STUDIES IN THE GESNERIACEAE OF THE OLD WORLD

XVI: SOME TROPICAL AFRICAN STREPTOCARPUS

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The notes following are, in the main, preparatory to an account of *Streptocarpus* undertaken for the Flora of Tropical East Africa, now being published from Kew. The species considered are arranged alphabetically under the two subgenera, the unifoliate species in subgenus *Streptocarpus*, the caulescent species in subgenus *Streptocarpella*. The rosulate species, which are also classified in subgenus *Streptocarpus*, are not known to occur in Tropical Africa. Two species were wrongly assigned to this group by Baker & Clarke (in Fl. Trop. Afr. iv (2), 504: 1906): *S. montanus* Oliv. is a dwarf caulescent species and its affinities are discussed below under its new ally *S. parensis*: *S. hirtinervis* C.B. Cl. is a unifoliate species in which accessory leaves are not infrequent.

The subgenera *Streptocarpus* and *Streptocarpella* are more fundamentally distinct than the bald statement of the habit differences suggests. This is reflected in their chromosome numbers: 2n=32 in subgenus *Streptocarpus*; 2n=30 in subgenus *Streptocarpella*, though in one caulescent species, *S. nobilis* C.B. Cl., a diploid number of 28 has recently been recorded by S. & G. Mangenot (in Bull. Jard. Bot. Brux. xxvii, 644: 1957). Investigation of other Tropical African species is greatly to be desired.

SUBGENUS STREPTOCARPUS

There are some difficult problems in this group, but taxonomists have tended to make further difficulties for themselves. Perhaps the worst example of this was the description of *S. katangensis* De Wild. & Th. Dur. (in Bull. Soc. Bot. Belg. xl, 25: 1901) from the Belgian Congo. *S. monophyllus* Welw. from Angola was the only tropical unifoliate *Streptocarpus* then known, and no doubt the temptation to see a new species in the specimens available was strong. But these specimens were in young bud and were quite unsuitable for description: the measurements of the floral parts bear no relation to what they would have been when fully developed. It is possible that this name *S. katangensis* should really be applied to the species which De Wildeman himself described from the same area thirty-one years later. It is not surprising he failed to recognize his old species in the beautiful specimen which he named *S. wittei*. However, it is also possible that *S. katangensis* is the plant now known as *S. goetzei* Engl. I consider that it is impossible to be certain, and I propose to abandon the name *S. katangensis*, which has probably never been used for any specimen other than the type.

C. B. Clarke & J. G. Baker introduced further confusion in their account in the Flora of Tropical Africa (iv (2), 506: 1906), by recording the S. African species *S. breviflos* and *S. tubiflos* from Nyasaland. These names were dealt with some years ago (in Kew Bull. 1939, 79) and they disappear from the tropical flora.

Streptocarpus compressus B. L. Burtt, **species nova** *S. goetzei* Engl. proxime accedens sed ovario parce glanduloso fructu glabrescente praecipue differt.

Herba acaulis, unifoliata (vel interdum folio altero adventivo praedita). *Folium* ad 16 cm. longum (apice praerupto) et 15 cm. latum, altero angustiore 6 cm. lato sterili; lamina margine obtuse serrata, pilis densis erectis pubescens, venis subtus prominentibus inter se in media lamina c. 1·25 cm. distantibus. *Pedunculi* c. 10–15 cm. longi, e basi folii seriatim producti, parce pilosi. *Bracteae* infimae lineares, obtusae, hirsutae, 6 mm. longae et 1·5 mm. latae; superiores minores *Pedicelli* 2·5 cm. usque longi, glanduloso-pilosi. *Calyx* pilosus, ad basin in segmenta linearia 3–4 mm. longa interdum subrecurva divisus. *Corolla* c. 3 cm. longus extra glanduloso-pubescens; tubus 1·5 cm. longus, inferne c. 2 mm. diametro, ad orem versus ampliatus sed lateraliter compressus; limbus obliquus ad orem tubi glandulosus, labio superiore e lobis duobus late divergentibus 2 cm. longis et 2 cm. latis composito, labio inferiore trilobato lobis lateralibus 2·5 cm. longis et latis, mediano fere 3 cm. longo et 2·5 cm. lato. *Stamina* duo fertilia e corollae tubo 1 cm. supra basin orientia; filamenta curvata, 4 mm. longa, ad apicem uno latere pilis glandulosis paucis instructa; antherae cohaerentes, ad orem corollae attingentes, reniformes, 2 mm. longae et 3 mm. latae. *Ovarium* fere 1 cm. longum, glanduloso-pubescens, in stylo brevi stigmate bilobo capitato attenuatum. *Fructus* 5 cm. longus et 1 mm. diametro, glabrescens.

