Nomenclatural revision of the genus *Brassavola* R. Br. of the Orchidaceae

By H. G. Jones ¹)

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Zusammenfassung


Summary

A nomenclatural revision of the genus *Brassavola* R. Br. of the Orchidaceae, for which the author accepts a total of twenty species and five varieties, divided into five sections. An annotated checklist of the taxa, with full details of synonymy, and a brief statement in general terms, of the geographical range of each taxon, is given. A key for the identification of the taxa is also provided.

Introduction

The genus *Brassavola* was established by the English botanist, Robert Brown, in Vol. 5 of the second edition of Aiton’s Hortus Kewensis (1813); but it was not until 1902 that another of his countrymen — R. A. Rolfe — first attempted to divide the genus into sections. Rolfe proposed three sections for the genus: § *Grandiflorae* for the large-flowered Middle American species; § *Cuneilabia* for the group of species related to *B. nodosa* (L.) Lindl., characterized by the narrow, tube-like base of the labellum; and § *Sessililabia*, in which he placed the generic type, *B. cucullata* (L.) R. Br. together with the other sessililabiate species which are peculiar to South America. Rolfe’s list of species was not a very critical one; for he made no attempt to evaluate the new species which had recently been described by the Brazilian botanist, João Barbosa Rodrigues — merely stating that they were “not yet introduced to cultivation”.

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Seventeen years later, in 1919, the German botanist, Rudolf Schlechter, published his review of Brassavola, in which he divided the genus into four sections. Rolfe’s § Grandiflorae was excluded from Brassavola altogether — Schlechter having published the new genus Rhyncholaelia for these species in 1918; the spelling of Rolfe’s § Cuneilabia was changed to Cuneilabium; B. cucullata was placed in a separate monotypic section of its own — § Eu-Brassavola; and the remaining sessillilabiate species were divided into two sections, § Conchoglossum and § Prinnoglossum. In this paper, Schlechter listed a total of fifteen species for the genus — including two which he described therein as new to science.

In the treatment of Brassavola, which follows, I have used five sections for the genus. I have restored Rolfe’s § Grandiflorae to Brassavola, unchanged except for the addition of one variety which has been described since Rolfe’s time (Ames 1932). I have followed Schlechter in placing the generic type, B. cucullata, in a section of its own; but since the international code of botanical nomenclature requires that the name of that section of a genus which contains the type species should repeat the name of the genus unaltered, Schlechter’s name Eu-Brassavola had to be changed to § Brassavola (Jones 1969b). For the South American sessillilabiate species, I have used Rolfe’s § Sessillilabia, as I do not believe Schlechter’s division of these species into two sections to be justified. For the group of species immediately related to B. nodosa, I have restored the original orthography of Rolfe’s § Cuneilabia; but I have separated B. acaulis Lindl. and B. lineata Hook. into a new section (Jones 1975) — because of the peculiar form of the inflorescence in these two species, which is quite different from that of any other member of the genus.

Unlike the other immediately related genera of the interesting group which I have designated the Laelia-Epidendrum alliance (Jones 1966, 1967), the form of the inflorescence in the genus Brassavola varies considerably; however, there are three main inflorescence types which are distinguishable among the component species (Table 1). Type A, which consists of a single-flowered terminal peduncle, is found in section 1 and 2; in Type B (sections 3 and 4), the racemes of 2—15 flowers are carried on relatively tall, terminal spikes; while in Type C — confined to section 5 — the flowers are borne upon short lateral shoots — singly in the case of B. acaulis; but 2—3-flowered in B. lineata.

In addition to the three main types described above, there is a fourth type of fasciculate inflorescence, which sometimes occurs as an abnormal form; and which may possibly result from a pathomorphological conditions similar to that which produces what is known as the “witches’ broom” phenomena in certain other plant families (Bos 1957). This abnormal condition has been recorded for at least one species in four of the five section of the genus — § Lateraliflorae being the exception. I have myself observed it in B. Digbyana (§ Grandiflorae) and B. nodosa (§ Cuneilabia); Pabst (1955) used it as the basis
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for establishing a new species, *B. fasciculata* — for which he also proposed a new section of the genus; and the condition also appears to occur in the type species of the genus, *B. cucullata* (PLUMIER 1758; JONES 1967).

