Abrus is a small natural genus of the family Papilionaceae, containing four species, well distinguished by the presence of 9 connate stamens. As a genus it was first described by Adanson in 1763 who based it on *Glycine abrus* L.. In fruit this species is easily distinguished by its conspicuously red and black coloured seeds, which are used in various ways, e.g. as beads in rosaries and necklaces, for making poison and medicine.

The flowers of the species in *Abrus* do not show any character leading to specific segregation. Characters of the pod and inflorescence are more useful. One, imperfectly known, species is recorded only from Madagascar and another is confined to tropical Africa. The other two species have a circumtropical distribution, one of these, *A. fruticulosus*, is widely variable in habit, in the shape of the leaves, and in the indumentum. It is not advisable to segregate the different forms of this species, which were formerly described as distinct species (such as *A. schimperi*, *A. cantoniensis*, *A. mollis*, etc.), as infraspecific taxa, e.g. as varieties, or as name-bearing forms.

At the end of the present paper a list is given of representative specimens, for each species arranged in alphabetical order according to the collector's name.

I acknowledge my indebtedness to Prof. Dr. H. C. D. de Wit who helped me in various ways. I am also indebted to the Directors or Keepers of the following Herbaria for the loan of specimens, or for making specimens available for examination, or supplying information: Berlin (B), Brussel (BR), Coimbra (COI), Firenze (FI), Genève (G), Kew (K), Leiden (L), Lisboa (LISC), London (BM), München (M), Paris (P), Porto (PO), Pretoria (PRE), Utrecht (U), Wageningen (WAG), Wien (W), and Zürich (Z).

*Abrus* Adanson

Fig. 1. *A. canescens* Welw. ex Bak. a: flowering branch (X ½); b: upper surface of leaflet; c: lower surface of leaflet (X 2); d: part of inflorescence (X 2); e: flower (X 1); f: calyx with bract and bracteoles (X 5); g: pod (X ½) (a—f after Espírito Santo 3116; g after Michel 2822).


Hoepfneria Vatke, Oesterr. Bot. Zeitschr. 29: 222. 1879 (type species: H. africana Vatke (see under A. fruticosus Wall. ex W. & A.)).

Woody climbers, winding or not and then prostrate and assuming the habit of shrubs or undershrubs. Leaves paripinnate, multijugate; rhachis grooved, mucronate; leaflets opposite, mucronate; stipellae minute, subulate. Stipules mostly small, persistent.

Inflorescence terminating (apical and/or lateral) leafy or leafless branches, leafless branches bearing stipules, the leaves being either early shed or not developed. Flowers ± sessile, aggregated on short, club-shaped or elongated, wart-like outgrowths (these outgrowths at the base very often supported by stipules of which the leaves are early shed or obsolete); bracts and bracteoles mostly small, often caducous. Calyx campanulate or funnel-shaped, lobed or short-toothed. Corolla much longer than the calyx; standard ovate-ornicular, notched at the apex, with a short claw; wings oblong-falcate, relatively long-clawed; keel longer than the wings. Stamens 9, monadelphous, the staminal tube at the base adnate to the standard; anthers uniform. Ovary ± sessile, oblong, multiovulate, pubescent; style curved, ± glabrous, mostly persistent; stigma penicillate.

Pods oblong or linear, bulgy or flattened, septate, beaked, pubescent. Seeds ovoid or laterally compressed, arillate.

Type species: Abrus precatorius L. (Glycine abrus L.).

Distribution: Four species, circumtropical.

Note: Adanson (i.e.) first published the name Abrus for a genus. He made no combination for the species intended as a base for the genus. The combination Abrus precatorius was made by Linnaeus in 1767 (I. c.).

Key to the species

1a. Inflorescence mostly stout, rigid and strongly falcate. Pod bulgy, 2—3.5(5) cm long, 1—1.5 cm wide, mostly truncate at both ends. Seeds ovoid, scarlet with a black spot around the hilum . . . . . . . . . . . . . . . . . . . 4. A. precatorius

b. Inflorescence often slender, straight or slightly curved. Pod flat, or only slightly bulging over the seeds, outline less abruptly curved at both ends, mostly relatively narrower. Seeds laterally compressed, entirely brown-black . . . . . . . 2

2a. Bracts and bracteoles as long as or longer than the calyx . . . 1. A. canescens

b. Bracts and bracteoles up to half as long as the calyx . . . . . . . . . . . . . . . . . . . . . . . . 3

3a. Leaflets 3—5 pairs, the upper ones lanceolate, 4.5—5.5 cm long, 1—1.5 cm wide . . . . . . . . . . . 2. A. diversifoliatus

b. Leaflets (5)6—20 pairs, the upper ones usually smaller . . . . . . . . . . . . . . . . . 3. A. fruticosus

1. A. canescens Welw. ex Baker — Fig. 1.

Winding climber with woody pubescent branches, finally glabrescent. Stipules small, oblong-lanceolate. Leaves short-petiolate, 10—14-jugate; leaflets ± rectangular, (6)10—20(30) mm long, 2—7(10) mm wide, white- or grey-pubescent on both sides, hairs often curved.

Inflorescences mostly terminal; flowers sub sessile, usually in separated fascicles or pseudo-whorls; bracts and bracteoles as long as or longer than the calyx, (3)4—6 mm long, linear or lanceolate, acute. Corolla mostly purple, 10—15 mm long.

Pods broadly linear, nearly straight, (3.5)4—5.5(6) cm long, 8—12 mm wide, pubescent, 6—9-seeded, beak recurved, hook-shaped. Seeds ovate, 4—6 mm broad, light brown-black, glossy.

Holotype: Angola, Pungo Andongo, Welwitsch 2250 (BM).


Ecology: Climbing on trees, shrubs, or herbs in orchard- and shrub savannah, or twining over grass; often in marshy localities.

