

segments *A*, *B*, *C*, *D* (two outer segments, *A*, *B*, and two inner segments, *C*, *D*) all of which fit into grooves cut into the supporting collars *F*, *G* of figure 1 and can be rotated by grasping the small knobs and sliding each segment in its track, thus increasing or decreasing the size of the diamond shaped aperture at 0 (fig. 1). The ring marked *E* can also be rotated and a triangular aperture obtained if desired. These segments can be made by a good mechanic without difficulty and are so simple both in construction and manipulation that further description is unnecessary. A movable iris diafram may also be used for the same purpose, but it is less effective because it does not allow the observer to change the shape as well as the position of the aperture and thus to obtain intense illumination without, at the same time, introducing false light.

BOTANY.—*Pseudannonna*, a new genus of *Annonaceae* from the Mascarene Islands; together with notes on *Artabotrys uncinatus* and its synonymy. W. E. SAFFORD, Bureau of Plant Industry.

Among the *Annonaceae* of the island of Mauritius described by Lamarck in 1786 were three species referred by him to the genus *Annona*: *A. grandiflora*, *A. amplexicaulis*, and *A. uncinata*.¹ These were afterwards figured by Dunal in his monograph of the *Annonaceae*, the generic name assigned to them by Lamarck being retained for the first two species but the last being placed in the genus *Unona*, under the name *U. uncinata*. Dunal's plates show at a glance that the first two plants above named, which have separate carpels, each containing several seeds, cannot possibly belong to the genus *Annona*, the fruit of which is a syncarpium composed of a number of 1-seeded carpels fused together in a consolidated mass; and *Unona uncinata* (Lamarck) Dunal has been made the type of a new genus, *Artabotrys*, one of the distinguishing characteristics of which is the peculiar hook-like peduncles of the flower, which at length serve as a support for the fruit.

That Lamarck's *Annona grandiflora* and *A. amplexicaulis* do not belong to the genus to which they were assigned was recog-

¹ Lamk. *Encycl. Bot.* 2: 126, 127. 1786.

nized by Baillon, who placed them in the genus *Xylopia*, in a section by themselves, which he called *Pseudanona* (see *Adansonia* 4: 142. 1864); but in studying the genus *Xylopia* the present writer has become convinced that these two Mauritian plants cannot possibly be regarded as congeneric with the West Indian *Xylopia muricata*, the type of the genus as established by Linnaeus,² and it is therefore proposed to segregate them by raising Baillon's section to generic rank under the name of *Pseudannona*. The genus may be described as follows.

Pseudannona (Baillon) gen. nov.

Calyx gamosepalous, subtriangular or 3-lobed. Corolla composed of 6 petals in 2 series, all of which are valvate, the outer 3 longer and broader than the inner and subspatulate in form, the inner more or less triquetrous especially near the apex. Receptacle (torus) domeshaped, with a crater-like depression at the center from which issue the styles of the sunken ovaries. Ovaries distinct, each terminating in a slender style which is recurved near the extremity where it is provided with numerous stigmatic papillae. Ovules several, biseriate, not superimposed as in the genus *Xylopia*. Stamens numerous borne on the outer slope of the torus and forming a crowded mass surrounding the central cluster of carpels; filaments stout, bearing on their back a pair of linear parallel pollen sacs opening extrorsely by a longitudinal slit and surmounted by the broadened connective. Fruit a cluster of distinct several-seeded carpels borne on the hardened receptacle, or torus, not a syncarpium composed of many 1-seeded carpels fused together as in the genus *Annona*. Climbing or erect shrubs with solitary 1-flowered peduncles indigenous to the islands of Mauritius and Madagascar.

Thus far but two species can with certainty be referred to this genus, a third species, from the forests of Mauritius is like *P. grandiflora*, a climbing shrub and has been described as *Anona pyriformis* Bojer. Tho the latter cannot possibly belong to the genus *Annona* it is doubtful whether it should be assigned to the present genus, owing to its broad inner petals which resemble

² Linnaeus. *Syst. Nat.* 2: 1250, 10 ed. 1759.

the outer in form. Its generic affinities cannot be established owing to the absence of fruit. The following are the species thus far known belonging to the genus *Pseudannona*.

1. *Pseudannona amplexicaulis* (Lamk.) comb. nov. Type of the genus.