TANGANYIKA. Songea distr., Matengo Hills, Luiri Kitesi, 1800 m., in cracks of rock on hillside fully exposed to sun with Mariscus and Begonia, 5 March 1956, *Milne-Redhead & Taylor* 8982 (holo. K, E); *ibidem*, 1920 m., in cracks of exposed rock in open, growing at a steep angle with Thalictrum zernyi, fruiting material of 8982, 24 May 1956, *Milne-Redhead & Taylor* 8982A (K).

The collectors described the plant as follows: " perennial; leaves rather deep green, furrowed above, pale green with reddish purple veins below; scapes erect, purplish with scattered white hairs; calyx and pedicels green tinged purplish; corolla limb bright violet with a deep violet mark in the throat; filaments violet; anthers white; ovary and style short and stigma not visible; inflorescence very glandular ".

If this plant is a true perennial it may produce accessory leaves at the base of the main one. Were the initial cotyledonary leaf perennial, the dead remains of the previous year's inflorescences, or at least their scars, should be present proximal to the new ones; of these, however, there is no sign.

S. compressus has been raised from seed at Edinburgh, and, although the plants are not altogether happy and the inflorescences are short and weak, two specimens have flowered. The flowers of these have shown some interesting variation. In the first place one was decidedly darker than the other, which had throughout a more reddish-purple tone. Whereas the corolla-lobes of the reddish-purple flowers spread to give an almost flat limb, the lateral and upper lobes of the darker flowers were decidedly reflexed, while, finally, the calyx-segments were appressed to the corolla-tube in the reddish-purple plant but markedly recurved from it in the dark one.

The name *S. compressus* is given in reference to the laterally compressed mouth of the corolla tube. This is well known in the affinity of *S. polyanthus* Hook., where it is associated with a yellow marking of the throat. Here there is a pallid central zone at the base of the centre lobe and two lateral (but contiguous) purple patches in the mouth. Similar patches are found in *S. mahonii*, but there they are well separated as the corolla mouth is not compressed.

Streptocarpus goetzei Engl. in Bot. Jahrb. xxx, 406 (1901); B. L. Burtt in Kew Bull. 1939, 70, et in Mem. New York Bot. Gard. ix, 17 (1954).

Syn.: *S. rungwensis* Engl. in Bot. Jahrb. lvii, 217 (1921).

? *S. lujai* De Wild. in Plantae Bequaertianae, v (4), 272 (1932).

NYASALAND. Bangwe hill near Limbe, 1500 m., in evergreen forest on trees or rocks, leaf pendent, flower erect, mauve, no scent, 7 Apr. 1944, *F. M. Benson* 108, 226 (K). Ndirandi Mt., Blantyre, 1500 m., growing on edge of evergreen forest on rocks in shade, flowers pale blue, no stripes or spots, 4″ high, large leaves, 30 Jan. 1945, *F. M. Benson* 1160 (K).

BELGIAN CONGO. Morrumbala forêt, fleurs bleus, Mai 1901, *Luja* 381 (holo. *S. lujai*—BR).

The above material is additional to that which has been quoted on previous occasions. The gradual elucidation of the Central African species of *Streptocarpus* has not yet yielded any reason for revising the reduction of *S. rungwensis* to *S. goetzei* as previously proposed. In fact the opportunity I have just had of comparing a fine isotype of *S. goetzei* from the Brussels herbarium with an isotype of *S. rungwensis* from Berlin merely confirms the identification. Engler himself never gave any better distinctions than that *S. rungwensis* had a leaf which was less thick and less roughly hairy on the upper side and an inflorescence more shortly pedunculate and less richly flowered.

The additional synonym, *S. lujai* De Wild., is added with reservation. The calyx lobes of the type (and only) specimen are more hirsute than those of typical *S. goetzei*, but no more so than is found in some of Buchanan's Nyasaland plants; furthermore it seems that the stamens may be inserted somewhat lower in the tube—a feature certainly not shared by Buchanan's plants. A final decision must await better material from the Belgian Congo; meanwhile the tentative reduction will indicate where the difficulties lie.

Streptocarpus mahonii Hook. fil. in Bot. Mag. t.7857 (1 Oct. 1902); Baker & Clarke in Dyer, Fl. Trop. Afr. iv (2), 505 (1906).

