NOTES ON THE RUBIACEAE OF TROPICAL ASIA

by

C. E. B. BREMEKAMP

(Utrecht).

I. THE IDENTITY OF RUTIDEA? MOLLIS BL. EX DC.

The genus *Rutidea* was founded by DE CANDOLLE in 1807 on a West African plant. Twenthy-three years later in the "Prodromus" (IV, p. 495, 1830) he tentatively admitted a second species: it was based on a plant from Penang which he had seen in BLUME's herbarium, where it was labelled "*Rutidea? mollis* BL.". Subsequently several other species have been added, but as none of them were Asiatic, it was, perhaps, no wonder that BENTHAM and HOOKER F. in their "Genera Plantarum" (II, 1, p. 116, 1873) made no mention whatever of BLUME's plant, and regarded the genus as confined to tropical Africa. HIERN, who in the "Flora of tropical Africa" gave an excellent description of the genus, and enumerates ten species from tropical Africa, said that it is known from Madagascar also, but he too omitted every reference to its occurrence in Asia. LEMÉE (Dict. d. Pl. Phan. V, p. 903, 1934) also declares that the genus, which now comprises 25 species, is confined to tropical Africa and Madagascar [1]).

BLUME's plant was more fully described by MIQUEL in his "Ecloge Rubiacearum Archipelagi Indici" Ann. Mus. Bot. Lugd.-Bat. IV, p. 256, 1869). It is not mentioned, however, in HOOKER's "Flora of British India". BOERLAGE's remarks on it in his "Handleiding" (II, 1, pp. 107 et 142, 1891) also passed unnoticed; at least neither KING and GAMBLE's

[1]) The Madagascar plants referred to *Rutidea* do not belong to this genus. Their collateral ovules and their habit (they are ordinary shrubs, quite different in aspect from the straggling *Rutidea* species) show that they will have to be transferred to *Enterospermum*. In contradistinction to *Rutidea*, the latter is almost entirely confined to Madagascar and Mauritius. The only species found outside this area is a plant growing along the East African coast: accidentally it is the type species. As it is a litoral plant, its occurrence outside the main area is, of course, of little importance.

"Materials for a Flora of the Malay Peninsula" nor RIDLEY's "Flora of the Malay Peninsula" contain any reference to the plant. This want of recognition is all the more remarkable as the original diagnosis published by DE CANDOLLE did not contain anything which would have justified its exclusion from the genus. It is true that MIQUEL's more detailed analysis describes the seed as "sectione transversa semilunale introrse valde concavum", which sounds ominous, as the seed of *Rutidea* is globose, but he adds "nondum maturum", and it might be possible, therefore, that the unusual form was but a passing stage in its development.

Both MIQUEL and BOERLAGE apparently were of opinion that the occurrence of *Rutidea* in Asia was improbable. Already before he had investigated the plant MIQUEL (Fl. Ned. Ind. II, p. 300, 1857) had suggested that it might belong to another genus, namely to *Saprosma*. BOERLAGE l. c. agreed with him, and on p. 142 he actually proposes the combination *Saprosma? mollis*. As the inflorescences of *Saprosma* are axillary, and those of BLUME's plant, according to DE CANDOLLE, terminal, its transference to *Saprosma* can not be accepted. Since the days of MIQUEL and BOERLAGE, however, two new genera have come to light, one in Indo-China, the other in Australia, which show a much closer resemblance to *Rutidea*. The Indo-Chinese genus has been described by PITARD under the name *Duperrea*; the Australian genus is as yet unnamed: in my "Monograph of the genus Pavetta" (Fedde's Repert. XXXVII, p. 10, 1934), and more fully in my revision of the *Ixora* species of the Malay Archipelago (to be published shortly in the "Bull. du Jard. bot. de Buitenzorg") I have discussed the plant on which it will have to be based. This plant, the *Ixora pentamera* R. BR. ex BENTH., resembles *Rutidea* in the possession of a ruminate endosperm. The possibility that *Rutidea? mollis* might belong to one of these genera induced me to investigate BLUME's specimens. The result of this investigation was rather unexpected.

