

# The Species of *Brackenridgea* in the Singapore Herbarium

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WHILE COMPARING some recent collections, I noticed a great deal of confusion in the Singapore herbarium in the determinations of the specimens belonging to *Brackenridgea*. In Ridley's *Flora of the Malay Peninsula I* (1922), this material is referred to *Gomphia hookeri* and *G. corymbosa*, but since the main distinction is made on the colour of the flowers, whether they are red or white, many errors have crept in the naming of the species. Further *G. hookeri* was established on a Penang specimen which had a red fruiting calyx. Some authors mistook this to mean that the species produced red flowers. Actually the flowers are white, the red being developed in the pedicel, calyx and disc after the flowers have been fertilised and the petals shed. As a result all our recent material from Penang has been referred to *G. corymbosa*—a white flowered shrub which does not seem to develop the red pigment in the flowers after their being fertilised. Ridley overlooked the important paper by van Tieghem (Ann. Sci. Nat. VIII, 1902 pp. 393–399) where three new species were added to the genus *Brackenridgea*, besides the two mentioned by Ridley under *Gomphia*. Two of these, *B. rubescens* and *B. kingii* are reduced to *B. palustris*, described originally from Borneo; the third *B. perakensis* has been reduced here as a synonym of *B. hookeri*. In addition Singapore has been credited with a new species, ***B. denticulata***. I mention here two extra Malayan species, one, *B. serrulata*, because it has leaves with spiny margins as in *B. denticulata*, and second, *B. foxworthyi* (Elm.) comb. nov. because it is an addition to the genus; it has also spinulose leaf margins.

## Sections

Van Tieghem (l.c.) divided the genus into two sections: *Capitatae* and *Spiciformes*. In the former the inflorescence is a compound globose head, consisting of an abbreviated axis bearing short branches that produce flower-bearing stalks. The scales are arranged spirally on the main axis and distichously on the lateral branches. It is very difficult to detect the branches when the flowers are young, though they become obvious in the fruiting stage and later. The axis in the second section may be short or long, but is always simple and bears its scales usually distichously. Sometimes the older parts of the axis tend to produce branches bearing a separate set of flowers, so that this branching cannot be confused with the branching in the first section where all the flowers appear to form one head, the main axis itself rarely producing flowers.

### The Species

A. Seetio *Capitatae* van Tiegh. op. eit. (1902) 397.

1. **Brackenridgea hookeri** (Pl.) A. Gray, New Gen. Pl. (1853) 6 (fide cit. seq.); C. Mucll, in Walp., Ann. Bot. Syst. IV (1857) 421; Gray in Proc. Ann. Acad. III (1857) 51; Gilg in Engl. u. Prantl., Pflanzenf. III, 6 (1893) 143; v. Tiegh. in Ann. Sci. Nat. VIII (1902) 395.

*G. perakensis* v. Tiegh. in op. eit. VIII (1902) 396 **Syn. nov.**

*Gomphia hookeri* Planch. in Hook, Lond. Journ. Bot. VI (1847) 3; Walp., Ann. Bot. Syst. I (1848) 182; Bennett in Hook. f., Pl. Brit. Ind. I (1875) 525; King, Mat. Fl. Mal. Pen. II (1893) 474; Ridl., Fl. Mal. Pen. I (1922) 366 p.p.: **basionym.**

*G. corymbosa* Ridl. op. eit. I (1922) 367 p.p.

*Ouratea hookeri* (Pl.) Burkill in Kew Bull. (1935) 318: **isonym.**

Corner notes in his field label: Tree 60 ft. tall. Petals white. Sepals filaments, ovary and style greenish white. The petals drop off and the sepals, peduncle, ovary, carpel and disc become deep rose-red. Kunstler's field notes are as follows: Tree 40-60 ft. high. Flower white with an yellow centre. Flower with young fruits deep red, yellow inside. Md. Shah states that the tree is 25 ft. tall and that the inflorescence is cream coloured when young, turning red when fruiting.

**MALAYA:** Penang, Government Hill, alt. 2,500 ft. (Curtis 2,154, = 2,154, and 1,147); Moniot's Road, alt. 1,500 ft. (Haniff 2,409). **Perak,** Larut, alt. 1,500-2,000 ft. (Kunstler 7,310, isoholotype of *B. perakensis*). **Malacca,** Sungei Udang (Derry 935). **Negri Sembilan,** Gunung Tampin, alt. 1,800 ft. (Burkill 3,167). **Johore,** Mawai-Jemaluang Road (Corner 28,993); Gunung Pulai (Henderson s.n.).

**BORNEO:** Sarawak, Semengoh (Mead SAR 10); Bako National Park at Bukit Gondol, alt. 700 ft. (Md. Shah P. 5,649).

The type of the species was a specimen collected by Phillips in Penang, and characterised, as pointed out by van Tieghem, by its peculiarly compound and globose inflorescence and entire leaves. In the type of *B. perakensis* the flowers are young and so the compound character of its inflorescence is not easily seen; but in the isotype specimens where the flowers are older, its true character is recognized. Planchon had a specimen which had shed all its flowers and had one fruiting pedicel. Hence he described the calyx as reddish. Apparently this character has led Ridley to confuse this species with the other which produces red flowers and to place all the specimens with white flowers under *G. corymbosa* Ridl., leaving under *G. hookeri* none of the recent collections from Penang. The collector's field notes are given above to show that the flowers are white at first and only later, when the petals have dropped off, the sepals and other parts become red.