2. A. diversifoliolatus Breteler nom. nov. — Fig. 2: I.


A climber with terete slender glabrescent branches. Leaves 3—5-jugate; petiole up to 2 cm long, pubescent; rhachis 1.5—4 cm long, pubescent. The lower pair of leaflets ovate-elliptic, mostly 1—2 cm long, ± 1 cm wide, obtuse or subcordate at the base, apiculate or acute at the apex; the upper pair of leaflets lanceolate, 4.5—5.5 cm long, ± 1.5 cm wide, rounded and unequal-sided at the base, acute at the apex; all leaflets glabrous above, sparsely appressed-pubescent beneath.

Inflorescence straight or nearly so; bracts and bracteoles minute. Calyx pubescent. Corolla 3—5 times as long as the calyx, pale purple.

Pods unknown.

Type: Madagascar, Maromandia, “lieux cultivés”, Decary 1635 (P: holotype; L: isotype).

Note: The name A. acutifolius Viguier (1952) was preceded by A. acutifolius Blume ex Miquel (Fl. Ind. Bat. 1: 160. 1855), and had to be replaced by a new name.

Fig. 2: I. A. diversifoliolatus Bret.. a: flowering branch (X ½); b: lower surface of leaf (X ¼) (after Decary 1635: isotype (L)). II. O. fruticosus Wall, ex W. & A.. A form formerly described as A. schimperi Hochst. ex Bak.. a: flowering branch (X ½); b: upper surface of leaflet (X 1); c: lower surface of leaflet (X 1) (after Schimper 1552).


![Fig. 3. *A. fruticosus* Wall. ex W. & A.](image)

I. a: leaf (X 2); b: upper surface of leaflet (X 6); c: lower surface of leaflet (X 6); d: pod (X 2) (after Wight 827). II. A form formerly named *A. suffruticosus* Boutique. a: leaf (X 2); b: lower surface of leaflet (X 2); c: pod (X 2) (after Fanshawe 1015 and Quarre 1044).

![Fig. 4. *A. fruticosus* Wall. ex W. & A.](image)

Three forms formerly named either *A. pulchellus* Wall. ex Thw. or *A. laevigatus* Meyer. a: leaf (X 1); b: lower surface of leaflet (X 1); c: pod (X 1) (I after Espirito Santo 3647; II after Barbosa 180; III after Barbosa 1339).

A climber or a diffuse creeping fastigate or straggling shrub or undershrub; young branches pubescent, finally glabrescent. Stipules mostly small, sometimes up to 10 mm long, oblong-lanceolate or linear, acute. Leaves (5)6—20-jugate; leaflets varying in shape and pubescence, ovate,
obovate, or oblong, 3—45(50) mm long, 1—15(20) mm wide, base cordate,
rounded, or cuneate, often unequal-sided, top acute, rounded, obtuse, or
truncate-emarginate, upper surface pubescent, glabrescent, or glabrous,
lower surface densely to sparsely, mostly appressed-pubescent.
Inflorescence terminal, lateral, or axillary; flowers crowded or in
groups. Bracts and bracteoles up to half as long as the calyx. Corolla
3—6 times as long as the calyx, pale purple to yellowish.
Pod oblong to linear, 2—7(9) cm long, 0.8—1.5 cm wide, flattened,
broadly rounded or cuneate at the base, rounded at the apex, pubescent
or glabrescent, sometimes warty, 4—12-seeded. Seeds oval-suborbicular,
laterally compressed, 3—7 mm long, 2—5 mm broad, brown-black, mostly
glossy.

Type: Peninsula Ind. orientalis, Wight 827 (BR: lectotype; G:
iso-lectotype).

Distribution: Circumtropical.

Ecology: A climber on the edge of forest or in regrowth bush. A
low to medium shrub in dry sunny places: open woodland, grass-, and
shrub savannah.

Notes: As was pointed out in the introduction A. fruticulosus is
a highly variable species. This variability may be connected with its very
different habitats: rain forest to savannah country, or even semi-desert.
The type specimens on which the synonyms are based show certain
differences between each other, and differ also from the type of A. fruti-
culosus. These differences, however, are always restricted to size or shape,
indumentum, or number of leaflets, shape or place of the inflorescence,
size or shape of the pods, or the habit of the whole plant.
Single or together, all these characters vary and all conceivable inter-
mediates can be found as soon as a wide range of specimens from a
sufficiently large area is examined.

To judge from the description A. laevigatus Meyer is conspecific with
A. fruticulosus Wall. ex W. & A..

It is uncertain, whether the sheet present in the Kew Herbarium with
two mounted specimens, both indicated as "Type Specimen" of A. laeviga-
tus, represents the type material. On this sheet nothing can be found
about the details of the collecting locality as Meyer indicated in his
Commentariorum. I traced the handwritings on this sheet, but only found
that the labels "Abrus laevigatus E.M.a." and "Abrus laevigatus E.M.b."
probably were written by the collector Drège. These two specimens and
all specimens I saw from the area in which Drège collected the type
specimens of A. laevigatus proved to be A. fruticulosus (or also A. pre-
catorius).

I have not seen the type of A. melanospermus Hasskarl. To judge
from Hasskarl's description, however, his plant is similar to a specimen
collected in Java, presumably by Blume, and preserved in the Leiden
Herbarium (Herb. Lugd. Bat. no. 908, 2—33). This is supported by the
writings on the label: "Abrus velutinus Bl." in Blume's handwriting, and
"Abrus precatorius var. villosula Miq. olim 1855" and "Abrus melano-
spermus Hassk. 1844", both in Miquel's handwriting. This specimen I de-
signate as the type of A. precatorius L. var. villosula Miq.
Blume 831, collected in Java and now preserved in the Leiden Herbarium, was made the type of *A. acutifolius* Blume ex Miquel. This specimen is a form of *A. fruticulosus* with acute leaflets. This highly variable character is insufficient for the segregation.

Spruce 786, the type of *A. tenuiflorus* Spruce ex Bentham of which duplicates are preserved at Kew and at Genève, shows no difference from *A. fruticulosus*.