Two specimens of *R? mollis* are known to me, one in the Leyden Herbarium, and one at Utrecht. As the latter is apparently but a detached piece of the first, I will confine myself to the Leyden one. It is not impossible that the herbarium of DE CANDOLLE contains also a fragment, but as DE CANDOLLE's description fits the plant at Leyden in every detail, it is not to be doubted that the latter is either the type itself or a duplicate. The Leyden specimen bears three labels in BLUME's handwriting and one in that of MIQUEL. The latter reads: "*Rutidea mollis* BL. P u l u P i n a n g. — ?". The dash followed by an interrogation mark indicates, of course, that the collector is unknown. Of

much more importance are the three labels written by BLUME. The first reads: "Kein *Lasianthus* wegen der einsamigen Frucht. Kein *Psychotria*, "weil hier nur ein Samen vorhanden ist, dessen Testa rugulos, nicht "costat ist. Verwandt mit *Saprosma*." The second one declares: "Je ne "connais pas le port de la *Rutidea parviflora* D.C.; mais la structure "carpologique de nôtre plante me parait la même. *Rutidea? mollis* BL." The third contains a Latin diagnosis: "*Rutidea? mollis* BL. *R.* foliis "elliptico-oblongis utrinque acutis utrinque maxime subtus molliter pubes- "centibus, corymbis terminalibus dichotomis. Crescit in Insula Pulu "Pinang." The description given by DE CANDOLLE is almost identical with this one. It runs: "2. *R? mollis* (BLUM! herb.) tota molliter tomen- "toso-hirsuta, foliis elliptico-oblongis utrinque (maxime subtus) molliter "hirsutis, corymbis terminalibus dichotomis, fructu villosulo globoso "1-spermo. ♄ in ins. Pulu Pinang. Seminis fabricam non vidi "(v. s. comm. a cl. BLUME)." Even the word "dichotomis", used by BLUME erroneously in stead of "trichotomis", is repeated!

The Leyden specimen is in good condition. It consists of a main branch bearing several lateral branches. The latter are composed of one long internode and one or two very short ones, and end in corymbose inflorescences. The flowering period is passed, but a fairly large number of immature fruits are present. The latter each contain a single seed. The testa is smooth, not rugulose, as it is described on one of BLUME's labels, but the fruits themselves are wrinkled. The description of the seed given by MIQUEL (v. supra) is correct: it is the kind of seed found in the genera *Ixora* and *Pavetta*. The presence of bacteriodomatia on the leaves proves it to be a *Pavetta*. We might have known this without looking at the seeds, for, as I have pointed out in my "Monograph of the genus Pavetta" (l. c. p. 15), all Asiatic *Rubiaceae* provided with bacteriodomatia belong to this genus. The further identification of the plant offers no difficulty. As it is Asiatic, it must belong to the section *Pavettaster*, and the key to the species of this section on p. 37 of my monograph brings us first to the series *Vestitae*, and then on p. 41 to *P. naucleiflora*. Looking up the description of this species on p. 95, or comparing the more detailed one given by KING and GAMBLE, we will see that it fits exactly. The type specimen of *P. naucleiflora*, moreover, was also collected at Penang!

Rutidea? mollis BL. ex DC. and *Pavetta naucleiflora* R. BR. ex G. DON are, therefore, synonyms. Though the name *Rutidea? mollis* is four years older than the other one, its specific epithet can not be used now in the genus *Pavetta*, because there is already a *P. mollis* AFZEL. ex

HIERN. The name of the species, therefore, remains *P. naucleiflora* R. BR. ex G. DON.