I think there can be no doubt that the fasciculate type of inflorescence is sufficiently rare to be regarded as an abnormal condition. In the case of

**Table 1**

<table>
<thead>
<tr>
<th>Sections</th>
<th>Species &amp; Varieties</th>
<th>Inflorescence Types</th>
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</thead>
<tbody>
<tr>
<td>§ 1. Grandiflorae</td>
<td><em>B. glauca</em></td>
<td>Type A</td>
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<tr>
<td></td>
<td><em>B. Digbyana</em></td>
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<td></td>
<td><em>B. Digbyana var. fimbripetala</em></td>
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<td>§ 2. Brassavola</td>
<td><em>B. cucullata</em></td>
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<td></td>
<td><em>B. cucullata var. elegans</em></td>
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<td>§ 3. Sessililabia</td>
<td><em>B. tuberculata</em></td>
<td>Type B</td>
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<td><em>B. fragrans</em></td>
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<td></td>
<td><em>B. Perrinii</em></td>
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<td></td>
<td><em>B. Ceboletta</em></td>
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<tr>
<td></td>
<td><em>B. Ceboletta var. fasciculata</em></td>
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<tr>
<td></td>
<td><em>B. retusa</em></td>
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<tr>
<td></td>
<td><em>B. Gardneri</em></td>
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<td></td>
<td><em>B. amazonica</em></td>
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<td></td>
<td><em>B. angustata</em></td>
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<td></td>
<td><em>B. Martiana</em></td>
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<td></td>
<td><em>B. Martiana var. multiflora</em></td>
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<tr>
<td>§ 4. Cuneilabia</td>
<td><em>B. subulifolia</em></td>
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<td></td>
<td><em>B. Harrisii</em></td>
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<td></td>
<td><em>B. Gillettei</em></td>
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<td></td>
<td><em>B. rhopalorrhachis</em></td>
<td></td>
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<tr>
<td></td>
<td><em>B. nodosa</em></td>
<td></td>
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<tr>
<td></td>
<td><em>B. nodosa var. venosa</em></td>
<td></td>
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<tr>
<td></td>
<td><em>B. nodosa var. grandiflora</em></td>
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<tr>
<td>§ 5. Lateraliflorae</td>
<td><em>B. acaulis</em></td>
<td>Type C</td>
</tr>
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<td></td>
<td><em>B. lineata</em></td>
<td></td>
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</tbody>
</table>

*B. fasciculata*, PABST wrote: "... specimena omnia inflorescentiam fasciculatam habent"; but this concept is known only from the type specimen, and in regard to its floral morphology, it is quite indistinguishable from those previously described as *B. Ceboletta* RCHB. f. (1855) and *B. ovaliformis* C. SCHW. (1949). I have, therefore, reduced *B. fasciculata* to varietial status under the former name; and I have united PABST’s § *Aggregatae* (1955) with ROLFE’s § *Sessililabia* (1902).

The key to the sections, species and varieties, given below, is followed by an annotated checklist of the taxa, with full details of synonymy and a brief statement in general terms of the geographical range of each taxon. The notes
on the individual taxa have been kept to the minimum, however; as their history and typification have already been discussed by the author in a number of preliminary studies — a list of which can be found in the bibliography at the end of this paper.

**Key to the Sections, Species and Varieties**

1. Leaves flattened (§ *Grandiflorae*)
   - 2. Margins of the labellum entire .............................................. *B. glauca*
   - 2. Margins of the labellum fimbriate
   - 3. Margins of the petals entire .............................................. *B. Digbyana*
   - 3. Margins of the petals fimbriate ........................................... *B. Digbyana* var. *fimbripetala*