NYASALAND. Without locality, cult. in hort. bot. reg. Kew, 1900, *Mahon* (holo. K). Vipya, flowers purple, leaves in groups not single, flowering over odd blooms only, Apr. 1954, *Jackson* 1306 (K). Nchisi, Kota Kota, 1440, m., among moss on rocks in Brachystegia woodland, flowers bright lilac no scent, large leaf, *Benson* 550 (K).

NORTHERN RHODESIA. Abercorn dist., Kambole escarpment, 1500 m., on ledge in shady cleft, loam soil, flowers mauve throat, petals rich mauve blue, inner part pale yellow, 2 Jan. 1955, *Mrs. H. M. Richards* 3871 (K).

TANGANYIKA. Namwele, 7° 45′ S, 31° 31′ E, 1800 m., steep bank in dense shade, abundant, flowers pale or deep blue, leaf pale green appressed to ground and growing downwards on the bank, 24 Feb. 1950, *Bullock* 2565 (K).

BELGIAN CONGO. Ravin de Kafwampa aux Marangu, petite herbacée poussant dans enfractuosités de roches de ravin, Mai 1946, *Vanden Prande* 290 (BR).

Although these specimens come from four political areas, they form a natural pattern of distribution along the western side of Lake Nyasa and around the southern end of Lake Tanganyika. In thus giving shape to *S. mahonii* (for it has hitherto been known only from the type specimen) I have thought that the following characters are of first importance: calyx lobes about 6 mm. long, filaments 4 mm. long with a few glandular hairs towards the apex, style short. In general the corolla is twice the size of that of *S. goetzei* Engl., but corolla measurements are not easy on dried material and the longer calyx lobes (only 3–4 mm. in *S. goetzei*) provide a more easily used criterion. The short filaments distinguish *S. mahonii* from *S. monophyllus* Welw., *S. eylesii* S. Moore, and *S. wittei* De Wild., the other large-flowered unifoliate species in tropical Africa.

Within *S. mahonii* so defined there is an appreciable range of variation. In the original illustration the corolla-lobes are not strikingly unequal: on *Richards* 3871 there is a great flaring oblique limb with the anterior lobe alone 2 cm. long. Other specimens are less extreme, but there are variations here to be watched with care as further material becomes available. None of the wild specimens agree with the original description in having " capsule two and a half inches long, very slender, pendulous ". Two inches is the maximum length and the capsules are always erect. The pendulous habit may have been a result of cultivation and should not be over-valued until it has been shown to occur in the wild. Capsule length varies not a little in this genus, even on one and the same plant, and is not of itself a very reliable criterion.

Streptocarpus solenanthus Mansf. in Notizbl. Bot. Gart. Berlin, xii, 96 (1934).

TANGANYIKA. Mahenge dist., Mtimaliassi, 1000 m., Mar. 1932, *Schlieben* 1878 (BR). Lupembe dist., north of Ruhudje R., Mar. 1931, *Schlieben* 389 (BR). Kyimbila dist., *Stolz* 2573 (BR, K). Matagoro Hills, just S. of Songea, 1380 m., corolla white but the limb very faintly tinged violet, rather waxy, stigmas white, anthers buff, 27 Feb. 1956, *Milne-Redhead & Taylor* 8888 (E, K); *ibidem*., in fruit, plant now completely dried up, 14 June 1956, *M.-R. & T.* 8888A (K). Lupembe Hill, 1890 m., corolla rather uniform lavender blue to paler inside tube, tube arched, filaments lavender, anthers pale mauve, pollen white, style and stigma white, 3 March 1956, *Milne-Redhead & Taylor* 8960 (E, K); *ibidem*, in fruit, 27 May 1956, *M.-R. & T.* 8960A (K). E. Matagoro, about 60 km. E. of Songea, 1440 m., corolla tube white very slightly curved, limb oblique, very pale lilac, stigma white, anthers mauve, 27 March 1956, *Milne-Redhead & Taylor* 9405 (E, K). Ulugurus, near Morogoro, c. 1800 m., on moss grown rock, flowers white, 31 Jan. 1954. *Roman Catholic Mission Tchenzema*, H99/54 (EA). Morogoro dist., Tchenzema Mission, 13 Mar. 1955, *Father Revocatus* H.51/55 (EA, K). Morogoro distr., Chigufumi Forest Reserve, fairly common herb on rocks, fls. white, March 1955, *S. R. Semsei* 2023 (E, EA, K).

