the tribe Orchidaceae. This habit, induced probably by the excessive moisture of the climate, is not, however, confined to the Ericaceous plants, but also prevails with the genera Fagraea, Combretum, and many others, usually terrestrial; the roots of the Rhododendrons, instead of being, as with the species, inhabitants of cold climates, small and fibrous, become large and fleshy, winding round the trunks of the forest-trees; the most beautiful one is that which I have named in compliment to Mr. Brooke. Its large heads of flowers are produced in the greatest abundance throughout the year : they must exceed in size that of any known species, frequently being formed of eighteen flowers, which are of all shades, from pale and rich yellow to a rich reddish salmon colour. In the sun the flowers sparkle with a brilliancy resembling that of gold-dust.

"Four other species which I discovered are very gorgeous, but of different colours, one being crimson and the other red, and the third a rich tint between these two; of the fourth I have not yet seen the flowers. Besides the curious nature of the root above noticed, botanists may learn that these species differ from others of the genus in having very small, almost imperceptible calyces, and caudal appendages to the seeds; these last greatly facilitating the attainment of a situation favourable for their growth." - p.65.

The peculiar habit ascribed to these plants of forming large fleshy stocks, instead of the fine fibrous roots proper to the Azaleas and Rhododendrons at present in cultivation, is also met with in the kindred Cranberries (*Vacciniaceae*) of South America, among which several *Thibaudias* may be named; the epiphytal character has indeed been observed among plants still more nearly allied to Rhododendron, as in *Anthopterus racemosus* and a species of *Sphyrospermum*, both which grew upon trees in the Peruvian Andes.

The four species now described belong to a supposed genus called *Vireya* by Blume, and distinguished from *Rhododendron* by the seeds being extended at each end into a slender tail-like process. But this circumstance, the only one that is at all peculiar to the Malay Rhododendrons, disappears in *Vireya retusa*, whose seeds are shown by Dr. Horsfield's figure of that plant to be in no respect different from those of *Rhododendron arboreum*. In the latter species the seeds are furnished with short thick hairs at each end; in *Rhododendron campanulatum* they are reduced to mere tubercles; in *Azalea indica* they wholly disappear; while in *Azalea pontica* they occur in the form of thick processes connected with a broad wing which surrounds the seed either wholly or in part. Hence we are led to infer that such circumstances are of no generic value, and therefore botanists have universally rejected the genus *Vireya*.

I. - RHODODENDRON BROOKEANUM. *Low.*

Sp. Char. - Leaves oblong-lanceolate, acute, perfectly smooth, nearly sessile, without any trace of dotting or marking in the underside. Peduncles smooth. Flowers in loose umbels. Calyx obsolete. Corolla between funnel-shaped and campanulate, 5-lobed; the lobes retuse, revolute, nearly as long as the tube. Stamens 10, prominent, with linear converging anthers.

This noble plant not only grows on trees, but, according to one of Mr. Low's memoranda, is occasionally met with "on moss-covered limestone rocks, flowering from November to July." Another note upon it is the following :- "I shall never forget the first discovery of this gorgeous plant; it was epiphytal upon a tree which was growing in the water of a creek. The head of flowers was very large, arranged loosely, of the richest golden yellow, resplendent when in the sun; the habit was graceful, the leaves large. The calyx of this and other Borneo species is so small as to be scarcely perceptible. The roots are large and fleshy, not fibrous as those of the terrestrial Rhododendrons. It is the least common of all the genus in the island, and has many varieties, which differ in having larger flowers and leaves; the former of a more or less red colour. Very high and large trees in damp forests are its favourite haunts."



*Rhododendron brookeanum*

In his *Sarawak* we find it mentioned in the following paragraph :-  
"The still river, winding its way amidst the limestone, which is shaded with overhanging trees, is nevertheless very pretty; and the hill opposite to which we now lie rises in a precipice 200 feet above our heads, its face being covered with climbing plants, and the projections of the rocks covered with ferns and other plants, among which I observed the bright flowers of the beautiful and new yellow *Rhododendron Brookeanum*, and the elegant fern-like foliage of a large-leaved, stemless palm." -p.374.

This species is allied to *Rhododendron javanicum*, from which it differs in having much larger flowers, and nearly sessile, not long-stalked, leaves, the under side of which is entirely destitute of the rusty specks which characterize the Java plant. Coloured drawings of the two varieties are before me, - one yellow, the other rich red.

The *Yellow* is represented with 14 flowers in a loose cluster, of a rich buff colour, and two inches across the limb. The colour, however, is stated by Mr. Low to be incorrect, and it is probably much too dull. The annexed cut represents this variety diminished.