II. A NEW SYNONYM OF PAVETTA SYLVATICA BL.

In looking through the *Chasalia* sheets in the Utrecht Herbarium I came across the type specimen of *Chasalia sangiana* MIQ. This species was described by MIQUEL in his "Flora van Ned.-Indië" (Eerste bijvoegsel, p. 546, 1860), but the description does not tell us why this fruiting specimen was identified by him as a *Chasalia*. In his "Ecloge Rubiacearum Archipelagi Indici" (Ann. Mus. Bot. Lugd.-Bat. IV, p. 203, 1869) he refers it as a var. *grandifolia* MIQ. to *Ch. curviflora* (WALL.) THW. Under this name it is also mentioned by BOERLAGE in his "Handleiding" (II, 1, p. 140, 1891). KOORDERS in his "Exkursionsflora von Java" (III, p. 268, 1912) quotes *Ch. sangiana* as a synonym of *Ch. curviflora*. He describes the habitat of this species with the words: "Im Gebirge, zerstreut im Regenwald". This is not quite right, as the plant has been found in the low lands too (cf. BACKER, Kritiek op de Exkursionsflora von Java, Weltevreden 1913, p. 36), and it is certainly not applicable to *Ch. sangiana*, as the island Sangian, where it was collected, possesses no mountains.

The description given by MIQUEL shows that the plant can not belong to *Chasalia*. In this genus the flowers are always pentamerous and the inflorescences terminal, but here the latter are described as opposite and the calyx as tetramerous!

The type specimen consists of two fruiting branches, each one with two opposite axillary inflorescences near the top of the shoot. It bears two labels; the oldest one reads: "2978 H. Bog. **Chasalia Sangiana M.** *Psychotria.* P o e l o e S a n g i a n. TEYSMANN." The words "**Chasalia Sangiana M.**" are in MIQUEL'S handwriting; the rest was apparently written in Buitenzorg. The second label, which is entirely in Miquel's handwriting, contained originally only: "*Chasalia Sangiana* MIQ. S a n g i a n i n s u l a", but afterwards above "*Chasalia Sangiana* MIQ." a new name has been added: "**Ch. curviflora** MIQ. var. **Sangiana**". The "var. *Sangiana*" exists only in manuscript; the name actually published by MIQUEL is, as we have seen already, "var. *grandifolia*". The first name was probably rejected by MIQUEL as unsuitable, because a plant collected by HOOKER F. and THOMSON in Sikkim was considered by him as representing the same variety. I have not seen the Sikkim plant to which MIQUEL refers, but it is very improbable that it should belong to the same species as the plant collected in Sangian: as we shall see

presently the latter belongs to a species which has never been found in Sikkim.

The true nature of the plant is revealed by the very conspicuous bacteriodomatia on the leaves. It is a *Pavetta*. The axillary inflorescences and the ovate stipules prove it to belong to the series *Latistipulae* of the section *Pavettaster*, and the key to this series in my monograph of the genus (l. c. p. 39) brings us at once to *P. sylvatica* BL., with which it agrees in every detail. As this species is known both from Sumatra and from West Java, its occurrence on an island in the Straits of Sunda is not unexpected.

III. THE GENUS APHAENANDRA MIQ.

The litterature on the genus *Aphaenandra* MIQ. is not extensive. The genus was created by MIQUEL in his "Flora van Nederlandsch-Indië" (II, p. 341, 1857) for a Sumatran plant collected by JUNGHUHN in Upper Angkola (Tapiannoeli): it grew in the alang-alang lands near Padang Sidempoean at an altitude of 600—900 m. As MIQUEL could not make out the contents of the ovary cells, its position remained uncertain. He was of opinion, however, that it might be related to the genera *Menestoria* DC. and *Mussaenda* L. The three species described by DE CANDOLLE under *Menestoria* have since been removed to other genera: one to *Mycetia* REINW. and two to *Mussaenda*. The affinity between *Aphaenandra sumatrana* MIQ., with its terminal inflorescences and nearly sessile flowers, and *Mycetia*, in which the inflorescences are always axillary and the flowers long-pedicellate, can not be very great. It is very probable that MIQUEL, to whom the genus *Mycetia* was well known (he refers to it under the name *Adenosacme*), had thought of the two other species only, and his opinion, therefore, is better expressed when the name *Menestoria* is erased.