Despite three sets of beautiful material collected by Messrs. Milne-Redhead & Taylor and, furthermore, the opportunity of examining living specimens of the Uluguru Mountain plant raised at Kew and Edinburgh from seed sent by Dr. P. J. Greenway, I can do nothing with this species. The variation admitted is too great to give confidence in the specific concept, yet an attempted subdivision might lead to greater confusion. Mansfeld himself was evidently puzzled, for he based his species on only a single specimen (*Schlieben* 1878a) and quoted three others (*Schlieben* 1878, 389, 670), with a comment on their broader leaves, more numerous flowers and shorter fruits. It adds to the present difficulty that the type specimen was apparently not represented by enough material to permit the distribution of duplicates. It was destroyed at Berlin in 1943 and no isotype is known.

S. solenanthus in the broad sense includes all the East African material of subgenus *Streptocarpus* in which the corolla tube is more conspicuous than the limb. It may thus be regarded as a northern representative of the group which includes *S. grandis* N. E. Br. in the Drakensberg and *S. michelmorei* in the eastern mountains of Southern Rhodesia. This affinity is confirmed by the long slender capsule, and is no doubt closer than that between *S. solenanthus* and its geographical neighbours *S. goetzei* and *S. mahonii*.

Streptocarpus wittei De Wild. in De Wild. & Staner, Contr. Fl. Katanga, Suppl. iv, 90 (1932).

BELGIAN CONGO. Lukafu, Dec. 1930, *de Witte* 256 (holo. BR); *ibidem*, *Verdick* (BR).

S. wittei stands very close to the southern Rhodesian *S. eylesii* S. Moore (in Journ. of Bot. 1919, 245), and only slender distinguishing characters can be given. It has a straighter more open corolla-tube (as it seems from the pressed specimen) and a more glandular and longer style. The introduction of this species into cultivation is very desirable: it would enable its status to be settled and might well prove a spectacular addition to the cultivated members of the genus.

Attention is drawn to the following species. Available material of them is not yet adequate for them to be named, but they will almost certainly prove to represent distinct species when they are better known.

Streptocarpus sp. nov.?

NYASALAND. Ndirandi Mt., Blantyre, 1500 m., growing on edge of evergreen forest on rocks in shade, pinkish-white striped dark purple on each petal and spotted inside with dark purple, 4 in. high, 30 Jan. 1945, *F. M. Benson* 1161 (K); *ibidem*, 1500 m., on rocks, pale pink flower with dark red spots inside, 3 in. high, no scent, 23 Apr. 1944, *F. M. Benson* 101 (K).

These two may be the same. No. 101 has two flowers stuck to the sheet: filaments 5 mm., slender; calyx lobes 4 mm. fine pointed. No. 1161 has no satisfactory corolla: similar slender calyx lobes 5 mm. long.

Streptocarpus sp. nov.?
TANGANYIKA. Southern Highlands Prov., Njombe distr., Ndumbi forest, blue herb, March 1954, *S. Paulo* 296 (EA).

This is a stiffer plant than *S. mahonii* and has the calyx up to nearly a centimetre long and the segments 1·5–2 mm. broad, the filaments are 6 mm. long and verrucose-glandular throughout their length; the fruits are about 4 cm. long and 2·5 mm. broad towards the base, tapering upwards. Peduncles and pedicels are densely glandular. The material is somewhat fragmentary and not suitable to be made the type of a new species.

Streptocarpus sp. nov.?
NYASALAND. Mt. Mlanje, 2400–2700 m., growing in crevices of the rocks, flowers fine purple, *G. Adamson* 432 (E).

In foliage this plant is remarkably like *S. hirtinervis* C.B.Cl., but there are marked differences in flowers and fruits. Adamson's main specimen is in fruit, but there is one young plant in bud and a single corolla adhering to the older plant. Both indicate that the corolla has a narrow tube and a broad oblique limb: *S. hirtinervis* is characterised by a broad tube apparently saccate on the upper side at the base, and relatively small limb. The calyx-segments of *S. hirtinervis* are 4 mm. long, this plant has them 8 mm. long. Clarke did not see ripe fruit of *S. hirtinervis*, but it was collected on the Vernay Nyasaland expedition of 1946 and (in Mem. N.Y. Bot. Gard. ix, 18:1954) I added the description " fruit about 3·5 cm. long and 2 mm. in diameter ". Adamson's plant has a much stouter fruit, 2 cm. long and 3 mm. wide (4 mm. on dehiscence); the pedicels are 2·5 cm. long and apparently somewhat nodding—it might well be a graceful plant to cultivate.

