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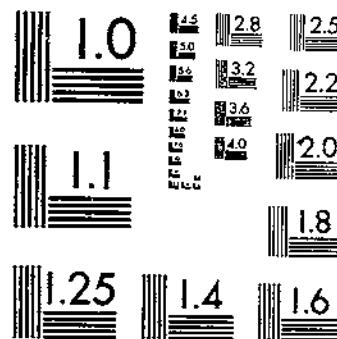
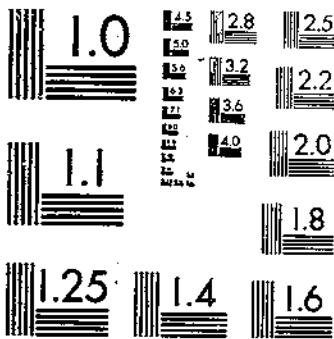
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A NOMENCLATOR OF GOSSYPIUM
FRYXELL, P. A.

USDA TECHNICAL BULLETIN
UPDATA
THE BOTANICAL NAMES OF COTTON

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UNITED STATES DEPARTMENT OF AGRICULTURE
in cooperation with
Texas Agricultural Experiment Station
Texas A&M University

April 1976

A NOMENCLATOR OF GOSSYPIUM

The Botanical Names of Cotton

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CONTENTS

	Page
Introduction	1
Arrangement of this bulletin	2
Useful references	4
Todaro's publications	4
Multinomials	5
Race terminology	5
Hierarchical inflation of taxonomic categories	6
Problems of nomenclatural legitimacy and typification	7
Roberty's "Typus proximus"	7
Roberty's category of subspecies	7
Prokhanov's varieties	8
Cook's Florida cottons	8
Gammie's names	9
The duplicate formae of Hutchinson and Ghose	10
Roberty's and Watt's types in Cairo	11
Roxburgh types	11
List of basionyms	13
Supplementary lists	79
Chronology of early legitimate basionyms	79
Priority of selected names	80
Published illustrations of <i>Gossypium</i> types	81
Nomenciator for names in <i>Gossypium</i> of rank higher than species	82
Names excluded from <i>Gossypium</i>	86
Literature cited	87
Index of type specimens of <i>Gossypium</i>	91
Index of authors	97
Index of published names in <i>Gossypium</i>	105

INTRODUCTION

A taxonomic framework for *Gossypium* L. (Malvaceae; the species of cotton and their relatives) is now generally accepted, at least in broad outline. This framework was established principally by Hutchinson (1947),¹ Mauer (1954), and Fryxell (1969b), all of whom based their work on the conceptions of Zaitzev (1928). Other taxonomic studies (Fryxell 1965a, 1965c, 1969b, 1970, 1971; Fryxell and Parks 1967) have made ancillary contributions to this understanding.

The nomenclatural problems relating to *Gossypium* are far more complex than the taxonomic problems. Although some of these problems have been pointed out (Fryxell 1965b), there has been relatively little awareness of their existence or of the need for their resolution. Several nomenclatural studies in *Gossypium* have appeared (Brizicky 1967; Fryxell 1968, 1969a, 1972; Fryxell and Smith 1972; Smith 1964), but much still remains to be done. The present study is intended to be a forward step in resolving the manifold problems of typification and nomenclature in the genus *Gossypium*.

The genus *Gossypium* includes approximately 35 species. Smith (1964) lists 147 specific names and 159 subspecific epithets. My compilation includes many more names, 219 in specific rank, which represent a total of 414 basionyms from all ranks, of which 312 are legitimate. Clearly, there is much synonymy and a great deal of division into infraspecific categories. Much of this subdivision represents what, in a taxonomic context, might be called spurious accuracy. Many taxonomic problems at the infraspecific level remain to be resolved, but they can be dealt with only after the nomenclatural house has been put in order.

I must emphasize the distinction between taxonomy and nomenclature. Taxonomy involves the classification of a group of entities. It is concerned with such problems as whether two species belong in the same genus or in different genera and whether two taxa are distinct species, varieties of a common species, or indeed are identical. On the other hand, nomenclature is concerned with the correct name of the taxon after its classification has been decided. The correct name is determined by applying to the specific situation the "International Code of Botanical Nomenclature" (Stafleu et al. 1972), utilizing especially the principles of typification and priority.

The concept of type, as used nomenclaturally, is often misunderstood by nontaxonomists. Explicitly, a type is not necessarily typical of the species or other taxon named, representative of any modal character

¹Parenthetical references are to "Literature Cited," p. 87.

expression, or intended to convey the idea that the population from which it was drawn lacks variability. A nomenclatural type is "that element . . . to which [a] name is permanently attached" (McVaugh et al. 1968, p. 13). It is preferably a specimen, but may be an illustration or a published description. In a nomenclatural morass such as one finds in *Gossypium*, it is especially difficult to interpret or dispose of a name satisfactorily until one can typify the name and thus have a basis for determining what that name means botanically.

Before *Gossypium* can be definitively described, the taxonomist must take the following steps: (1) Seek out, bring together, and analyze the relevant taxonomic literature; check bibliographic citations and verify dates of publication to establish priority. (2) Distinguish basionyms from subsequent combinations for separate consideration. (3) Typify each basionym, insofar as this can be done, by indication of a holotype or by designation of a lectotype. (4) Ascertain the herbaria in which type specimens are preserved to permit their examination. (5) From a study of the types, make the taxonomic decisions about the plants named that are the substance of a monograph.

In the present study, I undertake the first two steps and begin steps 3 and 4, which are interdependent and must to a substantial degree proceed hand in hand. Often a name can be typified or a lectotype can be chosen only after the relevant specimens have been examined. Obviously, plants can be examined only after they have been located, and locating them involves knowing the disposition of a collector's specimens. Therefore, steps 3 and 4 have been completed only in those cases where I have examined the relevant materials or where unequivocal statements appear in published sources—e.g., where the publishing author designated a holotype of a name and the herbarium in which it is preserved. Where typification depends upon a comparative and informed study of the relevant herbarium materials, decisions have in most cases been deferred pending such a study. In such instances, the relevant specimens and their location, if known, are specified, so that the maximum information is included herein to assist taxonomists in making informed decisions on typification.

The present study may therefore be viewed as a working paper to permit the carrying out of step 5, following the completion of steps 3 and 4. Only then can a monograph of *Gossypium* be placed on sound nomenclatural footing.

Arrangement of This Bulletin

The principal parts of this work are the "List of Basionyms," the "Index of Type Specimens of *Gossypium*," and the "Index of Published Names in *Gossypium*." The two indexes are keyed to the basionym list.

where the basic information on citation, typification, and subsequent combinations may be found, as well as discussion of such topics as the legitimacy of a name or the location of type specimens.

The basionym list includes all validly published names in *Gossypium* known to me in specific and infraspecific rank. In addition, some names are included that are not validly published (with their status indicated), simply because they may be encountered in the literature (i.e., have been effectively published) and need to be accounted for. This group includes *nomina nuda* and *nomina provisoria*, as well as names that, while invalid themselves, may have been the basis for later legitimate names. A consideration of the typification of all basionyms is included. Some botanists may dislike my speaking of the type of a name that is not validly published. I think it is important, however, to determine the basis for these names, where possible, because some of them have been later validated and legitimized, and others may yet be. Generally, later homonyms are excluded because the presence of the earlier homonym in the list accounts for the absence of later homonyms. In a few cases (e.g., *G. unomatum* Watt and *G. javanicum* Dec.), however, they are listed and their typification is discussed if they provided the basis for a new name. Names including epithets proscribed by Art. 24, "International Code of Botanical Nomenclature" (e.g., *typicum* and *verum*) are generally omitted from consideration, as are the several unpublished manuscript names that have been found in various herbaria.

The list published by Smith (1964) excluded all names judged to be invalid or illegitimate. Smith said (p. 212): "1. I have probably found some names which are not generally known even to cotton specialists, and there is no point in adding potential fuel to the fire of nomenclatural confusion. 2. Each name listed would require a detailed explanation of the reason for its rejection, which is outside the scope of this article." It is my purpose in the present work to provide the detailed explanations required to clarify and substantiate the rejection of invalid and illegitimate names, and therefore they are included in the compilation. The intent is to add no new names to the literature, but to account for those that may be found. The total is thus swelled to 675 names.

The bulletin also contains auxiliary lists: "Chronology of Early Legitimate Basionyms," "Priority of Selected Names," "Published Illustrations of *Gossypium* Types," "Nomenclator for Names in *Gossypium* of Rank Higher Than Species," "Names Excluded From *Gossypium*," and an index of authors. The first two sections are presented for the convenience of the user of this work in evaluating the priority of selected names. The nomenclator for names of higher rank (subgenera, sections, subsections) is essentially independent of the balance of this work, but supplementary to it. The list of excluded names draws together (from the basionym list

and the nomenclator for names of higher rank) those names that have been published in *Gossypium*, but which taxonomically belong to other genera. The author index segregates names by publishing author and is keyed to the "Index of Published Names in *Gossypium*."

Useful References

The following references will have general value in using this work: "International Code of Botanical Nomenclature" (Stafleu et al. 1972) and "International Code of Nomenclature of Cultivated Plants" (Gilmour et al. 1969), for matters pertaining to valid publication, legitimacy, and other questions concerning botanical nomenclature (references to various articles of the ICBN or the ICNCP are to these works); "Index Herbariorum, Part I, The Herbaria of the World" (Holmgren and Keuken 1974), for information about the herbaria in which type and other specimens are preserved and for a key to the standard acronym abbreviations that are used to identify these institutions; and "Index Herbariorum, Part II, Collectors" (Lanjouw and Stafleu 1954, 1957; Chaudhri, Vegter, and de Wal 1972), for information on the disposition and location of specimens of particular collectors and for information on the years and places where given collectors were active. Other references are cited where appropriate and are listed in "Literature Cited."

The abbreviations used in the bibliographic citations are generally those given in the "Word-Abbreviation List" compiled by the National Clearinghouse for Periodical Title Word Abbreviations (American National Standards Institute 1971). In some instances book titles are shortened.

Todaro's Publications

Agostino Todaro wrote a number of publications during the 1860's and 1870's that are important in the nomenclature of *Gossypium*. There is a certain amount of overlap and redundancy of content in these publications; there is also considerable confusion in the subsequent citation of these works, because certain of them have similar or identical titles or have in fact been published twice. Because of this potential confusion and because of the nomenclatural importance of Todaro's work, an analytical study of his publications was made (Fryxell and Smith 1972). Questions that may arise concerning names published by Todaro that are cited herein should be referred to this study.

Attention is specifically drawn to the fact that Todaro's principal work, "Relazione sulla cultura dei Cotoni in Italia seguita da una Monografia del genere *Gossypium*" (1877), is cited in the "List of Basionyms" simply as "Monografia" to avoid confusion with other works of Todaro whose titles also begin with the word "Relazione."

Multinomials

Several authors, notably Wouters (1948) and Roberty (1942, 1946, 1950), have published complex multinomials, e.g., *Gossypium arboreum* L. var. *arboreum* subvar. *neglectum* (Tod.) Wouters sub-subvar. *cernuum* (Tod.) Wouters. A name such as this must be dealt with according to Art. 24, ICBN, which states, "The name of an infra-specific taxon is a combination of the name of a species and an infra-specific epithet connected by a term denoting its rank." Thus, in the example just given there are actually three infraspecific names (trinomials) to be dealt with: *G. arboreum* L. var. *arboreum* (see Art. 26), *G. arboreum* subvar. *neglectum* (Tod.) Wouters, and *G. arboreum* sub-subvar. *cernuum* (Tod.) Wouters.

Each name is typified by the type of its own basionym. The names bear no relation to each other, except in the taxonomic conceptions of the author (in this case, Wouters) who published them in that relationship. Thus, the epithet *neglectum* does not form a part of the name *G. arboreum* sub-subvar. *cernuum* and has no nomenclatural relationship to it. It simply expresses a taxonomic judgment, in exactly the same manner that placing a species in a subgenus does for the species; that is, it concerns the taxonomy of the species but not its nomenclature. The name, as a name, does not include the intermediate category.

Race Terminology

A number of workers have used the term "race" or its Latin equivalent "proles" as a taxonomic category in proposing classification of the cultivated species of *Gossypium*. Such terminology is found in the works of Silow (1944), Roberty (1946), Hutchinson (1951), and Mauer (1954). These categories have been used to deal with wild or feral relatives of cultigenes (e.g., Hutchinson), with the cultivars themselves (e.g., Roberty), or with cultivar groups (e.g., Silow).

The problems of classification and terminology of cultivated plants and their relatives have received the attention of various authors, and several proposals have been made for improved methods of dealing with these problems (e.g., Jeffrey 1968; Harlan and de Wet, 1971). None of these proposals appears to offer any advantage over existing means of dealing with cultivated plants, as these means are embodied in the ICBN and the ICNCP.

The concept "race" or "proles" is not recognized as a taxonomic category in either code. If names are needed for taxa of cultigenes, the ICNCP provides the categories of cultivar and cultivar group. The epithets used for these categories are the so-called fancy names, i.e., names not in Latinized form. If names are needed for wild or feral taxa related to cultigenes, the ICBN provides several infraspecific categories ranging

from subspecies to forma. These taxa are given Latinized or "botanical" names.

These two systems, both internationally agreed upon, provide ample scope for dealing with the admittedly difficult tasks of classifying and naming cultivated plants and their relatives. It is thus neither necessary nor desirable to establish new categories and new systems of naming without the agreement of international botanical bodies. I therefore conclude that the "races," "proles," and "subproles" published in *Gossypium* have no status under either code and should be ignored or placed in existing ranks with a correct name determined according to the provisions of the governing code.

Hierarchical Inflation of Taxonomic Categories

The 675 plant names listed in the "Index of Published Names in *Gossypium*" include 508 legitimate names, after subtracting 83 names that were not validly published and 84 names that are judged illegitimate. These are represented by a total of 414 basionyms. Many of these have been shifted about, recombined, and changed in rank by various later authors. There is thus a sizable body of data available to evaluate "hierarchical inflation," which Wagner (1969, p. 28) says "takes the form of raising subspecies to species, subgenera to genera, and so on." He states that "in practically all cases [in taxonomic revisions], the categories are inflated." My experience suggests that this is not generally true.

TABLE 1—Rank of *Gossypium* names in original and new combinations

Rank of basionym	Rank in new combination					
	Sp.	Ssp.	Var.	Subvar.	Sub-subvar.	Forma
Sp.....	0	31	86	10	1	25
Ssp.....	0	1	2	0	0	0
Var.....	5	6	51	3	0	11
Subvar.....	0	0	6	0	0	1
Sub-subvar.....	0	0	0	0	0	0
Forma.....	0	0	0	0	0	2

I have tabulated all new combinations of the rank of species or below that have been made in *Gossypium* in terms of the rank of the basionym in the original name and in the new names (table 1). Seventeen names increased in rank, 54 retained the same rank, and 170 decreased in rank in the new combination. This result hardly supports hierarchical inflation as a general phenomenon. However, in fairness, it must be noted that the bulk of the names in the table were published in specific rank and therefore could not increase in rank, since the present study concerns itself principally with names in specific rank and below.

Consequently, I eliminated from consideration those names that were published in specific rank (and which could not increase) and those names published in rank of forma (which could not decrease), to arrive at the following result: 17 names increased in rank, 52 names retained the same rank, and 17 names decreased in rank. This more balanced result still fails to support the phenomenon of hierarchical inflation. A consideration of the subgeneric and sectional names in *Gossypium* (pp. 82-86) reaches the same conclusion.

The concept may nevertheless be valid and operative in other groups or at other levels. It may be that the phenomenon is not operative at infraspecific and infrageneric levels, or it may not be relevant to the highly variable complex of cultigens to which most names in *Gossypium* apply. It would be desirable to obtain similar sets of nomenclatural data from other groups in other ranks to further evaluate hierarchical inflation. The present analysis suggests that it is not a problem in taxonomic studies.

Problems of Nomenclatural Legitimacy and Typification

Roberty's "Typus proximus"

Although Roberty is elsewhere reasonably precise about citing types, he adopted the phrase "typus proximus" in his 1946 publication of five new names. (See the following basionyms: *involutum*, *littorale*, *reale*, *strictifolium*, and *todari*.) I cannot be certain what Roberty meant. Apparently he formed a mental construct of a given taxon, based on a complex system of oversimplified symbols: if he could not find a specimen to match the conception, he cited as "typus proximus" a specimen that most nearly matched it. Such a procedure is dubious taxonomy and bad nomenclature. It fails to conform either to contemporary taxonomic practice or to the principle of typification, as enunciated and established in the ICBN. The five names referred to are also all illegitimate on other grounds (Art. 28) and hence are rejected.

Roberty's Category of Subspecies

Roberty (1950, pp. 36-37) published eight names as subspecies of *G. arboreum*, provided each with a description, stated that each is now completely diffused among the varieties ("omnino in varietatibus nunc diffusa"), and cited no specimens. These subspecific descriptions are followed by varietal descriptions that are based upon cited specimens, which usually include type designations. However, Roberty states that each variety shows a mixture of the characters of two of the subspecies. It is thus clear that the subspecies are simply conceptual idealisms and not biological entities, except perhaps in the sense of hypothetical character states ancestral to the extant varieties through some sort of reticulate evolution. The subspecific names are therefore in violation of

Art. 25, ICBN, which states: "For nomenclatural purposes, a species or any taxon below the rank of species is regarded as the sum of its subordinate taxa . . ." Since Roberty specifically and consistently denies any such hierarchical relationship, these names in subspecific rank are illegitimate..

In *G. hirsutum*, Roberty (1950) also utilizes the category of subspecies in the same nonhierarchical manner, which effectively destroys the taxonomic value of this interpretation. However, in this case, the subspecific names cannot be rejected as illegitimate since each of them is a new combination based on an earlier, legitimate name. The subspecific names, as names, are perfectly legitimate and are to be typified on the basis of their respective basionyms, not on Roberty's erroneous conceptions of what these subspecific names signified.

Prokhanov's Varieties

Under *G. hirsutum* and *G. albescens*, Prokhanov published a number of new varieties that are based upon the "varietal types" of Upland cotton that were published by Duggar (1907) and Brown (1927). These "varietal types" are the same as "cultivar groups" referred to in Art. 26, ICNCP. Such groups are intended to be interposed between a botanical name (e.g., a species, subspecies, or varietas) and a cultivar name. It was in this sense that Duggar and Brown established their categories, and it is in this sense that they are dealt with in Art. 26, ICNCP. In a later (third) edition of Brown's work (Brown and Ware 1958) it is noted (p. 50) that "none of these types as such exist at the present time. Also the range of the six regular types of [Brown's |1927| classification is not covered by present-day | 1958| varieties." These remarks are followed by a discussion of the reasons for these changes, which are principally based on the manifold activities of plant breeders in modifying old cultivars and developing new ones through selection and hybridization.

In view of these considerations, it is my judgment that those varietal names of Prokhanov that are based on Duggar's and Brown's varietal types (i.e., cultivar groups) are contrary to the provisions of Art. 28, ICBN, and hence are illegitimate. The same reasoning applies to *G. jumelianum* var. *turbineum* Prokh., but not to Prokhanov's varietal names that are new combinations based on earlier legitimate names.

Cook's Florida Cottons

O. F. Cook published five names for wild cottons of Florida (*G. leucadenum*, *G. synochrum*, *G. lysinum*, *G. terra-ceium*, and *G. cerasidenum*) as part of a book review in the Journal of Heredity (26: 25-31, 1935). This review was unsigned, but the anonymity was an editorial oversight that was later acknowledged and rectified (p. 94). The names are all invalid because they lack Latin descriptions (Art. 36, ICBN, effective

1 January 1935). One name, *G. synochrum*, was later validated in varietal rank by Roberty, as *G. hirsutum* var. *synochrum*.

Cook specified no types, but referred to "a study that was made several years ago" and discussed the geographical origins of these plants in some detail. It is possible that type specimens may yet be discovered. One Cook specimen from Key West dated 22 November 1929 is in the U.S. National Arboretum (NA) and is presumably authentic material of *G. ceratadenum*.

Gammie's Names

Gammie (1905) published a classification of the cottons of India that included 13 new names in varietal rank and 7 new names in subvarietal rank, together with 2 new combinations in varietal rank, distributed among 8 species. A slightly modified and abridged version of the same work was published in 1907. The later publication included a very fine series of color plates, more complete than and much superior to the line drawings included in the earlier publication, but it was, for nomenclatural purposes, essentially a verbatim reprint. Only one of Gammie's names, *G. neglectum* var. *roseum* (Tod.) Gammie, was listed by Smith (1964).

In the introduction to his classification, Gammie (1905, p. 2; 1907, p. 5) makes the following statement: "From a botanical point of view it is clearly evident that we have at the most only one true species of cotton in India, *Gossypium obtusifolium*, with its two subspecies *G. arboreum* and *G. herbaceum*. All other forms should be treated as derivatives of these. The following species and varieties which I describe are really agricultural species or races which remain fairly constant to their characters . . ." This disclaimer effectively invalidates Gammie's varietal and subvarietal names under Art. 34, ICBN, which states that "a name is not validly published when it is not accepted by the author in the original publication."

At the same time, this statement validly publishes the names *G. obtusifolium* ssp. *arboreum* (L.) Gammie and *G. obtusifolium* ssp. *herbaceum* (L.) Gammie. Both of these names are, however, illegitimate under Art. 57, since Gammie did not adopt the oldest legitimate specific epithet when he combined *G. obtusifolium*, *G. arboreum*, and *G. herbaceum*.

A problem remains concerning the typification of the new taxa (even though illegitimate) published by Gammie, most of which were taken up by Prokhanov (1947), often in new combinations. Gammie's specimens from India are in a number of herbaria, including the Calcutta herbarium (CAL; cf. Lanjouw and Stafleu 1957, p. 215), but it seems unlikely that specimens of Gammie's cultivated cottons will be found. According to Lanjouw and Stafleu (loc. cit.) Gammie's preserved collections were from the years 1891-96, whereas his work with the

cultivated cottons was done later (1900–1905). Further, Gammie (1905, p. 2) explicitly says, "I must emphasize the warning impressed on me by long experience that research must be carried out on the living plants themselves and not on herbarium specimens . . .," suggesting that he did not preserve voucher specimens of his work with cotton. Finally, Watt (1907, p. 125) mentions "Mr. Gammie's Kashmir plants" (presumably in Kew), but makes no other allusion to specimens of *Gossypium* attributable to Gammie; these specimens were clearly not taken from Gammie's cultivations at Poona, on which his classification of 1905 was based.

There remain, then, Gammie's descriptions and illustrations, except in the case of *G. arboreum* var. *platylobum* Gammie, for which he cites two herbarium specimens that are available for consideration as lectotype. Gammie's descriptions are very sketchy, often being confined to a single character (e.g., "[differs] only in having white flowers"). Other elements of the protolog include the geographical origins of the plants he studied and their vernacular or cultivar names (tabulated in detail in appendix C, pp. 28–38, of the 1905 publication).

The nine plates published in the earlier publication (1905) provide no material for typifying any of Gammie's names. The 14 color plates of the later publication (1907) provide satisfactory types for most of Gammie's names, should any of them be validated at a later date. There is, in addition, a series of almost 100 specimens in the U.S. National Arboretum (NA) that were grown from seed supplied by Gammie in 1907 and which in nearly all cases are directly identifiable with cottons listed by Gammie (1905, appendix C, pp. 28–38). It would be stretching the definitions to regard any of these specimens as "original material" (cf. McVaugh et al., 1968) or as types, unless someone should find reason to designate them as neotypes, but they nevertheless provide excellent verification of the nature of many of the plants with which Gammie dealt.

The Duplicate Formae of Hutchinson and Ghose

In an important paper on the classification of the cottons of Asia and Africa, Hutchinson and Ghose (1937) presented an excellent survey of morphological variability in these plants and a useful key to their identification. (Their conceptions were subsequently modified by Silow 1944.) Unfortunately, the nomenclature is unsatisfactory in many respects.

The variation in *G. arboreum* L. is treated by subdividing the species into three varieties and then by subdividing two of these in turn into four formae each. The names of the four formae into which *varietas typicum* is divided are identical to the names of those into which *varietas neglectum* is divided. Since, according to Art. 24, ICBN, "the name of an infraspecific taxon is a combination of the name of a species and an infra-

specific epithet connected by a term denoting its rank," it is clear that for the eight taxa that Hutchinson and Ghose described, they provided only four names, each of which was used twice. The four names are *G. arboreum* f. *bengalense*, *G. arboreum* f. *burmanicum*, *G. arboreum* f. *indicum*, and *G. arboreum* f. *soudanense*.

Such a situation raises nomenclatural difficulties that are difficult to resolve. Since it is essentially impossible to typify any of these names and since they raise various other nomenclatural problems not discussed here, it is perhaps fortunate that these problems do not require resolution, inasmuch as the new names in the rank of forma are not validly published according to Art. 36, ICBN. The only exception is forma *soudanense* which is published in one instance (p. 247) as a legitimate new combination, while the other instance (p. 248) is not validly published.

Roberty's and Watt's Types in Cairo

Roberty based several of his names on specimens collected in Egypt (largely by N. D. Simpson) and kept in the Cairo herbarium ("des Herbiers de . . . le Caire," 1946, p. 347). Roberty gives no further indication of the location of these types, but inquiry reveals that Simpson's collections are in the herbarium of the Ministry of Agriculture (CAIM), not that of Cairo University (CAI).² The names concerned are *G. barbadense* var. *breve*, var. *deltaicum*, var. *nubarensis*, and var. *strictifolium*, and *G. peruvianum* var. *arizonicum* and var. *copticum*. In addition, Watt (1926, 1927) bases a number of names on Simpson specimens in the herbaria at Kew (K) and Edinburgh (E). Isotypes of these names may also be found in CAIM.

Roxburgh Types

Four names (*G. acuminatum* Roxb. ex G. Don, *G. obtusifolium* Roxb. ex G. Don, *G. fuscum* Roxb. ex Wight & Arn., and *G. rubicundum* Roxb. ex Wight & Arn.) may be attributed to Roxburgh, although they were not validly published by him. The names *G. neglectum* var. *roxburghianum* Tod. and *G. roxburghii* Tod. are also based on Roxburgh's materials. The typification of each of these names presents the same problem.

Considerable information relevant to the typification of these names is provided by Sealy (1956), who states (p. 299): "Roxburgh distributed specimens freely, but does not appear to have kept a set for himself and it would seem that nowhere is there a complete set of his plants whose identity with species described by him is beyond question . . . Moreover, Roxburgh specimens are often poor and scrappy, and it is not always easy . . . to be certain which Roxburgh species they represent." One can conclude, therefore, that the search for type specimens of the Roxburgh names in *Gossypium*

²I am grateful to V. Täckholm and M. S. Abdallah for this information.

has a limited likelihood of success. Watt's (1907) intimate knowledge of *Gossypium* specimens kept in British herbaria and in Calcutta enabled him to report only three Roxburgh specimens in Kew (K) and one probable Roxburgh specimen in the British Museum (BM), all of which he reproduced photographically (pls. 10 and 17C). None of these specimens is relevant to the typification of the names given above. Watt (pp. 117, 141) specifically disputes Burkhill's (1906) citation of type material of *G. obtusifolium*.

Sealy (loc. cit.) continues: "There are, however, the Roxburgh drawings. According to C. B. Clark (Roxb. Fl. Ind. reprint, p. v: 1874) Roxburgh 'left at the Calcutta Botanic Garden a set of life-sized coloured drawings, with botanical dissections, of plants 2,542 in number, among which nearly all the Indian species described in his Flora Indica are depicted. By these (of which a duplicate set is preserved in India House, Westminster [now in Kew]) the species in the Flora Indica may be verified.'" I take Clarke's statement to be a lectotype designation for all of the Roxburgh names that originally appeared in "Hortus Bengalensis" and later in "Flora Indica" and that were validated by G. Don in his "General System" (see Sprague 1925). This designation must be followed in the sense of Art. 8, ICBN.

