individuals are generally of a light grey colour. When placed in a basin of sea-water it appears sluggish, but it burrows in loose sand with much rapidity, being enabled to do so by the play of its innumerable feet.

PLATE XXIII. Fig. 6. The proboscis of *Sigalion Boa* removed and laid open. Fig. 7. The head and anterior segments seen from above. Fig. 8. The head on the ventral aspect to show the mouth and origin of the palpi. Fig. 9. A scale from near the middle of the body. Fig. 10. A side view of a foot. Fig. 11. A bristle from the dorsal ramus of the foot, unjointed but finely serrulated on one side. Fig. 12. Another bristle from the same ramus, slenderer and quite smooth. Fig. 13. A bristle from the indentation of the foot between the dorsal and ventral rami. Fig. 14. A bristle of the ventral ramus. Fig. 15. Another bristle of the same, situated under the former and consequently next the ground.

XLIX.—*Enumeration of Plants collected by* Mr. Schomburgk, *British Guiana.* By GEORGE BENTHAM, Esq., F.L.S.

[Continued from p. 111.]

COMPOSITÆ.

37. *Leria nutans*, DC. Prod. vii. p. 42.—British Guiana. Schomburgk, n. 689.

Since the publication of my former article on Mr. Schomburgk's plants another package has been received from him, in which the *Wulffia platyglossa* has been again sent under the number 705, and the following additional species:

38. *Porophyllum latifolium*, n. sp., herbaceum, erectum, foliis longe petiolatis lato-ovatis obtusis grosse sinuatis ad sinus pellucido-glandulosis, involucri squamis mucrone calloso-acuminatis.—Dry Savannahs on the Upper Rupunoony. Schomburgk.

Differs from *P. ellipticum* in the upper leaves being scarcely longer than they are broad, and rounded, not narrowed at the base.

39. *Baccharis erioptera*, n. sp., caule subramoso pluri-alato, foliis ovatis alisque supra arachnoideo- subtus dense albo-tomentosis, spicis densis subinterruptis, capitulis sessilibus, involucris ♂ tomentosis squamis subulato-acuminatis.—Dry Savannahs on the Upper Rupunoony. Schomburgk, n. 709.

GENTIANEÆ.

In the arrangement of this order I have followed the excellent monograph lately published by Dr. Grisebach of Berlin, under the title of 'Genera et Species Gentianearum.'

40. *Schultesia stenophylla.* Mart. Nov. Gen. et Sp. 2, p. 106, t. 182. Griseb. Gent. 126.—Exacum Guianense. *Aubl. Pl. Guian.* i. p. 68. t. 26. f. 1. Moist Savannahs, British Guiana. Schomburgk.—French Guiana. Leprieur and Herb. Par. n. 143.

It is also Gardner's n. 1065 from Pernambuco, and Blanchet's n. 2722 from the Serra Jacobina.

41. *Schultesia brachyptera*, Cham. Griseb.Gent. p. 128.—British Guiana. Schomburgk.—French Guiana. Leprieur and Herb. Par. n. 141.

42. *Coutoubea spicata*. Aubl. Pl. Guian. i. p. 72. t. 27. Griseb. Gent. p. 130.—Banks of the Rupunoony. Schomburgk, n. 152.

43. *Coutoubea reflexa*, sp. n., caule herbaceo annuo stricto ramoso teretiusculo, foliis lanceolatis acutis basi angustatis margine revolutis, spicis axillaribus terminalibusque, floribus oppositis distantibus, corollæ laciniis reflexis.—Moist Savannahs, British Guiana. Schomburgk.

Not so tall as *C. spicata*, leaves shorter and thicker, flowers larger, sepals broader, style shorter, with larger stigmates, anthers much larger.

44. *Schuebleria tenella*. Mart. Nov. Gen. ii. p. 117. Griseb. Gent. p. 162.—Exacum tenuifolium. *Aubl. Pl. Guian.* i. p. 70. t. 26. f. 2.—Schuebleriat enuifolia. *G. Don. Gard. Dict.* 4.—French Guiana. Leprieur and Herb. Par. n. 176.