SUBGENUS STREPTOCARPELLA

Sretptocarpus bambuseti B. L. Burtt in Kew Bull. 1939, 80.
TANGANYIKA: Nguru Mts. Bagamoyo, 2000 m., *Schlieben* 4094 (iso. BR, M). Saddle to N.W. of Mkobwe, near Turiani, 1600 m., upland rain forest, subshrub to 1 m., corolla pale violet whitish at throat with purple markings, 29 March 1953, *Drummond & Hemsley* 1907 (K, E); *ibidem*, April 1953, *Semsei* 1158 (EA). Ruhamba Peak, 1900 m., upper hillside forest, field layer of Allanblackia and Lachnopylis, erect from semi-woody and thick stem base, to 1 m., stems and undersides of leaves reddish purple, calyx green, corolla blue-violet, white on inside of throat with two dark lines running from lip a short distance down throat on lower lobe, 2 April 1953, *Drummond & Hemsley* 1988 (K, E).

This is a variable species in size of flowers, calyx and in amount of glandular indumentum in the inflorescence. *Drummond & Hemsley* 1988 is a fine large form: inflorescence densely glandular, flowers 5·5 cm. long, calyx-segments 6 mm., fruit 5–8 cm. By contrast, in the type the flowers are 4·5 cm., calyx-segments 4 mm., fruit 3–4·5 cm. and the inflorescence much less glandular. At first these differences were thought to have taxo-

nomic value, but of the specimens from Mkobwe, *Drummond & Hemsley* 1907 is typical, while *Semsei* 1158 is large. No other differences have been found and the species is considered to vary to this extent.

Streptocarpus gonjaënsis Engl. in. Bot. Jahrb. lvii, 210 (1921).
TANGANYIKA: Tanga Prov. Ost Usambara, Gonjaberg über Mnyussi, 800 m., weiss, 6 Nov. 1915, *A. Peter* O III 212 (B—neotype); *ibid.*, 700 m., 20 Oct. 1915, *A. Peter*, O III 196 (B). Mlinga Gebirge, Longusa-Magrotto, 630 m., weiss, 31 Jan. 1917, *A. Peter*, O IV 144 (B).

This species was originally collected on Gonja Mt. by Engler himself (3355a), but his type specimen was destroyed in the Berlin herbarium in 1943. The above specimens are determined, without any hesitation, as the same species and they are the only material of it known to me. It is therefore desirable to designate one of them as neotype.

Streptocarpus kimbozanus B. L. Burtt, **species nova** ex affinitate *S. gonjaënsis* Engl. cui floribus parvis albis et ovario glabro congruit. Tamen caule robustiore plurifoliato, caulibus foliisque densius pubescentibus, corolla manifeste bilabiata, tubo haud ventricoso a *S. gonjaënsi* evidenter distinguitur. *S. elongato* Engl. etiam affinis, sed species illa ex Africa occidentali foliis superioribus brevissime petiolatis cordatis subamplexicaulibus, inflorescentiis incrassato-glanduloso-pilosis, ovario parce scabropubescente inter alia facile distinguitur.
Herba ad 40 cm. alta, caule carnosulo basi curvato breviter pubescente. *Folia* opposita, subaequalia vel aliquantum inaequalia, petiolata; petioli 2·5–3·5 cm. longi (supremi breviores), pubescentes; lamina ovato-elliptica, 6–8 cm. longa, 3–3·5 cm. lata, apice acuta vel breviter acuminata, basi saepe inaequilaterali abrupte angustata vel rotundata, marginibus integris, utrinque dense et breviter pubescens, nervis lateralibus (cum costa in vivo subtus prominentibus?) utrinsecus c. 10. *Inflorescentiae* axillares; secundariae interdum in ramis brevibus ex eadem axilla post fructificatione primariae producta; pedunculi (supremis exceptis) petiolos haud longe superantes, pilis asperis parce pubescentes; bracteae minimae, deltoideae; cymae (ut videtur) unilateraliter redactae, pedicellis c. 7 mm. longis. *Calyx* fere ad basin in segmenta lanceolata 2·5 mm. longa pubescentia divisus. *Corolla* alba, c. 7·5 mm. longa; tubus 5 mm. longus, 2 mm. diametro; labium inferius 2·5 mm. longum, lobo mediano 1·25 mm. longo; labium superius lobis duobus 1 mm. longis. *Filamenta* 2·5 mm. longa, ad apices minute verruculosa, paulo infra medio tubo inserta; antherae 1·5 mm. longae, 0·75 mm. latae. *Ovarium* 2 mm. longum in stylum 3 mm. longum transiens, utrumque glabrum. *Capsula* 2 cm. longa, 1 mm. diametro.
TANGANYIKA. E. Province, Kimboza, 440 m., in forest, flowers white, 1 Apr. 1954, *J. H. Padwa* 324 (K, EA, E).