According to Thwaites’s description of *A. pulchellus* Wall. ex Thw., this species is conspecific with *A. fruticulosus*. Moreover Dr. de Wit examined the type, Thwaites 1467, collected in Ceylon and present in the Herbaria at Genève and at Paris. He agreed with me, that Thwaites 1467 belongs in *A. fruticulosus*.

It is not clear what De Wildeman actually intended to publish, a distinct variety or a distinct form. He first published the “forma latifoliolata”. Of this “forma” one of the specimens cited (Gillet 828 (BR)) belongs to a different genus (see Fl. Congo Belg. 6: 85. 1954). Afterwards when De Wildeman referred to this “forma”, he mostly cited it as a “var.” and not as a “forma”. The new combination “*A. precatorius* L. var. latifoliolatus De Wild.”, published in 1905 (l.c.) is probably a lapsus calami.

A specimen present in the Leiden Herbarium (Herb. Lugd. Bat. no. 908. 2—40), collected in Java by Backer, is labeled by the collector: “*Abrus pulchellus* Wall. var. melanosperma” and dated “Juni 1904”. This specimen I designate as the type of *A. pulchellus* Wall. f. melanosperma Backer, published in 1911 (l.c.).

Herb. H. F. Hance 13417, preserved in the Kew Herbarium and labeled “*Abrus cantoniensis*, Hance-Whampoa, Aug. 1869” is probably an isotype. The date and place of collecting, however, are not in accordance with the original publication and there is no indication about the actual collector.

Herb. H. F. Hance 15806, collected in China by Sampson & Hance f., type specimen of *A. mollis* Hance now preserved at Kew, is more hairy than other forms of *A. fruticulosus*, but this difference is not constant.

The shrubby East-African forms of *A. fruticulosus*, formerly named *A. schimperi* Hochst. ex Baker, based on Schimper 1552 collected in Ethiopia (see fig. 2: II) have mostly long, terminal inflorescences. The shrubby habit as well as the shape of the inflorescence are highly variable characters, and do not allow specific segregation.

I have not seen Botta 66 and 228, two plants collected in Yemen which became the type specimens of *A. bontae* Deflers. I was unable to trace these specimens. To judge from Deflers's description, however, Botta’s specimens are conspecific with Schweinfurth (comm. Barbey) 1843, collected in Yemen and present in the Herbaria at Brussel and at Kew.

Hildebrandt 1391, collected in Somalia and made the type of *A. somalensis* Taubert, was probably lost at Berlin in 1943. Taubert’s description in Bot. Jahrb. 23: 193. 1896, indicates nothing which might be considered to be a difference from *A. fruticulosus*. Vatke who listed and described several plants of the collection of Hildebrandt, said about no. 1391 that it was not unlike Hildebrandt 2797, the type of *Hoepfneria africana* Vatke.
(Oesterr. Bot. Zeitschr. 29: 223. 1879). East-African specimens of *A. fruticulosus* very often have a silky indumentum on the young shoots and in my opinion *A. somalensis* Taub. is conspecific with *A. fruticulosus* Wall. ex W. & A.

Lima 257, the type of *A. gracilis* Lima, collected in Mozambique and now preserved in the Porto Herbarium, on examination proved to be conspecific with *A. fruticulosus*.

*A. repens* described by Tisserant (l.c.) is, according to the diagnosis, conspecific with *A. fruticulosus*. Dr. de Wit who examined in the Paris Herbarium the type specimens, Tisserant 738 and 2946, agreed with my conclusion. Tisserant’s specimens represent a savannah form of *A. fruticulosus*, having a small shrubby habit and small leaflets.

The following taxa, which Viguier described in the genus *Abras*, being *A. aureus*, *A. cyanus* partly, *A. grandiflorus*, *A. madagascariensis* var. *typicus*, — var. *littoralis*, — var. *dunensis*, — var. *parvifolius*, and *A. sambiranensis*, appeared, judging from the descriptions, conspecific with *A. fruticulosus*. Moreover, Dr. de Wit examined in the Paris Herbarium all specimens on which Viguier based these taxa and agreed with me, that they all represent only very slightly different forms of *A. fruticulosus*.

Berhaut 1433, collected in Sénégal and now preserved in the Paris Herbarium, became the type of *A. stictosperma* Berhaut. The pod of this specimen is, according to the description, smaller than is generally found in African specimens of *A. fruticulosus*. I found, however, that this character is of small importance, because all conceivable intermediates in size of pod occur.

I examined the holotype (de Giorgi s.n.: BR) and most of the paratypes Boutique cited when he published the new name *A. suffrutescens*. All these specimens were collected in mostly dry localities and represented a shrubby form of *A. fruticulosus* with numerous small leaflets. There are, however, no characters to be found in these specimens, which singly or together do not gradually change into characters commonly seen in South- and East-African species of *A. fruticulosus*. (Some intermediate specimens are: Acocks 12352, Hornby 2825, Junod 75, Leendertz 795, Medley Wood 13008, Stolz 765). I therefore decided, that *A. suffrutescens* could not be separated from *A. fruticulosus* as a distinct taxon.

Hildebrandt 2797, the type of *Hoepfneria africana* Vatke now preserved at Kew, is a form of *A. fruticulosus*, formerly named *A. schimperi* Hochst. ex Baker.

4. *A. precatorius* L. — Fig. 5.

Fig. 5. *A. precatorius* L.  

a: young branch (%2); b: lower surface of leaflet (%2); c: inflorescence (%2); d: parts of the corolla (%2); e: flower with removed corolla (%3); f: stamens (%3); g: anther (%15); k: ovary (%10); m: stigma (%50); n: bunch of pods (%2); p: seed (%2).

Winding climber, with glabrescent mostly green-yellowish young branches. Leaves 8—17-jugate, petiole 5—18 mm long; leaflets ovate, obovate, or oblong, 6—25 mm long, 3—9 mm wide, base rounded or subcordate, top obtuse or acuminate, upper surface glabrous or glabrescent, lower surface sparsely appressed-pubescent.