45. *Schuebleria coarctata*, sp. n., caule filiformi subsimplici, foliis oppositis linearibus, cyma coarctata, corollæ flavescentis calycem dimidio superantis lobis oblique ovatis acutis tubum subæquantibus, stigmate lineari-clavato.—Arid Savannahs on the Rupunoony. Schomburgk, n. 167.

Very near *S. tenella*, but besides the dense cyme and linear stigmate, the sepals are longer, spreading at the maturity of the capsule, and the flowers are occasionally, but very seldom, tetramerous.

Grisebach had unfortunately only seen a specimen past flower of this plant, which he referred to the *Exacum tenuifolium* of Aublet, and trusting to that author's figure and description, established it as a distinct genus, under the name of *Apophragma*, and characterized chiefly by the supposed bilamellate stigma and appendiculate stamina. But to me it appears evident, that although Aublet's principal figure exactly represents the *Schuebleria tenella*, yet that the details are taken from a *Coutoubea* or a *Schultesia*; at any rate none of the Guiana specimens before me offer anything like what he describes and figures. If the above supposition be correct, Aublet's species and Grisebach's *Apophragma* must be suppressed altogether.

46. *Lisianthus uliginosus* β *guianensis*. Griseb. Gent. p. 182.—Moist Savannahs, British Guiana. Schomburgk, n. 265. "Flowers light blue." (Schomb.)

47. *Lisianthus chelonioides*, Linn. Griseb. Gent. p. 184.—British Guiana. Schomburgk.

48. *Irlbachia cœrulescens*. Griseb. Gent. p. 195.—Lisianthus cœrulescens. *Aubl. Pl. Guian.* i. p. 207. t. 82. *Mart. Nov. Gen. et Sp.* 2. p. 99. t. 178. f. 2.—Moist Savannahs, British Guiana. Schomburgk, n. 164. —French Guiana. Leprieur and Herb. Par. n. 140.

SCROPHULARIACEÆ.

49. *Bacopa aquatica.* Aubl. Pl. Guian. i. p. 128. t. 49. Herpestis stellarioides β Cayennensis. *Benth. in Hook. Comp. Bot. Mag.* ii. p. 57. —Swampy situations on the Essequibo and Rupunoony. Schomburgk, n. 532.—French Guiana. Leprieur and Herb. Par. n. 178.

This remarkable genus is so exactly a *Herpestis* in everything but the stamina, that in my enumeration of the genus *Herpestis*, having a meagre Cayenne specimen before me, without corolla or stamina, there did not appear to me to be any decided character to distinguish it even as a species from the *H. stellarioides*; and I had excluded *Bacopa* from the order on account of the regular pentandrous flowers. Having now, however, had opportunities of examining good flowers, I am convinced that it is one of those plants which show that the absence or sterility of the fifth stamen is not an essential character of the *Scrophulariaceæ*, and *Bacopa* must take its place next to *Herpestis* in my tribe of *Gratioleæ*. The following are the generic and specific characters I should propose :—

Calyx 5-partitus sepalis imbricativis, postico maximo foliaceo, 2 anticis pariter foliaceis at minoribus, 2 lateralibus interioribus lineari-carinatis. Corollas ubrotata v. campanulata, æqualiter 5-fida, æstivatione imbricativa. Stamina 5, æqualia, laciniis corollinis alternantia. Antheræ linearisagittatæ, biloculares, loculis subparallelis, rima longitudinali dehiscentibus. Ovarium biloculare. Stylus simplex. Stigma bilamellatum. Capsula membranacea, vix dehiscens, bilocularis, dissepimento membranaceo fere per totam superficiem placentifero. Semina numerosissima, horizontalia, oblongo-ovoidea, acuminata, testa reticulata, albumine copioso, embryone crassiusculo recto, radicula ad hilum spectante.—Herbæ Americæ tropicæ, paludosæ, glabræ, *Herpestidibus* pluribus sectionis *Bramiæ* similes. Folia opposita. Pedunculi axillares, solitarii vel fasciculati, uniflori, bracteis 2 setaceis aucti. Corollæ cœrulescentes v. albæ.