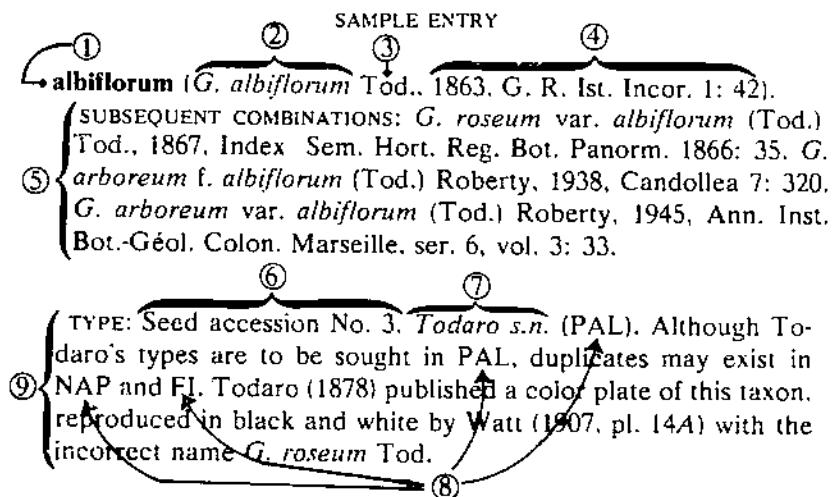
The Roxburgh drawings that relate to the four names in *Gossypium* that may be attributed to Roxburgh and the two of Todaro are reproduced by Watt (1907) as follows:

	<i>Watt's pl. No.</i>	<i>Roxburgh's pl. No.</i>
<i>G. acuminatum</i>	50	1498
<i>G. fuscum</i> (misspelled as <i>G. friscum</i> by Sealy)	33	1497
<i>G. obtusifolium</i>	20	1495 (1493)
<i>G. rubicundum</i>	18	1496 (1494)
<i>G. roxburghii</i> , <i>G. neglectum</i> var. <i>roxburghianum</i>	12	1494 (1496)

The mixup in numbers noted in two instances by Sealy (1956, p. 344), where the species numbers in "Flora Indica" and on the corresponding plates were transposed, is further complicated by Watt (1907, pl. 18), because he cited "1424" as a typographical error for "1494." Finally, it must be noted that Roxburgh's names *G. fuscum* and *G. rubicundum* were never validly published, although the latter epithet was later validated in varietal rank.

LIST OF BASIONYMS

Epithets of the basionyms are listed alphabetically. Identical epithets are entered chronologically and are distinguished by numerical superscripts. For each basionym I list subsequent new combinations, when they exist, and indicate the type, if possible. Combinations in genera other than *Gossypium* are not included unless they provide the basionym or unless the species are to be excluded from *Gossypium*. If it is not possible to designate a type, I indicate where material might be sought from which to identify a holotype or choose a lectotype, and I discuss other considerations relevant to a typification of the name. See also "Basionyms Added in Proof," page 78.



- ① Main entry (the epithet of the basionym), listed alphabetically.
- ② The basionym as originally published.
- ③ The publishing author of the basionym, usually abbreviated.
- ④ The bibliographic citation for the basionym, including year of publication; title, usually abbreviated, of publication; volume number; and page.
- ⑤ Names published subsequent to publication of the basionym that are based upon it and hence upon the same type.
- ⑥ Type specimen collection data or other identification.
- ⑦ Collector of type specimen and collection number and date, if available.
- ⑧ Herbarium of deposit of type material (Holmgren and Keuken 1974).
- ⑨ Additional information concerning the location of the type, the legitimacy of the names, etc.

aborigineum (*G. aborigineum* Millsp. ex Pepper], 1903, Am. Mus. J. 3: 36).

TYPE: SOUTHEASTERN UTAH, Wetherill Bros. s.n. (holotype: F-128469). Since Pepper provides no description, the name is a nomen nudum. He states that the species was to be described by Millspaugh, and indeed the holotype bears the name in Millspaugh's hand. Pepper later (1920, Anthropol. Pap. Am. Mus. Nat. Hist. 27: 107) states that the plant "has been named" by Millspaugh, but to my knowledge a description was never published. There is a cotton boll at the Peabody Museum of Harvard University (catalog No. 89901, accession No. 93-24-10) that is an isotype (V. Bohrer, personal communication).

abyssinicum (*G. abyssinicum* Watt, 1926, Kew Bull. 1926: 208).

TYPE: ABYSSINIA, Quartin-Dillon & Petit 267 (E, K, fide Watt 1926, p. 193; K specimen as photo in US).

acerifolium (*G. punctatum* var. *acerifolium* Guill. & Perr., 1831, in Guill., Perr., & Rich., Flora Senegambiae Tentamen 1: 63).

SUBSEQUENT COMBINATIONS: *G. herbaceum* var. *acerifolium* (Guill. & Perr.) A. Chev., 1939, Rev. Bot. Appl. Agric. Trop. 19: 540 (not 1939, C. R. Acad. Sci. 208: 25). *G. arboreum* var. *acerifolium* (Guill. & Perr.) Roberty, 1950, Candollea 13: 40.

TYPE: SENEGAL, Perrotet s.n., 1825 (holotype: P; isotype: FI?). See Chevalier (1939) and Parlatoire (1874, p. 44).

acuminatum (*G. acuminatum* Roxb. ex G. Don, 1831, General History 1: 487).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *acuminatum* (Roxb. ex G. Don) Triana & Planch., 1862, Ann. Sci. Nat. Bot., ser. 4, vol. 17: 171. *G. lapideum* ssp. *acuminatum* (Roxb. ex G. Don) Roberty, 1950, Candollea 13: 98.

TYPE: Roxburgh's unpublished pl. 1498, which is reproduced by Watt (1907, pl. 50). See "Roxburgh Types" and Sealy (1956) for a discussion of types of Roxburgh's names and Sprague (1925) concerning the validation of Roxburgh's names by Don.

aegyptiacum (*G. peruvianum* var. *aegyptiacum* Watt, 1927, Kew Bull. 1927: 332).

SUBSEQUENT COMBINATIONS: *G. barbadense* subvar. *aegyptiacum* (Watt) Wouters, 1948, Publ. Inst. Nati. Etud. Agron. Congo Belge, Sér. Sci. No. 34: 98. *G. barbadense* var. *aegyptiacum* (Watt) Roberty, 1950, Candollea 13: 94.

TYPE: Simpson C103 (lectotype: E, K). Watt cites numerous specimens, none of which is designated as type and many of which are noted as "hybrids," "not a fixed type," or which have various irregular characteristics. The only material that Watt considers to be "typical *aegyptiacum*" are specimens of N. D. Simpson numbered C103, C104, and

C105 (E, K, fide Watt 1927, p. 321). Roberty (1950, p. 94) has indirectly and perhaps inadvertently selected C103 as lectotype.

afghanicum (*G. arboreum* var. *afghanicum* Roberty, 1950. *Candollea* 13: 51).

TYPE: *Roberty 3234* (G; Roberty 1942, p. 89).

africanum (*G. obtusifolium* var. *africanum* Watt, 1907. Wild and Cultivated Cotton Plants, p. 153, as *africana*).

SUBSEQUENT COMBINATIONS AND NEW NAMES: *G. wightianum* var. *africanum* (Watt) Mattei, 1925. *Boll. Stud. Inf. R. Giard. Col., Palermo* 8:40. *G. africanum* (Watt) Watt, 1926. *Kew Bull.* 1926: 205. *G. herbaceum* var. *africanum* (Watt) J. B. Hutch. ex Harl., 1932. *Bibliogr. Genet.* 9: 115. *G. obtusifolium* f. *wattii* Roberty, nom. nov., 1938. *Candollea* 7: 316. *G. herbaceum* subvar. *africanum* (Watt) Wouters, 1948. *Publ. Inst. Natl. Etud. Agron. Congo Belge. Sér. Sci* 34: 90. *G. arboreum* var. *africanum* (Watt) Roberty, 1950. *Candollea* 13: 50. *G. herbaceum* ssp. *africanum* (Watt) Mauer, 1950. *Tr. Sedneziat. Gos. Univ.* 18: 17.

TYPE: NGAMILAND: Kwebe Hills, alt. 3,000 ft. *Mrs. E. J. Lugard 198*, February (K). Watt (1907) cites a number of specimens with the original description, including *Lugard 198*, and includes a photograph of this plant in his pl. 23B.C. When he raised this taxon to specific rank, Watt (1926) specifically cited *Lugard 198* as type. Thus, if this specimen cannot be regarded as the holotype on the strength of its depiction in the plate in the former publication, it can certainly be accepted as lectotype on the basis of its designation as type in the latter publication. In the former citation Watt referred to specimens in K and BM; in the latter he referred to specimens in K and E. Presumably, therefore, the type is in K. (See Chaudhri et al. 1972, p. 467.)

africanum (*G. hirsutum* var. *africanum* Roberty, 1945. *Ann. Inst. Bot.-Géol. Colon. Marseille*, ser. 6, vol. 3: 42).

TYPE: M'Kourala 38-113, *Roberty 3048* (G). The existence of this basionym is contrary to Recommendation 24B, ICBN. Although the name is legitimate under Art. 24, its legitimacy may be challenged under Art. 28. The entity should be named *G. hirsutum* cv. 'M'Kourala 38-113.'

akkorense (*G. laevisolum* subvar. *akkorense* Roberty, 1942. *Candollea* 9: 94).

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *akkorense* (Roberty) Roberty, 1950. *Candollea* 13: 65.

TYPE: AKKOR, *Roberty 3049* (G).

albescens (*G. albescens* Raf., 1838. *Sylva Tellur.*, p. 18).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

albiflorum (*G. albiflorum* Tod., 1863. *G. R. Ist. Incor.* 1: 42).

SUBSEQUENT COMBINATIONS: *G. roseum* var. *albiflorum* (Tod.), Tod., 1867. *Index Sem. Hort. Reg. Bot. Panorm.* 1866: 35. *G. arboreum* f.

albiflorum (Tod.) Roberty, 1938, *Candollea* 7: 320. *G. arboreum* var. *albiflorum* (Tod.) Roberty, 1945, *Ann. Inst. Bot.-Géol. Colon. Marseille*, ser. 6, vol. 3: 33.

TYPE: Seed accession No. 3, *Todaro s.n.* (PAL). Although Todaro's types are to be sought in PAL, duplicates may exist in NAP and FI. Todaro (1878) published a color plate of this taxon, reproduced in black and white by Watt (1907, pl. 14A) with the incorrect name *G. roseum* Tod.

album (*G. album* Buch.-Ham., 1822, *Trans. Linn. Soc.* 13: 494).

TYPE: Watt (1907, p. 358) states: "The best set of Hamilton's cottons is in the Edinburgh Herb., though sets are also to be found in the Kew and British Museum Herbaria." On p. 84 he cites a specimen in E. Wight 176, "named *G. album*, Ham.," which is also referred to by Gammie (1905, p. 4; 1907, p. 11). It is possible, though by no means probable, that the E specimen was named by Hamilton and could thus serve as type. It is also possible that this name will prove to be impossible to typify satisfactorily, since the description "lana semineque albis" is concerned solely with the covering of the seed coat.

album (*G. album* Tersk., 1860, *Index Sem. Hort. Pillnz.* Ann., p. 30; Ann., 1861, p. 3).

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *album* (Tersk.) Tod., 1863, *G. R. Ist. Incor.* 1: 90.

TYPE: It may be impossible to typify Tershek's name. I have not examined the original publication (the "Seed List of the Pillnitz Botanic Garden") and am therefore not even certain that the name was validly published. Nevertheless, Todaro adopted and validated Tershek's epithet in varietal rank. If Tershek's name was not validly published, then this basionym becomes *varietas album* Tersk. ex Tod., and the several specimens cited by Todaro (seed accession Nos. 71, 118, 133, 136, 147, 173, 182, 183, 206, 207, 208, and 209) may be considered as material from which to select a lectotype. Specimens corresponding to these numbers are to be sought in PAL.

album (*G. intermedium* var. *album* Gammie, 1905, *Indian Cottons*, p. 6, as *alba*).

TYPE: Gammie's pl. 8B-F (1907). The name is not validly published (Art. 34, ICBN). See "Gammie's Names."

album (*G. nanking* var. *album* Wang, 1923, *Science [Sci. Soc. China, Nanking]* 8: 78).

TYPE: The original description of this taxon (in Chinese, of which I have a rough English translation) is sufficiently clear to indicate the nature of the plant described. The text refers to an herbarium specimen consisting of three flowers and a leaf that was sent by the author, Shang-Chuan Wang, professor of crop science, National Southeast University, to the Biological Research Center of the China Science Associa-

tion. If this specimen exists (NAS?), it is to be regarded as the holotype; on the assumption that it is not extant, I herewith designate the original description as lectotype of the name.

alepicum (*G. alepicum* Cav., 1788, *Monad. Cl. Diss. Dec.* No. 6, p. 310).

TYPE: *Cultus Hortus Parisiensis* (P), based on a specimen annotated by Cavanilles, but published as a synonym of *G. herbaceum* L.; it is therefore invalid under Art. 34, ICBN.

amapola (*G. aridum* var. *amapola* Narváez ex Mauer, 1954, *Proiskhozhd. Sist. Khlop.*, p. 265).

TYPE: MEXICO: Sinaloa: San Ignacio, 6 Mar 1918, *M. Narváez Montes s.n.* (US-1035122). This name is not validly published under Art. 36, ICBN.

amblospermum (*G. amblospermum* Raf., 1838, *Sylva Tellur.*, p. 17).

TYPE: Rafinesque's description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

annuum (*G. herbaceum* var. *annuum* Delile, 1813, *Florae Aegypt.*, p. 69, No. 645).

TYPE: *Delile s.n.* (MPU); duplicates possibly elsewhere (cf. Lanjouw and Stafleu 1954, p. 157), but not in P (cf. Fletcher 1908).

anomalum (*G. anomalum* Wawr. ex Wawr. & Peyr., 1860, *Sert. Benguel.*, p. 21 [also published in 1860, *Sitzungsber. Kaiserl. Akad. Wiss. Wien. Math.-Naturh. Kl.* 38: 561]).

TYPE: *Habitatio in sylvis prope Benguelam, Wawra* 262 and *Wawra* 285 (W, fide Stafleu 1967). A lectotype should be chosen.

anomalum (*G. anomalum* Watt, 1927, *Kew Bull.* 1927: 321).

NEW NAMES: *G. arboreum* var. *paradoxum* Prokh., nom. nov., 1947, *Bot. Zh.* 32: 67. *G. wattianum* Hu, nom. nov., 1955, *Flora China*, Fam. 153, Malvac., p. 65.

TYPE: "Seeds selected from Chinese Cottons and grown at Giza, Cairo (C853 and C854)" (E. K, fide Watt). These two collection numbers are presumably specimens sent by N. D. Simpson. A lectotype should be chosen. Though illegitimate (Art. 64, ICBN), Watt's name is the basis for the two new names given above, and its typification is therefore important.

apertum (*G. peruvianum* var. *apertum* Roberty, 1946, *Candollea* 10: 376).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *apertum* (Roberty) Roberty, 1950, *Candollea* 13: 38.

TYPE: Bouaké noire, cultivée Jardin Botanique Soninkoura, 1937, Roberty 2811 (G).

apospermum (*G. brasiliense* var. *apospermum* Sprague, 1914, *Kew Bull.* 1914: 198).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *apospermum* (Sprague,

gue) Roberty, 1946, *Candollea* 10: 387. *G. peruvianum* var. *apospermum* (Sprague) Prokh., 1947, *Bot. Zh.* 32: 77.

TYPE: Cultivated in Jamaica from seeds from the Cauto District of SE Cuba, *W. Harris s.n.* (K, "a series of specimens"). Three sheets of this collection, dated 19 Nov 1913, are in NA (Nos. 218211, 218212, and 21-8246) and several additional sheets are in NY. Sprague published this name, saying that "it has been provisionally named *G. brasiliense* var. *apospermum*, Sprague (var. nov.) . . .," and noted the possibility of its being a hybrid rather than a variety of *G. brasiliense*. According to Art. 34, ICBN, therefore, this name is not validly published. *G. pedatum* Watt, q.v., may have been based on the same material.

arborescens (*G. arborescens* Burl., 1863, *Monogr. Algodoero*, p. 10).

TYPE: Burlamaqui cites "Algodoero arborescente (*gossypium arborescens ou arboreum*, Lin. e Canavil) . . ." The name is thus merely an erroneous citation of *G. arboreum*. As a distinct name, it can only be regarded as a nomen nudum. Watt (1907, p. 309) and Roberty (1938, p. 353) cite the name, but it has not otherwise gained currency in the literature of *Gossypium*.

arboreum (*G. arboreum* L., 1753, *Species Plant.*, p. 693).

SUBSEQUENT COMBINATIONS: *G. obtusifolium* ssp. *arboreum* (L.) Gammie, 1905, *Indian Cottons*, p. 2.

TYPE: The holotype is LINN-874.3, annotated "3 *arboreum*" by Linnaeus (see Fryxell 1968, p. 382). A photograph of this specimen is reproduced by Watt (1907, pl. 7C). Gammie's combination is illegitimate according to Art. 57, ICBN. See "Gammie's Names."

archetypicum (*G. latifolium* var. *archetypicum* Roberty, 1942, *Candollea* 9: 99).

SUBSEQUENT COMBINATIONS: *G. hirsutum* ssp. *archetypicum* (Roberty) Roberty, 1950, *Candollea* 13: 61.

TYPE: BAHAMA: Nassau, Curtiss 135 (holotype: G-Del.; isotype: G-DC, GH, MO, US—2 sheets). Roberty notes that another duplicate of this collection number (K) is described by Watt (1907, p. 268) as "exceptionally hairy," whereas the two Geneva duplicates are both glabrescent. The GH specimen includes two branches that are discordant in pubescence. Additional isotypes are to be sought in A, B, E, L, MIN, NY, and P (fide Lanjouw and Stafleu 1954, p. 148), but with the knowledge that Curtiss' number was probably a mixed gathering.

areysianum (*G. areysianum* Delf., 1895, *Esq. Géogr. Bot.*, p. 49).

SUBSEQUENT COMBINATIONS: *G. anomalum* ssp. *areysianum* (Delf.) Roberty, 1950, *Candollea* 13: 27.

TYPE: Ad declivia australia petraea montis el-'Areys (Bilad Fodhli), per altitud. 700-800 m, Deflers 1058, Apr 1893 (holotype: P; isotypes: A, G, LE, NH, and NY, fide Lanjouw and Stafleu 1954, p. 156). I have not been able to examine the evidently rare original publication of this

basionym, but Deflers transferred the name to the genus *Fugosia* in the same year in a more accessible publication (1895, Bull. Soc. Bot. France 42: 299), which combination has been commonly but erroneously regarded as the basionym. Since *Esquisses de Géographie Botanique* is cited in the Bulletin de la Société Botanique de France, the former presumably preceded the latter and has priority, even though they bear the same date. The name is thus correctly cited as *G. areysianum* Defl. and not as *G. areysianum* (Defl.) Hutch.

aridum (*G. aridum* (Rose & Standl.) Skov., 1934, J. Genet. 28: 422).

TYPE: Skovsted's combination is based upon *Erioxylum aridum* Rose & Standl., 1911, Contrib. U.S. Natl. Herb. 13: 307, the type of which is MEXICO: Sinaloa, vicinity of Culiacán, Rose, Standley & Russell 14-999, 22 Apr 1910 (holotype: US-637875; isotypes: US-637874, -2216230, and -2216231; GH, MO, UC).

'arizonicum (*G. peruvianum* var. *arizonicum* Roberty, 1946, Candollea 10: 379).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *arizonicum* (Roberty) Roberty, 1950, Candollea 13: 84.

TYPE: Pima (as "Prima") No. 1, cultivated at Giza, 1924, Simpson C133 (CAIM). See "Roberty's and Watt's Types in Cairo." This name is illegitimate under Art. 28, ICBN. The plant should be named *G. peruvianum* cv. 'Pima'.

armourianum (*G. armourianum* Kearn., 1933, J. Wash. Acad. Sci. 23: 558).

SUBSEQUENT COMBINATIONS: *G. harknessii* ssp. *armourianum* (Kearn.) Roberty, 1950, Candollea 13: 25.

TYPE: Cultivated at Palm Springs, Calif., from seeds from San Marcos Island, Baja California, Kearney s.n., 25 Aug 1933 (holotype: US-11-84705; isotypes: CAS, F-701838, GH, NY).

asiaticum (*G. asiaticum* Raf., 1838, *Sylva Tellur.*, p. 16).

TYPE: Siam blanc velouté von Rohr s.n. (lectotype: C-herb. Vahlii: NA, as photo). The specimen is described and discussed by Fryxell (1969a), and several isotypes, all in C, are noted.

assamicum (*G. arboreum* var. *assamicum* Watt, 1907, Wild and Cultivated Cotton Plants, p. 108, as *assamica*).

SUBSEQUENT COMBINATIONS: *G. cernuum* var. *assamicum* (Watt) Prokh., 1947, Bot. Zh. 32: 68. *G. arboreum* f. *assamicum* (Watt?) Roberty, 1950, Candollea 13: 40.

TYPE: Watt mentions a number of specimens, of which a specimen of Jameson s.n. from Saharampur (E) is singled out as "an excellent specimen." It is herewith designated as lectotype.

atrocoloratum (*G. hirsutum* f. *atrocoloratum* Roberty, 1950, Candollea 13: 67).

TYPE: ANTILLES: Tobago, Broadway 7076 (holotype: G; isotypes:

MO, US-1414268, and elsewhere, since Broadway's collections were widely distributed. See Lanjouw and Stafleu 1954, p. 98.

aureum (*G. aureum* Raf., 1838, *Sylva Tellur.*, p. 19).

TYPE: This name is rejected as a nomen nudum. I have noted (1969a, table 1, footnote 6) that the name is based on hearsay ("slightly indicated by various authors") and consequently cannot be typified.

auritum (*G. auritum* Cook & Hubb., 1926, *J. Wash. Acad. Sci.* 16: 551).

TYPE: ECUADOR: Esmeraldas, *Cook & Hubbard 108*, 11 May 1926 (US-1282036, -7, -8). The first of the three duplicates (No. 1282036) is designated as lectotype.

australe (*G. australe* F. v. M., 1858, *Fragsm. Phytogr. Austral.* 1: 46).

TYPE: AUSTRALIA: Victoria River and towards the Fitzmaurice River, *F. v. Mueller s.n.*, Oct 1855 (lectotype: K; syntypes: K, MEL). See Fryxell 1965a, p. 90.

australiense (*G. australiense* Tod., 1863, *G. R. Ist. Incor.* 1: 35).

TYPE: This name is based upon *Sturtia gossypoides* R. Br. in Sturt, 1849, *Exped. Cent. Austral.*, vol. 2, app. p. 68, the type of which is AUSTRALIA: Queensland, in the beds of the creeks of the Barrier Range, *Sturt 20*, 1844 (holotype: BM). Todaro's name is illegitimate under Art. 55, ICBN. Consequently, a new name (see *sturtianum*) is required to accommodate this plant in *Gossypium*.

avense (*G. neglectum* subvar. *avense* Gammie, nom. nov., 1905, *Indian Cottons*, p. 7, as *avensis*).

SUBSEQUENT COMBINATION: *G. roxburghii* var. *avense* (Gammie) Prokh., 1947, *Bot. Zh.* 32: 68.

TYPE: This name was based on *G. roseum* Tod., the type of which is seed accession No. 1, *Todaro s.n.* (PAL). Although Gammie's name is legitimate under Art. 60, ICBN, it must be rejected as not validly published under Art. 34. See "Gammie's Names."

bailense (*G. hirsutum* f. *bailense* Roberty, 1950, *Candollea* 13: 69).

TYPE: SENEGAL: Casamance, *Roberty 6369* (G).

bakeri (*G. bakeri* Watt, 1926, *Kew Bull.* 1926: 210).

SUBSEQUENT COMBINATIONS: *Senra bakeri* (Watt) Prokh., 1953, *Bot. Mater. Herb. Bot. Inst. Komarov Akad. Nauk S.S.R.* 15: 174.

TYPE: PAKISTAN: Sind: Karachi Desert: near Gharo, *Baker s.n.*, 30 Jan 1921 (K). This plant has been rightly transferred to the genus *Senra* by Prokhanov, the monographer of that genus.

bandiagarae (*G. hirsutum* f. *bandiagarae* Roberty, 1950, *Candollea* 13: 59).

TYPE: MALI: Bandiagara: Soukarou: cultivé à Soninkoura, *Roberty 3892* (lectotype: G, fide Roberty 1942, p. 89).

bani (*G. nanking* var. *bani* Watt, 1907, *Wild and Cultivated Cotton Plants*, p. 131).

SUBSEQUENT COMBINATIONS: *G. bani* (Watt) Prokh., 1947, *Bot. Zh.* 32: 69. *G. arboreum* var. *bani* (Watt) Roberty, 1950, *Candollea* 13: 39.

TYPE: Watt cites 15 specimens (BM, CGE, G, K), as well as "an extensive series (of date 1891) from Saharanpur herbarium," which series is in K. A photograph of one of these specimens (India, *Royle s.n.*, K) is included in US as type, but this is not a satisfactory lectotypification. A lectotype will need to be chosen from among these specimens, following a comparative study of all of them.

barbadense (*G. barbadense* L., 1753, Species Plant., p. 693).

TYPE: Plukenet's plate (1692, *Phytographia t. 188, f. 1*) was chosen as lectotype and the choice discussed in detail by Fryxell (1968). This plate is reproduced by Watt (1907, pl. 46B). The specimen upon which the original plate was based is preserved in the Plukenet series (vol. 100, f. 105) of the Sloane herbarium in BM, and a photograph of it is reproduced by Watt (1907, pl. 46A).

barbatum (*G. herbaceum* var. *barbatum* Raf., 1838, *Sylva Tellur.*, p. 15).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

barbosanum (*G. barbosanum* Phill. & Clem., 1963, *Bot. Mus. Leafl. Harv. Univ.* 20: 214).

TYPE: In greenhouse cultivation, Raleigh, N.C., from seed collected at Monte do Trigo, near Tarrafal, Ilha de Santo Antão, Cape Verde Islands, *Phillips & Clement 891* (ECON, US). The ECON specimen is herewith designated lectotype; the US specimen is an isotype.

benadiense (*G. benadiense* Mattei, 1916, *Boll. Stud. Inf. R. Giard. Col., Palermo* 2: 223).

TYPE: SOMALIA: nei dintorni di Lugh., *Paoli s.n.*, 26 Oct 1913 (FI? or PAL?).

bengalense (*G. neglectum* subvar. *bengalense* Gammie, 1907, *Indian Cottons*, p. 7, as *bengalensis*).

SUBSEQUENT COMBINATIONS: *G. roxburghii* var. *bengalense* (Gammie) Prokh., 1947, *Bot. Zh.* 32: 68.

TYPE: The name is not validly published (Art. 34, ICBN). See "Gammie's Names." Hutchinson and Ghose published the name *G. arboreum* forma *bengalense* twice in the same work for two different taxa. (See "The Duplicate Formae of Hutchinson and Ghose.") Although they were familiar with Gammie's work, they did not base their name in either case on Gammie's basionym. Since, among other things, the names of Hutchinson and Ghose are in violation of Art. 36, ICBN, they too are invalidly published.

berlandieri (*G. hirsutum* f. *berlandieri* Roberty, 1950, *Candollea* 13: 72).

TYPE: TEXAS, *Berlandier s.n.* (G-Del).

bickii (*G. bickii* Prokh., nom. nov., 1947, *Bot. Zh.* 32: 69).

TYPE: Based on *Fugosia pedata* Bail., 1910, *Queensl. Agric. J.* 25: 286, the type of which is AUSTRALIA: Queensland, Georgina River, *Bick*

82. Sept-Oct 1910 (lectotype: BRI; isotype: K). The lectotype was designated by Fryxell (1965a). Prokhanov proposed the epithet *bickii* as an avowed substitute, since the transfer of Bailey's epithet to *Gossypium* would have resulted in an illegitimate later homonym (Art. 64, ICBN). **bicolor** (*G. bicolor* Raf., 1838, *Sylva Tellur.*, p. 18).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

birkinshawii (*G. birkinshawii* Watt, 1927, *Kew Bull.* 1927: 330).

TYPE: WEST INDIES: St. Vincent: Canouan: near Point de Jour: growing wild on the cliffs about Billy Hole, *Birkinshaw s.n.*, 15 Jan 1915 (E, K, *fide* Watt 1927, p. 321). Sprague (1914) comments on the K specimen. **bracteatum** (*G. africanum* var. *bracteatum* Watt, 1926, *Kew Bull.* 1926: 206).