Inflorescence rigid, thick, strongly falcate; bracts and bracteoles 0.5—1 mm long. Flowers crowded, subsessile. Calyx ± 3 mm long, pubescent. Corolla 3—5 times as long as the calyx, pale purple to yellowish.

Pods ± rectangular, bulgy, 2—3.5(5) cm long, 1—1.5 cm wide, mostly densely warty, tomentose, 3—7-seeded; beak reflexed, hook-shaped. Seeds ovoid, 5—7 mm long, 4—5 mm broad, scarlet, with a black spot around the hilum, glossy.

T ype: Ceylon, Herbarium Hermann, Flora Zeylanica 284 (BM). This specimen was kindly verified by Mr. A. W. Exell, who affirmed its identity as A. precatorius L..

D i s t r i b u t i o n: Circumtropical.

E c o l o g y: Orchard savannah, shrub savannah, gallery forest, also in plantations or cultivated grounds.

N o t e s: Zippelius 89, the holotype of A. precatorius L. var. novo-guineensis Zipp. ex Miquel, collected in New Guinea and preserved in the Leiden Herbarium, has leaflets with a retuse or subemarginate top and long inflorescences. Accordingly, Miquel's description runs: "foliola retusosubemarginata, mucronulata, racemi folio longiores". These characters, however, are not sufficient to accept it as a distinct variety.

In the Genève Herbarium Dr. de Wit found an Abrus specimen labeled: "Abrus minor Desv. Ann. Se. Nat. p. 418 in Afric. Senegambie". A convolute on this sheet carried the note "Abrus minor fructus et semen", written in the same hand as on the label. The convolute is made of an old envelope, bearing the postmark "Angers 7 May" and the address "Monsieur Desvaux Nantes". The convolute contained a pod and a few seeds of A. precatorius. This specimen I designate as the type of A. minor Desv..

Desvaux's description of A. pauciflorus is confusing; and I have not found any type-material. The description of the seeds "seminibus sphaericis" and his note "Cette dernière espèce est double dans toutes ses pro-
portions de la précédente (= A. precatorius) et la tache noire de ses graines rouges est en croissant”, fit A. precatorius, but his description of the pod “leguminibus (subbipollicaribus) compressis 8—11 locularis” perhaps may refer to A. fruticulosus Wall. ex W. & A.. Fortunately, Desvaux gave two references: “Rumph., Amb., 5, t. 32” which is undoubtedly a picture of A. precatorius, and: “Pluk., t. 414, f. 6”. This last figure, however, is not a picture of a leguminous plant. The second reference presumably should be t. 214, f. 6, which is a drawing of a bunch of pods of A. precatorius.

I have not seen the type of A. squamulosus Meyer, a plant collected by Drège at Port Natal. Meyer’s description of A. squamulosus fits A. precatorius. According to Meyer the difference from A. precatorius is restricted to the surface of the pod, which is “tenuissime squamuloso-tuberculatis” in the plant collected by Drège. This character, however, is so variable that it is not useful for specific segregation.

Lima 94 and 134, type specimens of A. tungensis Lima, collected in Mozambique and preserved in the Porto Herbarium, do not show any character which might be seen as a difference from A. precatorius.

The holotype of A. wittei Bak. f., de Witte 222a (BR), has rigid branches and inflorescences. This perhaps indicates some difference from the forms commonly found in A. precatorius, but it is not sufficient to segregate A. wittei. In my opinion, these rigidity of the branches and inflorescences of de Witte’s specimen is quite accidental.

One of the type-sheets of A. cyaneus Viguier carries a detached bunch of pods of A. precatorius. This explains why Viguier described the pods and the seeds of A. cyaneus as follows: “Legumen breve 20 mm long., 10—12 mm lat., crassum, utrinque abrupte truncatum, villosum. Semina 2—4, ovoidea, haud compressa, 4—5 mm long., corallino-rubra, macula nigra ornata, carunculata”.

The seeds of A. precatorius sometimes appear to be entirely black or white. This is not correlated with any morphological character and seems to be accidental.

Excluded species

Abrus arboresus Velloso, Fl. Flum.: 303; 7: t. 99 and Abrus lusorius Velloso l.e.: 302; 7: t. 97 have impari-pinnate leaves and flowers with ten stamens. According to Bentham (Fl. Bras. 15 (1). 1859), A. arboresus is conspecific with Ormosia nitida Vog. (l.e.: 315, 325) and A. lusorius is conspecific with Rhynchosia phaseoloides DC. (l.e.: 325).

Specimens examined

Specimens marked by * were examined by Dr. H. C. D. de Wit.

A. canescens Welw. ex Baker

Adams 4394: Ghana, Burufo (K); Bagshawe 731: Uganda, Entebbe (BM); Baldwin jr. 9405: Liberia, Gbau (K); Baldwin jr. 9773: Guinea, Macenta (K); Baldwin jr. 13869: Cameroon, N’Kongsamba (K); Barter s.n.: Nigeria, Jeba (K; W*); Bequaert 3950: B. Congo, Kengele (Beni) (BR); Bequaert 7166: B. Congo,
Leopoldville (BR); Bredo 2712: B. Congo, Kanismur (†) (BR); Brown 324: Uganda, Entebbe (K); Callens 1552: B. Congo, Fumu Dimi (BR); Casteels 26: B. Congo, betw. Gandola and Sali (BR); Chandler 1599: Uganda, Kamanda near Kampaña (BR; K); Claessens 1709: B. Congo, Dendu (BR); Daniel 101: Liberia, Suacoco (BM; BR); Daramola & Adebosuyi 38453: Nigeria, Bonu (WAG); De Graer 92: B. Congo, Doruma (BR); Deighton 2442: Sierra Leone, Njala (K); Deighton 4495: Sierra Leone, Musiaia (K); Deru 448: Uganda, Kikube (†) (BR); De Schellepe 77: B. Congo, Kurukwasta (BR); De Wilde 658: Ivory Coast, S.W. Oroumba-Boka (WAG); De Wilde 760: Ivory Coast, N. of Gr. Lahou (WAG); De Wit & Morton A 2887: Togo, Amedzofe (WAG); Donis 1770: B. Congo, Lomba (BR); Espirito Santo 1065: Port. Guinea, Bissau, Pussubé (COI; LISC); Espirito Santo 3116: Port. Guinea, betw. Bafata and Geba (COI; LISC); Espirito Santo a.n.: Port. Guinea, s.l. (LISC); Germain 2387: B. Congo, Gimbi (BR); Germain 7512: B. Congo, Lukuvakuva (PRE); Gillard 185: B. Congo, Lupatatapa (Suneipi) (BR); Gosswelier 5842: Angola, Casengo, Camundal (BM); Gosswelier 5843: Angola, Chiluango (K); Gosswelier s.n.: Angola, Cazengo, Comondal (LISC);