1. *B. aquatica* (Aubl.), foliis lanceolatis, bracteis a calyce remotis, sepalis exterioribus in pedunculum subdecurrentibus, corollæ calycem subdimidio superantis laciniis ovali-oblongis.

2. *B. grandiflora* (Mart.), foliis lanceolatis, bracteis calyci approximatis, sepalo postico basi cordato, corollæ calycem duplo superantis laciniis late obovatis.—In inundatis et aquis stagnantibus inter Alegre et Olho d'Agoa, in provincia Brasiliæ Piauhi inferiori legit cl. Martius.

50. *Herpestis sessiliflora.* Benth. in Hook. Comp. Bot. Mag. ii. p. 58. —French Guiana. Leprieur and Herb. Par. n. 180.

51. *Beyrichia ocimoides.* Cham. et Schlecht. Linnæa, iii. p. 21.—Sands of the Essequibo and Rupunoony. Schomburgk, n. 528.

52. *Conobea aquatica.* Aubl. Pl. Guian. ii. p. 639. t. 258.—Demerara. C. S. Parker.—French Guiana. Leprieur and Herb. Par. n. 179.

53. *Vandellia crustacea.* Benth. Scroph. Ind. p. 35.—French Guiana. Herb. Par. n. 177.

54. *Vandellia diffusa.* Linn. Mant. p. 89.—Borders of the Essequibo and Rupunoony. Schomburgk, n. 516. "Flowers white with a blush of rose." (Schomb.)

This appears to be a common plant on the eastern coasts of tropical America. It is Sieber's n. 305 from Martinica, and his n. 170 from Trinidad, and Gardner's n. 1097 from Pernambuco, and is also in Salzmann's and other Bahia collections.

55. *Torenia parviflora,* Hamilt. Benth. Scroph. Ind. p. 39.—Rich soil along the large rivers in British Guiana. Schomburgk, n. 335. It is also Gardner's n. 213 from Rio Janeiro.

The three last species belong to East Indian genera, and two at least, *Vandellia crustacea* and *Torenia parviflora,* are very common East Indian species, which have evidently been introduced from thence to the American coasts. This may also be the case with the *Vandellia diffusa,* although I have not myself yet seen any specimens from the old world.

56. *Buchnera palustris,* Spreng. Benth. in Hook. Comp. Bot. Mag. i. p. 365.—Piripea palustris. *Aubl. Pl. Guian.* ii. p. 628. t. 253. Moist Savannahs, British Guiana. Schomburgk, n. 419.—French Guiana. Leprieur and Herb. Par. n. 184.

57. *Buchnera lavandulacea.* Cham. et Schlecht. Linnæa, ii. p. 589.—Dry Savannahs, amongst rocks, British Guiana. Schomburgk, n. 99.

This is also Cuming's n. 1100 from Panama. It should probably be referred either to *B. longifolia* or to *B. lithospermifolia* of Humboldt and Kunth, which may indeed be varieties of one species.

58. *Scoparia dulcis.* Linn. Sp. p. 168.—British Guiana. Schomburgk, n. 622.

It is also Gardner's n. 90, from Rio Janeiro; Cuming's n. 1000, from Lima; and occurs in most collections from tropical America and the West Indies.

59. *Gerardia hispidula.* Mart. Nov. Gen. et Sp. iii. p. 13. t. 207.—Benth. in Hook. Comp. Bot. Mag. i. p. 207.—Sandy swamps, British Guiana. Schomburgk, n. 674.—French Guiana. Leprieur, Herb. Par. n. 183.