TYPE: MOZAMBIQUE: between Mussuquana and Buzi. *W. H. Johnson 76a* (K). Cf. Watt 1926, p. 193; Chaudhri et al. 1972, p. 324.

brasiliense (*G. brasiliense* Macf., 1837, *Flora Jamaic.* 1: 72).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *brasiliense* (Macf.) Mauer, 1930, *Bull. Appl. Bot. Genet. Plant Breeding Suppl.* 47: 441. *G. lapideum* ssp. *brasiliense* (Macf.) Roberty, 1950, *Candollea* 13: 98. *G. peruvianum* var. *brasiliense* (Macf.) Camara, 1960, *Rev. Argent. Agron.* 27: 4.

TYPE: No specimen is specifically cited by Macfadyen, simply that the species occurs "cultivated and wild." Macfadyen's herbarium is in K (at least in part), but Watt (1907, pp. 298-299, 360) fails to mention a Macfadyen specimen among those he examined in K. Duplicates of Macfadyen's plants, including the type of this name, are to be sought in CGE, GOET, MO, and U (Stafleu 1967, p. 294); I have failed to find a specimen in MO. Failing the discovery of a specimen elsewhere, Macfadyen's ample description may serve as type. Fryxell's (1969a) attribution of *G. barbadense* var. *brasiliense* to Grisebach is in error (Art. 33, ICBN). Camara's combination is illegitimate as a later homonym (Arts. 64 and 75, ICBN), even though it is based on a different type than Prokhanov's earlier homonym. See following basionym.

braziliense (*G. guyanense* var. *braziliense* Raf., 1838, *Sylva Tellur.*, p. 16, as *braziliensis*).

SUBSEQUENT COMBINATIONS: *G. peruvianum* var. *braziliense* (Raf.) Prokh., 1947, *Bot. Zh.* 32: 77. *G. barbadense* var. *braziliense* (Raf.) Fryx., 1973, *Baileya* 19: 91.

TYPE: *Gossypium brasiliense* foliis inferioribus stipulatis, *von Rohr s.n.* (lectotype: C-herb. Vahlia; NA, as photo). The choice of this lectotype is discussed by Fryxell (1969a, p. 403).

breve (*G. barbadense* var. *breve* Roberty, 1946, *Candollea* 10: 391).

TYPE: Sakel N.T. 11/107, cultivated at Giza, 1924, *Simpson C/04* (holotype: CAIM). See "Roberty's and Watt's Types in Cairo." Roberty

later (1950, p. 94) reduced his *varietas breve* to synonymy with Watt's *varietas aegyptiacum*, since Watt had cited *Simpson C104* as a paratype. However, I believe Roberty's name is illegitimate under Art. 28, ICBN, and that this plant should be known as *G. barbadense* cv. 'Sakel N.T. 11/107'.

brevilanatum (*G. brevilanatum* Hochr., 1925, *Candollea* 2: 140).

SUBSEQUENT COMBINATIONS: *G. kirki* ssp. *brevilanatum* (Hochr.) Roberty, 1950, *Candollea* 13: 31. *Gossypioides brevilanatum* (Hochr.) J. B. Hutch., 1947, *New Phytol.* 46: 132.

TYPE: MADAGASCAR: environs de Majunga: bois sablonneux, Nov 1903, *Perrier de la Bathie* 1633 (lectotype: P?). This species is excluded from *Gossypium* and included in *Gossypioides*.

brownii (*G. peruvianum* var. *brownii* Roberty, 1946, *Candollea* 10: 384).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *brownii* (Roberty) Roberty, 1950, *Candollea* 13: 86.

TYPE: Giza 34, cultivated at Giza, 1945, Roberty 5207 (G). Although this taxon is described as a hybrid, it is not named according to the provisions for naming hybrids in the ICBN. Moreover, the name is based upon a named cultivar that has hybridity in its ancestry and is therefore illegitimate under the provisions of Art. 28, ICBN. It should be named *G. peruvianum* cv. 'Giza 34'.

bukasovii (*G. hirsutum* var. *bukasovii* Mauer, 1930, *Bull. Appl. Bot. Genet. Plant Breeding Suppl.* 47: 446).

TYPE: NORTHERN COLOMBIA, *Bukasov s.n.* (BM, WIR).

burmanicum (*G. neglectum* subvar. *burmanicum* Gammie, 1905, *Indian Cottons*, p. 7, as *burmanica*).

SUBSEQUENT COMBINATIONS: *G. roxburghii* var. *burmanicum* (Gammie) Prokh., 1947, *Bot. Zh.* 32: 68.

TYPE: Gammie's pl. 12A-F (1907). This name is not validly published (Art. 34, ICBN). See "Gammie's Names." Hutchinson and Ghose published the name *G. arboreum* forma *burmanicum* twice in the same work for two different taxa. (See "The Duplicate Formae of Hutchinson and Ghose.") Although they were familiar with Gammie's work, they did not base their name in either case on Gammie's basionym. Since, among other things, the names are in violation of Art. 36, ICBN, they are not validly published.

burmanii (*G. arboreum* var. *burmanii* Roberty, 1950, *Candollea* 13: 54).

TYPE: Among six specimens cited are two of Burman, labeled "Ceiba" and "Hibiscus manihot." It seems most appropriate to choose one of these two specimens as lectotype in view of Roberty's choice of epithet; they are presumably to be sought in *G.*

bussei (*G. bussei* Gürke ex Roberty, 1938, *Candollea* 7: 335).

SUBSEQUENT COMBINATIONS: None, but see *scandens* (2).

TYPE: AFRIQUE ORIENTALE KIVA-SIKUMBI: région des lacs. *Busse 2911* (BR, G, and elsewhere; see Lanjouw and Stafteu 1954, p. 109). This name is a nomen nudum. The plant in question is excluded from *Gossypium* and included in *Gossypioides*.

caespitosum (*G. caespitosum* Tod., 1863, G. R. Ist. Incor. 1: 80, as *coespitosum*).

SUBSEQUENT COMBINATIONS: *G. hirsutum* ssp. *caespitosum* (Tod.) Roberty, 1950, Candollea, 13: 58.

TYPE: Todaro (1863, p. 81) cites six seed accession numbers as representative of this species: Nos. 38, 91, 93, 94, 95, and 97 ex parte. On p. 118 of the same work he questions the inclusion of No. 38 in this species, and distinguishes No. 97 ("*Gossypium? (fruticosum)*") from No. 97 *bis* ("*Gossypium caespitosum* Tod."). Presuming that plants of all of these accession numbers were grown in the Palermo Botanic Garden, a lectotype should be chosen from among the Todaro specimens in PAL corresponding to Nos. 91, 93, 94, 95, and 97 *bis*.

caicoense (*G. caicoense* Aranha, Leitão, & Gridi-Papp, 1969, Bragantia 28: 274).

TYPE: BRASIL: Rio Grande do Norte: Serra da Formiga: Município de Caicó, Aranha, Leitão, & Gridi-Papp s.n. (holotype: IAC-20800). The original description unaccountably cites the authors by given names, as follows: "*G. caicoense*, Condorcet, Hermogenes, et Imre n. sp."

californicum (*G. californicum* Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 21).

TYPE: MEXICO: Baja California: from Cerro Colorado to Rodriguez, alt. 800–1400 ft, Nelson & Goldman 7328, 16 Dec 1905 (holotype: US-565583).

calycotum (*G. calycotum* Cook & Hubb., 1926, J. Wash. Acad. Sci. 16: 550).

TYPE: ECUADOR: Esmeraldas, Cook & Hubbard 105, 11 May 1926 (US, three duplicates—Nos. 1282033, -034, and -035). The sheet numbered 1282034 is herewith designated as lectotype, since it contains fruits.

cambayense (*G. cambayense* Raf., 1838, Sylva Tellur., p. 18).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

cambodiense (*G. latifolium* var. *cambodiense* Roberty, nom. nov., 1942, Candollea 9: 93).

SUBSEQUENT COMBINATIONS: *G. hirsutum* f. *cambodiense* (Roberty) Roberty, 1942, Candollea 9: 93.

TYPE: Roberty bases this name on *G. siamense* Ten., 1839, which is a later homonym; he therefore proposes *cambodiense* as a nomen novum. The type is that of Tenore's name, and not the specimen (Roberty

3873) cited by Roberty as type. See *siamense* (2) for discussion of Tenore's type.

canescens (*G. nanking* var. *canescens* Watt, 1926, Kew Bull. 1926: 198).

SUBSEQUENT COMBINATIONS: *G. herbaceum* f. *canescens* (Watt) Roberty, 1938, Candolea 7: 327. *G. speciosum* var. *canescens* (Watt) Prokh., 1947, Bot. Zh. 32: 68. *G. arboreum* f. *canescens* (Watt) Roberty, 1950, Candolea 13: 46.

TYPE: ANGLO-EGYPTIAN SUDAN: Nyonki, Shantz 933, July 1920 (E, K, fide Watt 1926, p. 193; US-1595595).

capitis-viridis (*G. capitis-viridis* Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 19).

TYPE: CAPE VERDE ISLANDS: São Tiago, die Einwohner kultivieren diesen Strauch und gewinnen recht gute Baumwolle—frutex 6–8 ped. alt., Stewart 63 (holotype: LE). Mauer cites the type as "Stuart 5020," which number he evidently took from the outer folder of the specimen, it being the Dalla Torre and Harms genus number for *Gossypium*, rather than from the collection label itself, which is of difficult legibility. The descriptive comment quoted from the collector's label evidently has no relation to the actual plant, which is wild and produces no cotton, but resulted from confusion of this plant with cultigen from the same island.

caravonicum (*G. peruvianum* var. *caravonicum* Roberty, 1946, Candolea 10: 383).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *caravonicum* (Roberty) Roberty, 1950, Candolea 13: 84.

TYPE: Caravonica, cultivated at Kamerun (B). Since it is doubtful that the specimen cited is extant, owing to the wartime destruction of the Berlin Herbarium, it should be noted that Roberty also cited a second specimen: "Caravonica cotton, cult. Wad Medani. . . . in hb. Wad Medani" (GRS). However, this name is illegitimate under Art. 28, ICBN. The plant should be named *G. peruvianum* cv. 'Caravonica'.

casimiranum (*G. barbadense* f. *casimiranum* Roberty, 1950, Candolea 13: 87).

TYPE: ALGERIA, Jardin Botanique s.n., 1846 (G?). Although the specimen cited is the type, the epithet is derived from another specimen collected at Biskra in Algeria by Casimir de Candolle in 1839.

cavanillesianum (*G. cavanillesianum* Tod., 1863, G. R. Ist. Incor. 1: 79).

TYPE: Based on "*G. hirsutum* Cavanilles, non Miller nec Linnaeus." Cavanilles did not propose a new name but simply utilized Linnaeus' name. Todaro contends that he used it in a different sense, which, if true, should indicate the basis for Todaro's name to be "*G. hirsutum* Linn. sensu Cavanilles." Under this view *G. cavanillesianum* may be typified by Cavanilles' plate (1788, t. 167).

cavelsenii (*G. hirsutum* f. *cavelsenii* Roberty, 1950, Candolea 13: 58).

TYPE: ANTILLES: St. Croix, *Cavelsen s.n.*, ex hb. Puerari (G-Del).
'cayenense (*G. albescens* var. *cayenense* Raf., 1838, *Sylva Tellur.*, p. 18).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a). Under Art. 26, ICBN, this name should be *G. albescens* var. *albescens*.

'cayenense (*G. barbadense* var. *cayenense* Roberty, 1946, *Candollea* 10: 395).

TYPE: GUYANE FRANÇAIS, *Sagot s.n.*, 1861 (isotype: G; CN fide Lignier and LeBey 1905, p. 226). Roberty states that this taxon is a hybrid between two others, but he did not name it as a hybrid according to ICBN rules, nor did he provide any substantiation of its hybrid nature. Presumably Roberty intended to indicate intermediacy rather than hybridity. Both this name and the preceding name are valid under Art. 64, which states: "The same epithet may be used . . . for infraspecific taxa within different species."

cearensis (*G. latifolium* f. *cearensis* Roberty, 1942, *Candollea* 9: 91).

SUBSEQUENT COMBINATIONS: *G. hirsutum* f. *cearensis* (Rob.) Roberty, 1950, *Candollea* 13: 81).

TYPE: NATAL: Ceará (cultivated in the Jardin Botanique Soninkoura), Roberty 3886 (G). Unfortunately, Roberty cites the same collection number (Roberty 3886), evidently in reference to a different specimen, as the type of his illegitimate later homonym, *G. hirsutum* var. *macrocarpum* Roberty, 1945, *Ann. Inst. Bot.-Géol. Colon. Marseille*, ser. 6, vol. 3: 43.

ceratadenium (*G. ceratadenium* Cook, 1935, *J. Hered.* 26: 30).

TYPE: FLORIDA: Key West, *Cook s.n.*, 22 Nov 1929 (NA-288043). See "Cook's Florida Cottons." The name is not validly published (Art. 36, ICBN).

cernuum (*G. cernuum* Tod., 1863, *G. R. Ist. Incor.* 1: 47).

SUBSEQUENT COMBINATIONS: *G. arboreum* var. *cernuum* (Tod.) Hutch. & Ghose, 1937, *Indian J. Agric. Sci.* 7: 248. *G. arboreum* ssp. *cernuum* (Tod.) Roberty, 1938, *Candollea* 7: 318. *G. arboreum* sub-subvar. *cernuum* (Tod.) Wouters, 1948, *Publ. Inst. Natl. Etud. Agron. Congo Belge*, Sér. Sci. No. 34: 89.

TYPE: Seed accession No. 57, from India, cultivated in the Palermo Botanic Garden, *Todaro s.n.* (PAL).

cerrutianum (*G. brasiliense* var. *cerrutianum* Tod., 1864, *G. R. Ist. Incor.* 1(4): 114).

TYPE: Plants grown in the Palermo Botanic Garden, from seeds received from Cerruti in Bahia, *Todaro s.n.* (PAL).

chacoense (*G. latifolium* subvar. *chacoense* Roberty, 1942, *Candollea* 9: 95).

SUBSEQUENT COMBINATION: *G. hirsutum* var. *chacoense* (Roberty) Roberty, 1950, *Candollea* 13: 78.

TYPE: SOUTH AMERICA: Alto Paraguay: Chaco, Fiebrig 1319 (B). The holotype was presumably lost in the destruction of the Berlin Herbarium, but isotypes may be found in the several herbaria to which Fiebrig's duplicates were sent (see Lanjouw and Stafleu 1957, p. 196).

chinense (*G. chinense* Fisch. & Otto ex Steud., 1840, Nomencl. Bot., ed. 2, vol. 1, p. 702. See *sinense*).

SUBSEQUENT COMBINATIONS: *G. neglectum* var. *chinense* (Fisch. & Otto) Tod., 1877, Monografia, p. 107).

TYPE: This name is rejected both as a nomen nudum and as a name cited "merely as a synonym." Indeed, it is cited as a doubtful synonym, indicated by a question mark, by Steudel. The later use of this name by Todaro validates the publication of the name by providing a description. He uses the name with a question mark, indicating that he was uncertain of the basis for the name. If we can accept that Steudel's *G. chinense* Fisch. & Otto is the same as *G. sinense* Fisch., it may prove to be possible to typify the name. Apart from the orthographic question (*sinense* is the preferred spelling; see Recommendation 73E, ICBN), it seems likely that these two names correspond to the same plant and that a satisfactory type may be found among the collections of F. E. L. von Fischer in LE or distributed among several European herbaria (see Lanjouw and Stafleu 1957, p. 197). A duplicate in Fl may have been studied by Todaro. The type material was taken from a plant cultivated in the Gorenki Botanic Garden, Moscow. If the name can be satisfactorily typified in this way, it is to be cited as follows: *G. neglectum* var. *sinense* Fisch. pro sp. ex Tod., 1877.

cinereum (*G. cinereum* Raf., 1838, Sylva Tellur., p. 17).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

ciliostocarpura (*G. herbaceum* var. *ciliostocarpum* Prokh., 1947, Bot. Zh. 32: 70).

TYPE: No specimen is cited by Prokhanov. The name, therefore, can be typified only by his brief description.

coconadum (*G. obtusifolium* var. *coconadum* Gammie, 1905, Indian Cottons, p. 4, as *coconada*).

SUBSEQUENT COMBINATIONS: *G. arboreum* var. *coconadum* (Gammie) Prokh., 1947, Bot. Zh. 32: 67.

TYPE: Gammie's pl. 1B (1907). The name is not validly published (Art. 34, ICBN). See "Gammie's Names."

colombianum (*G. hirsutum* var. *colombianum* Mauer, 1930, Bull. Appl. Bot. Genet. Plant Breeding Suppl. 47: 445).

TYPE: COLOMBIA (?), Bukasov s.n. (BM, WIR).

comesii (*G. comesii* Spreng., 1889, Bull. Soc. Tosc. Ortic. 14: 308).

SUBSEQUENT COMBINATIONS: *G. arboreum* var. *comesii* (Spreng.) Roberty, 1950, Candollea 13: 51.

TYPE: Sprenger described his experience in growing the plant in several locations in southern Italy, at Eboli and near Naples. He named the species for Prof. Comes of Portici, a suburb of Naples. If a Sprenger specimen exists, it is to be sought in NAP. If not, Sprenger's excellent color plate (loc. cit. pl. 10) may serve to typify the name.

congestum (*G. congestum* Miers ex Watt, 1907, Wild and Cultivated Cotton Plants, p. 210).

TYPE: Based on a manuscript name by Miers (specimen not otherwise cited) in BM. The name was cited by Watt as a synonym; it is therefore not validly published (Art. 34, ICBN).

conglomeratum (*G. conglomeratum* Wiesn., 1903, Rohstoffe Pflanz., ed. 2, vol. 2, p. 236).

TYPE: No type is known; the name was published as a provisional name and is thus invalid under Art. 34, ICBN.

contextum (*G. contextum* Cook & Hubb., 1926, J. Wash. Acad. Sci. 16: 337).

TYPE: MEXICO: Sinaloa: Los Mochis, cultivated, *Cook & Hubbard s.n.*, 15 Dec 1925 (holotype: US-1209602).

convexum (*G. convexum* Raf., 1838, *Sylva Tellur.*, p. 16).

TYPE: Indian, *von Rohr s.n.* (lectotype: C-herb. Vahlia; NA, as photo). The specimen is described and discussed by Fryxell (1969a), and several isotypes, all in C, are noted.

copticum (*G. peruvianum* var. *copticum* Roberty, 1946, Candollea 10: 382).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *copticum* (Roberty) Roberty, 1950, Candollea 13: 86.

TYPE: Toudri, cultivated at Giza, 1924, *Simpson C121* (CAIM). See "Roberty's and Watt's Types in Cairo." This name is illegitimate under Art. 28, ICBN, and should be given a cultivar name rather than a varietal name.

costulatum (*G. costulatum* Tod. nom. nov., 1877, Monografia, p. 109).

TYPE: Based on *Fugosia latifolia* Benth., 1863, Flora Austral., vol. 1, p. 221, the type of which is WESTERN AUSTRALIA: Careening Bay, Cunningham 262, Oct 1820 (holotype: BM; isotype: K). Todaro proposed the epithet *costulatum* as an avowed substitute because the transfer of Bentham's name to *Gossypium* would have resulted in a later homonym.

croceum (*G. croceum* Buch.-Ham., 1822, Trans. Linn. Soc. 13: 494).

TYPE: This species is distinguished solely by the yellowish or reddish color of the seed hairs, a character that has no specific value in *Gossypium* since it is found as a genetic variant in several species. None of the other elements of the protolog provides a means of typifying the name. Watt (1907) makes no mention of a specimen annotated with this name by Hamilton, even though Watt made a thorough study of the specimens

of *Gossypium* in the Edinburgh Herbarium, where the best set of Hamilton's plants is found. Consequently, we cannot typify the name. Although the name has gained no currency in subsequent studies of *Gossypium* (presumably because of the artificiality of the concept upon which it is based) and although it is nevertheless validly published, it seems best to reject it as an ambiguous name under Art. 69, ICBN. Since almost no one has used the name, it cannot be characterized literally as "a long-persistent source of error"; but since the name, as conceived by Hamilton, can be applied to any of several species as currently understood, it is a potential source of error and is best rejected. I do not believe that rejecting the name violates the sense of Art. 69, especially since the name is generally ignored in the literature of the genus.

cunninghamii (*G. cunninghamii* Tod. nom. nov., 1877. Monografia, p. 110).

TYPE: Based on *Fugosia punctata* Cunn. ex Benth., 1863. Flora Austral., vol. 1, p. 220 (non *F. punctata* Turcz., 1858), the type of which is AUSTRALIA: Northern Territory: Port Essington, Cunningham 264, 17 Apr 1818 (holotype: BM; isotype: K). The typification of this name is discussed in detail by Fryxell (1965a, pp. 87-88). Todaro's epithet *cunninghamii* was required because the transfer of Cunningham's (and Bentham's) name to *Gossypium* would have resulted in a later homonym and because the original basionym was in itself a later homonym.

cupulare (*G. hirsutum* f. *cupulare* Roberty, 1950. Candollea 13: 80).

TYPE: Nous l'avons obtenue par ségrégation massale, dans un lot de graines reçues du Jardin botanique d' El Hamma. Lot très certainement hybrids entre le *G. hirsutum* et le *G. barbadense*: Roberty 2911 (Alger, courte soie) (G). Although the name is both legitimate and satisfactorily typified, one cannot but question the wisdom of basing new names and founding new "taxa" upon such material.

cutchicum (*G. neglectum* subvar. *cutchicum* Gammie, 1905. Indian Cottons, p. 7, as *cutchica*).

SUBSEQUENT COMBINATIONS: *G. speciosum* var. *cutchicum* (Gammie) Prokhh., 1947, Bot. Zh. 32: 68.

TYPE: Gammie's pl. 11A, C-E. (1907). The name is not validly published (Art. 34, ICBN). See "Gammie's Names."

darwinii (*G. darwinii* Watt, 1907. Wild and Cultivated Cotton Plants, p. 68).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *darwinii* (Watt) J. B. Hutch., 1947, Evol. Gossyp., p. 51. *G. barbadense* ssp. *darwini* (Watt) Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 24. *G. barbadense* f. *darwini* (Watt) Roberty, 1950, Candollea 13: 91.

TYPE: GALAPAGOS ISLANDS: James Island.. *Darwin* s.n., 1835 (holotype, CGE). No isotypes are known, but duplicates of Darwin's

collections from the Beagle voyage exist in other herbaria (see Lanjouw and Stafleu 1954, p. 152).

davidsonii (*G. davidsonii* Kell., 1875 [1873], Proc. Calif. Acad. Sci. 5: 82).

SUBSEQUENT COMBINATIONS: *G. klotzschianum* var. *davidsonii* (Kell.) J. B. Hutch., 1947, Evol. Gossyp., p. 22. *G. klotzschianum* ssp. *davidsonii* (Kell.) Roberty, 1950, Candollea 13: 29.

TYPE: BAJA CALIFORNIA: San José del Cabo, *Davidson* s.n., Mar 1873 (LAM?: a fragment in GH is a probable isotype). Among unpublished notes of the late T. H. Kearney I find the statement, "The type specimen [of *G. davidsonii*] was not located at Calif. Acad. Sci."

decurrens (*G. decurrens* Raf., 1838, Sylva Tellur., p. 15).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

degeneratum (*G. maritimum* var. *degeneratum* Tod., 1863, G. R. Ist. Incor. 1: 100).

SUBSEQUENT COMBINATIONS: *G. jumelianum* var. *degeneratum* (Tod.) Prokh., 1947, Bot. Zh. 32: 77.

TYPE: Fletcher (1908, p. 383) states that "many specimens of [var. *degeneratum*] are preserved at Palermo" derived from plants grown by Todaro (PAL). Fletcher provides a photographic representation of one of these specimens (pl. 6). A lectotype should be chosen from among these specimens, but this choice will need to be made with care, since Fletcher notes that the specimens "vary much in the degree of hairiness and in the presence or absence of a purple 'eye' in the flower."

deltaicum (*G. barbadense* var. *deltaicum* Roberty, 1946, Candollea 10: 390).

TYPE: Sakellaridis, cultivated at Giza, 1924, *Simpson* C837 (CAIM). See "Roberty's and Watt's Types in Cairo." This name is illegitimate under Art. 28, ICBN, and should be *G. barbadense* cv. 'Sakellaridis'.

dentatum (*G. arboreum* ssp. *dentatum* Roberty, 1950, Candollea 13: 37).

TYPE: No type for this name is cited by Roberty, and the name is so used by the publishing author as to render it illegitimate under Art. 25, ICBN. See "Roberty's Category of Subspecies."

deserticum (*G. purpurascens* var. *deserticum* Roberty, 1938, Candollea 7: 333).

SUBSEQUENT COMBINATIONS: *G. latifolium* var. *deserticum* (Roberty) Roberty, 1942, Candollea 9: 93. *G. hirsutum* ssp. *deserticum* (Roberty) Roberty, 1950, Candollea 13: 60.

TYPE: Lignée isolée dans la descendance d'un hybride artificiel coton indigène × *Hartsville American upland*, cultivated in the Jardin Botanique Soninkoura, Roberty 1094 (G). The wisdom of publishing a name and establishing a taxonomic category for a "line isolated from the descendants of an artificial hybrid" may surely be challenged, as may

the legitimacy of the name under the provisions of Art. 28, ICBN. This article states that "variants of infraspecific rank, which arise in cultivation through hybridization . . . and which are of sufficient interest to cultivators to be distinguished by a name, receive cultivar epithets" rather than formal Latin epithets of species or varieties. The implication is that such variants, as in the present case, that are not of sufficient interest to cultivators to be distinguished by a name do not even merit a cultivar epithet. In this sense I regard this name as illegitimate under Art. 28, ICBN.

dicladum (*G. dicladum* Cook & Hubb., 1926, J. Wash. Acad. Sci. 16: 338).

TYPE: MEXICO: Sinaloa: Los Mochis. *Cook & Hubbard s.n.*, 15 Dec 1925 (holotype: US-1209605).

dinteri (*G. herbaceum* var. *dinteri* Ulbr., 1912, Bot. Jahrb. Syst. 48: 379).

TYPE: SOUTHWEST AFRICA: Amboland: Onguma-Ondera im *Excoecariopsis*-Walde, besonders an Termitenhausen, Dinter 2271, Aug 1911 (B, lost?). One or more isotypes may be located among the duplicates of Dinter's collections, which are fairly widely distributed (see Lanjouw and Stafleu 1954, p. 163).

divaricatum (*G. divaricatum* Raf., 1838, Sylva Tellur., p. 17).

TYPE: Domingo couronné, von Rohr s.n. (lectotype: C-herb. Vahlii: NA, as photo). The specimen is described and discussed by Fryxell (1969a), and several isotypes, all in C, are noted.

drynarioides (*G. drynarioides* Seem., 1865, Flora Vitiensis, p. 22).

SUBSEQUENT COMBINATIONS: *Kokia drynarioides* (Seem.) Lewt., 1912, Smithson. Misc. Collect. 60(5): 3.

TYPE: HAWAIIAN ISLANDS: Molokai, Nelson s.n. (holotype: BM). This plant has been transferred to the endemic Hawaiian genus *Kokia* by Lewton, which position has been accepted by subsequent workers.

dubiosum (*G. peruvianum* var. *dubiosum* Roberty, 1946, Candollea 10: 380).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *dubiosum* (Roberty) Roberty, 1950, Candollea 13: 96.

TYPE: Szymaneck × P4-38.124, cultivated in the Jardin Botanique Soninkoura, 1925, Roberty 2922 (G). This plant was "isolée dans la descendance d'un hybride artificiel indigène de Ségou (*G. hirsutum punctatum*) × indigène de bouaké (*G. peruvianum guineense?*).". The name is well chosen, but it must be rejected as illegitimate under Art. 28, ICBN, for the same reason as that put forth for rejecting the name *G. purpurascens* var. *deserticum* Roberty.

edentulum (*G. lapideum* f. *edentulum* Roberty, 1942, Candollea 9: 63).

TYPE: ANGOLA, Welwitsch 5288 (holotype: B, lost?; isotypes: LISU? BM?).

eggersii (*G. barbadense* f. *eggersii* Roberty, 1950, *Candollea* 13: 83).

TYPES: ANTILLES, Eggers 342 (holotype: G; isotypes: B, K). Isotypes other than those cited by Roberty probably exist (see Lanjouw and Stafleu 1957, p. 178).

eglantulosum (*G. eglantulosum* Cav., 1788, *Monad. Cl. Diss. Dec.* No. 6, p. 354).