(These last three sheets are most probably similar. The LISC specimen bears a label in Gosswelier's handwriting. The BM specimen is labeled in English, and the Kew specimen bears a printed label with the written number 5842.)

Jones 2159 (PHI 4568): Nigeria, Udi (BM); Lebrun 4104: Uganda, Kaseanyi (BR); Lebrun 6541: B. Congo, Bumbuli (PRE; U); Leonard 1781: B. Congo, Isangi (BR); Leontovitch 91: B. Congo, Gomena (BR); Le Testu 3145: Oubangni-Chari, Yalinga (BR); Meikle 1089: Nigeria, betw. Kontagora and Ibeto (BR; K); Michell 2822: B. Congo, Nyabitare (BR); Morton G.C. 9385: Togo, Amedzofe (K); Morton G.C. 9992: Ghana, Gonja (K); Morvan 1780: Guinea, Kindia (L); Mullenders 1894: B. Congo, betw. Kaniama and Hautلومami (BR); Peter 38365: B. Congo, betw. Lühinga and Mivai (†) (K); Punch 32: Nigeria, Lagos (K); Pureglove P. 2422: Uganda, Kambuga, Kigezi (K); Quarre 2416: B. Congo, Mutuy (BR); Risopoulos 158: B. Congo, Porte Gandjakia (BR); Robertson 82: Togo, Kpando (BM); Ruxton 54: Gambia, Kountour (K); Schmitz 5263: B. Congo, Kinda (BR); Seret 162: B. Congo, Bima (BR); Small 371: Sierra Leone, Warnantambe (K); Tessmann 2867: Cameroun, Komjola (†) (K); Thomas 2704: Sierra Leone, Jigaya (K); Thomas 3235: Sierra Leone, s.l. (K); Van de Brande 605: B. Congo, La Kulu (BR); Vanderijst 706: B. Congo, Mayela (BR); Vanderijst 3533: B. Congo, Kitebe (BR); Vanderijst 11519: B. Congo, Kamtsha (BR); Vanderijst a.n.: B. Congo, Kinkonka (BR); Van Tijbor a.n.: French Congo, Boko (BR); Welwitsch 2260: Angola, Pungo Andongo (BM) (Holotype); Whyte a.n.: Kenya, Mumias (K); Wittundt (†) 295: Uganda, Entebbe (K).

A. fruticosus Wall. ex W. & A.

Africa (including Madagascar)