In his paper "De quibusdam Rubiaceis, Apocyneis et Asclepiadeis" (Ann. Mus. Bot. Lugd.-Bat. IV, p. 128, 1868) MIQUEL described the structure of the ovary, and came to the conclusion that *Aphaenandra* comes nearest to the *Rondeletieae*. The latter are to be taken, of course, in the delimitation given by DE CANDOLLE in the "Prodromus" (IV, p. 342, 1830), where they are regarded as a subtribe of his *Hedyotideae*. The latter are characterized as possessing a bilocular capsule and seeds without wings, and the *Rondeletieae* are distinguished from the other subtribe by the nature of their stipules ("Stipulae utrinque binae concretae aut distinctae, nec vaginatae, nec multisetosae").

MIQUEL's change of opinion with regard to the affinity of *Aphae-*

nandra is rather puzzling, as the new facts brought to light by his investigation were not incompatible with his former view. As a matter of fact in the structure of its stipules *Aphaenandra* agrees entirely with *Mussaenda* and not at all with *Rondeletia.* It is not improbable, however, that he was laid astray by DE CANDOLLE's definition of the *Rondeletieae*: in stead of "stipulae utrinque binae" it ought to be read: "stipulae utrinque singulae, rare binae", as stipules going out into two lobes, like those found in *Mussaenda* and in *Aphaenandra,* are but rarely met with in the genera belonging to DE CANDOLLE's *Rondeletieae.* It must be conceded, however, that the differences beween *Mussaenda* and *Rondeletia* are hardly of sufficient importance to justify their incorporation in different tribes.

By BENTHAM and HOOKER F. in their "Genera Plantarum" (II, 1, p. 29, 1873) *Aphaenandra* is mentioned among the "genera exclusa v. dubia" of the *Rubiaceae,* with the remark "aestivatione ovulis fructuque penitus ignotis genus valde dubium efficit".

BOERLAGE in his "Handleiding" (II, 1, p. 41, 1891) agrees with BENTHAM and HOOKER F. Later (op. cit. II, 2, p. 727, 1899) he adds that according to BAILLON it might belong to the *Mussaendeae.* This is not quite correct: BAILLON in his "Histoire des Plantes" (VII, p. 364, 1880) merely quotes MIQUEL's original opinion: like BENTHAM and HOOKER F. he seems to have overlooked MIQUEL's second investigation.

By SCHUMANN (ENGLER & PRANTL IV, 4, p. 155, 1897) too the position of the genus is regarded as uncertain. His remarks, however, are but a repetition of those made by BENTHAM and HOOKER F. and by BOERLAGE.

LEMÉE (Dict. d. Pl. Phan. I, p. 324, 1929) bases his description on that given by BOERLAGE, adding "Genre encore imparfaitement connu et "même exclu des *Rubiacées* par BENTH. et HOOK. (voir BOERLAGE, Handl. "42)". That the genus was excluded from the *Rubiaceae* by BENTHAM and HOOKER F. is doubtless a misinterpretation: they considered it as a "genus dubium". It is quite clear from MIQUEL's description that it is a true *Rubiacea.*

In Vol. XVIII (1929) of the popular monthly of natural history "De Tropische Natuur" *Aphaenandra sumatrana* MIQ. is mentioned twice. On p. 110 C. N. A. DE VOOGD gives a photograph of the plant in its natural surroundings, and tells of its occurrence in the neighbourhood of Palembang. The flower is described as heterostylous, and attention is drawn to the fact that in the short-styled flower the ovary is badly developed. The aestivation of the corolla (not mentioned by MIQUEL) is described as plicate-valvate. These particulars remove every uncertainty

as to the systematic position of the genus: both the aestivation of the corolla lobes and the peculiar type of heterostyly are of exactly the same kind as in *Mussaenda*. On the heterogamy occurring in most of the *Mussaenda* species we are well informed by an interesting paper by BURCK (Ann. du Jard. bot. de Buitenzorg III, pp. 105—119, 1883). It is everywhere of the same nature: the long-styled flower is, by sterilisation of the anthers, female; the short-styled one, owing to the imperfect development of the gynoecium, male.