TYPE: The name is based on a plant grown in the Paris Botanic Garden. Authentic material is to be sought in P and MA. Chevalier (1939) does not mention this name.

ekmanianum (*G. ekmanianum* Wittm., 1928, *Bot. Kult. Baumw.*, vol. 4, pt. 1, p. 174, in Herzog (ed.), *Techn. Textilf.*).

SUBSEQUENT COMBINATIONS: *G. latifolium* var. *ekmanianum* (Wittm.) Roberty, 1942, *Candollea* 9: 92. *G. hirsutum* var. *ekmanianum* (Wittm.) Roberty, 1950, *Candollea* 13: 76. *G. tricuspidatum* var. *ekmanianum* (Wittm.) Mauer, 1954, *Proiskhozhd. Sist. Khlop.*, p. 315.

TYPE: HAITI: Province Barakona: nahe dem Rio Yaque (Yaqui) del Sur in Cordillera de Neyba (Neiba) an den dürrsten Orten gemein, *Eckman* H5792, 1 Apr 1926 (holotype: S; isotypes: NY, US). The Stockholm specimen is annotated by Wittmack: "Gossypium Ekmanianum sp. nov. 5/7 1926" (T. Norlindh, personal communication). Isotypes also exist in other herbaria.

elatum (*G. elatum* Salisb., 1796, *Prodri. Stirp.*, p. 385).

TYPE: This name is illegitimate (Art. 63, ICBN), and the type is that of *G. religiosum* L., q.v.

²elatum (*G. arboreum* ssp. *elatum* Roberty, 1950, *Candollea* 13: 36).

TYPE: No type is cited for this name by Roberty, and the name is so used by him as to render it illegitimate under Art. 25, ICBN. See "Roberty's Category of Subspecies." The name is not a later homonym of *G. elatum* Salisb., since it is of different rank.

ellenbeckii (*G. ellenbeckii* (Gürke) Mauer, 1950, *Tr. Sredneaziat. Gos. Univ.* 18: 19).

TYPE: Based on *Cienfuegosia ellenbeckii* Gürke, 1904, *Bot. Jahrb. Syst.* 38: 381, which is based upon two collections of Ellenbeck, Nos. 2069 and 2082, both from southern ETHIOPIA: Gallahochland, im Buschwald bei Tarro Gumbi im Lande Boran, 450–550 m ü. M., Apr 1901 (B, lost). The name may be typified only by the original description, which fortunately is detailed.

elmeri (*G. lapideum* f. *elmeri* Roberty, 1950, *Candollea* 13: 99).

TYPE: PHILIPPINES, Elmer 15445 (G). Isotypes are widely distributed (see Lanjouw and Stafleu 1957, p. 182).

evertum (*G. evertum* Cook & Hubb., 1926, *J. Wash. Acad. Sci.* 16: 549).

TYPE: COLOMBIA: Buenaventura, Cook & Hubbard 63, 30 Apr 1926 (US-1282028 and -029). The second of these duplicates is herewith designated as lectotype.

fallax (*G. hirsutum* var. *fallax* Roberty, 1950, *Candollea* 13: 73).

TYPE: SOUDAN FRANÇAIS & SONINKOURA, Métis Szymaneck Hartsville × Koriba H.Ko4, Roberty 2011 (G). It is my opinion that the naming of intercultivar hybrids such as this with formal taxonomic names is quite contrary to the spirit of the ICBN. Specifically, Art. H.2 states: "Hybrids or putative hybrids between infraspecific taxa of the same species may be designated . . . [if] it seems useful or necessary, by a name of the same taxonomic rank of the parents . . ." Aside from the question of the usefulness or necessity of the name (I do not think it either useful or necessary), it can be argued that since the parents are distinguished in cultivar rank, the hybrid should be, too; or that it could be distinguished as a nothomorpha, if one wished to emphasize its hybridity. In any case, *G. hirsutum* var. *fallax* Roberty is regarded as illegitimate under Art. H.2.

fasciculatum (*G. albescens* var. *fasciculatum* Prokh., 1947, *Bot. Zh.* 32: 74).

TYPE: No specimens are cited by Prokhanov; instead, he bases the name on two named cultivars, 'Cluster' and 'Dickinson'. Prokhanov's name is therefore illegitimate under the provisions of Art. 28, ICBN, since this taxon should have been given a cultivar name. See "Prokhanov's Varieties."

ferrugineum (*G. hirsutum* var. *ferrugineum* Mauer, 1930, *Bull. Appl. Bot. Plant Breeding Suppl.* 47: 440).

TYPE: Two specimens are cited, one from Guatemala and one from Colima, Mexico. Since *varietas ferrugineum* is described as a Guatemalan plant, it is appropriate to regard the Colima plant as a syntype and to designate the following specimen as lectotype: GUATEMALA: from the region of Mazatenango, Maxon s.n., 1905 (US).

ficifolium (*G. barbadense* f. *ficifolium* Roberty, 1950, *Candollea* 13: 85).

TYPE: Verdão, reçu de Natal, Bresil, collected at Soninkoura, Roberty 2889 (G).

figarii (*G. figarii* Tod., 1864, *Relazione*, p. 12, as *figarei*).

TYPE: This name was based on several seed accessions received from Egypt from the "Charissimo sign. Figari Bey residente al Cairo" under Figari's Nos. 16, 17, and 18, but with several separate accessions included under No. 16. Most or all of these were cultivated by Todaro in the Palermo Botanic Garden, of which specimens are preserved in PAL. A lectotype should be chosen from among these materials.

flavidum (*G. flavidum* Wiesn., 1903, *Rohstoffe Pflanz.*, ed. 2, vol. 2, p. 236).

TYPE: This name is a nomen nudum, although Wiesner uses it freely and refers to measurements of fiber properties of cotton of this species.

flaviflorum (*G. flaviflorum* (F. v. M.) F. v. M. ex Tod., 1877, *Monografia*, p. 105).

TYPE: Based on *Fugosia flaviflora* F. v. M., 1865, *Fragm. Phyogr. Austral.* 5: 44, the holotype of which is WESTERN AUSTRALIA: Glenelg River, Martin 6 (MEL). This taxon was excluded from *Gossypium* by Fryxell (1965a) and placed in synonymy with *Thespesia lampas* var. *thespesioides* (R. Br. ex Benth.) Fryx.

²***flaviflorum*** (*G. hirsutum* var. *flaviflorum* Mauer, 1930, *Bull. Appl. Bot. Genet. Plant Breeding Suppl.* 47: 437).

TYPE: MEXICO: Sinaloa: District Mazatlán and Villa Union, *Bukasov s.n.* (WIR). This collection of Bukasov is chosen as lectotype from among the several that are cited by Mauer from western Mexico.

flavum (*G. flavum* Cav., 1788, *Monad. Cl. Diss. Dec.* No. 6, p. 314).

SUBSEQUENT COMBINATIONS: *G. latifolium* f. *flavum* (Cav.) Roberty, 1942, *Candollea* 9: 93. *G. hirsutum* f. *flavum* (Cav.) Roberty, 1950, *Candollea* 13: 63.

TYPE: This name is not validly published because it was not accepted by the publishing author (Art. 34, ICBN), who stated: "In Regio Horto Parisiensi plantam vidi needum floridam nomine Gossypii Flavi Siam. . . ." The new combinations published by Roberty do not constitute valid publication either, since they are based solely on Cavanilles' name, without description, and with the explicit comment that he had not examined the specimen to which Cavanilles referred.

flocosum (*G. decurrens* var. *flocosum* Raf., 1838, *Sylva Tellur.*, p. 15).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

¹***floribundum*** (*G. albiflorum* var. *floribundum* Tod., 1863, *G. R. Ist. Incor.* 1: 43).

SUBSEQUENT COMBINATIONS: *G. arboreum* var. *floribundum* (Tod.) Roberty, 1950, *Candollea* 13: 37.

TYPE: Cultivated in the Palermo Botanic Garden from seed accession No. 18. *Todaro s.n.* (PAL). Roberty (1950, p. 37) cites as type: "Hort. bot. Palerme, *Todaro s.n.* [1870]" but provides no justification for the date, which is in error since Todaro stated in his 1863 publication that the plant was in cultivation in Palermo.

²***floribundum*** (*G. maritimum* var. *floribundum* Tod., 1877, *Monografia*, p. 226).

TYPE: Todaro published *G. maritimum* var. *polycarpum* as "una nuova varietà," and cited varietas *floribundum* as a synonym, giving no reason for introducing the new epithet. Moreover, he cited the place of publication of varietas *floribundum* as "ind. sem. hort. bot. pan. anno 1877," but a perusal of that work (cited in error by Fryxell and Smith 1972) fails to reveal the name. The name is therefore a nomen nudum and also is not validly published under Art. 34, ICBN, since it is cited only as a synonym.

¹***frutescens*** (*G. frutescens* Lasteyr., 1808, *Du Cotonnier*, p. 435).

TYPE: Lasteyrie's pl. 1. Although on p. 85 Lasteyrie discusses what is apparently this plant, using the name "*gossypium fruticosum*," he uses the epithet *frutescens* in the formal description of the plant on p. 435 (the "Explication des Figures"), as well as on the plate itself.

²frutescens (*G. herbaceum* var. *frutescens* Del., 1813, *Florae Aegypt.*, p. 69, No. 646).

SUBSEQUENT COMBINATIONS: *G. herbaceum* ssp. *frutescens* (Del.) Mauer, 1950, *Tr. Sredneaziat. Gos. Univ.* 18: 17. *G. arboreum* var. *frutescens* (Del.) Roberty, 1950, *Candollea* 13: 54.

TYPE: Delile's original herbarium is in MPU, but duplicates of his Egyptian collections are in numerous other herbaria (see Lanjouw and Stafleu 1954, p. 157). Fletcher (1908, pl. 1) reproduces a photograph of a specimen in P, which he says is named in Delile's own hand. The same label adds "Ex herb. Bonpland." Presumably the holotype is in MPU.

²fruticulosum (*G. fruticulosum* Tod., 1877, *Monografia*, p. 187).

SUBSEQUENT COMBINATIONS: *G. jamaicense* f. *fruticulosum* (Tod.) Roberty, 1950, *Candollea* 13: 101.

TYPE: *Gossypium . . . C. Turgenam?* Mexico, 1844, No. 198, in Herb. Webb (FI).

²fuscum (*G. fuscum* Roxb. ex Wight & Arn., 1834, *Prodr. Florae Penin. Indiae Orient.*, p. 448).

SUBSEQUENT COMBINATIONS: *G. latifolium* f. *fuscum* (Roxb.) Roberty, 1942, *Candollea* 9: 98. *G. hirsutum* f. *fuscum* (Roxb.) Roberty, 1950, *Candollea* 13: 64.

TYPE: This name was cited by Wight and Arnott (as well as by Watt 1907, p. 201) as a synonym and is therefore not validly published (Art. 34, ICBN). The basis for the name is Roxburgh's unpublished drawing No. 1497 (reproduced in color by Watt as pl. 33); Wight and Arnott's citation of "tab. 1496" is evidently a typographical error for 1497, since they also cite 1496 (on p. 55) for *G. rubicundum*, which is also reproduced by Watt (1907, pl. 18). See "Roxburgh Types."

²fuscum (*G. fuscum* Raf., 1838, *Sylva Tellur.*, p. 16).

TYPE: Siam seminibus glabris, von Rohr s.n. (lectotype: C-herb. Vahlii; NA, as photo). The type, a poor specimen, is described by Fryxell (1969a).

²gambiae (*G. hirsutum* f. *gambiae* Roberty, 1950, *Candollea* 13: 59).

TYPE: SOUDAN FRANÇAIS, collected at Soninkoura, Gambia R. A8, Roberty 3522 (G).

²gaumeri (*G. hirsutum* f. *gaumeri* Roberty, 1950, *Candollea* 13: 58).

TYPE: YUCATAN, Gaumer 23236 (holotype: G; isotypes: GH, MO, NY, US-842246, and elsewhere; see Lanjouw and Stafleu 1957, p. 219).

²glabratum (*G. albiflorum* var. *glabratum* Tod., 1863, *G. R. Ist. Incor.* 1: 43).

TYPE: Cultivated in the Palermo Botanic Garden from seed accession N°. 58. *Todaro s.n.* (PAL).

²*glabratum* (*G. glabratum* Tod., 1863, G. R. Ist. Incor. 1: 85).

SUBSEQUENT COMBINATIONS: *G. roseum* var. *glabratum* (Tod.) Tod., 1877, Monografia p. 165.

TYPE: Cultivated in the Palermo Botanic Garden from seed accession No. 106. *Todaro s.n.* (PAL).

³*glabratum* (*G. hirsutum* var. *glabratum* Tod., 1864, Index Sem. Hort. Reg. Bot. Panorm. 1864: 31).

TYPE: Todaro explicitly states that this taxon is distinct from *G. glabratum* Tod. and implies that it is distinct from *G. albiflorum* var. *glabratum*. It is perhaps unfortunate that all three identical basionyms are legitimate because of the potential confusion, but satisfactory typification can preclude misunderstanding. Although Todaro does not explicitly cite type material, he does clearly indicate that he grew this plant in the Palermo Botanic Garden; presumably one or more specimens can be identified as the basis for this name among the Todaro collections in PAL.

glabrum (*G. glabrum* Lam., 1786, Encycl. Méthod. Bot. 2: 135).

SUBSEQUENT COMBINATIONS: *G. peruvianum* var. *glabrum* (Lam.) Roberty, 1946, Candollea 10: 378. *G. tricuspidatum* ssp. *glabrum* (Lam.) Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 23. *G. barbadense* var. *glabrum* (Lam.) Roberty, 1950, Candollea 13: 91.

TYPE: ANTILLES, nouvellement cultivée au Jardin du Roi, but Chevalier (1939, p. 546) states: "Lamarck n'a pas vu cette plante en fleurs et elle n'existe pas dans son Herbier de sorte que le type nous est inconnu." It may be hoped that the type exists in P and that it was somehow overlooked by Chevalier. Failing that, Lamarck's description will have to serve as type.

¹*gossypiooides* (*G. gossypiooides* (Ulbr.) Standl., 1923, Contrib. U.S. Natl. Herb. 23: 783).

TYPE: This name is based on *Selera gossypiooides* Ulbr., 1913, Verh. Bot. Ver. Prov. Brandenburg 55: 51, the holotype of which is MEXICO: Oaxaca: San Bartolo Yautepec, C. & E. *Seler* 1700. 6 Jan 1896 (B, lost). Since the holotype is lost and no other authentic material is known, Fryxell (1970) designated the following neotype: MEXICO: Oaxaca, 39 km W of Tequisistlán, on highway 190, at K 706½, in rocky hills; alt. 2,900 ft. Fryxell 757, 9 Oct 1968 (US; isoneotypes: F, MEXU, MO, NA, TAES, UC). Ulbrich's genus *Selera* is generally submerged in *Gossypium* as a section or subsection (e.g., Fryxell, 1969b).

²*gossypiooides* (*G. gossypiooides* (R. Br.) C. A. Gardn., 1931, Enum. Plant. Austral. Occident., p. 79).

TYPE: This name is based on *Sturtia gossypiooides* R. Br. in Sturt, 1849, Exped. Cent. Austral. vol. 2, app. p. 68, the type of which is AUSTRALIA:

LIA: Queensland, in the beds of the creeks of the Barrier Range, *Sturt* 20, 1844 (holotype: BM). Since Gardner's combination is illegitimate as a later homonym (Art. 64, ICBN), a new name (see *sturtianum*) was required to accommodate this plant in *Gossypium*, where Brown's genus *Sturtia* is generally submerged as a subgenus (e.g., Fryxell 1969b).

gracile (*G. gracile* Salisb., 1796, Prodr. Stirp., p. 385).

TYPE: The type is that of *G. arboreum* L., q.v., and Salisbury's name is illegitimate (Art. 63, ICBN).

gracile (*G. hirsutum* var. *gracile* Roberty, 1950, Candollea 13: 78).

TYPE: TOGO CENTRAL, *Roberty* 1480 (G?).

grandiflorum (*G. ranning* var. *grandiflorum* Tod., 1877, Monografia, p. 147).

TYPE: Cultivated in the Palermo Botanic Garden, *Todaro* s.n. (PAL).

guatemaltequense (*G. hirsutum* f. *guatemaltequense* Roberty, 1950, Candollea 13: 62).

TYPE: Guatemala kaki, collected at Soninkoura, *Roberty* 3835 (G).

guineense (*G. peruvianum* f. *guineense* Roberty, 1945, Ann. Inst. Bot. Géol. Colon. Marseille, ser. 6, vol. 3: 54).

TYPE: *Roberty* 3053 (G).

gussonei (*G. hirsutum* f. *gussonei* Roberty, nom. nov., 1950, Candollea 13: 63).

TYPE: Based on *G. siamense* Ten., q.v., and not on the specimen of Gussone cited by Roberty, who states: "Notre f. *Gussonei* s'applique plus strictement au *G. siamense* de Tenore (non de Tussac). . . ."

guyanense (*G. guyanense* Raf., 1838, Sylva Tellur., p. 16).

TYPE: GUIANA, von Rohr s.n. (lectotype: C-herb. Vahlit; NA as photo). The specimen is described and discussed by Fryxell (1969a), and two additional isotypes, also in C, are noted.

hahnii (*G. barbadense* var. *hahnii* Roberty, 1950, Candollea 13: 89).

TYPE: ANTILLES: Martinique, *Hahn* 492 (G). Duplicates of Hahn's collections are widely distributed (see Lanjouw and Stafleu 1957, p. 249).

hardyanum (*G. hirsutum* var. *hardyanum* Tod., 1863, G. R. Ist. Incor. 1: 91).

TYPE: Coton Georgia, cultivated in the Palermo Botanic Garden, from seeds received from Auguste Hardy (in Algeria), *Todaro* s.n. (PAL).

harknessii (*G. harknessii* Brandeg., 1889, Proc. Calif. Acad. Sci., ser. 2, vol. 2: 136).

TYPE: BAJA CALIFORNIA: Santa Margarita Island, *Brandegee* s.n.. 1 Mar 1889 (holotype: UC-109135; isotypes: CAS, GH, PH, US-12917). Additional isotypes probably are to be found in other herbaria (see Lanjouw and Stafleu 1957, p. 93).

harlandianum (*G. hirsutum* var. *harlandianum* Roberty, 1950, Candollea 13: 68).

TYPE: Roberty cites four specimens, from Egypt, the French Sudan, and Martinique (*Unger* 149, *Simpson* C285, *Roberty* 2009, and *Bélanger* 19 bis), one of which should be chosen as lectotype.

harrisii (*G. harrisii* Watt, 1927, *Kew Bull.* 1927: 311).

TYPE: JAMAICA, found wild on the coastline between Portland Point and Rocky Point, *Harris s.n.*, Flora Jamaicensis No. 10179 (holotype: K; isotypes: NY, US-656955). Isotypes are to be sought in other herbaria (see Lanjouw and Stafleu 1957, p. 257).

herbaceum (*G. herbaceum* L., 1753, *Species Plant.*, p. 693).

SUBSEQUENT COMBINATIONS: *G. obtusifolium* ssp. *herbaceum* (L.) Gammie, 1905 Indian Cottons, p. 2. *G. arboreum* var. *herbaceum* (L.) Roberty, 1950, *Candollea* 13: 49.

TYPE: The holotype is LJNN-874.1, annotated "1. *herbaceum*" by Linneaeus (see Fryxell 1968, p. 378). A photograph of this specimen is reproduced by Watt (1907, pl. 24A). A probable isotype exists in S (Fryxell, loc. cit.). Gammie's combination is illegitimate under Art. 57, ICBN. See "Gammie's Names."

hibridum (*G. microcarpum* var. *hibridum* Tod. 1877, *Monografia*, p. 182).

SUBSEQUENT COMBINATIONS: *G. albescens* var. *hibridum* (Tod.) Prokh., 1947, *Bot. Zh.* 32: 74.

TYPE: Based on a plant that appeared to Todaro to be a hybrid of the species with 'Sea Island' cotton that was presumably grown in the Palermo Botanic Garden in 1877 and is represented by a specimen in PAL appropriately annotated by Todaro.

himalayanum (*G. nanking* var. *himalayanum* Watt, 1907, Wild and Cultivated Cotton Plants, p. 124, as *himalayana*).

SUBSEQUENT COMBINATIONS: *G. speciosum* var. *himalayanum* (Watt) Prokh., 1947, *Bot. Zh.* 32: 68. *G. arboreum* f. *himalayanum* (Watt) Roberty, 1950, *Candollea* 13: 46.

TYPE: Among numerous specimens cited, eight are singled out as "admirable examples of the ordinary Himalayan state of this plant": Hazara, Duthie 19261; Chamba, Lace 1836; Simla, Watt 7990, 9776, 10210, 13449; Kashmir, Gaminie s.n.; and Yarkland, Henderson s.n., 1870. A lectotype would be most wisely chosen from among these eight specimens, all of which are in K. The Kashmir plant of Thompson (K), a photograph of which is kept in US as type, is thus not a satisfactorily chosen lectotype.

hirsutissimum (*G. herbaceum* var. *hirsutissimum* Tod., 1877, *Monografia*, p. 132).

TYPE: Todaro does not cite any specific specimens or seed accession numbers grown in the Palermo Botanic Garden. It may be presumed, however, that the basis for Todaro's name was a plant grown in the Palermo garden and that it is represented by a specimen in PAL.

hirsutius (*G. obtusifolium* var. *hirsutius* Gammie, 1905, Indian Cottons, p. 4, as *hirsutior*).

SUBSEQUENT COMBINATIONS: *G. abyssinicum* var. *hirsutius* (Gammie) Prokh., 1947, Bot. Zh. 32: 70.

TYPE: Gammie's pl. 2A-G (1907). The name is not validly published (Art. 34, ICBN). See "Gammie's Names."

'hirsutum (*G. hirsutum* L., 1763, Species Plant., p. 975).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *hirsutum* (L.) Triana & Planch., 1862, Ann. Sci. Nat. Bot., ser. 4, vol. 17: 171. *G. herbaceum* var. *hirsutum* (L.) Mast. in Hook., 1874, Flora Br. India 1: 347.

TYPE: Miller's description (Gardener's Dictionary, 6th ed., 1752; *Gossypium* sp. No. 4) is the holotype. It is quoted in full by Fletcher (1907) with minor alterations. A more detailed discussion of the typification of this name is presented by Fryxell (1968, p. 382 ff.). Triana and Planchon's combination is a later homonym and hence illegitimate (Art. 64, ICBN). See following basionym.

'hirsutum (*G. barbadense* var. *hirsutum* Hook. & Benth., in Vogel, 1849, Niger Flora, p. 229).

TYPE: SIERRA LEONE. Miss Turner s.n. (K).

hopi (*G. hopi* Lewt., 1912, Smithson. Misc. Collect. 60 (6): 9).

TYPE: Cultivated, Victoria, Tex., Lewton 1009, 4 Aug 1909 (holotype: US-691075; isotypes: US-691074 and -691076).

humile (*G. wightianum* var. *humile* Tod., 1863, G. R. Ist. Incor. 1: 63).

SUBSEQUENT COMBINATIONS: *G. cambayense* var. *humile* (Tod.) Prokh., 1947, Bot. Zh. 32: 70.

TYPE: Todaro cites two seed accession numbers (31 and 66) from India that were grown in the Palermo Botanic Garden. A lectotype should be chosen from among the specimens in PAL corresponding to these numbers.

hutchinsonii (*G. arboreum* f. *hutchinsonii* Roberty, 1945, Ann. Inst. Bot.-Géol. Colon. Marseille, ser. 6, vol. 3: 42).

TYPE: Roberty 3855 (G).

hypadenum (*G. hypadenum* Cook & Hubb., 1926, J. Wash. Acad. Sci. 16: 336).

TYPE: MEXICO: Sinaloa: cultivated at Los Mochis, Cook & Hubbard s.n., 15 Dec 1925 (holotype: US-1209604).

imbricatum (*G. imbricatum* Vaup., 1840, Trans. Agric. Hort. Soc. Bombay).

TYPE: Evidently based on the same material as *G. vaupellii* (q.v.) published 1 year earlier (see Lewton 1920). The present name is thus superfluous and illegitimate under Art. 63, ICBN.

incanum (*G. incanum* (Schwartz) Hillc., 1959, Emp. Cotton Grow. Rev. 36: 165).

TYPE: Based on *Cienfuegoscia incana* Schwartz, 1935, Mitt. Inst. Allg.

Bot. Hamburg 10: 165, the type of which is ARABIA: Hadramaut: in der Umgebung von Nischataun bei Râs Fartak, *Paulay s.n.* (HBG?).

'indicum (*G. indicum* Medik., 1784, Bot. Beob. Jahres 1783: 198).

TYPE: Medikus' herbarium is unknown (Stafleu 1967, p. 304). His description must therefore serve as type.

'indicum (*G. indicum* Lam., 1786, Encycl. Méthod. Bot. 2: 134).

SUBSEQUENT COMBINATIONS: *G. herbaceum* var. *indicum* (Lam.) Roxb., nom. prov., 1832, Flora Indica, ed. 2, vol. 3: 185. *G. arboreum* f. *indicum* (Lam.?) Hutch. & Ghose, 1937, Indian J. Agric. Sci. 7: 248. *G. arboreum* var. *indicum* (Lam.) Roberty, 1950, Candollea 13: 43.

TYPE: INDIA, *Sonnerat s.n.* (holotype: P-LA). Lamarck based his name on "les morceaux que lui a communiqués M. Sonnerat," a photograph of which specimen is reproduced by Chevalier (1939, pl. 11). Unfortunately (since it is better typified), Lamarck's name is a later homonym of Medikus' name and is therefore illegitimate under Art. 64, ICBN, as are the three combinations in infraspecific rank cited above, since they are based upon it. Roxburgh's combination, moreover, is a nomen provisiorum and therefore not validly published. Hutchinson and Ghose's combination also cannot be accepted as valid, because the same name was published twice for two different taxa. (See "The Duplicate Formae of Hutchinson and Ghose.") The basis for the first name is not indicated, that for the second is "*G. indicum* Lamk. of Gammie [1907] (in part)." The nomenclatural difficulties presented by this example are too numerous to itemize, but it is clear that *G. arboreum* forma *indicum* (Lam.) Hutch. & Ghose is not validly published; if it were, it would nevertheless be illegitimate.

integrum (*G. barbadense* var. *integrum* Griseb., 1859, Flora Br. West Indian Isl., p. 86).

TYPE: ST. KITTS, *Elsey s.n.* (holotype: GOET; isotype: K?).

'intermedium (*G. intermedium* Tod., 1863, G. R. Ist. Incor. 1: 58).

TYPE: Seed accession No. 53, *Todaro s.n.* (PAL). Aliotta (1903, p. 86) notes the existence in PAL of this specimen, grown in the Palermo Botanic Garden in 1863.

'intermedium (*G. hirsutum* var. *intermedium* Tod., 1863, G. R. Ist. Incor. 1: 91).

TYPE: Seed accession No. 123, *Todaro s.n.* (PAL).

'intermedium (*G. wightianum* var. *intermedium* Tod., 1867, Index Sem. Hort. Reg. Bot. Panorm. 1866: 35).

TYPE: Todaro cites "*G. album* Hort. Prag. anno. 1865" together with a brief description; in his later Monografia (1877b, p. 141, footnote 1) he gives the substance of the description (though not verbatim) and the same citation, except that it states "anno 1864" rather than "anno 1865." I do not know if the quoted name refers to a specimen or to a seed accession received under that name from the Prague Botanic Garden;

I suspect the latter is correct. In that case, the type should be sought in PAL among specimens collected by Todaro from the Palermo Botanic Garden about 1866.

involucellans (*G. hirsutum* f. *involucellans* Roberty, 1950, *Candollea* 13: 64).

TYPE: Roberty cites two specimens (*Roberty 3266* and *Roberty 3167*), one of which should be designated lectotype. Both are presumably in *G.*

involutum (*G. peruvianum* var. *involutum* Roberty, 1946, *Candollea* 10: 383).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *involutum* (Roberty) Roberty, 1950, *Candollea* 13: 88.

TYPE: Giza 43, cultivated at Hamraoui, 1945, *Roberty 5200* (G). Although this specimen is the only one cited by Roberty, and should thus be regarded as the holotype, Roberty cites it as "Typus proximus"! (See "Roberty's Typus Proximus.") The name is rejected as illegitimate under Art. 28, ICBN. The plant should bear the name *G. peruvianum* cv. 'Giza 43'.

irenaeum (*G. irenaeum* Lewt., 1912, *Smithson. Misc. Collect.* 60(4): 1).