Acocks 13352: Transvaal, Jacksontuin (PRE); Acocks 13366: Cape of Good Hope, Bizana (PRE); Adams 4222: Ghana, Gambaga (K); Angus 1574: N. Rhodesia, N. Kafue (PRE); Bagshawe 655: Uganda, Island of Burrenna (BM); Baldwin 9775: Guinea, Macenta (K); Baldwin 10319: Liberia, W. Province, Tawata (K); Bally 8299: Tanganyika, Kissangi (K); Barbosa 180: Mozambique, betw. Marracune and Bobole (COI; LISC); Barbosa 1339: Mozambique, Chimoio (LISC); Barbosa 1661: Mozambique, Durundi (BM; K; LISC); Barnard 268: Transvaal, Lijdenburg (PRE); Barter 1749: Nigeria, Nupe (K); Bates 604: Cameroun, Ebolowa (BM; Z*); Bates 932: Cameroun, Yaoundé (BM); Baum 786: S.W. Africa, Onschingue (Kuito) (BM); Benedetto 124: Ethiopia, Dembidollo (FI); Berhart 842: Sénégal, Mbao (†) (BR); Berhart 1433: Sénégal, Gorom (P*) (type A. stictosperma Berh.). Berhart 5600: Sénégal, Sangalkam (K); Bork (†) 474: Mozambique, Lourenço Marques (PRE); Burtt 1431: Tanganyika, betw. Dodoma and Kondoa (K; PRE); Burtt 2447: Tanganyika, Shinyanga Distr. (K); Burtt 5115: Tanganyika, Shinyanga Distr. (BR); Burtt-Davy 2613: S.W. Africa, Waterberg (PRE); Cabra-Michel 2: B. Congo, N. Manyanga (BR); Callens 2731: B. Congo, Pansi (BM); Callens 3122: B. Congo, Tumbi (BM); Chancellor 254: Uganda, W. Nile Distr. (BR; K); Chandler 1223: Uganda, Entebbe (BR; K); Chase 4182: S. Rhodesia, Commonage (Umtali) (BR; K; PRE); Chase 5178: S. Rhodesia, Commonage (Umtali) (K; PRE); Chevalier 3397: F. Sudan, Tabacco (BR; G*); Chevalier 10386: Tchad, betw. ft. Archambault and ft. Crampel (L; G*); Chiovenda 3204: Ethiopia, Amhara (FI); Chiovenda 3249: Ethiopia, Tigre (FI); Codde & de
Winter 4899: Transvaal, Kruger National Park, Nelspruit (PRE); Corbisier 595: B. Congo, Katanga (BR); Crusq 512: N. Rhodesia, Mufulira (BR; K); Dalziel 14: Nigeria, Lokoja (K); Davies 406: S. Rhodesia, Shangani (PRE); Davies 2031: S. Rhodesia, betw. Kariyangwe and Lusula (K); Davies s.n.: S. Rhodesia, Nkana (†) Dam (K); Decary 1558: Madagascar, baie Radama (P*) (syntype A. madagascariensis Vig. var. typicus); Decary 1781: Madagascar, Ankaimianana (P*) (syntype A. sambiranensis Vig.); Decary 2034: Madagascar, Maromandia (Bejofo) (P*) (syntype A. sambiranensis Vig.); Decary 6335: Madagascar, Ambilo (P*) (syntype A. madagascariensis Vig. var. littoralis Vig.); De Giorgi 360: B. Congo, Tshinsangwe (BR); De Giorgi s.n.: B. Congo, Elisabethville (BR) (holotype A. suffruticosus Butt.); De Graer 745: B. Congo, Doruma (BR); Deighton 392: Sierra Leone, Kenema (BM); Deighton 1499: Sierra Leone, Nyala (K); Deighton 5615: Sierra Leone, Sugar Loaf Mt. (K); Devred 720: B. Congo, Mvuaizi (BR); De Witte 100: B. Congo, Kando (BR); Donis 1774: B. Congo, Luki (BR); Drummond 5570: S. Rhodesia, S.W. Mateke Hills (PRE); Dümmer 1999: Uganda, s.l. (BM); Dümmer 5036: Kenya, Kilwezi (K); Dupuis s.n.: B. Congo, Bingila (BR); Eggeling 6086: Tanganyika, betw. Itigi and Chunya (K); Espiritu Santo 676: Port. Guinea, Cacine (COI); Espiritu Santo 927: Port. Guinea, Bisau, Pussube (COI; LISC); Espiritu Santo 1585: Port. Guinea, betw. Bisau and Pehua (COI; K; LISC); Espiritu Santo 3406: Port. Guinea, Bitché, Cambore (COI; LISC); Espiritu Santo 3546: Port. Guinea, betw. Nova Lamego and Canjufa (COI; LISC); Espiritu Santo 3596: Port. Guinea, betw. Sonaco and Bafata (COI; LISC); Espiritu Santo 3647: Port. Guinea, Farim (COI); Espiritu Santo s.n.: Port. Guinea, Bor (COI); Everard 1832: B. Congo, Popolo (BR); Exell, Mendonça & Wild 1396: N. Rhodesia, Mufulira (BM); Eyles (†) 5079: S. Rhodesia, Gatooma (K); Fanshawe 1015: N. Rhodesia, Ndola (BR; K); Fanshawe 2219: N. Rhodesia, Kitwe (BR; K); Planagan 1064: Cape of Good Hope, Kei Mouth (PRE); Frahm-Leliveld 61: Ivory Coast, Adiopodouné (WAG); Galpin 781: Transvaal, Baberton (PRE); Gathy 431: B. Congo, N.W. Elisabethville (K; PRE); Gathy 591: B. Congo, N.W. Elisabethville (K); Gathy 1186: B. Congo, N.W. Elisabethville (PRE); Germain 2122: B. Congo, Kwango (BR); Gillet 1094: B. Congo, Kisantu (BR); Gillet 2113: B. Congo, Kimuenza (BR); Gosweiller 2830: Angola, Menongue (BM; LISC); Gosweiller 5870: Angola, N’Dalatonda (BM; BR); Gosweiller s.n.: Angola, Kacunda (†) (BR); Greenway 7398: Tanganyika, Shinyanga Hill (K; PRE); Hazel 633: Uganda, Ierego (BR; K); Hepburn 89: Nigeria, Mada Hills (K); Hildebrandt 2797: Kenya, Kitui (K) (type A. hofpneri africana Vatke); Holst 2825: Tanganyika, Tanga (K; M*); Homblé 247: B. Congo, Elisabethville (BR); Homblé 1302: B. Congo, Valley Kapiri (BR); Horbury 2825: Swaziland, Lebombo Mts. (PRE); Humbert 6810: Madagascar, Madrare (P*) (syntype A. aureus Vig.); Huntley 780: Natal, Port Edward (PRE); Jordan 381: Sierra Leone, Bokurup (K); Junod 75: Transvaal, Marovuni (PRE); Junod 196: Mozambique, Delagosa Bay (BR; G*); Junod 4974: Transvaal, Zoutpansberg (PBR); Kassner 669: Kenya, Kim (†) (K); Kassner 2596: B. Congo, Kundelungu Mt. (BM); King 