On p. 153 of the same volume of "De Tropische Natuur" S. C. J. JOCHEMS gives a drawing showing a flowering shoot, a longitudinal section through the short-styled flower, a fruiting branchlet, and a transverse section through a ripe fruit. Fruits are apparently very rare, and are here described for the first time. They are ovoid, about 1.5 cm high and 1 cm in diameter; the numerous black seeds are about 1 mm in diameter, and are embedded in a rather compact pulp. The exocarp is fairly thick and dry, and opens in the end with two valves, but whether the dehiscence is loculicidal or septicidal is not mentioned. In *Mussaenda* the fruit is as a rule a berry; in one of the species (*M. dehiscens* CRAIB) it has been described, however, as opening by valves; in this case the dehiscence is loculicidal. *M. dehiscens* is doubtless a true *Mussaenda*: its stipules are described as bifid, and in some of the flowers one of the calyx lobes is developed into a large and showy appendage. (In several other species the fruits are either not at all or but imperfectly known).

Dr VAN STEENIS, who had noticed the similarity between *Aphaenandra sumatrana*, of which the Buitenzorg Herbarium now possesses several sheets, and a plant which he found in the herbarium under the name *Mussaenda theifera* PIERRE ex PITARD, sent the Buitenzorg material to me for further investigation. It comprised also a specimen belonging to a related species, provisionally determined as *Mussaenda sootepensis* CRAIB.

Very soon I came to the conclusion that *Aphaenandra sumatrana* MIQ. and *Mussaenda theifera* PIERRE ex PITARD are synonyms. The latter, however, was reduced already by CRAIB (Fl. Siam. Enum. II, 1, p. 76, 1932) to *M. uniflora* WALL. ex G. DON. The question we will have to decide now is: can the genus *Aphaenandra* MIQ. be maintained, or will it have to be merged in *Mussaenda* L.?

That *Mussaenda uniflora* is an anomalous member of the genus was recognized already by KURZ, who (Journ. As. Soc. Beng. XLI, p. 312, 1872) transferred it to *Acranthera* ARN. This was a mistake, for it is

certainly much farther removed from this genus than from *Mussaenda*. The type species of *Acranthera* and those species which on good grounds have been referred to this genus (see the figures in BEDDOME's Icones, Pl. XXIII—XXV) have simple stipules; their stamens are inserted at the base of the corolla tube, which is inside glabrous, and are apparently of the same length as the style; the placentation is parietal; and the stigmas are swollen and cohering; the genus differs, therefore, widely from *Mussaenda*. It is true that HOOKER F. in his "Flora of British India" (III, p. 92, 1880) included two species which show a striking resemblance to *Mussaenda*, namely *A. Maingayi* HOOK.F. and *A. Griffithii* HOOK.F., but HEMSLEY (HOOKER's Ic. Pl. 1718) has shown already that these plants do not belong here. HEMSLEY transferred them to *Mussaenda*, but, though they are doubtless very nearly related to this genus, it is probably better to put them in a genus of their own. STAPF, and VALETON afterwards, included in *Acranthera* quite a number of Bornean species, but though these plants resemble the type species in habit, in the form of their stipules, and in the insertion of the stamens at the base of the corolla, their inclusion in this genus is nevertheless not justified, because their ovary appears to be bilocular and their inflorescences axillary. *Acranthera strigosa* VAL. differs, moreover, conspicuously from all the others by its large, sheathing and plurisetose stipules, and might belong to *Polysolenia* HOOK.F.

The majority of the species of *Mussaenda* possess many-flowered inflorescences adorned by one or more white or coloured leaflike organs, which prove to be enlarged calyx lobes. The flowers themselves are, as a rule, rather small, and, at any rate, not very gaudy. These species are in my opinion the only ones which ought to be retained in the genus. In the Madagascar species none of the calyx lobes are ever enlarged: the flowers themselves are, on the other hand, large and showy. The plants form a very natural group, and were separated already from the others by DE CANDOLLE (Prodr. IV, p. 370, 1830), who brought them together in the subgenus *Landia*: the latter doubtless deserves generic rank. A group of very similar plants is found in East Asia: *M. Maingayi* (HOOK.F.) STAPF (syn. *M. mutabilis* HEMSLEY), the plant described by HOOK.F. under the name *Acranthera Griffithii* (not *Mussaenda Griffithii* WIGHT ex HOOK.F.) and *Mussaenda spectabilis* RIDLEY belong to it: this group too should be regarded as a distinct genus. Besides these large-flowered plants the genus comprises at present two groups of species in which the enlarged calyx lobes are also constantly absent, but in which the flowers are medium-sized or small. To one of these groups I bring *M. aptera*