Anona amplexicaulis Lamk., Encycl. Bot. 2: 127. 1786; Dunal, Monogr. Anon. 76, pl. 7. 1817; DC. Syst. 1: 475. 1818; Prodr. 1: 86. 1824; Bojer, Hort. Maurit. 5. 1837; Baker, Fl. Maurit & Seych. 3. 1877.

Xylophia amplexicaulis Baill., Adansonia 4: 142. 1864; Hist. Pl. 1: 226. 1867.

2. *Pseudannona grandiflora* (Lamk.) comb. nov.

Anona grandiflora Lamk., Encycl. Bot. 2: 126. 1786; Dunal, Monogr. Anon. 75, pl. 6 & pl. 6a. 1817; DC. Syst. 1: 475. 1818; Prodr. 1: 86. 1824; Bojer, Hort. Maurit. 5. 1837; Baker, Gl. Maurit. & Seych. 3. 1877.

Xylophia Lamarckii Baill., Adansonia 4: 142. 1864; Hist. Pl. 1: 227. 1867.

NOTES ON ARTABOTRYS UNCINATUS

This plant, which is one of the sources of the perfume called ylangylang, is of East Indian origin, but is now cultivated in many tropical countries for the sake of its fragrant flowers. Unlike the true ylangylang (*Canarium odoratum* (Lamb.) King) it is a climbing shrub instead of a tree; the connective of its stamens is broadly expanded instead of being produced into a long tapering point; and its one-carpelled fruits contain 2 seeds each arranged side-by-side instead of several superimposed in a series. The following is a translation of Lamarck's original description, under the botanical name *Anona uncinata*, or "corossol with hooks."

This corossol is remarkable for the singular hooks which the floral peduncles bear, and which almost resemble the stipulary spines of *Hugonia* [a genus of *Linaceae* occurring in the tropics of the Eastern Hemisphere, some of the species of which have hooked axillary peduncles]. Its branches are woody, terete, glabrous, and somewhat zigzag

in form, bearing alternate, lanceolate or oblong-lanceolate, acuminate leaves, glabrous on both sides, glossy, and short-petioled, with blades 5 to 7 inches long by almost 2 inches broad. The pedicels are one-flowered, 6 lines long, and each borne on a special inclined hook almost curved into a spiral, somewhat flattened, and usually opposite a leaf. The flower is rather large and has a calyx with 3 ovate-acute divisions much shorter than the corolla; 6 ovate-lanceolate petals, brownish red on the upper part, with broad claws at the base, tomentose, concave within, and constricted between the claw and the blade. The 3 outer petals are slightly larger than the others. The fruits [ripe carpels] are ovoid-globose, of the size of a walnut enclosed in its hull, with the surface smooth and slightly punctate, and containing oblong seeds, few in number, arranged longitudinally as in *Anona grandiflora* [*Pseudannona grandiflora* (Lamk.) Safford].

The following is the synonymy of this species.

Artabotrys uncinata (Lamk.) comb. nov.

Anona uncinatus Lamk., Encyel. Bot. 2: 127. 1786.

Unona uncinata Dunal, Monogr. Anon. 105, pl. 12, & pl. 12a. 1817; DC. syst. 1: 490. 1818; Prodr. 1: 90. 1824.

Uvaria uncata Loureiro, Fl. Cochinch. 1: 349. 1790; Roxb., Fl. Ind. 2: 666. 1832.

Artabotrys odoratissimus R. Br. in Bot. Reg., pl. 423. 1819; Hooker f. & Thoms., Fl. Ind. 128.128. 1855; Benth., Fl. Hongkong, 10. 1861; Hooker f., Fl., Brit. Ind. 1: 54. 1872; Kurz, For. Fl. Burm. 1: 31. 31. 1877; Baker, Fl. Maurit. & Seychelles 4. 1877; King, Anon. Brit. Ind. 44. pl. 55. 1893.

Uvaria odoratissima Roxb., Fl. Ind. 2: 666. 1832.

From the above synonymy it appears that Lamarek's specific name (*uncinata*) was recognized by Dunal and De Candolle. Its original publication preceded that of Loureiro (*uncata*) by four years. In establishing the genus *Artabotrys* the first specific name of the type was disregarded by Mr. Brown, tho quoted by him in his synonymy, and the manuscript name of Roxburgh was adopted instead. According to the accepted rules of priority the first specific name must be used, and the plant must be designated as *Artabotrys uncinatus*.