"The whole plant assumes a purplish tint, the calyx is deep purple, the corolla whitish, with a purple tint." (Schomb.) The bracteæ rub easily off after the flowering is over, but may almost always be observed on the young pedicels.

60. *Glossostyles aspera.* Cham. et Schl. Linnæa, iii. p. 22. Benth. in Hook. Comp. Bot. Mag. i. p. 212.—French Guiana. Leprieur, Herb. Par. n. 182.

LABIATÆ.

61. *Hyptis recurvata,* Poit. Benth. Lab. Gen. et Sp. p. 81.—Sands of the Essequibo, British Guiana. Schomburgk, n. 605.

62. *Hyptis paludosa*, St. Hil. Benth. l. c. p. 82.—Moist Savannahs, British Guiana. Schomburgk, n. 686.

63. *Hyptis lantanæfolia*, Poit. Benth. l. c. p. 101.—British Guiana. Schomburgk, n. 188.

64. *Hyptis brevipes*, Poit. var. β. Benth. l. c. p. 105; forma capitulis majoribus subsessilibus.—Moist Savannahs, Upper Rupunoony. Schomburgk.

65. *Hyptis Parkeri*. Benth. l. c. p. 108.—Sands of the Essequibo, British Guiana. Schomburgk, n. 598.

66. *Hyptis pectinata*, Poit. Benth. l. c. p. 127.—French Guiana. Herb. Par. n. 175.

67. *Marsypianthus hyptoides*, Mart. Benth. l. c. p. 64.—British Guiana. Schomburgk, n. 215.

VERBENACEÆ.

Tribe VERBENEÆ.

The order of *Verbenaceæ* has been divided by Bartling, according to the inflorescence, into two tribes, and by Endlicher into three, according to the degree of adherence of the carpellary elements and the consistence of the pericarp. Of these systems Bartling's would appear at once better characterized and more natural, but requires considerable modification in the details.

The *Verbeneæ*, which may be considered as the first tribe following the *Labiatæ*, to which they are closely allied, would be characterized by the simple spicate inflorescence (the flowers solitary, sessile, or rarely borne on short simple pedicels, along a simple rhachis), and the ovules straight, anatropous, and erect from the base of the cells. They are herbaceous, or more frequently shrubby, but seldom if ever really arborescent. The leaves are often divided, but never compound. The calyx remains herbaceous or membranous, nor does it appear to acquire any remarkable extension after the fall of the corolla. The cells of the ovary are often diverging at the base, especially during the growth of the fruit, so as to leave between them a space, either empty in the dry-fruited genera, or filled with pulp in the succulent ones, which space is often described as one or two additional empty cells.

The *Verbeneæ* would comprehend among the genera with a bilocular ovarium: *Spielmannia*, with axillary solitary flowers; *Cryptocalyx*, *Lippia*, *Riedelia*, *Dipterocalyx*, *Lantana* and *Camara*, with imbricate capitate flowers; and *Aloysia*, *Bouchea* and *Stachytarpheta* with spicate flowers. Of the genera with a quadrilocular ovarium t would contain *Verbena*, *Dipyrena*, *Chascanum*, *Tamonea*, *Priva*, ¡*Casselia*, *Monochilus* (?) and *Chloanthes*.

68. *Cryptocalyx nepetæfolia*, sp. n.—British Guiana. Schomburgk, n. 694.

Also Trinidad, Anderson, and Pernambuco, Gardner, n. 1049. The following are the characters I should propose for this new genus and species :—

Cryptocalyx, gen. n. Calyx membranaceus, tenuissimus, obsolete dentatus. Corolla tubulosa, bilabiata, labiis erectis, superiore brevissimo bifido, inferiore elongato trifido. Stamina 4, didynama, inferiora longiora, omnia antherifera, antheris oblongis bilocularibus. Ovarium biloculare, loculis uniovulatis, ovulis a basi loculi erectis anatropis. Stylus inclusus. Stigma obliquum capitatum. Fructus sponte bipartitus, pericarpio calyceque subevanidis, pyrenis oblongis monospermis. Semina, testa duriuscula tenui, exalbuminosa, embryone recto, cotyledonibus magnis.