PITARD and one or two as yet unnamed species from South China and Formosa: these plants resemble the ordinary species in habit, but as they are still little known, I will not discuss them. The last group, however, is the one to which the two species found in Sumatra belong, and of this group we are now comparatively well informed. The two species are: *M. uniflora* WALL. ex G. DON (*Aphaenandra sumatrana* MIQ.) and the very similar *M. parva* WALL. ex G. DON.

Whereas the other species comprised at present in *Mussaenda* are fairly large, usually scrambling, shrubs, *M. uniflora* and *M. parva* are small suffrutices spreading by the aid of long runners: where the latter root, one of the two axillary buds develops into a new plant consisting of a simple or basally branched flowering shoot, as a rule not more than 10—20 cm high. The flowering shoot forms, as a rule, new runners from its base. The vegetative propagation is very effective, and the plants are, therefore, often locally abundant. That they are, as we have seen already, unisexual, explains the comparative rareness of fruits. In the structure of the inflorescence, a dichasium with short monochasial branches, they resemble the large-flowered species related to *M. Maingayi*. Between their flowers and those of the other species there is little or no difference, and the fruit too, apart from its dehiscence, does not differ conspicuously from the fruits of the others. The great difference in habit, however, is in my opinion of sufficient importance to justify their separation from them, and I consider it, therefore, advisable that the genus *Aphaenandra* MIQ. should be retained. I define it in this way:

Aphaenandra MIQ. genus *Mussaendae* valde affinis, *habitu* suffruticoso stolonifero, *inflorescentia* pauciflora, *calycis* lobis omnibus semper subaequalibus ab ea tamen distinguendum, distributum in Indo-China et in Indiae Aquosae parte occidentali.

Plantae suffruticosae stolonibus lignescentibus vagantes, ubi stolones radicant, ramos floriferos efferentes, dioecae, omnino pilis simplicibus septatis vestitae. *Stipulae* interpetiolares, profunde bifidae; lobi angusti. *Inflorescentia* terminalis, breviter pedunculata an subsessilis, interdum ad florem unicum reducta, plerumque dichasium simplex an dichasium cuius ramuli in monochasia 2- an 3-flora exeunt. *Flores* breviter pedicellati an subsessiles, unisexuales, heterostyli: masculi stylo brevi et placentis ovulisque reductis; feminei stylo longo et antheris vidis muniti. *Ovarium* septo tenui biloculare, floris feminei majus quam floris masculi, placentis ad medium septum affixis, ovulis minimis et numerosis. *Calyx* tubo subnullo, lobis angustis subaequalibus. *Corolla* hypocrateriformis, extus

dense pilosa, tubo cylindrico gracili, in flore masculo supra medium leviter inflato, intus supra insertionem staminum (maxime in flore masculo) pilis luteis vestito, lobis aestivatione plicato-valvata, supra minute papillosis. *Stamina* floris masculi filamentis brevibus ad medium tubum affixa, antheris subbasifixis longissimis, apice obtuso faucem tamen nondum attingentibus, pollinem in alabastro jam ejaculantibus; antherae floris feminei subsessiles, paulo infra medium tubum affixae, antheris floris masculi dimidio breviores, vidae. *Discus* annularis. *Stylus* floris masculi tubo plus quam dimidio brevior, stigmatibus duobus filiformibus torsis; stylus floris feminei tubo aequilongus, stigmatibus duobus filiformibus quam stigmatibus floris masculi paulo longioribus, rectis. *Fructus* baccatus, ultime valvis duabus dehiscens tamen. *Semina* numerosa, nigra.