The *Red* has larger leaves, and only five flowers in a cluster, in colour resembling the *Azalea indica lateritia*, but richer. They are more than three inches across the limb.

Of the former of these dried specimens have been preserved, from which and the drawing together the figure has been prepared.

## II. - RHODODENDRON GRACILE. *Low.*

Sp. Char. - Leaves lanceolate, very long, drooping, tapering sharply to each end, quite smooth, but indistinctly marked on the under side with dark freckles. Peduncles smooth, much shorter than the flowers. Calyx obsolete. Corolla funnel-shaped, with a tube much longer than the irregular limb, whose lobes are flat, very blunt, and imbricated. Stamens exserted; anthers erect.

"This slender and beautiful Rhododendron," says Mr. Low, "is found on rocks at the 'Sirul' mouth of the Sarawak River. It is confined to a space of ground not extending over 200 yards square, and was never seen in any other place. It grows luxuriantly upon the sandstone rocks, which are covered with moss and decaying leaves to the height of from 4 to 6 feet. The seeds have tails, and, with the exception of its place of growth, it resembles the other Bornean species. It flowers all the year round."



*Rhododendron gracile*

Its leaves are 6 or 7 inches long, and about 1 1/2 inch broad. The flowers are nearly 3 inches long and about 2 across the limb; they are of a rich fiery red, with a pale violet-coloured throat; the anthers are deep brown. In the drawing before me they are uniformly represented as having one or two of their lobes bent downwards more than the others; this peculiarity is also traceable in the dried specimens.

The accompanying figure is much reduced below the natural size, as will be evident from the measurements given above.

### III. - RHODODENDRON VERTICILLATUM. *Low.*

Sp. Char. - Young branches slightly downy. Leaves oblong, obtuse, stalked, heart-shaped at the base, downy on the petiole and midrib, dotted abundantly on the under side, arranged in irregular whorls. Peduncles downy, as long as the flowers. Calyx obsolete. Corolla nearly campanulate, with an erect 5-lobed limb. Anthers projecting, erect.

Of this plant I have seen no drawing; and the dried specimens are imperfect. It is, however, perfectly distinct from the other Malay Rhododendrons. Mr. Low has the following note about it in his *Journal*, October 14, 1846 :-

"Near the top of the mountain (Gunong Penerissen, 4700 ft.) I discovered a plant of the smaller-leaved Rhododendron, which, for distinction's sake, I call *R. verticillatum*, in flower. On procuring it, which was done with some difficulty, as it was epiphytal on a tree overhanging the rocky side of the mountain, it had but one head of expanded flowers, which were of a reddish crimson colour, without spots. It was of large size in proportion to the leaves and stems, being 10 inches in diameter, and very compact. The leaves are verticillate, many in a whorl, and the wood buds are closely imbricated with scales, broad at the base, and with recurved points. The roots are long and fleshy, like those of the yellow Rhododendron (*Brookeanum*). It is found on the sides of the *Dacrydiums* and other trees, which are covered at that height with large and long moss. The atmosphere is very damp; and at night the thermometer stood at 64°F."

The leaves of this plant are in form like those of *Rhododendron campanulatum*, but are entirely free from the rusty down which covers the under side of that species; in its room the surface is thickly studded with minute ferrugineous points; they are convex, revolute at the edge, and the largest 4 inches long by 2 1/4 wide. The flowers are between 2 and 3 inches long and about 1 3/4 inch across the limb.



*Rhododendron verticillatum*

IV. - RHODODENDRON LONGIFLORUM.

Sp. Char. - Leaves verticillate, perfectly smooth, shining, obovate, convex, with a revolute edge, shortly stalked, with copious green points on both, especially the under sides. Peduncles short, erect, downy. Calyx obsolete. Corolla 3 or 4 times as long as the peduncles, with a long curved tube, and an erect short bluntly 5-lobed equal limb, which eventually falls back. Stamens as long as the corolla. Anthers short.

"This remarkable plant," Mr. Low writes, "is found on high trees in low and damp jungles in the vicinity of Sarawak; it grows about 8 feet high, and when covered with its crimson tube-shaped blossoms is exceedingly beautiful. It flowers when very small, but does not grow very freely until after it has attained considerable size. Its seeds are tailed, and in general habit it approaches the yellow and verticillate species (*R. verticillatum*)."

Although smaller in every part than the species previously described, this is hardly inferior in beauty, on account of the intense crimson colour of its long



tubular blossoms. The latter are very distinctly curved, full 2 inches long, and grow in close heads, each consisting of from 9 to 10 flowers. The leaves are about 1 1/2 inch broad, and 3 1/2 inches long.