TYPE: GUATEMALA: Alta Verapaz, *Lewton 1007* (holotype: US-691080).

irvingianum (*G. peruvianum* var. *irvingianum* Watt, 1937, *Kew Bull.* 1927: 337).

SUBSEQUENT COMBINATIONS: *G. barbadense* f. *irvingianum* (Watt) Roberty, 1950, *Candollea* 13: 84.

TYPE: Watt cites numerous specimens from various parts of the world, but none of Irving's. He does allude to such specimens (Watt 1927, p. 339), as follows: "Some seventy years ago Dr. E. G. Irving studied the cottons of the Yoruba country on the West Coast of Africa. He sent his specimens and a report on the same to Kew and Sir William Hooker published it in the London Journal of Botany (vol. vii, 1855)." Since it is one of the "two or three forms" of Irving's cotton for which Watt provided a description and name, it is from among Irving's specimens in K that a lectotype should be chosen.

isabelum (*G. isabelum* Raf., 1838, *Sylva Tellur.*, p. 18).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

jamaicense (*G. jamaicense* Macf., 1837, *Flora Jamaic.* 1: 73).

SUBSEQUENT COMBINATIONS: *G. punctatum* var. *jamaicense* (Macf.) Watt, 1907, *Wild and Cultivated Cotton Plants*, p. 170, as *jamaica*. *G. hirsutum* f. *jamaicense* (Macf.?) Wouters, 1948, *Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34*: 102. *G. tricuspidatum* var. *jamaicense* (Macf.) Mauer, 1954, *Proiskhozhd. Sist. Khlop.*, p. 315.

TYPE: JAMAICA: Near Rockfort, *Macfadyen s.n.* Stafleu (1967, p. 294) states that "part of Macfadyen's herbarium is at K, duplicates at

e.g. CGF | CGE?), GOET, MO, and U." Watt, who was thoroughly familiar with the *Gossypium* specimens in K and in CGE, mentions no specimens of Macfadyen's in his treatise (1907), and I have found no such specimen in MO, which suggests that the type is to be sought elsewhere. **janiphaefolium** (*G. janiphaefolium* Bello, 1881, An. Soc. Esp. Hist. Nat. 10: 242).

SUBSEQUENT COMBINATIONS: *G. jamaicense* f. *janiphaefolium* (Bello) Roberty, 1950, Candollea 13: 102, as *janiphifolium*.

TYPE: Bello (1881, p. 231) says: "Mis herbarios [hayan] reducidos a polilla" [my herbarium was destroyed by moths], because it was impossible to preserve it in a climate as "contrary" as that of Puerto Rico. Consequently, a type specimen does not exist, and Bello's description must serve as type.

japanense (*G. nanking* var. *japanense* Watt, 1926, Kew Bull. 1926: 196).

SUBSEQUENT COMBINATIONS: *G. speciosum* var. *japanense* (Watt) Prokh., 1947, Bot. Zh. 32: 68.

TYPE: JAPAN: cultivated at the Cotton Experimental Station, Mokpo, Chosen, from Chosen seed, Mihara 10 (E. K, fide Watt 1926, p. 193; US, as photo).

japonicum (*G. intermedium* var.? *japonicum* Tod., 1877, Monografia, p. 155).

TYPE: JAPAN: Yokohama, Maximowicz s.n., 1862 (isotype: NY). See Parlatore 1874, p. 43. Todaro cites "Gossypium album Hort. petrop. ex speciminibus a cl. Maximowicz missis." The holotype (PAL or FI) thus presumably bears a Hortus Petropolitanus label with the *G. album* determination. The NY isotype was determined as *G. herbaceum* and was later corrected to *G. nanking*. Todaro evidently did not grow this plant in the Palermo Botanic Garden; his "?" may simply be based on his inability to observe living plants. An additional isotype is to be sought in LE. Art. 34, Note 1, ICBN, makes it clear that this name is validly published.

javanicum (*G. javanicum* Bl., 1825, Bijdr. Flora Nederl. Indie, p. 74).

TYPE: JAVA, Blume s.n. (holotype: L-908.133-1836). The type is specifically noted by Borssum Waalkes (1966, p. 126).

javanicum (*G. javanicum* Dec., 1835, Nouv. Ann. Mus. Hist. Nat. 3: 433).

NEW NAMES: *G. timorense* Prokh., nom. nov., 1947, Bot. Zh. 32: 64.

TYPE: Decaisne's plants are in P, but Borssum Waalkes (1966, p. 127) reports his inability in the case of this name "to find at Paris any authentic specimen examined or annotated by Decaisne." In the absence of such a specimen, Decaisne's description becomes the type; it is quoted by Fryxell (1965a, p. 92). Decaisne's name is illegitimate as a later homonym (Art. 64, ICBN), but Prokhanov's new name (q.v.) is legitimate and is based on the foregoing type.

jumelianum (*G. maritimum* var. *jumelianum* Tod., 1863, G. R. Ist. Incor. 1: 100).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *jumelianum* (Tod.) C. Müll. in Walp., 1869, Ann. Bot. Syst. 7: 414. *G. jumelianum* (Tod.) Prokh., 1947, Bot. Zh. 32: 77. *G. frutescens* var. *jumelianum* (Tod.) Prokh. nom. altern., 1949, Flora S.S.S.R. 15: 183.

TYPE: Todaro cites seed accession numbers from India (No. 15) and Algeria (Nos. 124, 129, 139, 144, 145, 155, 158, 159, 160, and 167). Presumably all of these were grown in the Palermo Botanic Garden, and specimens taken from these plants are preserved in PAL. A lectotype should be chosen from among these specimens. Aliotta (1903, p. 34) cites numerous specimens of this taxon, none of which is eligible to serve as lectotype. He cites none from PAL.

kathiavarens (*G. neglectum* subvar. *kathiavarens* Gammie, 1905, Indian Cottons, p. 7, as *kathiavarensis*).

TYPE: This taxon is simply a yellow-flowered form of *G. neglectum* subvar. *cutchicum* Gammie. It may be typified by Gammie's pl. 11B (1907) portraying a single flower, which is supported by a specimen in NA grown from seed supplied by Gammie. The name is not validly published (Art. 34, ICBN). See "Gammie's Names."

kirkii (*G. kirkii* Mast., 1882, J. Linn. Soc. 19: 214).

SUBSEQUENT COMBINATIONS: *Gossypoides kirkii* (Mast.) J. B. Hutch., 1947, New Phytol. 46: 132.

TYPE: TANZANIA: Dar-es-Salaam, *Kirk s.n.*, 1869 (K). This taxon is excluded from *Gossypium* and correctly placed in the allied genus *Gossypoides*. Isotypes may exist in CAL, F, or LE (Chaudhri et al. 1972, p. 363).

klotzschianum (*G. klotzschianum* Anderss., 1855, K. Vetenskapsakad. Handl. [Stockholm] 1835: 228).

TYPE: GALAPAGOS ISLANDS: in insulis Chatham & Charles, *Andersson s.n.* [1852] (holotype: S). Andersson's original set of specimens from his Galapagos collections of 1852 is in S. The specimen cited here is labeled in Andersson's hand. The label carries Andersson's binomial, with an extra flourish in the two initial letters, and "n. 301" after the name. This number (not a collection number) is the species number with which the original description was published, thus emphasizing the correspondence of the specimen with the name. Two other specimens in S, both collected by Andersson in the Galapagos, need to be considered in typifying this name. One he labeled "*Gossypium klotzschianum* And." as a correction of his initial identification "*Gossypium purpurascens* Poir." The other specimen is labeled in a different hand. Neither could have been the basis for the statement "involucro . . . corolla duplo breviori" in Andersson's description, whereas the holotype provides such a basis. Watt (1907, p. 67) cites "Andersson n. 173 [G.

K]"; he states that the Geneva specimen bears the name "*G. purpurascens* Poir., var. *Klotzchianum*." I have examined a photograph of this specimen (MO, sheet No. 1678436) from the Delessert Herbarium (G) and must correct Watt's statement in two particulars: (1) The number 173 was added by Watt and is not to be attributed to Andersson. (2) The trinomial that Watt quotes does not appear on the label as he indicates; "var." is lacking and "*Klotzschianum And.*" appears immediately below "*purpurascens* Poir." I conclude that it was intended to be an alternative name or (more likely—as on the Stockholm specimen) a correction of the initial determination. The G specimen is probably an isotype. Other isotypes probably exist (see Lanjouw and Stafleu 1954, p. 36). An isotype in CN is cited by Lignier and LeBey (1905, p. 226).

knightii (*G. barbadense* f. *knightii* Roberty, 1950, *Candollea* 13: 95).

TYPE: SOUDAN ORIENTAL: collections de Wad Medani, *Roberty* 5254 (BAR 5/11) (G). This specimen is one of the many experimental and commercial cottons developed by R. L. Knight that are resistant to the bacterial blight, or blackarm, disease (BAR=BlackArm Resistant). Roberty's name is illegitimate under Art. 28, ICBN. The plant should be named *G. barbadense* cv. 'BAR 5/11'.

kokatia (*G. neglectum* subvar. *kokatia* Gammie, 1905, *Indian Cottons*, p. 7).

SUBSEQUENT COMBINATIONS: *G. roxburghii* var. *kokatia* (Gammie) Prokh., 1947, *Bot. Zh.* 32: 68.

TYPE: Gammie's pl. 12G (1907). The name is not validly published under Art. 34, ICBN. See "Gammie's Names."

labillarderianum (*G. labillarderianum* Tod., 1877, *Monografia*, p. 258).

TYPE: In Insula Waigin, *Labillardier* s.n. (FI-herb. Webb; G?). Aliotta (1903, p. 54) notes that there are two such sheets in the Webb Herbarium, one of which should be designated lectotype. See also Chaudhri et al. 1972, p. 401.

laciniatum (*G. hirsutum* var. *laciniatum* Zaitz., 1923, *Tr. Prikl. Bot. Genet. Sel.* 13: 120, as *laciniata*).

TYPE: Zaitzev provides no indication that a type specimen exists. The plant is described as a laciniate-leaved mutant, differing by a single gene from the broad-leaved Upland cotton (*G. hirsutum* sens. lat.) in which it occurred. The mutant strain is identified as No. 221. The name is illegitimate, since the variant does not merit naming as a cultivar, much less a varietas (Art. 28, ICBN).

lanceiforme (*G. lanceiforme* Miers ex Britt., 1893, *J. Bot.* 31: 331, as *lanceaeforme*).

TYPE: The holotype is in BM; a photograph is reproduced by Hutchinson (1947, pl. 3B). Miers cites: "In Mexico, v.s. in hb. Mus. Brit. (*Pavon*)."
Britten adds: "The specimen came from Herb. Lambert, and is labelled in

Pavon's hand, 'Gossypium N.E.' It is in fact labeled "Gossypium herbaceum N.E." (N.E.=Nueva España, meaning Mexico). Sprague (1926) notes and Miller (1970) documents in detail how certain Sessé and Moçino specimens from Mexico passed through the hands of Pavon and Lambert and are now in the British Museum. The specimen is clearly an example of this traffic, and it is certainly to be ascribed to Sessé and Moçino as collectors, rather than to Pavon, since their collection of 1790 was the only collection made of this taxon until 1901, when it was again collected by Rose and Hay near Guadalajara (see Fryxell 1965c; Fryxell and Parks 1967). Thus, Kearney's (1952) supposition that the holotype of *G. lanceiforme* is a duplicate of the type (i.e., an isotype) of *Ingenhouzia triloba* DC. (=*Gossypium trilobum* (DC.) Skov.) becomes a certainty. Miers' name is therefore superfluous and illegitimate under Art. 63, ICBN.

lanceolatum (*G. lanceolatum* Tod., 1877, Monografía, p. 185).

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *lanceolatum* (Tod.) Aliotta, 1903, Rev. Crit. Gen. Gossyp., p. 80. *G. jamaicense* f. *lanceolatum* (Tod.) Roberty, 1950, Candollea 13: 101.

TYPE: Todaro cites "*G. hirsutum* var. Parl. sp. cot. p. 4," by which he clearly means "*G. hirsutum* var. b. Parl. Spec. Coton., p. 43, 1866," because both Todaro and Parlatore base their descriptions upon the same plants, cited by Todaro as "Tepic et sur la route de Jalisco, ex herb. Webb" and by Parlatore as "trovata vecine a Tepic e sulla strada di Talisco, nel Messico." There are three sheets of this gathering (according to Todaro) in FI, of which only one represents *G. lanceolatum*; this is presumably the sheet noted by Watt (1907, p. 210) as "named by Todaro himself." The sheet contains two branches, both of which represent the species, and one of which was the basis for Todaro's pl. 5, fig. dextera (Todaro 1878), according to Todaro. These specimens are further discussed by Aliotta (1903, p. 81).

lapideum (*G. lapideum* Tuss., 1818, Flore Antilles 2: 67).

TYPE: None is explicitly cited, except for the vernacular name "cottonier pierre. . . ou coton de Cayenne." Tussac's West Indian plants are best represented in P, and other Tussac specimens are in G and FI, but "only relatively few specimens collected by Tussac are known to be extant" (Stafleu 1967, p. 478). Chevalier (1939), who sought out types of *Gossypium* in Paris, does not mention *G. lapideum*. If no specimen of Tussac is discovered to typify this name, the original description may serve as type.

latifolium (*G. latifolium* Murr., 1776, Nov. Comment. Soc. Reg. Sci. Gotting. 7: 22).

SUBSEQUENT COMBINATIONS: *G. hirsutum* ssp. *latifolium* (Murr.) Roberty, 1950, Candollea 13: 61.

TYPE: There are 4,000 Murray specimens in K (Stafleu 1967, p. 333).

but Watt, who studied the Kew holdings of *Gossypium*, mentions no Murray specimens. (The two Murray specimens referred to by Watt (1907, p. 186) in G are from Jamaica and were collected by another Murray.) Murray based his description and plate on plants grown in his greenhouse from seeds received from Spielmann (who lived in Strassburg). Spielmann's manuscript name, *G. macedonicum*, suggests the place of origin of the seeds. In the absence of an authentic Murray specimen, Murray's pl. 1, which is reproduced by Roberty (1942, pl. 1) serves as an adequate type.

latisipulatum (*G. hirsutum* f. *latisipulatum* Roberty, 1950, *Candollea* 13: 79).

TYPE: SOUDAN: collected at Soninkoura, "herbaceo" reçu de Natal du Brésil. *Roberty 3884* (G).

laxum (*G. laxum* Phillips, 1972, *Madroño* 21: 265).

TYPE: MEXICO: Guerrero: between Milpillas and Xochipala, 17 Oct 1967, *Phillips 945* (NCSU).

leoninum (*G. leoninum* Medik., 1784, *Bot. Beob. Jahres* 1783: 199).

TYPE: Medikus' herbarium is unknown, and the name can only be typified by the description.

leucadenum (*G. leucadenum* Cook, 1935, *J. Hered.* 26: 30).

TYPE: FLORIDA: Key West, *Cook s.n.* (location of type specimen uncertain: see "Cook's Florida Cottons"). The name is not validly published under Art. 36, ICBN.

linnaeanum (*G. arboreum* ssp. *linnaeanum* Roberty, 1950, *Candollea* 13: 36).

TYPE: This name is untypified and is so used by the publishing author as to render it illegitimate under Art. 25, ICBN. See "Roberty's Category of Subspecies."

liospermum (*G. albescens* var. *liospermum* Prokh., 1947, *Bot. Zh.* 32: 74).

TYPE: This name was published as a *varietas nova*, but lacks a description. Prokhanov cites as a basis: "*G. hirsutum* var. *glabratum* Tod . . . 1864, pro parte." Since he accepts Todaro's name elsewhere in the same work (Prokhanov 1947, p. 73), he clearly means to exclude the type of Todaro's name in establishing the new taxon. Todaro includes only one other element in addition to the type (for which, see *glabratum* 3), the other element being the following citation: "*G. hirsutum* Mill. var. *rufo-fulvescens* lana facile secedente Gasp. ind. sem. H. R. Neap. ann. 1864 pag. 4." Gasparrini's herbarium is in PAV, and the type of this name is to be sought there.

littorale (*G. barbadense* var. *littorale* Roberty, 1946, *Candollea* 10: 393).

TYPE: Malaki Giza 26, cultivated at Kafr es Saad, 1945, *Roberty 5215* (G). Cited as "Typus proximus"; see "Roberty's Typus Proximus." This

name is illegitimate under Art. 28, ICBN; the plant should be named *G. barbadense* cv. 'Giza 26'.

lobatum (*G. lobatum* Gentry, 1956, *Madroño* 13: 26).

TYPE: MEXICO: Michoacán: Canyon del Marqués, at about 500 m elevation along highway between Uruapan and Apatzingán, *Gentry* 12314, 22 Oct 1952 (holotype: US-2189410; isotypes: LL, MICH, US-2189411).

longicalyx (*G. longicalyx* Hutch. & Lee, 1958, *Kew Bull.* 1958: 221).

TYPE: TANZANIA: Dodoma District: Nondwa, in *Terminalia-Combretum* scrub, below 900 m, *Disney* 33, 25 Mar 1955 (holotype: EA; isotype: K).

longiflorum (*G. arboreum* ssp. *longiflorum* Roberty, 1950, *Candollea* 13: 36).

TYPE: This name is untypified and is used by the publishing author in such a way as to render it illegitimate under Art. 25, ICBN. See "Roberty's Category of Subspecies."

luteum (*G. luteum* Thierry, 1863, *Index Sem. Hort. Cajenn.* 1863: 23).

TYPE: I have not examined the original publication of this name, but only a secondary reference to it (Todaro 1864, p. 6). I presume it to be a nomen nudum. Although this plant came from the Caen Botanic Garden (according to Todaro, loc. cit.), the catalog of specimens in CN (Lignier and LeBey 1905, p. 226) records no specimen that might serve as type.

luxurians (*G. microcarpum* var. *luxurians* Tod., 1867, *Index Sem. Hort. Reg. Bot. Panorm.* 1866: 34).

SUBSEQUENT COMBINATIONS: *G. albescens* var. *luxurians* (Tod.) Prokh., 1947, *Bot. Zh.* 32: 74.

TYPE: Based upon plants grown in the Palermo Botanic Garden, which are presumably represented by specimens preserved in PAL, bearing appropriate annotations by Todaro.

lysinum (*G. lysinum* Cook, 1935, *J. Hered.* 26: 30).

TYPE: FLORIDA: Tavernier and Matecumbe Keys, *Cook s.n.* (location of type specimen uncertain; see "Cook's Florida Cottons"). The name is not validly published (Art. 36, ICBN).

macedonicum (*G. macedonicum* Spielm. ex Murr., 1776, *Nov. Comment. Soc. Reg. Sci. Gotting.* 7: 20).

TYPE: This name was published by Murray as a synonym of *G. latifolium* (q.v.) and is thus not validly published.

'macranthum' (*G. cernuum* var. *macranthum* Tod., 1863, *G. R. Ist. Incor.* 1: 48).

TYPE: Cultivated in the Palermo Botanic Garden, seed accession No. 36, *Todaro s.n.* (PAL). Aliotta (1903, p. 25) notes the existence of this specimen, grown in 1863, and annotated with this name.

²macranthum (*G. macranthum* Tod., 1877, *Monografia* p. 262).

TYPE: Damiatae et Rosettae, in herb. Webb, ex herb. Desfontaines (Fl). Aliotta (1903, p. 46) discusses this specimen.

¹macrocarpum (*G. hirsutum* var. *macrocarpum* Tod., 1863, G. R. Ist. Incor. 1: 91, as *macrocarpa*).

TYPE: Cultivated in the Palermo Botanic Garden, from seed accession No. 72, Todaro s.n. (PAL).

²macrocarpum (*G. barbadense* var. *macrocarpum* Mauer, 1930, Bull. Appl. Bot. Genet. Plant Breeding Suppl. 47: 452)..

TYPE: Mauèr cites two collections of Bukasov from Colombia: (1) a seed accession from the Agricultural Society of Bogotá, Department of Cundinamarca, and (2) a collection from Cali, Department of El Valle. Bukasov's collections from Colombia are in WIR and BM (see Lanjouw and Stafleu 1954, p. 105). It is possible that the seed accession from Bogotá was planted at the Tashkent cotton garden and that extant herbarium specimens were taken from Tashkent plants. A lectotype needs to be chosen.

¹macrospermum (*G. macrospermum* Raf., 1838, *Sylva Tellur.*, p. 15).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

²macrospermum (*G. hirsutum* var. *macrospermum* Mauer, 1930, Bull. Appl. Bot. Genet. Plant Breeding Suppl. 47: 439).

TYPE: Mauer cites collections of Bukasov (WIR, BM) from the Districts of Tapachula and Tuxtla in the State of Chiapas, Mexico. A lectotype should be selected.

maculiflorum (*G. vitifolium* var. *maculiflorum* Hassk., 1844, Cat. Plant. Hort. Bot. Bogor., p. 200).

TYPE: Hasskari's types are in L, where the holotype of this name is to be sought. Isotypes may exist in BO, K, or NY (see Lanjouw and Stafleu 1957, p. 260).

madraspatanum (*G. herbaceum* var. *madraspatanum* Gammie, 1905, Indian Cottons, p. 5, as *madraspatana*).

SUBSEQUENT COMBINATIONS: *G. cambayense* var. *madraspatanum* (Gammie) Prokh., 1947, Bot. Zh. 32: 70.

TYPE: Gammie's pl. 7B (1907). Gammie states that this variety differs from "the type" (i.e., *varietas herbaceum*) only in its reduced fruit size. Therefore, pl. 7B should be compared to pl. 7A, E, F, G, and H, which represents "the type." The name is not validly published (Art. 34, ICBN); see "Gammie's Names."

malvense (*G. neglectum* subvar. *malvense* Gammie, 1905, Indian Cottons, p. 7, as *malvensis*).

SUBSEQUENT COMBINATIONS: *G. speciosum* var. *malvense* (Gammie) Prokh., 1947, Bot. Zh. 32: 68.

TYPE: Gammie's pl. 10C (1907). The name is not validly published (Art. 34, ICBN); see "Gammie's Names."

marie-galante (*G. marie-galante* Watt, 1927, Kew Bull. 1927: 344).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *marie-galante* (Watt) A. Chev., 1938, Rev. Int. Bot. Appl. Agric. Trop. 18: 118. *G. peruvianum* f. *marie-galante* (Watt) Roberty, 1945, Ann. Inst. Bot.-Géol. Colon. Marseille, ser. 6, vol. 3: 42. *G. hirsutum* var. *marie-galante* (Watt) J. B. Hutch., 1947, Evol. Gossyp., p. 43.

TYPE: WEST INDIES: St. Vincent: Union Island, Birkinshaw s.n., 11 Jan 1914 (E, K, fide Watt 1927, p. 321).

maritimum (*G. maritimum* Tod., 1863, G. R. Ist. Incor. 1: 100).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *maritimum* (Tod.) Watt, 1907, Wild and Cultivated Cotton Plants, p. 275. *G. barbadense* f. *maritimum* (Tod.) Roberty, 1938, Candollea 7: 334. *G. frutescens* var. *maritimum* (Tod.) Prokh., 1947, Bot. Zh. 32: 76. *G. barbadense* subvar. *maritimum* (Tod.) Wouters, 1948, Publ. Inst. Natl. Etude. Agron. Congo Belge, Sér. Sci No. 34: 97.

TYPE: Cultivated in the Palermo Botanic Garden from seed accession Nos. 121, 134, 135, 143, and 151, which were received from Algeria by way of the Paris Botanic Garden. Presumably there are Todaro specimens at PAL corresponding to these numbers, from which a lectotype should be selected.

megacarpum (*G. herbaceum* var. *megacarpum* Raf., 1838, Sylva Tellur., p. 15).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

megaspermum (*G. albescens* var. *megaspermum* Raf., 1838, Sylva Tellur., p. 18).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

melanospermum (*G. herbaceum* var. *melanospermum* Gammie, 1905, Indian Cottons, p. 6, as *melanosperma*).

SUBSEQUENT COMBINATIONS: *G. cambayense* var. *melanospermum* (Gammie) Prokh., 1947, Bot. Zh. 32: 70.

TYPE: Gammie's pl. 7C (1907). The name is not validly published (Art. 34, ICBN); see "Gammie's Names."

melocarpum (*G. herbaceum* var. *melocarpum* Prokh., 1947, Bot. Zh. 32: 70).

TYPE: No specimen is cited by Prokhanov; only the description itself is available as type.

mexicanum (*G. mexicanum* Tod., 1868, Index Sem. Hort. Reg. Bot. Panorm. 1867: 20, 31).

SUBSEQUENT COMBINATIONS: *G. hirsutum* f. *mexicanum* (Tod.) Roberty, 1938, Candollea 7: 332. *G. hirsutum* var. *mexicanum* (Tod.) Roberty, 1945, Ann. Inst. Bot.-Géol. Colon. Marseille, ser. 6, vol. 3: 43. *G. hir-*

sutum ssp. *mexicanum* (Tod.) Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 22.

TYPE: Todaro states: "Habuimus anno 1864 a cl. Decaisnio sub nomine *Coton sauvage de Siam dit Siam clair arborescente et vivace.*" This is a clear reference to a seed accession received from Decaisne in Paris, which is referred to and given the number 7 in an earlier work (Todaro 1864, pp. 14-15). Although this plant is illustrated by Todaro in a later work (1878, pl. 6), this plate cannot typify the name since it is subsequent to it and hence not a part of the protolog. The plate may be of assistance, however, in identifying the type among the Todaro specimens in PAL. Aliotta (1903, p. 90) specifically notes such a correspondence for a specimen that is evidently the holotype.

micranthum (*G. micranthum* Cav., 1788, Monad. Cl. Diss. Dec. No. 6, p. 311, as *mierantum*).

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *micranthum* (Cav.) Roberty, 1950, Candollea 13: 72.

TYPE: Cavanilles states: "V. floridum in R.H.P. ultimo agosto" [seen in flower in the Paris garden the latter part of August]. Poiret, in citing Cavanilles' species, notes, "On la cultive au Jardin des Plantes de Paris. (V. s.)." Poiret's abbreviation indicates that he had seen an herbarium specimen. The holotype is in MA, and a photograph of it is in US. An isotype, discussed by Todaro (1877, p. 133) and Aliotta (1903, p. 74), is in FI-Webb herbarium. Chevalier (1939), in his study of *Gossypium* types at Paris, mentions no specimen there.

microcarpum (*G. herbaceum* var. *microcarpum* Tod., 1863, G. R. Ist. Incor. 1: 70).

TYPE: Todaro cites no specific herbarium specimen or seed accession number from his botanic garden for this taxon. He does mention, however, that the plant in question is called *Pepina* in Sicily (loc. cit., p. 74), which identification may be sufficient to identify a specimen in PAL as type. Aliotta (1903, pp. 73-74) cites no such specimen.

microcarpum (*G. microcarpum* Tod., 1864, Relazione, p. 15).

SUBSEQUENT COMBINATIONS: *G. barbadense* ssp. *microcarpum* (Tod.) Roberty, 1946, Candollea 10: 387. *G. hirsutum* var. *microcarpum* (Tod.) Mauer, 1954, Proiskhozhd. Sist. Khlop., p. 284.

TYPE: This name is based on plants grown by Todaro in the Palermo Botanic Garden from Mexican seeds received from Decaisne in Paris (seed lot Nos. 4 and 5), under the name "Coton . . . de Mexique (petites capsules feuilles palmées digitées)." Type material is presumably in PAL and may be identified with the help of the plate subsequently published by Todaro (1877a).

microcarpum (*G. microcarpum* Welw. ex Gürke, 1894, Bot. Jahrb. Syst. 19 Beibl. 48(4): 2).

TYPE: ANGOLA, Welwitsch 5221 (C, MO, P). The name was published

by Gürke as a synonym of *G. anomalum* Wawra & Peyr., and hence the name is not validly published (Art. 34, ICBN).

millerianum (*G. hirsutum* var. *millerianum* Roberty, 1950, Candollea 13: 74).

TYPE: Based by Roberty on "G. hirsutum Mill. sensu stricto." Roberty's epithet is illegitimate (Art. 26, ICBN).

minimiflorum (*G. hirsutum* f. *minimiflorum* Roberty, 1950, Candollea 13: 81).

TYPE: M'Kourala, Niono 1, Roberty 3964 (G).

minus (*G. sanguineum* var. *minus* Gammie, 1905, Indian Cottons, p. 5, as *minor*).