25 B: Sierra Leone, K.F. (K); Koecheler 1756: Tanganysika, Seyange (†) (K); Laurent 808: Angola, Menongue (BM; LISC); M. s.n.: B. Congo, Imose (BR); Laurent, E. & M. s.n.: B. Congo, Trebu (BE); Leondertz 795: Transvaal, Rooiplaat (L); Leeuwenberg 2137: Ivory Coast, Tiassale (WAG); Le Testu 3988: Outangui-Chari, Yalinga (K; P*); Liebenberg 255: Uganda, Kitum (PRE); Liebenberg 2408: Transvaal, Barberton (PRE); Lima 257: Mozambique, Palma (PO) (holotype A. gracile Lima); Lesty & Goddijn 1108: Transvaal, Hartbeespoort (L); Louis 2046: B. Congo, Kala (FI); Louis 7190: B. Congo, Yangambi (BM); Louis 12861: B. Congo, Yangambi, Ile Tofende (BM; K); Lovemore 528: S. Rhodesia, Selungwe, Chimomba (PRE); Martin 164: N. Rhodesia, Baikene for. reg., Kalashari sand (BM); Medley Wood 7920: Natal, Greenbore (PRE); Medley Wood 13008: Natal, Inehanga (L); Michel 3287: B. Congo, Kihinga (BR); Mogg s.n.: Transvaal, Rustenburg (PRE); Morton 6052: Ghana, Volta R. (K); Noade 131: Angola, Queia (BM); Napier 976: Kenya, Voi Distr. (K); Nornby 3146: S. Rhodesia, Serui Drift (PRE); Onecho & de Wit 679: Nigeria, Gambé F. Res. (WAG); Pappi 7219: Ethiopia, Bogos, Cheren (FI; Z*); Pedro & Pedrogad 937: Mozambique, betw. Boane and Goba (PRE); Pegler 669: Cape of Good Hope, Kentani (PRE); Pentz 220: Natal, Blauwkrans R. (PRE); Perrier 529 bis: Madagascar, Ambongo (P*) (syntype A. madagascariensis Vig. var. typicus); Perrier 1038: Madagascar, Belambo (P*) (type A. oyaneus Vig.); Perrier 4135: Madagascar, Sambirano (P*) (syntype A. sambiranensis Vig.); Perrier 4143: Madagascar, Tsaratanana (P*) (syntype A. grandiflorus Vig.); Perrier 4152: Madagascar, Loky (P*) (syntype A. madagascariensis Vig. var. dupuncii Vig.); Perrier 12357: Madagascar,
Analamazaotra (P*) (syntype A. aureus Vig.); Perrier 12376: Madagascar, Mania-Ivato (P*) (type A. madagascariensis Vig. var. parvifolius Vig.); Perrier 12387: Madagascar, Ambatofohirina (P*) (type A. aureus Vig.); Perrier 15552: Madagascar, Tsaratanana (P*) (syntype A. grandiflorus Vig.); Perrier 15785: Madagascar, Majunga (P*) (type A. madagascariensis Vig. var. dunensis Vig.); Perrier 15997: Madagascar, Ambilo (P*) (syntype A. madagascariensis Vig. var. littoralis Vig.); Perrier 16012: Madagascar, Analamazaotra (P*) (type A. aureus Vig.); Perrier 16765: Madagascar, Betsiboka (P*) (syntype A. aureus Vig.); Perrier 16933: Madagascar, Marolambo (P*) (type A. aureus Vig.); Perrottet 212: Sénégal, s. l. (BM); Peter K 81: Tanganyika, near Kissingara (N. Pare) (K); Peter 34771: Tanganyika, Malongwe-Triva (K); Peter 35245: Tanganyika, Tabora (K); Peter 36916: Tanganyika, betw. Ujiji and Kigoma (K); Pierce 18: Swaziland s. l. (PRE); Pollen & Verdam s.n.: Madagascar, s. 1. (L); Prittwitz 136: Tanganyika, s. 1. (U); Pacific 71: Nigeria, Lagos (K); Fynast 40: B. Congo, Bumbu (BR); Quarré 1044: B. Congo, Ferme Prince Leopold (BR); Quarré 1131: B. Congo, Munana (BR, PRE); Quarré 1150: B. Congo, Munana (BR); Rech 1: Transvaal, Letaba (PRE); Repton 15128: Pretoria, Wonderboom Res. (PRB); Richards 4642: N. Rhodesia, Nkango (K); Richards 7930: Tanganyika, betw. Igawa and Mbaya (K); Ringoet 11: B. Congo, Taiinendsa (BR); Robijns 1506: B. Congo, Bukama (BR); Robijns 1563: B. Congo, Munana (BR); Robijns 1883: B. Congo, Kasenga (BR); Robers 26990: B. Congo, Elisabethville (K); Roussac s.n.: Ethiopia, Mt. Smith (L); Rudatis 1833: Natal, Dumisa (L; PRE; W*; Z*); Scheffler 138: Kenya, Kibwezi (K; P*; W*); Schimper 1552: Ethiopia, Djeladjeranne (BR; FI; G*; K; L; M*; P*; W*); (type A. schimperi Hochst. ex Bak.); Schimper 165 (123): Ethiopia, Djeladjeranne (FI); Schlechter 4524: Transvaal, Elim (BM; G*; Z*); Schieben 6160: Tanganyikka, Lindi (BR; BM; G*; M*; Z*); Schmitz 2781: B. Congo, Etoile (BR); Schweinfurth 2137: Sudan, Lande der Bongo (K; M*; W*); Schweinfurth 2166: Sudan, Lande der Bongo (FI; P*); Schweinfurth 2345: Sudan, Seriba Ghattas (K); Smith 6845: Transvaal, Magaliesberg (PRE); Stolz 465: Nyasaland, Kyimila (K); Stolz 765: Nyasaland, Kyimila (L; M*; U; W*; WAG); Tanner 1361: Tanganyikka, Mwanza (K); Tessmann 576: Spanish Guinea, Beubi (K); Thielen 22123: B. Congo, Bas Katanga (BR); Thode A 414: Transvaal, Pretoria (PRE); Thomas 3767: Sierra Leone, Bumbuna (BM); Thomas 4466: Sierra Leone, Mamaka (BR); Tierserant 738: Oubangui, les Moroubas (P*) (syntype A. repens Tiss.); Tierserant 2946: Oubangui, Bozoun (P*) (syntype A. repens Tiss.); Ujor 29395: Nigeria, Gambori F. Res. (K); Van de Schijff 2564: Transvaal, Kruger National Park (PRE); Van Meel 5322: B. Congo, Kanonga (BR); Van Meel 5362: B. Congo, Kanonga (BR); Van Someren 168: Kenya, Garabani Hill (K); Vaughan 2374: Man- ganaganya, Pugu Hills (BM); Verdiek 474: B. Congo, Lukafu (BR); Verheyen 3451: B. Congo, Mweleshi (BR); White 2105: N. Rhodesia, Mankoya, Luampa Mission (BR; K); White 2538: Nyasaland, Rumpi, Njakwa (BR; K).