In habit *S. kimbozanus* bears much the same relation to *S. gonjaënsis* as does *S. parensis* (described on the next page) to *S. schliebenii*. In both *S. kimbozanus* and *S. parensis* the production of axillary inflorescences does not inhibit the terminal growing point, although in *S. kimbozanus* the uppermost inflorescences temporarily overtop it. In *S. gonjaënsis* and

S. schliebenii the main inflorescence appears to stop further development of the main axis, permanently overtops it and becomes pseudo-terminal. This is also the case in the West African *S. elongatus* mentioned in the diagnosis. The affinity with this species is important. Engler (in Bot. Jahrb. lvii, 211, 213: 1921) placed *S. elongatus* and *S. gonjaënsis* in different series, but I think they are more closely related than this implies. The affinity between *S. kimbozanus* and *S. gonjaënsis* on the one side and *S. elongatus* on the other provides one of the few links between the species of East and West tropical Africa.

Streptocarpus parensis B. L. Burtt, **species nova** juxta *S. schliebenii* Mansf. ponenda et ei valde affinis, characteribus sequentibus tamen distinguenda: inflorescentibus axillaribus paucifloris caulem foliosum haud vel vix superantibus, ovario parce scabro, stylo breviore glabro, fructu paucispirali.

Herba e basi decumbente ut videtur ad 20 cm. alta, caulibus pilis crassis dense glanduloso-pubescentibus. *Folia* opposita, petiolis 1·5 cm. longis glanduloso-pilosis suffultis, anguste elliptica, circiter 10 cm. longa et 3·5 cm. lata, utrinque attenuata, marginibus crebre crenato-serratis, supra tenuiter pilosa, subtus ad venas breviter pilosa inter venas brevius et tenuiter pubescentia. *Inflorescentiae* axillares, pedunculis pilosis 5–8 cm. longis, 10–15 florae. *Calyx* fere ad basin quinquefidus, segmentis linearilanceolatis 3 mm. longis pilosis obtusis. *Corolla* oblique ventricoso-campanulata, 1 cm. longa, lobis 5 rotundatis ut videtur inter se subaequalibus 2 mm. longis, tubo intus (superne tantum) pilis longis unicellularibus praedito. *Stamina* fere ad basin corollae inserta; filamenta 3 mm. longa, glabra; antherae plus minusve reniformes, 1 mm. longae, 1·5 mm. latae, dorsifixae, coram cohaerentes. *Ovarium* 2 mm. longum, parce scabrum, stylo 1·5–3 mm. longo terminatum. *Fructus* 1 cm. longus, circiter 2 mm. diametro, glabrescens vel leviter scaber.

TANGANYIKA. S. Pare, Urwald am Berge Schengena, an grossen Granitblocken, 2200 m., 16 Feb. 1915, *Peter* O III 53 (holo. B). W. Usambaras, Shagayu Forest, Lushoto distr., 1950 m., white-flowered herb growing on damp shady rock faces with a little overhead light, April 1953, *Procter* 179 (EA).

The assignment of *Procter* 179 from the West Usambaras to this species requires confirmation, for it is a more slender specimen than the type and lacks fruit. However, its possession of long unicellular hairs inside the roof of the corolla leaves little chance of error and at least ensures a close affinity.

It is these corolline hairs which provide a striking proof of the intimate relation between *S. parensis* and *S. schliebenii*, for they have been found nowhere else in the genus. That they are long and unicellular with tuberculate walls, in contrast to the shorter but multicellular hairs of the corolla's exterior surface, is in conformity with the pattern found in not a few members of *Gesneriaceae*, *Scrophulariaceae* and other families as remarked previously in an account of *Ornithoboea* (Notes R.B.G. Edinb. xxii, 290: 1958).

If *S. parensis* comes close to *S. schliebenii* in floral characters, their distinctness is amply confirmed by a notable difference in habit. *S. schliebenii* has large branching inflorescences which, though morphologically axillary, bring to an end the vegetative growth of the shoot: in other words, each shoot is monocarpic. In *S. parensis* the shoots are long lived; a strong terminal growing point is maintained and the axillary inflorescences (smaller than in *S. schliebenii*) barely, if at all, overtop it. On the lower part of a flowering stem the old infructescences may still persist.