C. nepetæfolia. Herba annua, ramosa, basi procumbens sæpe radicans, apice adscendens. Rami crassiusculi, obscure tetragoni, glabri vel pilis appressis paucis onusti. Folia opposita, petiolata, ovato-rhombea, grosse dentata, basi cuneato-truncata et integerrima, 1—1½ pollicaria, utrinque viridia et glabra vel pilis appressis paucis pubescentia. Spicæ ovoideo-oblongæ, axillares, pedunculatæ, solitariæ vel glomeratæ, petiolo breviores. Flores numerosissimi, minuti, sessiles, seriebus circiter 12 densissime imbricati. Rhachis post flores delapsos cicatrizata. Bracteæ cuneatæ, acuminatæ, membranaceæ, complicato-carinatæ, margine ciliatæ, flores parum excedentes. Calyx corollæ tubo dimidio brevior, sub lente minutissime pubescens. Corolla alba, glabra, vix ultra semi-lineam longa. Pyrenes maturitate omnino liberi, graniformes, ⅓ lin. longi.

The extreme tenuity of the calyx, the small erect limb of the corolla, and the more complete separation of the fruit, together with the habit, distinguish this genus from *Lippia*. It is apparently an old plant in herbaria, but I cannot find it described among *Verbenaceæ*. Its habit is rather that of many *Compositæ*.

69. *Lippia microphylla*. Cham. et Schlecht. Linnæa, vii. p. 226. Fructus calyce inclusus bipartibilis sed vix sponte secedens, globosus v. pyrene altero abortiente oblongus, pericarpio tenui sicco.—Stony places in Savannahs, British Guiana. Schomburgk, n. 75.

The genus *Lippia*, as far as I have examined it, appears best limited by Chamisso and Schlechtendal. The pericarp is thicker than in *Cryptocalyx*, and the pyrenes, though easily separable, are yet held together by it. In *Riedelia* the fruit is rather that of *Lantana*, and must therefore be kept distinct from *Lippia*, unless indeed this genus be joined to *Lantana*. *Dipterocalyx* appears also from Chamisso and Schlechtendal's description to be distinct. *Aloysia* is too natural a group to be united to *Lippia*, unless nearly the whole of *Verbeneæ* be considered as one genus.

70. *Lantana salviæfolia.* Jacq. Hort. Schomb. iii. p. 18. t. 285?—British Guiana. Schomburgk, n. 730.

71. *Lantana annua.* Linn. Sp. Pl. 784?—British Guiana. Schomburgk, n. 207.

If *Lippia* be kept apart from *Lantana*, the two sections of the latter genus proposed by Chamisso and Schlechtendal must be adopted as distinct genera. It is for the section *Callioreas* of those authors that I have retained the name of *Lantana*. In it the ovarium is more fleshy than in *Lippia*, less so than in *Camara*. The structure of the fruit is as in *Lippia*, only that the endocarp is harder and woody, and the pericarp is thicker and somewhat fleshy. The species of this genus are in a state of too great confusion to determine the specimens before me with accuracy, without a detailed review of the whole group.

72. *Camara tiliæfolia.*—Lantana tiliæfolia. *Cham. et Schl. Linnæa*, vii. p. 122.—British Guiana. Schomburgk, n. 196.

In *Camara* the ovarium only differs from that of the preceding genera by being rather more fleshy even than in *Lantana*, but the fruit is very different. It is a complete berry, and the pyrenes diverging near the base leave between them an interstice filled with pulp, or perhaps sometimes empty, which has been improperly described as a third sterile cell.