SUBSEQUENT COMBINATIONS: *G. speciosum* var. *minus* (Gammie) Prokh., 1947, Bot. Zh. 32: 68.

TYPE: Gammie's pl. 6A, B, C, H, I (1907). The name is not validly published (Art. 34, ICBN); see "Gammie's Names."

mocoense (*G. hirsutum* f. *mocoense* Roberty, 1950, Candollea 13: 65).

TYPE: SOUDAN OCCIDENTAL: collected at Soninkoura, reçu de Natal, Brésil, Roberty 3001 et 3895 (G). A lectotype will need to be chosen from the two specimens cited.

molle (*G. molle* Mauri ex Teñ., 1845, Cat. Hort. Nap., p. 86).

TYPE: The type, in FI, is annotated by Mauri and discussed by Aliotta (1903, p. 75).

mollisonii (*G. indicum* var. *mollisonii* Gammie, 1905, Indian Cottons, p. 6, as *mollisoni*).

SUBSEQUENT COMBINATIONS: *G. bani* var. *mollisonii* (Gammie) Prokh., 1947, Bot. Zh. 32: 69.

TYPE: Gammie's pl. 9B (1907). The name is not validly published (Art. 34, ICBN); see "Gammie's Names."

morrillii (*G. morrillii* Cook & Hubb., 1926, J. Wash. Acad. Sci. 16: 339, as *morrilli*).

TYPE: MEXICO: Sinaloa: cultivated at Los Mochis, Cook & Hubbard s.n., 15 Dec 1925 (holotype: US-1209603).

multiflorum (*G. cernuum* var. *multiflorum* Tod., 1863, G. R. Ist. Incor. 1: 48).

TYPE: Cultivated in the Palermo Botanic Garden from seed accession Nos. 16 and 32, Todaro s.n. (PAL). Aliotta (1903, p. 25) states that only a single specimen, grown in the Palermo garden in 1863, could be found under this name in PAL.

multiglandulosum (*G. multiglandulosum* Phil., 1891, An. Mus. Nac. Chile 2: 10).

TYPE: Colitur ad Pica, Chacarilla, etc. (holotype: SGO, as photo GH; isotype: FI? Cf. Parlatore 1874, p. 51).

murrayanum (*G. hirsutum* var. *murrayanum* Roberty, 1950, Candollea 13: 77).

TYPE: Roberty based this name on "*G. latifolium* Murray sensu stricto," q.v. concerning typification. Since he earlier (loc. cit., p. 61) made the combination *G. hirsutum* ssp. *latifolium* (Murr.) Roberty and placed the present variety under it, then the name *G. hirsutum* var. *murrayanum* is illegitimate (Art. 26 ICBN).

mustelinum (*G. mustelinum* Miers ex Watt, 1907, Wild and Cultivated Cotton Plants, p. 167).

SUBSEQUENT COMBINATIONS: *G. hirsutum* f. *mustelinum* (Miers ex Watt) Roberty, 1938, Candallea 7: 330. *G. hirsutum* ssp. *mustelinum* (Miers ex Watt) Roberty, 1950, Candallea 13: 60.

TYPE: BRAZIL: Ceará, *Geo. Gardner* 1463, 1838 (holotype: BM; isotypes: CGE, GH, K, NY, and, as photo, US). Additional isotypes are doubtless to be found elsewhere since Gardner's Brazilian collections were widely distributed (see Lanjouw and Stafleu 1957, p. 217).

myersii (*G. hirsutum* f. *myersii* Roberty, 1950, Candallea 13: 68).

TYPE: SOUDAN ORIENTAL: Bahr el Ghazal méridional, *Myers* 7300 et 10046, in hb. Wad Medani (GRS). An isotype needs to be selected. **nadam** (*G. nanking* var. *nadam* Watt; 1907, Wild and Cultivated Cotton Plants, p. 128).

SUBSEQUENT COMBINATIONS: *G. arboreum* var. *nadam* (Watt) Prokh., 1947, Bot. Zh. 32: 67.

TYPE: Watt (1907, p. 129) cites a number of specimens under the heading "Citation of Specimens" and states (p. 130): "The writer has on his table at the present moment an extensive series of forms, all of which he regards as belonging to this [taxon]." He then details his views of these specimens, but it is not possible to match these remarks to the preceding specimen list. Nowhere does he single out any one specimen as providing a modal expression or as otherwise being especially suitable for selection as lectotype, unless his choice of the vernacular name "nadam" for the varietal epithet is sufficient basis for designating as lectotype the one specimen cited that carries this name: Rep. Econ. Prod. India [Burkill] 21884 (K). The photograph filed in the U.S. National Herbarium as type (*Wight* 214, K) has not formally been designated as lectotype.

nandewarensense (*G. nandewarensense* Der., 1964, Emp. Cotton Grow. Rev. 41: 14).

SUBSEQUENT COMBINATIONS: *G. sturtianum* var. *nandewarensense* (Der.) Fryx., 1964, Bot. Gaz. 125: 108.

TYPE: AUSTRALIA: New South Wales: Nandewar Ranges: Deriah Forest, *N. F. Derera* s.n., 18 Jan 1961 (holotype: NSW-66112).

nanking (*G. nanking* Mey., 1834, Reise um die Erde 2: 323).

SUBSEQUENT COMBINATIONS: *G. obtusifolium* var. *nanking* (Mey.) Gamme, 1905, Indian Cottons, p. 4. *G. arboreum* var. *nanking* (Mey.) J. B. Hutch. ex Harl., 1932, Bibliogr. Genet. 9: 115. *G. arboreum* subvar.

nanking (Mey.) Wouters, 1948, *Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34*: 89, as subvar. *eunanking* (Mey.) Wouters. *G. arboreum* ssp. *nanking* (Mey.) Mauer, 1950, *Tr. Sredneaziat. Gos. Univ.* 18: 18.

TYPE: *Meyen s.n.*, 1830. According to Stafieu (1967, p. 307). "Meyen's herbarium, mainly consisting of the authentic material of his trip around the world, was acquired by B in 1842. . . . This herbarium now being lost, the main extant set of Meyen specimens seems to be at KIEL; smaller sets of duplicates are at BR, CAS, CGE, K, and L." (A search at CAS for an isotype yielded negative results.) Isotypes need to be sought in these herbaria and a lectotype chosen from among extant isotypes. In a subsequent publication devoted solely to this cotton, Meyen (1835) published a plate that presumably was based upon the type. Todaro (1878, pl. 3) and Wittmack (1928, pl. 13) reproduced Meyen's plate.

nanum (*G. barbadense* f. *nanum* Roberty, 1950, *Candollea* 13: 83).

TYPE: GUINÉE FRANÇAISE: Kissi Méridionale, *Roberty* 7123 (G).

neglectum (*G. neglectum* Tod., 1863, *G. R. Ist. Incor.* 1: 51).

SUBSEQUENT COMBINATIONS: *G. arboreum* var. *neglectum* (Tod.) Watt, 1907, *Wild and Cultivated Cotton Plants*, p. 95. *G. arboreum* f. *neglectum* (Tod.) Roberty, 1938, *Candollea* 7: 319. *G. arboreum* subvar. *neglectum* (Tod.) Wouters, 1948, *Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34*: 88. *G. arboreum* ssp. *neglectum* (Tod.) Mauer, 1950, *Tr. Sredneaziat. Gos. Univ.* 18: 18.

TYPE: This species was based on plants grown by Todaro in the Palermo Botanic Garden from three seed accessions from India: Nos. 19, 48, and 49. A lectotype needs to be chosen from among the specimens of these three cottons in PAL.

nelsonii (*G. nelsonii* Fryx., 1974, *Austral. J. Bot.* 22: 184).

TYPE: AUSTRALIA: Northern Territory: Painta Spring, 25 mi NW Alice Springs, *D. J. Nelson* 2255 (holotype: NT; isotypes: CANB, DNA, NY).

neotypicum (*G. latifolium* var. *neotypicum* Roberty, 1942, *Candollea* 9: 98).

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *neotypicum* (Roberty) Roberty, 1950, *Candollea* 13: 74.

TYPE: Cultivated in the Soninkoura Botanic Garden from seeds from Province de Fort-Dauphin, Madagascar, *Roberty* 3888 (G).

nervosum (*G. nervosum* Watt, 1927, *Kew Bull.* 1927: 324).

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *nervosum* (Watt) Roberty, 1950, *Candollea* 13: 66.

TYPE: MEXICO: Veracruz: Pánuco, *Palmer* 351, 20 Apr 1910 (holotype: K; isotypes: GH, MO, NY, US-463291, and elsewhere; see McVaugh 1956, p. 122).

nicaraguense (*G. nicaraguense* Ram.-Goy., 1909, Flora Nicarg. 1: 195, as *nicaraguensis*).

TYPE: Ramirez-Goyena cites no specimens, and I am unaware of the existence or the location of his herbarium. (It is not cited by Lanjouw 1945.) Unless an authentic specimen can be located, the published description will have to serve as type.

nigeria (*G. punctatum* var. *nigeria* Watt, 1907, Wild and Cultivated Cotton Plants, p. 170).

TYPE: This name is illegitimate (Art. 26, ICBN), since it is based on *G. punctatum* and should therefore be called *G. punctatum* var. *punctatum*.

nigrum (*G. nigrum* Buch.-Ham., 1822, Trans. Linn. Soc. 13: 494).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *nigrum* (Buch.-Ham.) Triana & Planch., 1862, Ann. Sci. Nat. Bot., ser. 4, vol. 17: 171. *G. peruvianum* ssp. *nigrum* (Buch.-Ham.) Roberty, 1946, Candollea 10: 377. *G. peruvianum* var. *nigrum* (Buch.-Ham.) Roberty, 1946, Candollea 10: 377. *G. barbadense* ssp. *nigrum* (Buch.-Ham.) Roberty, 1950, Candollea 13: 82.

TYPE: EASTERN BENGAL: Gongachora, Hamilton 1949, 30 June 1809 (E). A photograph of this specimen is reproduced by Watt (1907, pl. 9). Triana and Planchon's name is illegitimate in that they based their name on *G. nigrum* var. *punctatum* and thus chose the wrong epithet.

niloticum (*G. peruvianum* var. *niloticum* Roberty, 1946, Candollea 10: 381).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *niloticum* (Roberty) Roberty, 1950, Candollea 13: 89.

TYPE: Cultivated at Wad Medani, 1945, Sakel X 1730A, Roberty 5250 (G). Roberty describes this as a selection out of the cultivar 'Sakel Domaines' made by Lambert in the Gezira in 1930. Roberty's name, therefore, is illegitimate under Art. 28, ICBN, and the plant should be called *G. peruvianum* cv. 'Sakel X 1730A'.

niveum (*G. niveum* Raf., 1838, Sylva Tellur., p. 15).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

nubarensis (*G. barbadense* var. *nubarensis* Roberty, 1946, Candollea 10: 392).

TYPE: NUBARI, cultivated at Giza, 1924, Simpson C87 (CAIM). See "Roberty's and Watt's Types in Cairo."

obtusifolium (*G. obtusifolium* Roxb. ex G. Don, 1831, General History 1: 487).

SUBSEQUENT COMBINATIONS: *G. herbaceum* var. *obtusifolium* (Roxb.) Mast. in Hook., 1874, Flora Br. India 1: 347. *G. arboreum* var. *obtusifolium* (Roxb.) Wouters, Publ. Inst. Natl. Etud. Agron. Congo Belge,

Sér. Sci. No. 34: 89. *G. arboreum* ssp. *obtusifolium* (Roxb.) Mauer, 1950. Tr. Sredneaziat. Gos. Univ. 18: 18.

TYPE: Sprague (1925) notes the validation of Roxburgh's name by Don. The name may be typified by Roxburgh's unpublished plate (No. 1495), which is preserved in the library of the Calcutta Botanic Garden. A copy of this plate is in the library of the Kew Botanic Garden and has been reproduced by Watt (1907, pl. 20). Burkitt's (1906) description and discussion of the "type" of this name is discounted by Watt (1907, pp. 117, 141). See "Roxburgh Types" and Sealy (1956) for a further discussion of these types.

oligospermum (*G. oligospermum* Macf., 1837, Flora Jamaic. 1: 74).

SUBSEQUENT COMBINATIONS: *G. tricuspidatum* var. *oligospermum* (Macf.) Mauer, 1954, Proiskhozhd. Sist. Khlop., p. 315.

TYPE: JAMAICA: Liguanea, Macfadyen s.n. According to Stafleu (1967, p. 294), "part of Macfadyen's herbarium is at K. duplicates at e.g. CGF [CGE?], GOET, MO and U." No Macfadyen specimens of *Gossypium* are cited by Watt (1907), who studied the materials at K and CGE, nor have I discovered such a specimen at MO.

optimatum (*G. hirsutum* var. *optimatum* Roberty, 1945, Ann. Inst. Bot.-Géol. Colon. Marseille, ser. 6, vol. 3: 44).

SUBSEQUENT COMBINATIONS: *G. hirsutum* f. *optimatum* (Roberty) Roberty, 1950, Candollea 13: 70.

TYPE: From Louisiana, Roberty 3907 (G).

pallens (*G. pallens* Raf., 1838, Sylva Tellur., p. 16).

TYPE: Siam couronné brun, von Rohr s.n. (C-herb. Vahl; NA, as photo). The type material is described by Fryxell (1969a, p. 405).

'pallidiflorum (*G. maritimum* var. *pallidiflorum* Tod., 1864, G. R. Ist. Incor. 1(4): 117).

SUBSEQUENT COMBINATIONS: *G. frutescens* var. *pallidiflorum* (Tod.) Prokh., 1947, Bot. Zh. 32: 76.

TYPE: No type is explicitly cited, but Todaro's description implies that the plant was grown in the Palermo Botanic Garden and, thus, that a specimen might be sought in PAL. None is cited by Aliotta (1903, p. 39).

'pallidum (*G. pallidum* Montr., 1860, Mém. Acad. R. Sci. Lyon n.s. 10: 181).

TYPE: NEW CALEDONIA: L'Ile Art, Montrouzier s.n. (LY?).

'pallidum (*G. wightianum* var. *pallidum* Tod., 1867, Index Sem. Hort. Reg. Bot. Panorm. 1866: 35).

TYPE: Todaro cites "G. siamense H. Genuens. [i.e., Genoa Botanic Garden] anno 1864 non Ten." Presumably, a specimen exists either in GE or PAL that corresponds to this citation and is the type of Todaro's name and the basis for his description.

'palmeri (*G. palmeri* Watt, 1907, Wild and Cultivated Cotton Plants, p. 204, as *palmerii*).

SUBSEQUENT COMBINATIONS: *G. hirsutum* f. *palmeri* (Watt) Wouters, 1948, Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34: 103.

TYPE: MEXICO: in vicinity of Acapulco, *Palmer* 384 [Feb 1895, fide McVaugh (1956)] (holotype: K; isotypes: GH—4 sheets, MO—2 sheets, NY, US-26646). According to McVaugh (1956), Palmer's 1895 collections were made in 12 sets, but these were of varying size. Presumably other isotypes are at other herbaria to which Palmer sold sets.

²palmeri (*G. aridum* var. *palmeri* (Rose) Mauer, 1954, Proiskhozhd. Sist. Khlop., p. 265).

SUBSEQUENT COMBINATIONS: None, but see *G. rosei* Prokh.

TYPE: Based on *Cienfuegosia palmeri* Rose, 1895, Contrib. U.S. Natl. Herb. 1: 308, the type of which is MEXICO: in shady woods about Co-lima, *Palmer* 1316, 27 Feb 1891 (holotype: US-208974; isotypes: GH—2 sheets, MEXU, NY, and elsewhere, fide McVaugh 1956, p. 102).

panamicum (*G. hirsutum* var. *panamicum* Mauer, 1930, Bull. Appl. Bot. Genet. Plant Breeding Suppl. 47: 460).

TYPE: PANAMA, *Bukasov* s.n. (BM, WIR).

paniculatum (*G. paniculatum* Blanco, 1837, Flora Filip. p. 539).

SUBSEQUENT COMBINATIONS: *G. latifolium* var. *paniculatum* (Blanco) Roberty, 1942, Candollea 9: 91. *G. hirsutum* ssp. *paniculatum* (Blanco) Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 22. *G. hirsutum* var. *paniculatum* (Blanco) Roberty, 1950, Candollea 13: 62.

TYPE: According to Stafleu (1967, p. 35), the Blanco herbarium is not extant, except possibly for a few sheets in MA. Roberty (1942, p. 91) cites as "typus!" the following specimen: PHILLIPPINES: Luzon: Bontoc Subprovince, *Vanoverbergh* 3659 (B). He adds, "Ce spécimen est également représenté à Genève mais le spécimen berlinois est plus complet." Borssum Waalkes (1966, p. 125) cites the same plant as neotype and notes the following isoneotypes: FI, G, GRO, L, NY, and U; additional isoneotypes are in A and MO.

paolii (*G. paolii* Mattei, 1916, Boll. Stud. Inf. R. Giard. Col., Palermo 2: 223).

TYPE: SOMALIA: presso Salagle: sulla riva inglese del Giuba, *G. Paoli* s.n., 4 July 1913 (FI?).

paradoxum (*G. arboreum* var. *paradoxum* Prokh., nom. nov., 1947, Bot. Zh. 32: 67).

TYPE: Based on *G. anomalum* Watt, 1927, q.v. (non *G. anomalum* Wawra, 1860), the syntypes of which are *Simpson* C853 and C854 (E, K). Watt's later homonym has been supplanted by *G. wattianum* Hu, 1955, in specific rank; the present name has priority in varietal rank.

parlatori (*G. parlatori* Tod., 1863, G. R. Ist. Incor. 1: 115, as *parlatorii*).

TYPE: This name is not validly published (Art. 34, ICBN) since Todaro

regarded it only as a provisional name. Moreover, were it valid, it would thereupon be illegitimate (Art. 63, ICBN), since it is based upon the same material as *G. rohrianum* Raf., 1838, q.v.

parviflorum (*G. arboreum* var. *parviflorum* Ulbr. ex Wittm., 1928, Bot. Kult. Baumw., vol. 4, pt. 1, p. 56, in Herzog (ed.), Techn. Textilf.).

TYPE: KAMERUN, Wolff 19 (B?). The holotype is presumed lost; I have no knowledge of the existence of isotypes.

parvifolium (*G. parvifolium* Nutt. ex Seem., 1865, Flora Vitiensis, p. 22).

SUBSEQUENT COMBINATIONS: *G. tomentosum* var. *parvifolium* Nutt. ex Watt, 1907, Wild and Cultivated Cotton Plants, p. 71.

TYPE: HAWAII, Diell s.n. [bearing Nuttall's manuscript name] (holotype: BM). This name is not validly published in specific rank (Art. 34, ICBN), since Seemann cited it only as a synonym. Watt's later use of Nuttall's name in varietal rank, however, constitutes valid publication.

parvulum (*G. speciosum* var. *parvulum* Prokh., 1947, Bot. Zh. 32: 68).

TYPE: Based on *G. sanguineum* var. *minor* Gammie pro parte non typica; i.e., Prokhanov divides Gammie's variety into a typical [leaf lobes broad: *varietas minor*] and an atypical [leaf lobes narrow: *varietas parvulum*] segment. The type of Prokhanov's *varietas parvulum*, therefore, is Gammie's pl. 6A (1907).

patens (*G. patens* Cook & Hubb., 1926, J. Wash. Acad. Sci. 16: 337).

TYPE: MEXICO: Sonora: cultivated at Guaymas, Cook & Hubbard s.n., 8 Dec 1925 (holotype: US-1209601).

patulum (*G. decurrens* var. *patulum* Raf., 1838, Sylva Tellur., p. 15).

TYPE: Rafinesque's original description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

pedatum (*G. pedatum* Watt, 1927, Kew Bull. 1927: 349).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *pedatum* (Watt) Roberty, 1946, Candollea 10: 388.

TYPE: JAMAICA: Hope Gardens, Cauto plant, Harris s.n., 4 May 1914 (E, K, fide Watt 1927, p. 321). This name may be based on the same material as *G. brasiliense* var. *apospermum* Sprague, q.v. (see also Watt 1928, p. 399).

pedunculatum (*G. australe* var. *pedunculatum* Tod., 1877, Monografia, p. 115).

TYPE: By inference this name is based upon QUEENSLAND [not Queen Island]: Bowen River, E. Bowman s.n. (MEL). Von Mueller was very cooperative in furthering Todaro's studies of *Gossypium*, but he evidently did not supply Todaro with duplicates of his collections. Thus, the Melbourne material serves to typify Todaro's name.

pedunculatum (*G. hirsutum* var. *pedunculatum* Mauer, 1930, Bull. Appl. Bot. Genet. Plant Breeding Suppl. 47: 437).

TYPE: MEXICO: Colima, Bukasov s.n. (BM, WIR).

pellitum (*G. hirsutum* var. *pellitum* Roberty, 1950, Candollea 13: 72).

TYPE: No type is indicated by Roberty among the eight specimens cited: *Playfair* 102, *Kirk* 224, *Johnson* 3, *Roberty* 6866, *Bélanger* 20 bis, *Murray* 72, *Murray* 122, and *Gaumer* s.n. (all in G). A lectotype should be chosen.

perennans (*G. herbaceum* var. *perennans* Del. pro sp. ex Roberty, 1945, Ann. Inst. Bot.-Géol. Colon. Marseille, ser. 6, vol. 3: 31).

SUBSEQUENT COMBINATIONS: *G. arboreum* var. *perennans* (Del. ex. Roberty) Roberty, 1950, *Candollea* 13: 48.

TYPE: EGYPT, *Delile* s.n. (MPU, P. and elsewhere, see Lanjouw and Stafleu 1954, p. 157). The Paris specimen is reproduced photographically by Fletcher (1908, pl. 2), who states it is named "*G. perennius*, Haute Egypt . . . 1799."

'perenne (*G. perenne* Blanco, 1837, *Flora Filip.*, p. 537).

SUBSEQUENT COMBINATIONS: *G. arboreum* ssp. *perrene* (Blanco) Mauer, 1950, *Tr. Sredneaziat. Gos. Univ.* 18: 18.

TYPE: The Blanco herbarium is not known to be extant (see Stafleu 1967, p. 35). In the absence of an authentic specimen the original description may serve as type.

'perenne (*G. herbaceum* var. *perenne* Raf., 1838, *Sylva Tellur.*, p. 16).

TYPE: Fryxell (1969a, table 1, footnote 2) notes that this name is a nomen nudum.

perrieri (*G. herbaceum* var. *perrieri* Hochr., 1925, *Candollea* 2: 142).

SUBSEQUENT COMBINATIONS: *G. herbaceum* f. *perrieri* (Hochr.) Roberty, 1938, *Candollea* 7: 317. *G. perrieri* (Hochr.) Prokh., 1947, *Bot. Zh.* 32: 71. *G. arboreum* var. *perrieri* (Hochr.) Roberty, 1950, *Candollea* 13: 53. *G. soudanense* ssp. *perrieri* (Hochr.) Mauer, nom. provis., 1954, *Proiskhozhd. Sist. Khlop.*, p. 236.

TYPE: SW MADAGASCAR: Morondava, *Perrier de la Bathie* 5382 (P?).

peruvianum (*G. peruvianum* Cav., 1788, *Monad. Cl. Diss. Dec.* No. 6, p. 313).

SUBSEQUENT COMBINATIONS: *G. barbadense* subvar. *peruvianum* (Cav.) Triana & Planch., 1862, *Ann. Sci. Nat. Bot.*, ser. 4, vol. 17: 170. *G. barbadense* var. *peruvianum* (Cav.) Mauer, 1930, *Bull. Appl. Bot. Genet. Plant Breeding Suppl.* 47: 441. *G. barbadense* ssp. *peruvianum* (Cav.) Roberty, 1950, *Candollea* 13: 82.

TYPE: The Cavanilles herbarium is preserved in MA, where the holotype of this name is. A photograph of the holotype is in US.

pilosum (*G. pilosum* Fryxell, 1974, *Austral. J. Bot.* 22: 183).

TYPE: AUSTRALIA: Western Australia: N edge of Mitchell Plateau, N. Byrnes 2316 (holotype: DNA; isotype: NT).

platylobum (*G. arboreum* var. *platylobum* Gammie, 1905, *Indian Cottons*, p. 5, as *platyloba*).

TYPE: Gammie cites two specimens: Mysore, *Hejne* s.n. (K) and Ser-

ampore, Bengal, *Griffith s.n.* (K), one of which should be chosen as lectotype. The name is not validly published (Art. 34, ICBN). See "Gamme's Names."

pollardii (*G. hirsutum* f. *pollardii* Roberty, 1950, *Candollea* 13: 77).

TYPE: FLORIDA: Upper Matecumbe Key, *Pollard*. *Collins & Morris* 134 (G?, NY, US-330106).

polycarpum (*G. maritimum* var. *polycarpum* Tod., 1877, *Monografia*, p. 226).

SUBSEQUENT COMBINATIONS: *G. frutescens* var. *polycarpum* (Tod.) Prokhr., 1947, *Bot. Zh.* 32: 76.

TYPE: A specimen is to be sought in PAL, which presumably corresponds to Todaro's illustration (Todaro 1878, pl. 8).

populifolium (*G. populifolium* (Benth.) F. v. M. ex Tod., 1877, *Monografia*, p. 107).

TYPE: Based upon *Fugosia populifolia* Benth., 1863, *Flora Austral.* 1: 221, the lectotype of which is WESTERN AUSTRALIA, *Bynoe s.n.* (K). Fryxell (1965a, p. 87) discusses the choice of lectotype.

praestantissimum (*G. praestantissimum* L. ex Jacks., 1921, *Index Kew. Suppl.* 5: 117).

TYPE: 2 *praestantissimum* (LJNN-874.2). The specimen is illustrated by Watt (1907, pl. 17A). The name is a nomen nudum as discussed by Fryxell (1968).

praticolum (*G. hirsutum* var. *praticolum* Roberty, 1950, *Candollea* 13: 64).

TYPE: Roberty does not indicate a type but cites the following specimens: *Simpson C138*, *Simpson C826*, *Maire s.n.*, *Chevalier 43324*, *Roberty 2122*, *Roberty 2916*, *Roberty 2493*, *Roberty 2764*, *Roberty 30006*, *Broadway s.n.* (1905), and *Anon. in hb. Peradenya*. A lectotype should be chosen from among these specimens.

procerius (*G. procerius* Swartz, 1791, *Observ. Bot. Plant. Indiae Occident.*, p. 265).

TYPE: This name was taken from Patrick Browne's Flora Jamaic., and the type is to be sought among Browne's collections in S and LJNN. The name was published by Swartz as a synonym and is therefore not validly published (Art. 34, ICBN).

prostratum (*G. prostratum* Schum. & Thonn. in Schum., 1827, *Beskr. Guin. Plant.*, p. 311).

SUBSEQUENT COMBINATIONS: *G. punctatum* var. *prostratum* (Schum. & Thonn.) Watt, 1907, *Wild and Cultivated Cotton Plants*, p. 174. *G. latifolium* var. *prostratum* (Schum. & Thonn.) Roberty, 1942, *Candollea* 9: 90. *G. hirsutum* ssp. *prostratum* (Schum. & Thonn.) Roberty, 1950, *Candollea* 13: 59.

TYPE: According to Junghans (1961, p. 342), the type of this name, No. 328, is not extant in the Copenhagen Museum where Thonning's col-

lections are kept. He adds, however, that "the type also may be found in foreign herbaria under the name of *Gossypium guineense*." Watt (1907, p. 22) notes: "In M. de Candolle's Herbarium, Geneva, there is Thonning's plant, collected in Guinea, which may possibly be *G. prostratum* Schum. & Thonn."

pseudoarboreum (*G. herbaceum* ssp. *pseudoarboreum* Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 17).

TYPE: This name is not validly published, since no description is given. Two names are cited as synonyms, as follows: "*G. arboreum* Forsk. Fl. Aegypt.-Arab. (1775) 125 (non L.). *G. abyssinicum* Watt in Kew Bull. 5 (1926) 12." One might argue that one of these two names (presumably Forskål's older name) provides the basis and that Mauer simply published a nomen novum in different rank. However, such a procedure is not consistent with Mauer's practice in similar situations elsewhere in the same work. In numerous instances he reduces a taxon from specific to subspecific rank, retains the epithet, and attributes it parenthetically to the earlier author. In only one other instance (*G. barbadense* ssp. *ruderale* Mauer) does he provide a new epithet in subspecific rank, while citing synonyms in specific rank. In this instance he provides a Latin description, clearly indicating that he intended a *varietas nova*, not a nomen novum. Presumably, the same treatment was intended for subspecies *pseudoarboreum*, but the description was inadvertently omitted. The name is therefore not validly published. Mauer's subsequent use of the name (Mauer 1954, p. 204) does not validate it (Art. 36, ICBN), since the description is in Russian.

pseudo-racemosum (*G. latifolium* f. *pseudo-racemosum* Roberty, 1942, Candollea 9: 91).