1. Leaves terete or semiterete
   - 4. Inflorescence terminal
     - 5. Apex of the labellum attenuated to a long slender point (§ *Brassavola*)
       - 6. Pedicels 20—24 cm long ................................................ *B. cucullata*
       - 6. Pedicels less than 20 cm long ................................. *B. cucullata* var. *elegans*
     - 5. Apex of the labellum not attenuated
     - 7. Labellum sessile (§ *Sessililabia*)
       - 8. Margins of the labellum entire
       - 9. Pseudobulbs cylindrical
         - 10. Apex of the labellum acute
           - 11. Inflorescence equal to or slightly shorter than leaves
             - 12. Inflorescence 1—3-flowered ................................. *B. tuberculata*
             - 12. Inflorescence 5—12-flowered ............................... *B. fragrans*
           - 11. Inflorescence much shorter than leaves
             - 13. Inflorescence 5—15-flowered ............................... *B. Perrinii*
             - 13. Inflorescence 2—3-flowered
               - 14. Inflorescence simple ...................................... *B. Ceboletta*
               - 14. Inflorescence fasciculate .............................. *B. Ceboletta* var. *fasciculata*
           - 10. Apex of the labellum truncate ............................... *B. retusa*
         - 9. Pseudobulbs fusiform .............................................. *B. Gardneri*
       - 8. Margins of the labellum fimbriate
         - 15. Flowers more than 4.5 cm in diameter
           - 16. Labellum 8-shaped ............................................. *B. amazonica*
           - 16. Labellum V-shaped
             - 17. Labellum less than 1 cm at widest point ............ *B. angustata*
             - 17. Labellum more than 1 cm at widest point ............. *B. Martiana*
           - 15. Flowers less than 4.5 cm in diameter ............... *B. Martiana* var. *multiflora*
         - 7. Labellum cuneiform (§ *Cuneilabia*)
           - 18. Flowers less than 6.5 cm in diameter .................... *B. subulifolia*
           - 18. Flowers more than 6.5 cm in diameter
             - 19. Inflorescence 14—16-flowered .......................... *B. Harrisii*
             - 19. Inflorescence 2—6-flowered
               - 20. Flower-scape longer than leaf .......................... *B. Gillettei*
               - 20. Flower-scape shorter than leaf
                 - 21. Flowers less than 12 cm in diameter
                   - 22. Inflorescence branched .................................. *B. rhopalorrhachis*
                   - 22. Inflorescence simple
                     - 23. Margins of labellum entire ............................ *B. nodosa*
                     - 23. Margins of labellum broken ............................ *B. nodosa* var. *venosa*
                 - 21. Flowers more than 12 cm in diameter
                   - *B. nodosa* var. *grandiflora*
4. Inflorescence lateral (§ Lateraliflorae)
24. Inflorescence always 1-flowered ........................................... B. acaulis
24. Inflorescence 2—3-flowered ............................................. B. lineata

List of species and varieties

*Tulexis* RAT. Flor. Tell. 4: 42 (1838).
*Lysimmia* RAF. Flor. Tell. 4: 43 (1838).

Generic type: *B. cucullata* (L.) R. Br.

Epiphytic or rock-inhabiting plants with slender or slightly thickened pseudobulbs, terminating in a single leaf. Leaves light greyish green, terete, semiterete or flattened. Inflorescence 1-flowered or several-flowered on a terminal or lateral peduncle, rarely fasciculate and often subtended by a spathaceous sheath. Flowers usually large and showy: sepals and petals similar, about equal, linear to elliptic-lanceolate, greenish, or rarely spotted with brown or purple, often long attenuate. Lip sessile or with a distinct claw, more or less enfolding the column, dilated apically into a broad lamina with entire or fimbriate margins. Column more or less erect, usually shorter than the claw of the lip, usually 2 winged; footless; anther operculate, incumbent; pollinia usually 8, 4 in each cell of the anther; rarely 8+. Capsule ellipsoidal, usually with a long sterile beak.

§ 1. Grandiflorae

*Brassavola* § Grandiflorae ROLFE in Orch. Rev. 10: 69 (1902).

Sectional type: *B. glauca* Lindl.

The species of this section constitute the most controversial group in the genus: in recent years, they have been shifted back and forth between the genera *Brassavola*, *Laelia* and *Rhyncholaelia* with bewildering regularity; but the result of recent studies by Dressler (1959) and the author have proved conclusively that they fit into *Brassavola* better than they do elsewhere (Table 2).