Mr. Low calls this species *Rhododendron tubiflorum*, a name I am obliged to alter, because it is not the same as the *Vireya* (or *Rhododendron*) *tubiflora* of Blume.



*Rhododendron longiflorum*

It has been suggested to me that these fine plants will not prove cultivable, because they are epiphytes. I cannot concur in this opinion. The mode of managing epiphytes is now so well understood, in respect to Orchids and Bromelworts, that even if it should be necessary to treat the Malay Rhododendrons in the same manner, no serious difficulty can be apprehended. Blume tells us that the Java species are mostly "parasitical on trees", that is to say epiphytes, and that, like orchids, they will grow better if committed judiciously to the earth. It was a sagacious remark of the late Dean of Manchester, that we are wrong in supposing plants always prefer the places in which they are found naturally. He believed that plants often occupy particular stations, and exhibit particular habits, on account of the necessity of

their position, and because in more favourable places they would be smothered by the surrounding vegetation. This may possibly be the case with the plants in question. It is quite conceivable that they may have taken refuge in Borneo in the branches of trees, because of the impossibility of establishing themselves in the marshy soil of a country frequently under water for long periods at a time: and there is nothing in the nature of things to render it improbable that the saturated air may yield them all the food they require in a country visited by incessant thunderstorms, which deposit large stores of nitrogen upon every branch and every leaf.

In this view of their nature, it may be conjectured that the Malay Rhododendrons will grow under the usual treatment of a damp stove, provided the soil in which they are potted is chiefly composed of loose decayed vegetable materials, such as half and wholly rotten leaves and sticks. It will also be important to consider whether resting them, it will be requisite to do more than slightly lower their temperature, and diminish, without withholding, the moisture which they appear to require. From the statements of Mr. Low, it would appear that *Rhododendron gracile* is perpetually in bloom, a circumstance that leads to the inference that a season of rest must be almost unknown to it.

Unfortunately we have no tolerable account of the details of the Bornean climate: the temperature of the soil, or the data from which it could be computed, the atmospheric moisture, the relation which the cold of night bears to the heat of day, the rate at which temperature fluctuates, are all matters upon which information is wanted. In the meanwhile, Mr. Low's *Sarawak* must be taken as our best guide in the inquiry: and with the following extracts from his work, the present memorandum may be closed.

"The climate of Borneo, like that of most of the eastern islands, has been found exceedingly healthy to persons whose avocations do not render great exposure necessary. The north-east monsoon, or that which blows from April to October, is the rainy period; but a day rarely passes during the south-west

or fine monsoon, without a refreshing shower; this with the constant warmth, causes everything to grow during the whole year, the forests being clothed with a perpetual verdure, which gives the islands, when seen from the sea, a beautiful appearance, possessed by no country in the world to so great an extent; shrubs (Hibiscus) and flowering trees (Barringtonia) always overhanging the margin of the ocean, and the inland mountains are observed covered to their summits with a dense and luxuriant vegetation.

"In temperature it has never been found by Europeans to be oppressively hot; the thermometer generally averaging 70° to 72° Fahrenheit in the mornings and evenings, and 82° to 85° at 2 p.m., which is generally the hottest part of the day; and though the dry season the mercury has sometimes ascended as high as 92°, and occasionally 93°, it has not been felt so inconveniently oppressive to Europeans as a hot summer day in England." -p.31.

"Though the vegetation of no country in the world is so luxuriant as that of the eastern islands, it has been proved by many writers that the soil of some of them is not so fertile as the appearance of the forests would lead the cultivator to expect. This remark particularly applies to Sumatra, the forests of which are supported in their luxuriance, in a great measure by the moisture of the surrounding atmosphere." - p.32.

"Thunder and lightning are so very frequent as to be little regarded by the inhabitants, though the former is more sonorous and the latter more vivid than in Europe. - In all the quiet seas of the East the lightning is very much dreaded by European shipping. A heavy shower of rain is always preceded by lightning and thunder, and generally by strong wind." - p.31.

"Left early for Sebonyoh (Dec.6). - One mountain near it had had all the trees destroyed about twelve months since by a fire, which had been ignited by the intensity of the sun's rays on the rock beneath, and which had so dried the vegetation that it spontaneously took fire, and the whole were destroyed. Nothing but a succession of very wet summers can again restore it." - p.399.

The custom of building the houses on tall posts to keep them out of the water, sufficiently shows how formidable the floods must be in Borneo, and how damp such an atmosphere must be under a temperature of 85°.