The structure of the seed is not yet known, but we may safely assume that it will not differ from that of the seeds of *Mussaenda*.

Two species are known so far:

1. **Aphaenandra uniflora** (WALL. ex G. DON) BREM. n. comb.; *Mussaenda uniflora* WALL. ex G. DON, Gen. Syst. III, p. 491 (1834); HOOK.F., Fl. Brit. Ind. III, p. 86; PITARD in Fl. Indo-Chine III, p. 173; CRAIB, Fl. Siam. Enum. II, 1, p. 76; *Acranthera uniflora* (WALL. ex G. DON) KURZ in Journ. As. Soc. Beng. XLI, p. 312 (1872); id. in op. cit. XLVI, p. 160; *Aphaenandra sumatrana* MIQ., Fl. Ned. Ind. II, p. 341 (1857) et Suppl. p. 225; id. in Ann. Mus. Bot. Lugd.-Bat. IV, p. 128; BOERLAGE, Handl. Fl. Ned. Ind. II, 1, pp. 41 et 123, II, 2, p. 727; DE VOOGD in Trop. Nat. XVIII, p. 110; JOCHEMS in op. cit. p. 153, cum fig.; *Mussaenda theifera* PIERRE ex PITARD in Fl. Indo-Chine III, p. 184 (1923).

Distr. Tenasserim, Siam, Annam, Cochin-China, Laos, Sumatra, ?Java.

In the Netherlands' Indies the plant was collected in:

Sumatra: near Medan, alt. 15—50 m, LOERZING 3081 et 3683, JOCHEMS 1; Tanah Hilam, Hilir Estate, TERUYA 170; Asahan, Tandjoeng Pasir, YATES 1380; Asahan, Boeboet, YATES 2042; Karo-lands, near Laubalang, alt. 250 m, LOERZING 11188; Karo-lands, Tandjoeng, W.S.W. of Sinaboeng, alt. 825 m, LOERZING 9019; Gajoe- and Alas-lands, PRINGO ATMODJO 504; Tapiannoeli, between Tangga and Soeanam, alt. 750 m, VAN DER MEER MOHR 5/8/1928; Tapiannoeli, between Batoe na Doca and Saligoendo (near Padang Sidempoean) alt. 600—900 m, JUNGHUHN s.n. in Herb. Ultraj. (type of *Aphaenandra sumatrana* MIQ.); Palembang, alt. 0 m, DE VOOGD 4/12/1927.

Java: Priangan s.l., PLOEM s.n. H.L.B. 909.25—353. (This and several other specimens of PLOEM's herbarium were labelled at Leyden: it is not impossible, therefore, that the locality is wrong, and that this plant, of which otherwise no Javanese specimens are known, was collected elsewhere.)

2. **Aphaenandra parva** (WALL. ex G. DON) BREM. n. comb.; *Mussaenda parva* WALL. ex G. DON, Gen. Syst. III, p. 491 (1834); HOOK.F., Fl. Brit. Ind. p. 91; CRAIB, Fl. Siam. Enum. II, 1, p. 75; *M. sootepensis* CRAIB in Kew Bull. 1911, p. 389; PITARD in Fl. Indo-Chine III, p. 190, non *M. sutepensis* HOSS. in FEDDE's Repert. X, p. 62 (1911) quae est *M. Sanderiana* RIDL. in Gard. Chron. XLVI, p. 34 (1909); *M. neosootepensis* CRAIB n. nom. in Aberd. Univ. Studies, No. 57, p. 103 (1912).

Distr. Tenasserim, Siam, Sumatra.

In the Netherlands' Indies the plant was collected in:

Sumatra: Karo-lands, near Sarinembat, alt. 750 m, GALOENGI 151 ("the leaves are ground and used as a remedy against skin diseases").

The two species are easily distinguishable by the form of the corolla: in *A. uniflora* the lobes are about 1 cm long, and half as long as the tube; in *A. parva* they are 4—7 mm long, and one third to one fourth the length of the tube. The leaves of *A. parva* are slightly larger and somewhat more hairy than those of *A. uniflora*: its vegetative parts are on the whole somewhat robuster.