*Laelia glauca* Bthm. in Journ. Linn. Soc. 18: 314 (1881).

Range: Mexico, Guatemala, Honduras, Panama.

*B. glauca* is closely related to the next species, *B. Digbyana* — from which it may readily be distinguished by the unbroken margins of the labellum. There is a small flowered specimen of *B. glauca* in the Herbarium of the University of the West Indies in Jamaica; but the species does not occur in the West Indies.

Range: Mexico, Belize, Guatemala, Honduras.

This is a very beautiful plant which is much prized by horticulturists on account of its large and deeply fringed labellum. It has been employed in the creation of a large number of artificial hybrids.


Range: Honduras, apparently endemic.

This interesting variety is distinguished from the type by having the margins of the petals fringed as well as those of the labellum. The geographical range of the variety may eventually prove somewhat greater than I have indicated above; but so far, the only authentic material known to me has come from Honduras.

Table 2

<table>
<thead>
<tr>
<th>Laelia</th>
<th>Brassavola § Grandiflorae</th>
<th>Other Sections of Brassavola</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pseudobulbs distinctly thickened.</td>
<td>Pseudobulbs very slightly thickened.</td>
<td>Pseudobulbs cylindrical or slightly thickened.</td>
</tr>
<tr>
<td>Leaves leathery, bright or dark green.</td>
<td>Leaves fleshy, pale greyish green.</td>
<td>Leaves fleshy, pale greyish green.</td>
</tr>
<tr>
<td>Capsule without a long sterile beak.</td>
<td>Capsule with a long sterile beak.</td>
<td>Capsule with or without a long sterile beak.</td>
</tr>
<tr>
<td>Flowers coloured.</td>
<td>Flowers greenish white.</td>
<td>Flowers greenish or yellowish white.</td>
</tr>
<tr>
<td>Clinandrium entire.</td>
<td>Clinandrium toothed or entire.</td>
<td>Clinandrium toothed.</td>
</tr>
<tr>
<td>Pollinia always 8.</td>
<td>Pollinia 8 or 8+.</td>
<td>Pollinia 8 or 8+.</td>
</tr>
</tbody>
</table>

§ 2. *Brassavola*

*Brassavola* § *Eu-Brassavola* SCHLTR. in *Orchis* 13: 45 (1919).

Sectional type: *B. cucullata* (L.) R. BR.

This section consists of only one species and a single variety. One recent author (ÖSTERREICH 1967) who, apparently, did not realize that *B. cucullata* is...
the generic type of Brassavola, suggested that this species should also be transferred to Rhyncholaelia — thereby providing unintentional support for the view that the species of § Grandiflorae should not be separated from Brassavola. If the name Brassavola were, in future, restricted to these two sections of the genus; then I believe that the generic name Tulexis Raf. would have to be taken up for the remaining species which I have listed below under sections Sessililabia, Cuneilabia and Lateraliflorae.

   Brassavola odoratissima Regel in Gartenflora 1: 325 (1852).

   Range: Mexico, Guatemala, El Salvador, Honduras, St. Thomas, St. Martin, Saba, St. Eustache, Guadeloupe, St. Barthélémy, La Désirade, Dominica, St. Vincent, Bequia, Mustique, Union, Grenada, Trinidad, Venezuela, Colombia.

   An extremely common and widespread species in Tropical America and the West Indies; and one of the earliest of epiphytic orchids to flower under cultivation in England. The species was introduced from the West Indies by Rear Admiral William Bligh in 1793.


   Range: Mexico, Guatemala.

   This variety is distinguished from the type by its smaller flowers and shorter pedicellate ovaries. Schlechter believed that it also occurred in Colombia; but I have seen no authentic South American material, and recent studies suggest that the variety is probably confined to the Middle American region.

§ 3. Sessililabia

Brassavola § Sessililabia Rolfe in Orch. Rev. 10: 67 (1902).
Brassavola § Prinnoglossum Schltr. in Orchis 13: 45 (1919).
Brassavola § Conchoglossum Schltr. in Orchis 13: 45 (1919).