SUBSEQUENT COMBINATIONS: *G. hirsutum* f. *pseudo-racemosum* (Roberty) Roberty, 1950, Candollea 13: 71.

TYPE: U.S.A.: Washington, D.C., E. S. Steele s.n. (G?).

pseudo-volvibile (*G. latifolium* var. *pseudo-volvibile* Roberty, 1942, Candollea 9: 96).

TYPE: INDIA, Wight 180 (holotype: G; isotype: NY). Watt (1907, pp. 228 and 251) cites duplicates of this collection number in GL and K that are discordant. Borssum Waalkes (1966, p. 126), however, notes the G specimen as holotype. Roberty (1950, p. 158) cites his 1942 name as a nomen ambiguum, but does not indicate his basis for doing so.

puberulum (*G. puberulum* Klotzsch ex Peters, 1861-64, Naturw. Reise nach Mossamb. Bot., p. 128).

TYPE: The holotype was kept in B, but is now lost (see Stafleu 1967, p. 355). The original description, therefore, must serve as type.

pubescens (*G. pubescens* Splitg. ex DeVriese, 1848, Ned. Kruidk. Arch. 1: 334).

TYPE: In hortis Surinamensibus colitur, legit. m. Majo 1838 (AMD?, L?). The holotype bears Splitgerber's manuscript annotation.

pubescens (*G. wightianum* var. *pubescens* Tod., 1867, Index Sem. Hort. Reg. Bot. Panorm. 1866: 35).

TYPE: Todaro cites "Gossypium album *Hort. Genuen.* ann 1864. *G. herbaceum H. Petropol.*" These citations presumably refer to specimens received under those names from the botanic gardens of Genoa and of Leningrad, respectively. If so, these specimens should be sought in PAL and a lectotype chosen.

pulchellum (*G. pulchellum* (C. A. Gardn.) Fryx., 1965, Austral. J. Bot. 13: 92).

TYPE: This name is based upon *Fugosia pulchella* C. A. Gardn., 1923, For. Dep. Bull. W. Austral. No. 32: 63, the type of which is WESTERN AUSTRALIA: Van Sittart Bay, *C. A. Gardner* 1520, 10 Aug 1921 (holotype: PERTH). A photograph of the holotype was published by Fryxell (1965a, pl. 2).

punctatum (*G. punctatum* Schum. & Thonn. in Schum., 1827, Beskr. Guin. Plant. p. 309).

SUBSEQUENT COMBINATIONS AND NEW NAMES: *G. nigrum* var. *punctatum* (Schum. & Thonn.) Hook. & Webb, 1849, Plant. Cape Verde Isl., in Hooker, Niger Flora, p. 107. *G. punctatum* var. *nigeria* Watt, nom. nov., 1907, Wild and Cultivated Cotton Plants, p. 170. *G. purpurascens* var. *punctatum* (Schum. & Thonn.?) Harl., 1934, Emp. Cotton Grow. Conf. 2: 24. *G. hirsutum* f. *punctatum* (Schum. & Thonn.) Roberty, 1938, Candollea 7: 330. *G. hirsutum* var. *punctatum* (Schum. & Thonn.) Roberty, 1945, Ann. Inst. Bot.-Géol. Colon. Marseille, ser. 6, vol. 3: 42. *G. hirsutum* subvar. *punctatum* (Schum. & Thonn.) Wouters, 1948, Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34: 99. *G. hirsutum* ssp. *punctatum* (Schum. & Thonn.) Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 22.

TYPE: According to Junghans (1961, p. 342), the type of this name, No. 327, is not extant, at least in the Copenhagen Museum where Thonning's collections are preserved. However, he notes that "the type also may be found in foreign herbaria under the name of *Gossypium hirsutum*." Watt (1907, p. 173) states that *G. punctatum* "was first definitely recognized botanically by Guillemin and Perrottet, who collected it in Senegambia and gave it the MS name which was later on accepted and published by Schumacher, who procured the plant from Guinea." Guillemin, Perrottet, and Richard (Flora Senegambia, 1831, p. 63) indicate that they used the name first (in MS), but the name as published is not to be attributed to them, but to Schumacher and Thonning.

puniceum (*G. puniceum* Fenzl ex Jacq., 1844, Eclog. Plant. Rar. 2: 7).

TYPE: Jacquin and Fenzl types are to be sought in W, LINN, BM, or in other European herbaria (see D'Arcy 1970, who provides handwritten

ing samples and other information helpful in identifying types.) I have not specifically sought the holotype, but should it be missing, Jacquin's excellent pl. 134 may serve as a satisfactory type.

purpurascens (*G. purpurascens* Poir. in Lam., 1811, Encycl. Méthod. Bot. Suppl. 2: 369).

SUBSEQUENT COMBINATIONS: *G. glabrum* var. *purpurascens* (Poir.) A. Chev., 1939, Rev. Bot. Appl. Agric. Trop. 19: 550, *G. hirsutum* sub-var. *purpurascens* (Poir.) Wouters, 1948, Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34: 99, *G. tricuspidatum* ssp. *purpurascens* (Poir.) Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 23.

TYPE: Poiret based this name on material grown in the Paris Botanic Garden that he had seen as a specimen in the Desfontaine herbarium, which is now preserved in FI (see Stafleu 1967, p. 102). Chevalier (1939) specifically notes the absence of this plant from P.

'pureum (*G. purpureum* Raf., 1838, Sylva Tellur., p. 18).

TYPE: *G. rubrifolium*, von Rohr s.n. (C-herb. Vahlii; NA, as photo). The type material is described by Fryxell (1969a, p. 406).

'pureum (*G. aridum* var. *pureum* Mauer, 1954, Proiskhozhd. Sist. Khlop., p. 265).

TYPE: MEXICO: Sinaloa: Culiacán, 22 Apr 1900 [sic] . Rose, Standley & Russell [14999] (holotype: US-637875; isotypes: GH, MO, UC, US-637874, -2216230, -2216231). The name is not validly published under Art. 36, ICBN, and moreover is illegitimate under Arts. 26 and 63; the correct name is *G. aridum* var. *aridum*. Although Mauer omitted the collector's number (supplied above) and introduced an error in the collection date, his specific citation of the US accession number clearly identifies the type of this name as the type of *G. aridum*, q.v.

quinacre (*G. quinacre* Cook & Hubb., 1926, J. Wash. Acad. Sci. 16: 548).

TYPE: ECUADOR: Bahia de Caraquez, Cook & Hubbard 112, 12 May 1926 (US-1282039, -1282040, -1282041, and -2250247). The first of these four sheets (No. 1282039) is herewith designated as lectotype.

racemosum (*G. racemosum* Poir. in Lam., 1811, Encycl. Méthod. Bot. Suppl. 2: 370).

SUBSEQUENT COMBINATIONS: *G. peruvianum* ssp. *racemosum* (Poir.) Roberty, 1946, Candollea 10: 376, *G. peruvianum* var. *racemosum* (Poir.) Roberty, 1946, Candollea 10: 376, *G. barbadense* ssp. *racemosum* (Poir.) Roberty, 1950, Candollea 13: 83.

TYPE: PORTO-RICO, Ledru s.n., 1796 (holotype: P). Chevalier discusses the type and reproduces a photograph of it (1939, pl. 15).

raimondii (*G. raimondii* Ulbr., 1932, Notizbl. Bot. Gart. Berlin 11: 548).

SUBSEQUENT COMBINATIONS: *G. klotzschianum* ssp. *raimondii* (Ulbr.) Roberty, 1950, Candollea 13: 29.

TYPE: PERU: Department of Cajamarca\ Province of Contumazá: Cascas: Playa del Río de Santa Ana por lado de Cascas, Raimondi 8218

(B. USM). The following specimens (paratypes) were also cited: *Raimondi* 326, 3959, and 7596.

reale (*G. peruvianum* var. *reale* Roberty, 1946, Candollea 10: 381).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *reale* (Roberty) Roberty, 1950, Candollea 13: 95.

TYPE: Cited as *Typus proximus!*, Giza 35, cultivated at Giza, 1945. Roberty 5205 (holotype: G). This name is illegitimate under Art. 28, ICBN; the plant should be called *G. peruvianum* cv. 'Giza 35'.

religiosoides (*G. purpurascens* var. *religiosoides* Roberty, 1938, Candollea 7: 333).

TYPE: FIJI, Seemann 28 (G). The name is not validly published under Art. 36, ICBN.

religiosum (*G. religiosum* L., 1767, Syst. Nat., p. 462).

SUBSEQUENT COMBINATIONS: *G. herbaceum* var. *religiosum* (L.) Mast. in Hook., 1874, Flora Br. India 1: 347. *G. hirsutum* var. *religiosum* (L.) Watt, 1907, Wild and Cultivated Cotton Plants, p. 201.

TYPE: Religiosum, Linnaeus s.n. (holotype: LINN-874.6). The holotype is figured by Watt (1907, pl. 32A) and discussed by Fryxell (1968).

rhorii (*G. rhorii* Tod., 1877, Monografia, p. 242, as *rhorii*).

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *rhorii* (Tod.) Roberty, 1950, Candollea 13: 65.

TYPE: Mostagan [received from Spach], in herb. Webb (FI).

robinsonii (*G. robinsonii* F. v. M., 1875, Fragm. Phytoogr. Austral. 9: 126, as *robinsoni*).

SUBSEQUENT COMBINATIONS: *G. sturtii* ssp. *robinsonii* (F.v.M.) Roberty, 1950, Candollea 13: 24.

TYPE: WESTERN AUSTRALIA: Port Walcott: in the banks and beds of all the watercourses, C. Harper 6 (holotype: MEL).

rohrianum (*G. rohrianum* Raf., 1838, Sylva Tellur., p. 19).

TYPE: *Gossypium portorico* Cattun, von Rohr s.n. (C-herb. Vahlia; NA as photo). Fryxell (1969a, p. 403) discusses the type material. See also *parlatori*.

roji (*G. nanking* var. *roji* Watt, 1907, Wild and Cultivated Cotton Plants, p. 134).

SUBSEQUENT COMBINATIONS: *G. arboreum* var. *roji* (Watt) Prokh., 1947, Bot. Zh. 32: 67. *G. arboreum* subvar. *roji* (Watt) Wouters, 1948, Contrib. Inst. Natl. Etud. Agric. Congo Belge, Sér. Sci. No. 34: 89.

TYPE: Watt (1907, p. 135) cites numerous specimens from Madagascar, Africa, Arabia, and India (Gujarat). He implies, however, that the plant pertains primarily to Gujarat, from whence comes the vernacular name that Watt adopted as the specific epithet. Later, Watt (op. cit., p. 138) refers to "the roji of Gujarat" and adds, "I have provisionally placed certain African and other specimens under *roji*...." His use of the word "provisionally" effectively removes the "African and other specimens"

from consideration in lectotypifying this name. The only material remaining in his specimen citation after such deletion is "in Herb. R.E.P. Calcutta numerous specimens from Baroda, Gujarat." In appendix A (op. cit., p. 362), Watt further identifies these specimens as *Watt 1741* and *Watt 1872*. The R.E.P. (Reporter of Economic Products) collections of *Gossypium* include specimens of Watt and of Burkhill. Watt further adds (op. cit., p. 363), "R.E.P. collections are in Calcutta with some duplicates in Edinburgh and Kew." A lectotype should be chosen from the two specimens in Calcutta, and isolectotypes sought in K and E. *rosei* (*G. rosei* Prokh., nom. nov., 1947, Bot. Zh. 32: 72).

SUBSEQUENT COMBINATIONS: None, but see *G. aridum* var. *palmeri* (Rose) Mauer.

TYPE: Based on *Cinefuegosia palmeri* Rose, 1895, Contrib. U.S. Natl. Herb. 1: 308, the type of which is MEXICO: in shady woods about Colima, *Palmer 1316*, 27 Feb 1891 (holotype: US-208974; isotypes: GH—2 sheets, MEXU, and elsewhere, fide McVaugh 1956, p. 102). *roseum* (*G. roseum* Tod., 1863, G. R. Inst. Incor. 1: 38).

SUBSEQUENT COMBINATIONS AND NEW NAMES: *G. neglectum* var. *roseum* (Tod.) Gammie, 1905, Indian Cottons, p. 7. *G. neglectum* subvar. *avense* Gammie, nom. nov., 1905, Indian Cottons, p. 7. *G. arboreum* var. *roseum* (Tod.) Watt, 1907, Wild and Cultivated Cotton Plants, p. 112. *G. speciosum* var. *roseum* (Tod.) Prokh., 1947, Bot. Zh. 32: 67.

TYPE: Cultivated in the Palermo Botanic Garden, seed accession No. 1, from India, *Todaro s.n.* (PAL). Watt (1907, pl. 14A) reproduces pl. 2 from Todaro (1878) of *G. roseum* var. *albiflorum*, mistakenly referring to it as *G. roseum*. The plate is the type of neither name. Aliotta (1903, p. 22) referred somewhat vaguely to several specimens in PAL under this name (or *G. albiflorum* Tod.?) that are quite variable. The selection of a lectotype will require care.

roseum (*G. aridum* var. *roseum* Mauer, 1954, Proiskhozhd. Sist. Khlop., p. 265).

TYPE: MEXICO: Sinaloa: Culiacán, Dec 1926, J. G. Ortega s.n. (holotype: US-1317449). This name is not validly published under Art. 36, ICBN.

rotundum (*G. arboreum* ssp. *rotundum* Roberty, 1950, Candollea 13: 36).

TYPE: The name is not typified and is illegitimate under the provisions of Art. 25, ICBN. See "Roberty's Category of Subspecies."

roxburghianum (*G. neglectum* var. *roxburghianum* Tod., 1877, Monografia, p. 169).

SUBSEQUENT COMBINATIONS: *G. roxburghii* var. *roxburghianum* (Tod.) Prokh., 1947, Bot. Zh. 32: 68.

TYPE: Todaro's name is based upon Roxburgh's "Dacca cotton" (1832,

Fiora Indica, ed. 2, vol. 3: 184). The type is Roxburgh's pl. 1494 (1496). Cf. Sealy (1956) and "Roxburgh Types." The original of this plate is kept in CAL, and a copy is in K. It was published by Roxburgh (1795-1819), by Watt (1907, pl. 12), and with slight modification by Royle (1851, pl. 3, fig. 1). Prokhanov's combination is illegitimate under Art. 26, ICBN.

roxburghii (*G. roxburghii* Tod., 1863, G. R. Ist. Incor. 1: 61).

TYPE: The basis for the name is the same as that for the preceding name, *G. neglectum* var. *roxburghianum*, q.v., and the type is Roxburgh's pl. 1494 (1496). See *roxburghianum* and "Roxburgh Types."

royleanum (*G. royleanum* Tod., 1863, G. R. Ist. Incor. 1: 57).

SUBSEQUENT COMBINATIONS: *G. intermedium* var. *royleanum* (Tod.) Tod., 1877, Monografia, p. 155.

TYPE: Royle's pl. 2 (1851), which Royle (p. 142) refers to as "the beautiful drawing in Col. Sykes' collection, from which we have taken Plate II."

rubescens (*G. albescens* var. *rubescens* Raf., 1838, *Sylva Tellur.*, p. 18).

TYPE: *Gossypium semirubrum*, von Rohr s.n. (lectotype: C-herb. Vahlii; NA, as photo). A discussion of the type material (including isotypes also in C) is presented by Fryxell (1969a, p. 404).

¹**rubicundum** (*G. nanking* var. *rubicundum* Roxb. ex Watt, 1907, Wild and Cultivated Cotton Plants, p. 126).

SUBSEQUENT COMBINATIONS: *G. rubicundum* Roxb. ex Wight & Arn., 1834, *Prodr. Flora Penin. Indiae Orient.*, p. 55. *G. nanking* f. *rubicundum* (Roxb. ex Watt) Roberty, 1938, *Candollea* 7: 317. *G. speciosum* var. *rubicundum* (Roxb. ex Watt) Prokh., 1947, *Bot. Zh.* 32: 68. *G. arboreum* var. *rubicundum* (Roxb. ex Watt) Roberty, 1950, *Candollea* 13: 45.

TYPE: Watt based this name on Roxburgh's manuscript name *G. rubicundum* and the Roxburgh drawing with which it is associated. The type is therefore the Roxburgh drawing No. 1496, kept in CAL. A copy of this drawing is in K and has been published by Watt (1907, pl. 18), who injected a typographical error in the legend of his plate (see "Roxburgh Types"). Roxburgh's name was published by Wight and Arnott in specific rank, but only as a synonym; their name is therefore not validly published (Art. 34, ICBN).

²**rubicundum** (*G. barbadense* var. *rubicundum* Mauer, 1930, *Bull. Appl. Bot. Genet. Plant Breeding Suppl.* 47: 450).

TYPE: COLOMBIA: Department of Magdalena: near La Gloria, *Bukasov* s.n. (BM, WIR).

rubidulum (*G. barbadense* var. *rubidulum* Mauer, 1930, *Bull. Appl. Bot. Genet. Plant Breeding Suppl.* 47: 453).

TYPE: COLOMBIA: Dagua, *Bukasov* s.n. (BM, WIR).

rubriflorum (*G. arboreum* ssp. *rubriflorum* Roberty, 1950, *Candollea* 13: 37).

TYPE: The name is not typified and is illegitimate (Art. 25, ICBN). See "Roberty's Category of Subspecies."

rubrocoloratum (*G. hirsutum* f. *rubrocoloratum* Roberty, 1950, *Candollea* 13: 70).

TYPE: EGYPT: collected at Giza, *Simpson C114* (vidi vivo).

rubrostaminatum (*G. barbadense* f. *rubro-staminatum* Roberty, 1950, *Candollea* 13: 85).

TYPE: Cultivated in the Soninkoura Botanic Garden, from Colombian seeds, *Roberty 2990* (G).

'rubrum (*G. rubrum* Forsk., 1775, *Flora Aegypt.-Arab.*, p. 125).

SUBSEQUENT COMBINATIONS: *G. arboreum* f. *rubrum* (Forsk.) Roberty, 1938, *Candollea* 7: 319. *G. arboreum* var. *rubrum* (Forsk.) Roberty, 1945, *Ann. Inst. Bot.-Géol. Colon. Marseille*, ser. 6, vol. 3: 36.

TYPE: ARABIA: hadie., *Forskål s.n.* (holotype: C; isotype: BM). According to Christensen (1922), the holotype was annotated by Garcke as "=*G. herbaceum* L." Watt (1907, p. 84) notes the existence of the isotype in BM.

'rubrum (*G. decurrens* var. *rubrum* Raf., 1838, *Sylva Tellur.*, p. 15).

TYPE: Rafinesque's original description. No specimens exist that can serve as a basis for this name (Fryxell 1969a).

'rubrum (*G. hirsutum* var. *rubrum* Mauer, 1930, *Bull. Appl. Bot. Genet. Plant Breeding Suppl.* 47: 449).

TYPE: COLOMBIA: in the regions of LaGloria, Gamarra, and Bocas de Rosario, *Bukasov s.n.* (BM, WIR).

ruderale (*G. barbadense* ssp. *ruderale* Mauer, 1950, *Tr. Sredneaziat. Gos. Univ.* 18: 24).

TYPE: No specimens are cited by Mauer; other elements of the protolog provide no satisfactory basis for typification. It is clear from Mauer's later monograph (1954) that he cultivated plants of this taxon at Tashkent; thus, authentic specimens might be found in TAK or WIR.

rufescens (*G. prostratum* var. *rufescens* Tod., 1877, *Monografia*, p. 197).

TYPE: Todaro provides no evidence concerning a type of the varietal name, which he does not distinguish from the species in his discussion. Since he distinguishes the variety on the basis of plant habit and of seed hair color, and says of the species that it did not fruit normally in Sicilia and that its flowering habits were unknown, it seems likely that Todaro grew this plant in the Palermo Botanic Garden. If so, a type specimen (lacking flowers) should be sought in PAL.

'rufum (*G. rufum* Scop., 1788, *Delic. Florae et Faunae Insubir.* 3: 70).

TYPE: No authentic specimen of Scopoli has been traced (see Stafleu 1967, p. 439), so the original description serves as type.

'rufum (*G. herbaceum* var. *rufum* Targ., 1813, *Inst. Bot.*, ed. 3, vol. 3: 53).

TYPE: *Targioni-Tozzetti s.n.* (to be sought in FI).

³*rufum* (*G. hirsutum* var. *rufum* Tod., 1863, G. R. Ist. Incor. 1: 91).

TYPE: Todaro cites seed accession Nos. 80, 128, 152, 199, 161 (ex parte), and 166 (ex parte), all of which were presumably grown in the Palermo Botanic Garden and are represented by specimens in PAL. A lectotype should be chosen from among the first four; the last two are excluded from consideration since they were mixed seed lots, segregating for lint color, the character by which Todaro distinguished the variety. Todaro's epithet is distinct from that of Targioni-Tozzetti (see preceding basionym) since he cited the latter only as a questionable synonym.

⁴*rufum* (*G. microcarpum* var. *rufum* Tod., 1867, Index Sem. Hort. Reg. Bot. Panorm. 1866: 34).

TYPE: Todaro does not specifically indicate a type, but his descriptions were mostly based upon plants grown in the Palermo Botanic Garden, and a type is to be sought in PAL.

⁵*rufum* (*G. barbadense* var. *rufum* Wittm., 1928, Bot. Kult. Baumw., vol. 4, p. 2, p. 162, in Herzog (ed.), Techn. Textilf.).

TYPE: PORTORICO: San German, Hacienda Maria Luisa, n. Lajas, Algodon chocolate, P. Sintenis 6854, 29 May 1887. Sintenis duplicates are very widely distributed (see Lanjouw 1945, p. 227), so that isotypes can probably be found in numerous herbaria. A specimen numbered 6856, but agreeing in all other details, is in GH.

rugatum (*G. mexicanum* var. *rugatum* Watt, 1927, Kew Bull. 1927: 342).

SUBSEQUENT COMBINATIONS: *G. albescens* var. *rugatum* (Watt) Prokh., 1947, Bot. Zh. 32: 74.

TYPE: EGYPT: wrinkled leaf, raised from seed procured from Faslin, [Simpson?] C 117 (E, K, fide Watt 1927, p. 321).

rupestre (*G. rupestre* Raf., 1838, Sylva Tellur., p. 17).

SUBSEQUENT COMBINATIONS: *G. tricuspidatum* ssp. *rupestre* (Raf.) Mauer, 1950, Tr. Sredneaziat. Gos. Univ. 18: 23.

TYPE: *Gossypium curassavicum* Colbiorsen v. Rohrio dedit, von Rohr s.n. (C-herb. Vahlii; NA, as photo). Fryxell (1969a, p. 406) discusses the type material.

sahelicum (*G. barbadense* var. *sahelicum* Roberty, 1946, Candollea 10: 391).

TYPE: Sakel 7, cultivated in the Soninkoura Botanic Garden, 1938, Roberty 3890 (G). This name is illegitimate under Art. 28, ICBN. The plant should be called *G. barbadense* cv. 'Sakel 7'.

sakalia (*G. herbaceum* var. *sakalia* Gammie, 1905, Indian Cottons, p. 6).

TYPE: Gammie's pl. 7D (1907). The name is not validly published (Art. 34, ICBN); see "Gammie's Names."

sandvicense (*G. sandvicense* Parl., 1866, Species Coton., p. 37).

TYPE: HAWAII, Menzies s.n. (lectotype: FI). The choice of this lectotype is discussed by Fryxell (1972); its existence in FI is noted by Aliotta (1903, p. 94).

sanguineum (*G. sanguineum* Hassk., 1844, Cat. Plant. Hort. Bot. Bogor., p. 200).

SUBSEQUENT COMBINATIONS: *G. arboreum* var. *sanguineum* (Hassk.) Watt, 1907, Wild and Cultivated Cotton Plants, p. 91. *G. arboreum* ssp. *sanguineum* (Hassk.) Roberty, 1938, Candallea 7: 318. *G. speciosum* var. *sanguineum* (Hassk.) Prokh., 1947, Bot. Zh. 32: 67. *G. neglectum* var. *sanguineum*, nom. nud. [listed by Smith (1964) in error for *G. speciosum* var. *sanguineum* (Hassk.) Prokh.].

TYPE: Botanic Garden Bogor, Hasskarl s.n. (lectotype: BO-56637). The choice of lectotype was discussed by Borssum Waalkes (1966, p. 122).

sermentosum (*G. sermentosum* Raf., 1838, Sylva Tellur., p. 17).

TYPE: Rafinesque's original description. No specimen exists that can serve as the basis for this name (Fryxell 1969a).

scandens (*G. taitense* f. *scandens* Hochr., 1924, Nova Guinea 14: 166).

TYPE: NEW GUINEA: south coast, Gelib, Branderhorst 155 and 156 (syntypes: BO, G, L). Borssum Waalkes (1966, p. 127) comments on the type material. A lectotype should be chosen.

?**scandens** (*G. kirkii* ssp. *scandens* Roberty, 1950, Candallea 13: 31).

TYPE: AFRIQUE ORIENTALE KIVA-SIKUMBI: Région des lacs, Busse 2911, 1903 (holotype: G; isotypes: BR and elsewhere; see Lanjouw and Stafleu 1954, p. 109). Both Roberty (1938, p. 335; 1946, p. 387) and Wouters (1948, p. 154) note that the Brussels isotype bears a manuscript name (*Gossypium Bussei*) by Gürke. This taxon is to be excluded from *Gossypium* and placed in the genus *Gossypoides*, but the nomenclatural transfer has evidently never been made.

schottii (*G. schottii* Watt, 1907, Wild and Cultivated Cotton Plants, p. 206.)

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *schottii* (Watt) Prokh., 1947, Bot. Zh. 32: 73. *G. hirsutum* f. *schottii* (Watt) Wouters, 1948, Publ. Inst. Nat. Etud. Agron. Congo Belge, Sér. Sci. No. 34: 103, as *schotii*.

TYPE: YUCATAN: Merida, Schott 602, 1865 (holotype: BM; isotypes: MO, US-12928, -12929, and -12933, and probably elsewhere; see Lanjouw 1945, p. 229). The three US sheets of this collection each bear a different date (8 Sept, Aug, and 24 Aug, respectively) and are discordant in several respects. Caution should therefore be exercised in interpreting isotypes.

senarensis (*G. senarensis* Fenzl ex Wawr. & Peyr., 1860, Sert. Benguel., p. 22 [also published in 1860, Sitzungsber. Kaiserl. Akad. Wiss. Wien 38: 562]).

TYPE: ETHIOPIA. Kotschy 90(W). The holotype is annotated by Fenzl. A number of isotypes may exist (Chaudhri et al. 1972, p. 382).

sericatum (*G. sericatum* Prokh., 1947, Bot. Zh. 32: 73).

TYPE: Prokhanov states that his description was based on living plants grown at Tashkent in 1931-32 from seed originating in Mitla, Oaxaca, Mexico. He did not indicate if herbarium vouchers were preserved, but they might be in LE, TAK, or WIR.

¹siamense (*G. siamense* Tuss., 1818, *Flore Antilles* 2: 68).

TYPE: Tussac did not cite a specific type, but his West Indian herbarium is at least partially preserved in P, G-DC, and FI, where type material should be sought. Chevalier's (1939) study of *Gossypium* types at Paris did not mention Tussac's name.

²siamense (*G. siamense* Ten., 1839, *Mem. Div. Spec. Var. Coton.*, p. 193).

NEW NAMES: *G. latifolium* var. *cambodiense* Roberty, nom. nov., 1942, *Candollea* 9: 93. *G. hirsutum* f. *gussonei* Roberty, nom. nov., 1950, *Candollea* 13: 63.

TYPE: Tenore's herbarium is in NAP where the type should be sought. If a specimen is not found, Tenore's plate provides an excellent type. Fletcher (1909, fig. 5) reproduced Tenore's plate.

³siamense (*G. nanking* var. *siamense* Watt, 1928, *Agric. J. India* 23: 394).

TYPE: Watt cites seven specimens sent to him by A. F. G. Kerr, from which a lectotype should be chosen: "Kerr 8034; 10141; 10270; E, P; J; and Winit s.n. (two specimens)." These specimens are presumably kept in K.

silhetense (*G. cernuum* var. *silhetense* Gammie, 1905, *Indian Cottons*, p. 7, as *silhetensis*).