S. parensis has another sharper interest in the classification of *Streptocarpus*: it is a close ally of *S. montanus* Oliv., a species hitherto somewhat isolated in the genus. *S. montanus* has, in fact, sometimes been wrongly assigned to the rosulate group of species (*S. rexii* and its allies); yet it may also at times look like a unifoliate species, bearing a leaf up to 30 cm. long and 15 cm. across. But always there is a short distinct stem, marked with the very conspicuous corky scars of fallen leaves. It is, in fact, a dwarf caulescent species, and its habit just such as might arise from contraction of the axis of *S. parensis*. That it has the suppleness of vegetative expression to appear now as a false-rosulate, now as a false-unifoliate species, need not be found surprising in a family whose very motto seems to be " Surprise ". Whether there may be some genetic basis for these differences within the species, or whether we really have here an opportunity to investigate the ecological conditions which produce these variations, well merits critical study.

The affinity of *S. parensis* and *S. montanus* is declared by the similarity of corolla-form and particularly by the long slender bent filaments which are inserted right at the base of the corolla-tube. These are unusual features in *Streptocarpus*. It is true that *S. montanus* lacks the internal corolline hairs of *S. parensis*, and also that its fruit is notably longer and more slender; yet the resemblances in other characters are such that *S. parensis* must surely be held to provide the link, hitherto unknown, between *S. montanus* and the other caulescent members of the genus. Both species occur in the S. Pare Mts. and the West Usambaras, but *S. montanus* has much the wider range, extending to the Nguru Mts., Kilimanjaro and the Teita Hills as well.

Streptocarpus stomandra B. L. Burtt, **species nova** a *S. caulescenti* Vatke et aliis affinibus stamina paulo sub ore tubi corallini inserta valde recedit. A *S. bambuseti* omnibus partibus multo minoribus facile distinguitur.

Herba c. 25 cm. alta caulibus patenti-pubescentibus (basi carnosis?). *Folia* opposita, paulo inaequalia, petiolo 1 cm. longo dense et patenter pubescente; lamina plus minusve ovata, 3 cm. longa et 2 cm. lata, obtusa, basi rotundata vel subito angustata, marginibus obscure crenato-serrata, utrinque densius appresse pubescens. *Inflorescentia* axillaris 15 cm. longa, pilis patentibus breviter piloso-pubescens aliis longioribus glandulosis intermixtis; pedicelli c. 15 mm. longi. *Calyx* fere ad basin quinquefida, segmentis 2·5 mm. longis lineari-lanceolatis pubescentibus. *Corolla* c. 3·2 cm. longa, extra parce glanduloso-pilosa; tubus leviter curvatus et ad basin et ad orem paulo dilatatus, 1·4 cm. longus; limbus conspicue bilabiatus; labium inferius 1·8 cm. longum, manifeste trilobatum, palato 8 mm. longo purpureo-maculato ad margines lineis duobus pilorum unicellularum notato, lobo mediano 1 cm. longo et 9 mm. lato, lobis

lateralibus e palato lateraliter orientibus 7 mm. longis et 8 mm. latis obtusis; labium superius e lobis duobus fere semilunatis c. 4 mm. longis et 5 mm. latis compositum. *Filamenta* paulo intra orem corollae orientia, ad apices verrucosa, 4 mm. longa; antherae triangulares, 1·75 mm. longae et latae. *Ovarium* 9 mm. longum dense et appresse pubescens, in stylum aequilongum scabro-pubescentem attenuatum; stigma 1·75 mm. latum, ut videtur bilobum. *Fructus* 4 cm. longus, stylo persistente terminatus.

TANGANYIKA. Nguru Mts., in forest shade, fl. mauve (fl. in hort. 6 Nov. 1943), *W. Moreau* 900 (E, K).

The description of this interesting species from dried material does scant justice, I fear, to the form of the corolla, which seems unlike that of any other species. The unlobed central portion of the lower lip, the part I have called the palate, seems likely to be trough-shaped and the mouth of the corolla tube is apparently open. In this *S. stomandra* stands apart from *S. caulescens* and closely related species, with which the great inequality of upper and lower lip would otherwise bring it into close proximity. The line of unicellular hairs at each side of the palate is also distinctive. However, the outstanding feature is certainly the insertion of the stamens, which arise from the floor of the corolla-tube only just within its mouth and ascend sharply so that the anthers are held (as it seems from dried material) just outside under the reflexed upper lip.