Sectional type: B. tuberculata Hook.

Two specific groups are discernable within this section, corresponding to Schlechter's sections Prinnoglossum and Conchoglossum. In the first group, which consists of the species immediately related to B. Martiana, the labellum is relatively narrow, with fimbriate margins; and the species are largely of northern distribution — extending from the Guianas through Venezuela and
Colombia to northern Brazil. In the group related to *B. tuberculata*, however, the labellum is broader, with unbroken margins; and the taxa are found mainly in Brazil, Peru, Bolivia, Paraguay and northern Argentina. Unfortunately the difference between these two groups is somewhat blurred by the existence of *B. Gardneri*, which appears to represent an intermediate stage of development.


   *Brassavola Gibbiana* B. S. Wms. Orch. Man. 5: 149 (1871).

   Range: Brazil, apparently endemic.

   A very distinct species — easily recognizable by the purple or chocolate-spotted sepals; it used to be much cultivated in the great days of the orchid species, but is rarely seen nowadays.


   Range: Brazil, apparently endemic.

   This species was originally described under the name *B. fragrans* by Lemaire in 1853; but twenty-four years later, Rodrigues again described it as new; and — it would seem — purely by coincidence, he also named it *B. fragrans*. It is probably the result of natural hybridization between *B. tuberculata* and *B. Perrinii* — with which it is sympatric in the Brazilian state of Santa Catarina. The markings on the sepals are much paler than those found in *B. tuberculata*.


   Range: Brazil, Paraguay, Bolivia.

   Apparently a rather common species — distinguished from *B. tuberculata* and *B. fragrans* by the absence of any markings on the sepals and the more numerous inflorescence.


   Range: Brazil, Peru, Argentina.

   The holotype has, unfortunately, not survived; but Reichenbach’s description agrees well with the plants which were later described as *B. chacoeensis* and *B. ovaliformis*. The species is clearly related to *B. Perrinii* — from which it may be distinguished by the somewhat differently shaped labellum and few-flowered inflorescence.


Range: Brazil, apparently endemic.

I have distinguished this variety on the basis of the peculiar form of the inflorescence, which is said to be constant in all the material; but it may be eventually found necessary to unite it with the type.


Range: Brazil, Venezuela.

In his review of the genus, SCHLECHTER listed this species under „Unge- nügend bekannte oder zu streichende Arten“ with the comment: „Die Art ist nur mit wenigen Worten erwähnt und nie richtig beschrieben worden, so daß nicht einmal feststeht, zu welcher Sektion sie gehört“. Examination of a photograph of the type, however, has revealed that *B. retusa* is certainly a member of § *Sessililabia* (§ *Conchoglossum* SCHLTR.), somewhat related to *B. tuberculata* and *B. Perrinii*, but easily distinguished by the cuneate-ovate truncate form of the labellum, which is unique in this section of the genus; all the other species having the front part of the labellum tapered off to a more or less acute point.


Range: Brazil, apparently endemic.

Another rather distinct species — apparently related to *B. Martiana*, from which it may be distinguished, even when not in flower, by the thickened form of the pseudobulbs.

13. **Brassavola amazonica** POEPP. & END. NOV. *Gen.* **1**: 3 (1835).

*Bletia amazonica* RCHB. f. in *Walp. Ann.* **6**: 434 (1861).

Range: Brazil, Venezuela, Guyana.

Also related to *B. Martiana* — with which it is frequently confused — but easily distinguished by the differently shaped labellum, which is clearly delineated in the original illustration.


*Brassavola surinamensis* Focke in *Tijds. Weten.* **4**: 71 (1851).


Range: Guianas, Venezuela.

Distinguished from *B. Martiana* by the very narrow labellum and few-flowered inflorescence. The identification of *B. surinamensis* with this concept
is substantiated by a note on the type-sheet of *B. angustata* in Lindley’s herbarium.

Range: Guianas, Venezuela, Colombia, Brazil.
A widespread and apparently quite common species in the northern regions of the South American continent.