73. *Stachytarpheta elatior*, Schrad. Hort. Gott. Reichb. Icon. Exot. t. 59.—Swamps on the Upper Rupunoony. Schomburgk. It is also Gardner's no. 1106 from Pernambuco.

74. *Stachytarpheta cajenensis*, Vahl, Enum. i. p. 208.—British Guiana. Schomburgk, n. 262.

This species, which I have also from Trinidad, agrees with Vahl's description in every respect, except that Schomburgk states it to be herbaceous, and Vahl describes his as shrubby; but this difference may arise from the age of the plant, or from the difficulty in ascertaining the point from dried specimens.

Endlicher reunites *Stachytarpheta* with *Verbena*; but independently of the habit and stamina, the difference between the bi-ovulated and the four-ovulated ovarium is surely of importance in this tribe, where the genera are all closely allied, though numerous in species. *Melasanthus* of Pohl appears to have been rightly joined to *Stachytarpheta* as a section by Chamisso and Schlechtendal. With *Bouchea* of those authors I am unacquainted. *Dipyrena* of Hooker is not a natural genus, the single species which composes it having the inflorescence and flowers of *Verbena juncea*, and the foliage nearly of *V. aspera*; yet the difference in the fruit, already perceptible in

the ovarium, is so marked, that the genus cannot but be preserved. *Chascanum* of E. Meyer, formed of some old *Buchneras*, and which I had erroneously referred to *Selagineæ*, is a distinct group correctly placed by E. Meyer and by Endlicher next to *Verbena*.

75. *Tamonea spicata*. Aubl. Pl. Guian. ii. p. 660, t. 268.—British Guiana. Schomburgk. French Guiana. Leprieur, Herb. Par. n. 169. Also Bahia. Gardner, n. 899, and Blanchet, n. 2566.

Among the remaining *Verbeneæ*, *Casselia* is a very marked group, so also *Priva*; but it is surely by inadvertence that *Phryma* has been joined to it; for notwithstanding some general resemblance in habit, the structure of the fruit and convolute cotyledons are so very singular, that it can only be considered as an isolated genus not really belonging to any of the great tribes of *Verbenaceæ*. I am unacquainted with *Monochilus* of Fischer and Meyer, which is probably allied to *Casselia*, or with *Buchia* of Humboldt and Kunth, which is surely no true *Verbenacea*, perhaps a *Polemoniacea*. *Chloanthes* of R. Brown, the only four-ovulated genus with a simple axillary inflorescence, is somewhat anomalous in appearance; but the ovarium is that of the true *Verbeneæ*. The central cavity of the fruit is here intersected by the axis, which gives the appearance of two additional empty cells.

Tribe Duranteæ.

These are allied to *Verbeneæ* by their inflorescence, to *Viticeæ* by their more arborescent habit, and by the position of the ovula, which are laterally attached to the fleshy axis of the ovarium, either at their base or above it, but always below the middle. The ovule is thus frequently more or less amphitropous. The calyx generally grows after the flowering is over, and either incloses the fruit at its maturity, or forms an expanded cup under it.

76. *Petræa macrostachya*, sp. n., arborea, foliis ovali-ellipticis breviter acuminatis scaberrimis, racemo elongato, pedicellis fructiferis tubo calycis brevioribus, calycis laciniis lineari-oblongis subspathulatis acuminatis aristulatis. Folia semipedalia. Racemus 1½—2-pedalis, pendulus. Calyces florigeri subsessiles, longiores et tenuiores quam in plerisque speciebus.—On the brook Currassawaak. British Guiana. Schomburgk, n. 158.

Besides *Petræa*, the *Duranteæ* comprehend *Citharexylum*, *Duranta* and *Pöppigia* (Bertero, not Presl.), which last genus has been alternately united with *Citharexylum* and with *Duranta*, having some of the characters of each, but with flowers different from either. There appear to be two species, differing from each other in the size of the flower, the form and size of the berry, and, in some respects, in the form of the leaf, one from Chili, the other from the isle of Juan Fernandez.