America
Pocke 881: Dutch Guyana, Onoribo (U); Kuhlmann 3230: Brazil, Rio Branco (U); Spruce 786: Brazil, Santarem (K; G*) (type A. tenelliflorus Spruce ex Benth.); Ule 6938: Brazil, Rio Negro (L).

Asia
Andamans s.n.: India, Hobydaypur (L); Backer 7864: Java, Djiatirato (L); Backer s.n.: Java, Batavia (L) (type A. pulchellus Wall. ex Thw. melanosperma Backer); Backer s.n.: Java, Batavia, Depok (WAG); Bakhuizen van den Brink jr. 1041: Java, Tjihoerai (L; U); Bakhuizen van den Brink jr. 1487: Java, Tijikidang (L); Blume 831: Java, s. l. (L) (type A. acutifolius Blume ex Miq.); Bünneymeyer 11088: Celebes, Lambosang (L); Bünneymeyer 11225: Celebes, Lambosang (L); Bünneymeyer 11294: Celebes, Lambosang (L); Carr 12363: New Guinea, Rouna Falls (BM); Carr 12364: New Guinea, Rouna Falls (BM); Fenix a.n.: Philippines, Bauang (BM; L); Gibbs 8: China, Hongkong, Tai Po (K); Hallier 4345: Philippines, Luzon (L); Helfer 85: India, Calcutta (BR; L); Hosseus 155: Siam, Kan-Phra-Dang (BM); Lei 44: China, Pak Shik Ling (K); Levine 1849: China, Canton (K); Merrill 3265: Philippines, Mt. Mariveles (L; G*); Monod de Froideville 72: Celebes, Moena (L); Raa 528: Java, Bantardjati (L); Sampson 1553: China, Canton (K); Sampson a.n.: China, Canton (K); Sampson & Hance f. a.n. (Herb. Hance 15806): China, Shek-mun
A. procatorius L. (African specimens only)

Baldrati 4280: Ethiopia, s. l. (FI); Baldrati 4350: Ethiopia, s. l. (FI); Baldrati 4361: Ethiopia, s. l. (FI); Baldrati 4363: Ethiopia, s. l. (FI); Barbosa 1216: Mozambique, Manica (LISC); Barbosa 1936: Mozambique, Montepuez (LISC); Barbosa 2618: Mozambique, betw. Memba and Cavá (LISC); Beccari 183: Ethiopia, Keren (FI); Bequaert 726: B. Congo, Malela (BR); Berhaut 508: Sénégal, Gambére (BR); Chandler 1456: Uganda, Kajansi Forest, Entebbe Rd. (BR); Chevalier 6593: Cape Verde Islands, Fogo (COI); Crocockewit 608: B. Congo, Usumbara (WAG); De Carvalho s.n.: Mozambique, Musovile (COI); De Graer 945: B. Congo, Dorma (BR); Devred 3254: B. Congo, Luki (BR); Dewevre 585: B. Congo, Coquilhatville (BR); De Wilde 494: Ivory Coast, Bingerville (WAG); De Wilde 808: Ivory Coast, betw. Abidjan and Gr. Bassam (WAG); De Witte 222a: B. Congo, Kiambi (BR) (holotype A. wittei Bak.f.); Espiritu Santo 1485: Port. Guinea, betw. Biussau and Atoula (COI; LISC); Espirito Santo 3705: Port. Guinea, bet. Susana and Catão (COI; LISC); Evrard 317: B. Congo, Bodangabo (BR); Exell & Mendonça 2415: Angola, Poço da Tamba (LISC); Faulkner 236: Mozambique, betw. Lugela and Moeiba (BR); Flamigni 10400: B. Congo, Pandji (BR); García 746: Mozambique, Chimoio (LISC); Germain 5322: B. Congo, Plaine Ruzizi (BR); Hagerup 786: Nigeria, Jebba (BR); Jackson 1383: Nyasaland, Nankumba (BR); Junod 165: Mozambique, Delagoa Bay (BR; Z*); Lanjouw 968: Transvaal, Barberton (U); Laurent 1135: B. Congo, Esala (BR); Laurent, E. & M. s.n.: B. Congo, Bumba (BR); Lebrun 4102: Uganda, Kasenyi (BR); Lima 94: Mozambique, Palma (PO) (syntype A. tungensis Lima); Lima 124: Mozambique, Palma (PO) (syntype A. tungensis Lima); Louis 9534: B. Congo, Isl. "Essali" (Yangambi) (BR); Mendonça 3374: Mozambique, betw. Inharrime and Chiengu (LISC); Michel & Reed 800: B. Congo, Gisuru (BR); Mullenders 1644: B. Congo, betw. Kaniama and Haut Lomami (BR); Paoli 655: Somalia, El Magu (FI); Pappi 4491: Ethiopia, Harara near Ghinda (FI); Pappi 5443: Ethiopia, Lungo (FT); Pedro & Pedrogad 1260: Mozambique, betw. Guija and Caniaco (COI); Peter 69: Tanganyika, Kilimandscharo (BR); Peter 229: Tanganyika, betw. Mapinga and Kondutshi (BR); Robjins 147: B. Congo, Kisantu (BR); Schlieben 2685: Tanganyika, Mafia Is. (BR; M*; P*); Schlieben 4019: Tanganyika, Morogoro (BR; Z*); Schlieben 6177: Tanganyika, Lindi (BR; G*; M*; P*; Z*); Schmitz 1, 911: B. Congo: Vallée Lofoi (BR); Schweinfurth & Riva 2162 (950): Ethiopia, Ghinda (FI); Thomas 5203: Sierra Leone, Zoni Kana (BR); Torre 2508: Mozambique, Majacaze (LISC); Torre 3607: Mozambique, Zambezia, betw. Moenda and Nicudalada (LISC); Vatova 1980: Somalia, Margherita (FT); Wallace 711: Tanganyika, Mafia Is. (BR); Warnecke 202: Togo, near Lome (BR; G*; L; M*; P*); Welwitsch 2248: Angola s. l. (LISC).