2. **Brackenridgea denticulata** Furtado spec. nov.

*Gomphia corymbosa* Ridl. in Fl. Mal. Pen. I (1922) 367 p.p.

A *B. hookerii*, cui affinissima, haec species foliis denticulato-spinosis recedit. A *B. serrulata* conjus folia serrulata spinulosa sunt, haec species inflorescentis capitato-compositis ut in *B. hookeri*, haud simplicibus, facile distinguitur.

MALAYA: **Singapore**, Bukit Timah (Ridley 10,738, holotypus in SING.; Hullett 436 & 910; Sinclair 39,573, sterilis); loc. incert. (Cantley's collection).

The flowers are crowded on a compound axis as in *B. hookeri*, but the leaves are spinulose in the margins. Without these spines, the specimens would be easily confused with *B. hookeri*. Ridley notes that it is a small tree and that its flowers are white. Hullett (No. 910) notes that the fruit bearing calyx is red.

B. Sectio *Spiciformes* v. Tiegh. op. cit. VIII (1902) 397.

3. **Brackenridgea corymbosa** (King) v. Tiegh. in Ann. Sci. Nat. VIII (1902) 395 & 397.

*Gomphia hookeri* Pl. var. *corymbosa* King, Mater. Fl. Mal. Pen. II (1893) 475: **basionym**.

*G. corymbosa* (King) Ridl. Fl. Mal. Pen. I (1922) 367 pro parte basionymica.

A shrub 6–9 ft. tall, producing bifarous white flowers in corymbs having a simple axis. The flowers are congested at the apex of a longish inflorescence axis, but below them the axis show the stalks of fallen flowers and the scales. Sometimes branches are produced from this lower part of the axis, each bearing bifarous flowers at its apex. The young fruit is described as pale green.

MALAYA: **Perak**, Gopeng, alt. 500–1,000 ft. (Kunstler 4,673, isoholotype in SING.).

4. **Brackenridgea palustris** Bartell, in Malpighia XV (1901) 165. t.10; v. Tiegh. in Ann. Sci. Nat. VIII (1902) 395 & 397.

*B. kingii* v. Tiegh. op. cit. VIII (1902) 395: **Syn. nov.**

*B. rubescens* v. Tiegh. op. cit. VIII (1902) 395: **Syn. nov.**

*Gomphia hookeri* Pl. sensu Ridl., Fl. Mal. Pen. I (1902) 366 p.p.

Tree 15–60 ft. tall. Corymbs terminal, very short, with leaves immediately below the rachis and without any long scaly rachis below the flowers. Flowers red, bifarously arranged. Leaves variable in size, broadly or narrowly ovate or ovate-lanceolate, usually brownish, 5–10 cm. long, 2–5 cm. wide. Fruit red.

MALAYA: **Kedah**, Kedah Peak, alt. 3,000 ft. (Robinson & Kloss 5899); alt. 3,600 ft. (Cheang & Chang 656 & 663, red fruit and flowers without petals red); Gunong Jerai (Mustafa CF. 20,734).

**Perak**, Larut (Kunstler 6,396, holotype of *B. kingii* in K, flowers (=fruiting calyx) dark red). **Pahang**, Praman (Ridley 1192, disc red, berris black); Kuantan at Baloh (Yeop CF. 835). **Malacca**, (Alvins 876 as *Pokoh Pendarak* & *Pokoh Chenarahan*). **Singapore**, Tanjong Gol (Goodenough 1,957); Changi (Goodenough 2,072, isotype of *B. rubescens*); Tampenis Road (Ridley 4,807); Tampenis river Ridley s.n., flowers deep red); Chan Chu Kang (Ridley 5,896).

SUMATRA: **Siberut** (Boden-Kloss 14,530, fruit red).

BORNEO: **Sarawak**, Kuching Haviland 2,224 sepals and pedicels pink).

This species was described from a specimen collected by Beccari in Borneo (P.B. No. 3,472) by the lake of Kapuas.

The species show a good deal of variation in the size and shape of the leaves, especially in the mountain collections. Cheang & Chang 663 has rather longish leaves with a long tapering apex.

6. **Brackenridgea serrulata** Bartell. in *Malpighia* XV (1901) 163 t.9; v. Tiegh. in *Ann. Sci. Nat.* VIII (1902) 395 & 397.

Tree or shrub. Inflorescence simple with bifarous flowers which are white at first, but become red later. Fruit bright red when ripe. Leaves serrulate.

BORNEO: **Sarawak**, Matang (Brooke 9,715, small tree, flowers pale pink or white; fruit black; calyx crimson; Haviland 1,021, timber tree); Bako National Park at Telok Asam, 400 ft. (Purse-glove 4,919, shrub 8 ft. tall, fruits bright red).

This has serrulate leaves and white flowers as in *B. denticulata*, but the inflorescence is simple, with bifarously arranged flowers.

7. **Brackenridgea foxworthyi** (Elm.) Furtado comb. nov.

*Ochna foxworthyi* Elm., *Philipp. Leaflet Bot.* V (1913) 1823; Merr. Enum. Philipp. Pl. III (1923) 68. basionym.

PHILIPPINES: **Palawan**, Victoria Mts. at Panacan (Sulit 12,425); Bacungan, at Puerto Princesa (Edano 177).

The leaves are dentate or sometimes very obscurely so.