Tribe Viticeæ.

This group is readily distinguished from the two preceding ones by the cymose inflorescence. The ovarium is that of *Duranteæ*, and in some genera there is the same tendency of the calyx to augment after the flowering. The habit is often arborescent, and compound leaves are not uncommon; but no accurate circumscription of the tribe can be attempted until the numerous heterogeneous plants collected under *Clerodendron*, *Premna* and *Callicarpa*, and many little known Asiatic genera, shall have been more carefully examined.

77. *Pyrostoma ternatum*, C. F. W. Meyer. Flora Esseq. p. 219.—British Guiana. Anderson. Calyx tubulosus, 10—11 lin. longus, tubo basi 10-nervio minute tomentoso, superne ampliato 5-plicato glabro, limbo 5-lobo, laciniis lanceolatis foliaceis acutis. Corolla hypogyna, calycem subæquans, tubo basi glabro, supra insertionem staminum extus ferrugineo-villoso et parum ampliato, limbo bilabiato, labio superiore bilobo, inferiore trilobo, lacinia intermedia majore emarginata. Stamina 4, exserta, didynama, filamentis basi pubescentibus. Ovarium obovoideum, hispidum, 4-loculare, loculis uniovulatis, ovulis basi lateraliter affixis. Stylus filiformis. Stigma bipartitum.

78. *Vitex capitata*. Vahl, Ecl. ii. p. 50, t. 18, *var.* foliolis latioribus subtus pubescentibus.—British Guiana. Schomburgk.

I have received from Sir W. J. Hooker specimens gathered in Trinidad by Mr. Lockhart, answering precisely to Vahl's description and figure. M. Schomburgk's specimens agree with them in everything but the points noted above.

79. *Vitex umbrosa*. Sw. Fl. Ind. Occ. ii. p. 1076.—On the Essequibo. Schomburgk.

A single specimen answering perfectly to Swartz's description, except that the panicle is rather shorter than the leaves.

80. *Ægiphila arborescens*, Willd. Sp. i. p. 616. Manabea arborescens, *Aubl. Pl. Guian.* i. p. 64, t. 24.—Savannahs, British Guiana. Schomburgk, n. 404.

81. *Ægiphila laxiflora*, sp. n., frutescens, glaberrima, foliis brevissime petiolatis ovali-ellipticis obtuse acuminatis basi angustatis, paniculis laxis terminalibus basi foliatis, calycis limbo ampliato breviter quadrifido, corollæ infundibuliformis tubo calyce plus duplo longiore.—British Guiana. Schomburgk, n. 772.

Near *Æ. elata*, Swartz; but it does not appear to be a climber, the leaves are narrower at the base, the panicle is more glabrous, looser and fewer flowered, and the colour is, according to Schomburgk, white, not yellow.

82. *Ægiphila salutaris*. Humb. et Kunth, Nov. Gen. et Sp. ii. p. 249.—British Guiana. Schomburgk.

Chamisso and Schlechtendal have already remarked upon the dioical nature of this genus. My specimens of each of the above three species have all exserted stamens and short included styles, and are consequently probably all male and sterile, although the ovules exist in the ovarium.

83. *Clerodendron fragrans.* Vent. Malm. p. et t. 70.—"Sandy soils by the sides of hills, British Guiana." Schomburgk, n. 475.

There is, however, probably some mistake in the locality. The flowers are all perfectly double and sterile, and it is only a cultivated plant in America.

Tribe Avicennieæ.

In this tribe the inflorescence is generally irregularly racemose, the upper pedicels being usually simple, and the lower ones cymosely trifid. The ovules are attached very near the apex; and as the radicle is always as in other *Verbenaceæ* pointing to the base of the carpels, the ovules are amphitropous, or nearly orthotropous. Besides *Amasonia* and *Avicennia*, I have observed this structure in *Gmelina*.