Despite the discrepancy in size, *S. stomandra* is perhaps more closely related to *S. bambuseti* than to *S. caulescens*. The corolla of *S. bambuseti* may be 5·5 cm. long; yet it has the same general form, though the palate seems to be flat, and the anthers are borne very near the mouth of the tube. *S. stomandra* may be regarded as a link between the *S. caulescens* group and *S. bambuseti*; its discovery knits the pattern of the caulescent species closer.

Streptocarpus zimmermannii Engl. in Bot. Jahrb. lvii, 215 (1921).

Descr. (translated from Engler): *Epiphytic herb*, 15–20 cm. long, branched, main stem fleshy, 5–8 mm. thick, lower internodes 1 cm. long. *Leaves* rather thick, subcoriaceous when dry, densely almost holosericeous pilose on both surfaces, deep green above, brownish below; petiole 0·5–2 cm. long; lamina ovate or oblong, obtuse or cuneate at the base, crenate on the margin, 2–6 cm. long, 1·5–2·5 cm. broad; lateral nerves c. 7 on each side, ascending. *Peduncles* axillary 10 cm. or more long, minutely white-pilose, branched, branches opposite with internodes c. 2 cm. long; pedicels very slender 0·5–1 cm. long. *Sepals* narrowly triangular, 2·5 mm. long. *Corolla* violet, very minutely white pilose, 1·8 cm. long; tube 1 cm. long, 2·5 mm. broad in the lower third, widening to 5 mm., upper lip very shortly bilobed, lower lip 1 cm. broad with semiorbicular lateral lobes and the middle one ovate 8 mm. long. *Stamens* with filaments arising from the middle of the corolla tube, the free part 2·5 mm. long; anthers cordate, 1·5 mm. broad. *Gynoecium* 1 cm. long; ovary cylindric 5–6 mm. long, style slender, 3 mm. long, ending in a bilobed stigma. *Capsule* very shortly pilose, 3 cm. long.

TANGANYIKA. Tanga District, Amani, fl. June 1911, *Zimmermann* 3347; *ibidem*, fr. Aug. 1911, *Grote* 3484 (syntypes).

Mention is made of *S. zimmermannii* in these notes to encourage a further search to be made for it. The two syntypes are not in the Amani herbarium (now at Nairobi), and it seems likely that they were never returned from Berlin after the species was described by Engler. In that case they will have been destroyed in the fire. Engler placed this species in the same group as *S. caulescens* and considered the thick, almost leathery little-toothed leaves the most distinctive feature.

The Old French Roses (review)*.—Seven guineas, it seems to me, is a very high price to pay for a twenty-page essay on the Rose in Literature by Mr. Wilfrid Blunt, a seventeen-page historical account of the Gallica Roses with short descriptive notes of some fifty of them by Mr. James Russell, and eight reproductions, by an eight-colour photo-litho process, from paintings by Mr. Charles Raymond. I assume that it is principally for the plates that one is asked to pay this sum of money. Unfortunately, to my eyes, none of them makes an artistic or very satisfactory picture and all are quite lacking in design; in each, one or two flowers and a bud, with some foliage, are all bunched up together and give the impression that the material recently has been dragged from a polythene bag. Moreover, the colouring is not as accurate as it should be. 'Belle de Crecy' has an expanding bud and a mature flower; 'Camaieux' three buds in various stages of development as well as a flower fully mature; neither plate gives any real idea of the fascinating changes in colour in the petals as these mature. I fail to see in 'Cardinal de Richelieu' the rich velvety maroon purple of this wonderful Rose; in 'Charles de Mills' the "ground colour rose-crimson shaded with violet and deepening to an almost black-crimson . . ." of the text; in 'Officinalis' (why name the plate 'Maxima'?) the "rich rose-crimson with deeper striae", again of Mr. Russell's text.

In spite of these shortcomings, all enthusiasts of these old garden Roses, and today there are many, will welcome Mr. Blunt's scholarly and charming essay and Mr. Russell's instructive text, and will appreciate the sincere purpose of all who have been concerned in the production of the book.

H. R. FLETCHER.

* Old Garden Roses. Part 2: The Gallicas, by Wilfrid Blunt and James Russell. Painted by Charles Raymond. London, George Rainbird Ltd. 1957. Pp. 48, 8 coloured plates. Price seven guineas.