*Brassavola multiflora* Schltr. in Orchis 13: 48 (1919).
Range: Brazil, Venezuela, Guyana.
Distinguished from the typical *B. Martiana* by the smaller flowers and usually — but not always — more numerous inflorescence.

§ 4. *Cuneilabia*

*Brassavola* § *Cuneilabia* Rolfe in Orch. Rev. 10: 65 (1902).
Sectional type: *B. nodosa* (L.) Lindl.
This is probably the most homogeneous section of the genus: the species are well represented in collections and have been in cultivation for a very long time — the original illustration on which the type, *B. nodosa*, is based having been published as early as 1698. The group is characterized by having the base of the labellum constricted to a narrow claw-like tube.

Range: Nevis, Jamaica.
The Nevis record for this species appears to be somewhat doubtful; and I rather suspect that *B. subulifolia* will eventually be found to be endemic to Jamaica. Since no holotype specimen appears to have survived, it would seem advisable to designate one of the early, excellent specimens in the herbarium of the University of the West Indies as neotype.

Range: Jamaica, apparently endemic.
Closely related to *B. subulifolia*, but easily distinguished by its more robust habit; the coarse, many-flowered scape; somewhat larger flowers; and
longer claw to the labellum — the length of which in *B. Harrisii* exceeds half the length of the entire labellum. The type specimen is in the herbarium of the University of the West Indies.

Range: Trinidad, apparently endemic.
A rather distinct species, somewhat related to *B. nodosa* and *B. rhopalorrhachis*; but easily separated by the much longer flower scape and very different form of labellum, which does not open fully as in the other species of *Brassavola*. The type specimen is in the author’s herbarium.

Range: Guatemala, Panama.
This concept is often included in the synonymy of *B. nodosa*; but its dwarf habit and strongly branched inflorescence — the latter feature being unique in the genus — seem amply distinct to me.

*Brassavola stricta* C. Kad. in Gard. Chron. 27: 505 (1885).
*Brassavola escapos* SCHLTR. in Orchis 13: 57 (1919).
Range: Mexico, Guatemala, Honduras, Belize, Nicaragua, Costa Rica, Panama, Jamaica, Puerto Rico, Curacao, Venezuela, Colombia, Brazil, Peru.
Probably the most common and widely distributed species of the genus, *B. nodosa* is known in the Middle American region by the beautiful name of “Dama de la Noche” — because of its exquisite nocturnal fragrance.

*Bletia venosa* RCHB. f. in Walp. Ann. 6: 438 (1861).
Range: Honduras, Guatemala.
This variety is less widely distributed than the typical *B. nodosa*: it is often included in the synonymy of that concept — but the broken margins of the labellum appeared to be quite constant in all the specimens I have seen.

Range: Nicaragua, Jamaica.
The Jamaican record is based upon a specimen in the herbarium of the University of the West Indies — but I rather suspect that this variety may have been introduced to the West Indies by way of cultivation. The flowers are twice as large as those of the typical *B. nodosa*.

§ 5. *Lateraliflorae*


Sectional type: *B. acaulis* Lindl.

In regard to floral morphology, the species of this section are very close to those of the preceding one; but the inflorescence is always borne laterally — a feature which appears to mark this group as one of the most advanced in the genus. Geographically, the species are confined to a relatively small area of Central America.


Range: Guatemala, Panama, Costa Rica.

Very close to *B. nodosa* in floral and vegetative morphology, but the flowers are always borne singly on a lateral peduncle.


Range: Guatemala, Panama, Belize.

Distinguished from the preceding species by the following details: (1) the leaves are much longer and narrower; (2) the inflorescence bears 2—3 flowers; (3) the flowers are always smaller; (4) the labellum is proportionately narrower and pure white — without any of the purple flecks found in *B. acaulis*.

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Bos, L. (1957): *Hekesenzemverschijnselen, een pathologisch-morfolo**g**isch onderzoek.* — Belmontia, 4: 1—79.


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**REGEL, E. (1852):** *Brassavola odoratissima*. — Gartenflora, 1: 325–326.

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