84. *Amasonia erecta* (Linn. Fil. Suppl. p. 294) perennis v. suffruticosa, erecta v. basi decumbens, pubescenti-scabra v. glabriuscula, foliis ellipticooblongis grosse dentatis basi angustatis, bracteis ovatis acutis basi in petiolum brevem angustatis, calycibus corollisque breviter pubescenti-hirtis. Taligalea campestris, *Aubl. Pl. Guian.* ii. p. 625, t. 252. Amasonia punicea, *Vahl, Ecl.* ii. p. 51.—Savannahs of the Rupunoony Schomburgk, n. 228.

Folia inflorescentia et calyx ut in descr. Vahliana. Corolla 9–10 lin. longa, tubo incurvo, fauce parum ampliata, limbi quadrifidi laciniis reflexis ciliato-fimbriatis, superiore breviore latiore emarginata, lateralibus latis obtusis, infima acutiuscula. Stamina 4, infra medium tubi inserta. Filamenta basi dilatata puberula, cæterum glabra, adscendentia, apice declinata, exserta. Antheræ et stylus ut in descr. Aubletiana. Ovarium quadriloculare? quadri-ovulatum, ovulis ex apice axeos amphitrope pendulis. Baccam maturam non vidi; junior dipyrena videtur globosa, pyrenis dispermis.

Notwithstanding the discrepancies in the descriptions given by the authors above quoted, it seems most probable, as Vahl suspected, that the three are but one species. The pubescence and the bracteæ are very variable. The corolla is said by Schomburgk and Vahl to be red, by Aublet to be yellow; but as the bracts are in all cases red, the more or less yellow in the corolla may be of no importance. The flowers are so much pressed in my specimens, that I could not satisfactorily ascertain whether the ovarium was two- or four-celled.

The following new and very distinct species has been gathered in Brasil by Pohl and by Langsdorff.

A. hirta, perennis v. suffruticosa, erecta, foliis obovato-oblongis basi longe angustatis cauleque hirsutissimis, bracteis oblongis acuminatis villosis, calycibus amplis coloratis corollisque longe pilosis.—Tota pilis flavicantibus obtecta. Calyces coccinei. Corollæ tubus ultrapollicaris, limbi laciniis acutiusculis.

L.—*Metamorphosis observed in the Small Pipe-fish* (Syngnathus lumbriciformis). By Prof. B. Fries*. With Plate XII.

When I had the honour some time since of presenting to the Royal Academy of Sciences an addition to our knowledge of the Scandinavian species of the genus *Syngnathus*, I did not expect that I should so soon again have further occasion to return to the same genus, and to show in another point of view that it merits the attention of Ichthyologists. Such an opportunity has however been afforded by the unexpected discovery of a kind of metamorphosis which I have observed in the smallest of our pipe-fish, *S. lumbriciformis*. In all probability this is not the only species of the genus which undergoes this metamorphosis, but the same may probably occur in all those belonging to the division of *Syngnathi Ophidii*†. As previously I had had no opportunity of convincing myself of this fact, it may be well to publish the preliminary notice of what I have observed, in order to direct the attention of other naturalists to the subject.

After having satisfied myself by some successful trials of the possibility of keeping species of pipe-fish alive for a short time in reservoirs filled with water—which will not in general succeed with our sea fish—it was my intention to inquire into the relation subsisting between the young of the pipe-fish in their tender age and their parents; that is to say, I wished to learn whether the pipe-fish, also, afford their young the protection and care which, as experience has shown, the marsupial pipe-fish extend to their progeny; and, if it were so, in what manner nature had effected this, as the former are not furnished with the marsupial sac which in the latter affords

* Translated from the Swedish into German by Dr. Gans of Stockholm, and inserted in Wiegmann's Archiv, Part III. 1838, whence this is taken.

† For the terms ophidial pipe-fish and marsupial pipe-fish, see Prof. Fries's paper on the genus *Syngnathus*, a translation of which appeared at page 96 of this Journal.—Edit.