TYPE: Gammie's pl. 13E (1907). The name is not validly published (Art. 34, ICBN); see "Gammie's Names."

simpsonii (*G. simpsonii* Watt, 1926, *Kew Bull.* 1926: 199).

SUBSEQUENT COMBINATIONS: *G. obtusifolium* f. *simpsonii* (Watt) Roberty, 1938, *Candollea* 7: 316. *G. herbaceum* subvar. *simpsonii* (Watt) A. Chev., 1939, *Rev. Bot. Appl. Agric. Trop.* 19: 542.

TYPE: EGYPT: cultivated at Giza, from seed procured from the Siwa Oasis, *Simpson C1* (E, K, fide Watt 1926, p. 193).

sindicum (*G. obtusifolium* var. *sindicum* Gammie, 1905, *Indian Cottons*, p. 4, as *sindica*).

SUBSEQUENT COMBINATIONS: *G. abyssinicum* var. *sindicum* (Gammie) Prokh., 1947, *Bot. Zh.* 32: 70.

TYPE: Gammie's pl. 4 (1907). The name is not validly published (Art. 34, ICBN); see "Gammie's Names."

sinense (*G. sinense* Fisch., 1812, *Hort. Gorenk.*, ed. 2, p. 56).

SUBSEQUENT COMBINATIONS: *G. neglectum* var. *sinense* Fisch. pro sp. ex Tod., 1877, *Monografia*, p. 170, as *chinense* Fisch. & Otto ex Steud.

TYPE: Based on a plant cultivated at the Gorenki Botanic Garden, Moscow. (See the discussion of typification under *chinense*.) Although

von Fischer's name in specific rank is a nomen nudum. Todaro's description validates it in varietal rank.

somalense (*G. somalense* (Gürke) J. B. Hutch., 1947, *Evol. Gossyp.*, p. 31).

TYPE: Based on *Cienfuegiosia somalensis* Gürke, 1904, *Bot. Jahrb. Syst.* 33: 380, the type of which is SOMALILAND: am Flussufer in Fullathal, blühend und mit Fruchten in Februar 1900, *Ellenbeck* 220 (B, lost?). No isotypes are known.

soninkurense (*G. latifolium* subvar. *soninkurense* Roberty, 1942, *Candollea* 9: 94).

SUBSEQUENT COMBINATIONS: *G. hirsutum* f. *soninkurense* (Roberty) Roberty 1950, *Candollea* 13: 77.

TYPE: *Roberty 1094* (G). Roberty gives as a synonym for this name: *G. purpurascens* var. *deserticum* Roberty sensu stricto. Since the present name is based upon the same type as *G. purpurascens* var. *deserticum*, it is illegitimate (Arts. 26 and 28, ICBN).

soudanense (*G. nanking* var. *soudanense* Watt, 1907, *Wild and Cultivated Cotton Plants*, p. 138).

SUBSEQUENT COMBINATIONS: *G. soudanense* (Watt) Watt, 1926, *Kew Bull.* 1926: 201. *G. arboreum* var. *soudanense* (Watt) J. B. Hutch. ex Harl., 1932, *Bibliogr. Genet.* 9: 115. *G. arboreum* f. *soudanense* Hutch. & Ghose, 1937, *Indian J. Agric. Sci.* 7: 247, 248.

TYPE: SOUDAN: Khartoum, *A. F. Broun* 693. Watt (1926, p. 201) specifically cites the type as "in Sudan Government Herb." Duplicates may be in K. For a discussion of the legitimacy of Hutchinson and Ghose's name, see "The Duplicate Formae of Hutchinson and Ghose."

speciosum (*G. speciosum* Raf., 1838, *Sylva Tellur.*, p. 18).

TYPE: *Gossypium tranquebarens*e v. *Rohr*, *von Rohr* s.n. (lectotype: C-herb. Vahlii; NA, as photo). Fryxell (1969a, p. 402) discusses the lectotype.

sphaerocarpum (*G. albescens* var. *sphaerocarpum* Prokh., 1947, *Bot. Zh.* 32: 74).

TYPE: This name is based on the cultivar groups of Duggar and Brown (see "Prokhanov's Varieties") and is illegitimate under Art. 28, ICBN.

sprucei (*G. peruvianum* ssp. *sprucei* Roberty, 1946, *Candollea* 10: 380).

SUBSEQUENT COMBINATIONS: *G. peruvianum* var. *sprucei* (Roberty) Roberty, 1946, *Candollea* 10: 380. *G. barbadense* ssp. *sprucei* (Roberty) Roberty, 1950, *Candollea* 13: 82.

TYPE: ECUADOR: Chanduy, *Spruce* 6451 (holotype: K; isotype: CGE).

stauntonii (*G. stauntonii* Webb ex Tod., 1877, *Monografia*, p. 170).

TYPE: CHINA, *M. Lambert* s.n., Dec 1836, in herb. Webb (FI). This name was published as a synonym and is therefore not validly published (Art. 34, ICBN). Aliotta (1903, pp. 27-28) notes that this specimen bears the additional label "Gossypium. Prov. Kiang-si. Dryander Scriptit."

steudneri (*G. herbaceum* var. *steudneri* Schweinf. ex Gürke, 1894, Bot. Jahrb. Syst. 19 Beibl. 48(4): 2.

SUBSEQUENT COMBINATIONS: *G. anomalum* ssp. *steudneri* (Schweinf.) Roberty, 1950, Candollea 13: 27.

TYPE: ABYSSINIE: bei Seban auf der Seite nach dem Barka zu, *Steudner 1134*, Aug 1861 (B). The name was cited by Gürke as a synonym and is therefore illegitimate (Art. 34, ICBN).

stocksii (*G. stocksii* Mast. in Hook., 1874, Flora Br. India 1: 346).

TYPE: Masters cites "limestone rocks on the coast of Sindh, truly wild, Stocks," and Watt (1907, p. 75) cites, "Karachi, *J. E. Stocks*, n. 469." These two references are to the same specimen, the type, kept in K (as photo: US).

strictifolium (*G. barbadense* var. *strictifolium* Roberty, 1946, Candollea 10: 390).

TYPE: Abassi, cultivated at Giza, 1924, Simpson C125 (CAIM), cited by Roberty as "Typus proximus." This name is illegitimate under Art. 28, ICBN; the plant should be called *G. barbadense* cv. 'Abassi'.

strictum (*G. strictum* Medik., 1784, Bot. Beob. Jahres 1783, p. 195).

TYPE: The Medikus herbarium is unknown (Stafleu 1967, p. 304), and the name is typified by the original description.

sturtianum (*G. sturtianum* J. H. Willis, nom. nov., 1947, Victorian Nat. 64: 9).

TYPE: This name is an avowed substitute for the illegitimate *G. sturtii* F. v. M., q.v., which is based upon *Sturtia gossypoides* R. Br., the type of which is *Sturt 20* (BM).

sturtii (*G. sturtii* F. v. M., 1863, Fragm. Phytogr. Austral. 3: 6).

TYPE: Based on *Sturtia gossypoides* R. Br. in Sturt, 1849, Exped. Cent. Austral., vol. 2, app. p. 68, the type of which is AUSTRALIA: Queensland: in the beds of the creeks of the Barrier Range, *Sturt 20*, 1844 (holotype: BM). Von Mueller's name is illegitimate under Art. 55, ICBN (see also *gossypoides*, *sturtianum*).

subglabrum (*G. caespitosum* f. *subglabrum* Back., 1907, Flora Batav., p. 151, as *subglabra*).

TYPE: JAVA: Tandjungpriok, Backer 35320 (holotype: BO; isotype: L).

subintegrum (*G. arboreum* ssp. *subintegrum* Roberty, 1950, Candollea 13: 37).

TYPE: This name is untypified and is used by the publishing author in such a way as to render it illegitimate under Art. 25, ICBN (see "Roberty's Category of Subspecies").

suffruticosum (*G. suffruticosum* Bertol., 1836, Novi Comment. Acad. Sci. Inst. Bonon. 2: 216).

SUBSEQUENT COMBINATIONS: *G. barbadense* f. *suffruticosum* (Bertol.) Roberty, 1950, Candollea 13: 86.

TYPE: Bertoloni states, "In horto nostro floret ab Augusto in Octobre"; the type was grown in the Bologna Botanic Garden and is evidently preserved in BOLO. If a specimen is lacking, Bertoloni's pl. 9 (not "Tab. 2." as stated in the text) may serve to typify the name.

synochrum (*G. synochrum* Cook, 1935, J. Hered. 26: 30).

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *synochrum* Cook pro sp. ex Roberty, 1950, Candollea 13: 79.

TYPE: FLORIDA: Miami, Cook s.n. (location of type specimen uncertain; see "Cook's Florida Cottons"). The name is not validly published in specific rank (Art. 36, ICBN), but was validated by Roberty in varietal rank.

taitense (*G. taitense* Parl., 1866, Species Coton., p. 39).

SUBSEQUENT COMBINATIONS: *G. purpurascens* var. *taitense* (Parl.) Roberty, 1938, Candollea 7: 332. *G. latifolium* var. *taitense* (Parl.) Roberty, 1942, Candollea 9: 89. *G. hirsutum* var. *taitense* (Parl.) Roberty, 1950, Candollea 13: 66.

TYPE: TAHITI, Moerenhout s.n., 1835 (holotype: FI; isotype: G-DC). Watt (1907, p. 250) states, "Neither in the Herbarium of Florence, nor in that of Naples, was I able to discover a type sheet, that is to say, an example of this species named in Parlatore's own handwriting." However, Aliotta (1903, p. 96) notes the existence of the holotype in FI. Forster's specimens from Tahiti (BM, FI-Desf.) are to be accepted as paratypes. Roberty (1950, p. 67) expressed doubt that Moerenhout's specimen conformed to Parlatore's description. The specimen from P illustrated by Chevalier (1939, pl. 16) as "cotype" is evidently not involved in the typification of this name.

teleium (*G. teleium* Raf., 1838, Sylva Tellur., p. 17).

TYPE: Rafinesque's description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

tenax (*G. tenax* Raf., 1838, Sylva Tellur., p. 16).

TYPE: Rafinesque's description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

terra-ceium (*G. terra-ceium* Cook, 1935, J. Hered. 26: 30).

TYPE: FLORIDA: Terra Ceia Island, Cook s.n. (location of type specimen uncertain; see "Cook's Florica Cottons"). The name is not validly published (Art. 36, ICBN).

thebaicum (*G. barbadense* ssp. *thebaicum* Roberty, 1946, Candollea 10: 389).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *thebaicum* (Roberty) Roberty, 1946, Candollea 10: 389.

TYPE: SAKEL DOMAINES, cultivated at Wad Medani, 1945, Roberty 5251 (G). This name is illegitimate under Art. 28, ICBN. The plant should be named *G. barbadense* cv. 'Sakel Domaines'.

thespesioides (*G. thespesioides* (R. Br. ex Benth.) F.v.M. ex Tod., 1877, Monografia, p. 103).

TYPE: This name is based on *Fugosia thespesioides* R. Br. ex Benth., 1863, Flora Austral. 1: 220, the type of which is AUSTRALIA: Northern Territory: Island Z [Inglis Island], R. Brown 5139 (lectotype: BM; isotypes: BM, BRI, K, MEL, NY). The choice of lectotype is discussed by Fryxell (1965a, p. 97), who excludes this taxon from *Gossypium* and places it in *Thespisia*, as *T. lampas* var. *thespesioides* (R. Br. ex Benth.) Fryx.

thurberi (*G. thurberi* Tod., nom. nov., 1877, Monografia, p. 120).

SUBSEQUENT COMBINATIONS: None in *Gossypium*.

TYPE: Based on *Thurberia thespesioides* A. Gray, 1858, Mem. Am. Acad. Arts Sci. 5: 308, the type of which is MEXICO: Sonora: Cocospera-Babosaqui, Thurber 914 (holotype: GH; isotypes: NY, US).

timoffeevii (*G. punctatum* var. *timoffeevii* Dekapr., 1921, Zap. Nauchno Prikl. Tifl. Bot. Sada 2: 113, as *timoffeevi*).

TYPE: Dekaprelevich did not indicate a type specimen. The plant is a cultigen of the Province of Kutais, western Transcaucasia, and is thought to be equivalent to the "Hindi weed" of Egypt. The author's description (in Latin) serves as type.

timorense (*G. timorense* Prokh. nom. nov., 1947, Bot. Zh. 32: 64).

TYPE: Based on *G. javanicum* Dec., q.v. (non *G. javanicum* Bl.). Since no Decaisne specimen was found by Borssum Waalkes (1966, p. 127), the type is Decaisne's description, which is quoted by Fryxell (1965a, p. 92). Borssum Waalkes notes that "Decaisne's description fairly matches Blume's plant" (i.e., the type of *G. javanicum* Bl.), and implies that the two names need not be distinguished and that Prokhanov's new name is therefore unnecessary. He explicitly rejects Prokhanov's placement of Decaisne's plant in subgenus *Sturtia*, a placement that I earlier accepted (1965a), but which I now also reject.

todari (*G. peruvianum* var. *todari* Roberty, 1946, Candollea 10: 377).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *todari* (Roberty) Roberty, 1950, Candollea 13: 93.

TYPE: Maarad, cultivated at Niono, 1938, Roberty 3894 (G), cited as "Typus proximus!" (See "Roberty's Typus Proximus.") This name is illegitimate (Art. 28, ICBN). The plant should be named *G. peruvianum* cv. 'Maarad'.

'tomentosum (*G. tomentosum* Nutt. ex Seem., 1865, Flora Vitiensis, p. 22).

SUBSEQUENT COMBINATIONS: *G. hirsutum* f. *tomentosum* (Nutt. ex Seem.) Roberty, 1950, Candollea 13: 73.

TYPE: HAWAII, Nuttall s.n. (lectotype: BM; isolectotype: PH). The typification of this name is discussed by Fryxell (1972).

²**tomentosum** (*G. barbadense* var. *tomentosum* Mauer, 1930, Bull. Appl. Bot. Genet. Plant Breeding Suppl. 47: 452).

TYPE: *Bukasov s.n.* (BM, WIR).

tonju (*G. tonju* Mihara ex Kitsugawa, 1929?).

TYPE: I have been unable to examine the original sources to verify the correct citation or the validity of this name, but from a secondary source (Onodera 1938), it appears to be a validly published name, based on a type specimen kept in TOFO.

transvaalense (*G. transvaalense* Watt, 1926, Kew Bull. 1926: 207).

SUBSEQUENT COMBINATIONS: *G. herbaceum* var. *transvaalense* (Watt) Mauer, 1954, Proiskhozhd. Sist. Khlop., p. 203.

TYPE: TRANSVAAL: Komati Poort, *Burtt Davy* 369 (K). Isotypes are to be sought in several other herbaria (see Lanjouw and Stafleu 1954, p. 154).

trichospermum (*G. trichospermum* Raf., 1838, *Sylva Tellur.*, p. 17).

TYPE: Rafinesque's description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

tricuspidatum (*G. tricuspidatum* Lam., 1786, Encycl. Méthod. Bot. 2: 135).

SUBSEQUENT COMBINATIONS: *G. religiosum* var. *tricuspidatum* (Lam.) A. Chev., 1939, Rev. Bot. Appl. Agric. Trop. 19: 546. *G. latifolium* var. *tricuspidatum* (Lam.) Roberty, 1942, Candollea 9: 97. *G. latifolium* f. *tricuspidatum* (Lam.) Roberty, 1942, Candollea 9: 97. *G. hirsutum* var. *tricuspidatum* (Lam.?) Wouters, 1948, Publ. Inst. Natl. Etud. Agron. Congo Belge Sér. Sci. No. 34: 99.

TYPE: Cultivated in the Paris Botanic Garden (holotype: P). A photograph of the type was published by Chevalier (1939, pl. 14).

tridens (*G. tridens* Cook & Hubb., 1926, J. Wash. Acad. Sci. 16: 547).

TYPE: COLOMBIA: Buenaventura, *Cook & Hubbard* 169, 28 May 1926 (US-1282030, -1282031, -1282032 and -2250267). The second of these four duplicates (No. 1282031) is herewith designated as lectotype.

trilobum (*G. trilobum* (Sess. & Moç. ex DC.) Skov., 1935, J. Genet. 31: 288).

TYPE: This name is based on *Ingenhouzia triloba* Moç. & Sess. ex DC., 1824, Prodromus 1: 474, the type of which is Sessé & Moçino's specimen, which is kept in MA and a photograph of which was published by Hutchinson (1947, pl. 3A). The type "was probably collected in the autumn of 1790 in central Michoacán" (Fryxell and Parks 1967, p. 122).

trilobum (*G. sturtianum* var. *trilobum* J. H. Willis, 1947, Victorian Nat. 64: 9).

TYPE: This nomen nudum is based on a manuscript name of F. von Mueller, which is found on a specimen that is the holotype of *G. walchottianum* Tod. (q.v.). The details are discussed by Fryxell (1965a, p. 81).

triphyllum (*G. triphyllum* (Harv. ex Harv. & Sond.) Hochr., 1902, Bull. Herb. Boiss., ser. 2, vol. 2: 1004).

SUBSEQUENT COMBINATIONS: *G. anomalum* ssp. *triphyllum* (Harv. ex Harv. & Sond.) Roberty, 1950, Candollea 13: 26.

TYPE: This name was based on *Fugosia triphylla* Harv. ex Harv. & Sond., 1862, Flora Capensis 2: 588, the type of which is DAMARALAND, Miss Elliott s.n. (holotype: TCD). Harvey and Sonder specifically cite the type from TCD; Lanjouw and Stafleu (1957, p. 181) state that Miss Elliott's collections from Africa are in KMG, where an isotype might be found.

turbineum (*G. jumelianum* var. *turbineum* Prokh., 1947, Bot. Zh. 32: 77).

TYPE: This name is based on a cultivar group, the "American-Egyptian cottons," including the cultivars 'Fima' and 'Yuma', and is otherwise untypified. I regard it as illegitimate under Art. 28, ICBN (see "Prokhanov's Varieties").

typicum (*G. hirsutum* var. *typicum* Prokh., 1947, Bot. Zh. 32: 73).

TYPE: The use of this epithet is proscribed in Art. 24, ICBN, but only when it is used "to indicate the taxon containing the nomenclatural type of the next higher taxon." This is not the sense in which Prokhanov used the epithet. Rather, he published this name as a varietas nova, based on a "cultivar group" of Duggar. As such, the name is illegitimate under Art. 28, ICBN (see "Prokhanov's Varieties").

uliginosum (*G. hirsutum* var. *uliginosum* Curt. pro sp. ex Roberty, 1950, Candollea 13: 78).

TYPE: FLORIDA MERIDIONALE [Key West], Curtiss 5655, 11 May 1896 (A, G?, GH, MO, NY, UC, US-280600). The existence of this name is unfortunate, in that it is based on an error. A. H. Curtiss distributed specimens widely (see Lanjouw and Stafleu 1954, p. 148), including the present plant under the name "*Gossypium uliginosum* Linn." Watt (1907, p. 170) calls this "a name that cannot be traced," but it seems to me simply to be a typographical error (the labels being printed) for "*G. religiosum* Linn." It is fortuitous that the misspelling resulted in a name that not only was acceptable Latin but was also plausible for the plant in question.

vagans (*G. arboreum* var. *vagans* Gammie, 1905, Indian Cottons, p. 5).

TYPE: Gammie's pl. 5C (1907). The name is not validly published (Art. 34, ICBN); see "Gammie's Names."

vaupellii (*G. vaupellii* Grah., 1839, Cat. Plant. Bombay, p. 15).

SUBSEQUENT COMBINATIONS: *G. arboreum* f. *vaupellii* (Grah.) Roberty, 1950, Candollea 13: 46.

TYPE: Based on plants grown in Bombay by John Vaupell from seeds collected in a temple yard in Sidhpur, Guzerat (Lewton 1920). The later name *G. imbricatum* Vaupell, q.v., was evidently based on the

identical material. It is not known if specimens of this cotton have been preserved.

versicolor (*G. versicolor* Lign. & LeBey, 1905, Bull. Soc. Linn. Normandie ser. 5, vol. 8: 226).

TYPE: This name is a nomen nudum, cited in a catalog of specimens in CN. One of the specimens cited under this name (Guyane Fse., Sagot) is evidently an isotype of *G. barbadense* var. *cayenense* Roberty.

virens (*G. virens* Raf., 1838, Sylva Tellur., p. 15).

TYPE: Rafinesque's description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

virgatum (*G. virgatum* Raf., 1838, Sylva Tellur., p. 14).

TYPE: Rafinesque's description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

viride (*G. decurrens* var. *decurrens* Raf., 1838, Sylva Tellur., p. 15, as *viridis*).

TYPE: Rafinesque's description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

vitifolium (*G. vitifolium* Lam., 1786, Encycl. Méthod. Bot. 2: 135).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *vitifolium* (Lam.) Triana & Planch., 1862, Ann. Sci. Nat. Bot., ser. 4, vol. 17: 170. *G. herbaeum* var. *vitifolium* (Lam.) Mast. in Hook., 1874, Flora Br. India 1: 347. *G. barbadense* f. *vitifolium* (Lam.) Roberty, 1938, Candollea 7: 334. *G. barbadense* ssp. *vitifolium* (Lam.) Roberty, 1946, Candollea 10: 386. *G. barbadense* subvar. *vitifolium* (Lam.) Wouters, 1948, Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34: 63.

TYPE: The holotype is Sonnerat's specimen, kept in P. Fletcher (1908, pl. 4) and Chevalier (1939, pl. 12) published photographs of this specimen. Masters' combination is a bit doubtful, in that he bases his name on the *G. vitifolium* of "Roxburgh . . . not of others." He takes his description from Roxburgh, and then adds, "The *G. vitifolium* of Roxburgh's drawings is a different plant." According to Sealy (1956) there is no such drawing. Masters' intent is not clear, but it is concluded that his name is based, however circuitously, on Lamarck's.

volubile (*G. volubile* Ram.-Goy.. 1909, Flora Nicarag. 1: 195, as *volubilis*).

SUBSEQUENT COMBINATIONS: *G. hirsutum* var. *volubile* (Ram.-Goy.) Roberty, 1950, Candollea 13: 70.

TYPE: Ramirez-Goyena cites no specimens, and I am unaware of the existence of or the location of his herbarium. (None is cited by Lanjouw 1945.) Unless an authentic specimen can be located, the published description will have to serve as type.

vulgare (*G. herbaceum* var. *vulgare* Raf., 1838, Sylva Tellur., p. 15, as *vulgaris*).

TYPE: Rafinesque's description. No specimen exists that can serve as a basis for this name (Fryxell 1969a).

walchottianum (*G. walchottianum* Tod., 1877, Monografia, p. 119).

TYPE: WESTERN AUSTRALIA: Dampier's Archipelago, *Walcott s.n.* (holotype: MEL).

wattianum (*G. wattianum* Hu, nom. nov., 1955, Flora China, Fam. 153. Malvac., p. 65).

TYPE: This name is based on *G. anomalam* Watt, 1927, q.v. (non *G. anomalam* Wawra, 1860), the syntypes of which are *Simpson C853* and *C854* (E, K). See also *paradoxum*.

wattii (*G. obtusifolium* f. *wattii* Roberty, nom. nov., 1938, Candollea 7: 316).

TYPE: This name is based on *G. obtusifolium* var. *africanum* Watt, q.v., the type of which is *Lugard 198* (K). Although Roberty's name is contrary to Recommendation 60A, ICBN, it is nevertheless legitimate.

webberanum (*G. albescens* var. *webberanum* Prokh., 1947, Bot. Zh. 32: 74).

TYPE: This name is based on the cultivar groups of Duggar and Brown (see "Prokhanov's Varieties") and is illegitimate under Art. 28, ICBN.

wightianum (*G. wightianum* Tod., 1863, G. R. Ist. Incor. 1: 63).

SUBSEQUENT COMBINATIONS: *G. obtusifolium* var. *wightianum* (Tod.) Watt, 1907, Wild and Cultivated Cotton Plants, p. 143. *G. herbaceum* var. *wightianum* (Tod.) J. B. Hutch. ex Harl., 1932, Bibliogr. Genet. 9: 115. *G. cambayense* var. *wightianum* (Tod.) Prokh., 1947, Bot. Zh. 32: 70. *G. herbaceum* subvar. *wightianum* (Tod.) Wouters, 1948, Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34: 91. *G. arboreum* var. *wightianum* (Tod.) Roberty, 1950, Candollea 13: 42.

TYPE: Cultivated in the Palermo Botanic Garden, from seed accession No. 13 from India. *Todaro s.n.* (PAL).

zaitzevii (*G. zaitzevii* Prokh., 1947, Bot. Zh. 32: 70).

TYPE: Prokhanov did not specifically cite a type but later (Prokhanov 1949) said, "Described from Chinese Turkestan (Sinkiang Province). Type in Leningrad (Herbarium of the All-Union Scientific Research Institute of Plant Growing)." [WIR?]

zaria (*G. peruvianum* var. *zaria* Watt, 1927, Kew Bull. 1927: 335).

SUBSEQUENT COMBINATIONS: *G. barbadense* var. *zaria* (Watt) Roberty, Candollea 10: 388.

TYPE: NORTHERN NIGERIA: Illorin: near Zaria, *P. H. Lamb* 7, Nov 1912 (holotype: K; isotype: FHI? Cf. Watt 1927, p. 321; Chaudhri et al. 1972, p. 406).

BASIONYMS ADDED IN PROOF

²**arizonicum** (*G. trilobum* var. *arizonicum* Mauer, Proiskhozhd. Sist. Khlop., p. 261).

TYPE: Cultivated plant (No. 3531; TAK?, WIR?) from seed from Santa Rita Mountains, Ariz. This name is not validly published (Art. 36, ICBN).

emaculatum (*G. trilobum* var. *emaculatum* Mauer, Proiskhozhd. Sist. Khlop., p. 261).

TYPE: Cultivated plant (No. 3558; TAK?, WIR?) from seed from Alamo, Sonora. This name is not validly published (Art. 36, ICBN).

lobulatum (*G. davidsonii* var. *lobulatum* Mauer, 1954, Proiskhozhd. Sist. Khlop., p. 256).

TYPE: Cultivated plant (No. 3552; TAK?, WIR?) from seed from San José del Cabo, Baja California. This name is not validly published (Art. 36, ICBN).

modestum (*G. hirsutum* var. *modestum* Roberty, 1950, Candollea 13: 67).

TYPE: Roberty provides a Latin description of this taxon, but then states, "Nous n'avons trouvé aucun spécimen qui puisse être affecté avec certitude à cette combinaison variétale." Surely this is a nomen nudum.

²**pallidiflorum** (*G. arboreum* ssp. *pallidiflorum* Roberty, 1950, Candollea 13: 36).

TYPE: This name is not typified and is illegitimate (Art. 25, ICBN). See "Roberty's Category of Subspecies."

²**purpureum** (*G. hirsutum* var. *purpureum* Roberty, 1950, Candollea 13: 68).

TYPE: Seven specimens are cited: *Swineo* s.n. (K); *Decary* 14485, *Geay* 7038, *Humbert* 5485 (all in P?); *Roberty* 766, 2098, 3052 (all in G?). A lectotype should be chosen from among them.

sonoricum (*G. davidsonii* var. *sonoricum* Mauer, 1954, Proiskhozhd. Sist. Khlop., p. 256).

TYPE: Cultivated plants (Nos. 1562, 3555, 3559, 3560, 3566, and 3589; TAK? WIR?) from seed from Guaymas, Sonora. This name is not validly published (Art. 36, ICBN).

SUPPLEMENTARY LISTS

Chronology of Early Legitimate Basionyms

This chronology is presented for convenience in determining priority. The epithets are all in specific rank except four, which are preceded by "var."

<i>Date</i>	<i>Epithet</i>	<i>Author</i>
1753	arboreum	Linnaeus.
1753	barbadense	Linnaeus.
1753	herbaceum	Linnaeus.
1763	hirsutum	Linnaeus.
1767	religiosum	Linnaeus.
1775	rubrum	Forskål.
1776	latifolium	Murray.
1784	indicum	Medikus.
1784	leoninum	Medikus.
1784	strictum	Medikus.
1786	glabrum	Lamarck.
1786	tricuspidatum	Lamarck.
1786	vitifolium	Lamarck.
1788 (Jan-Sept)	rufum	Scopoli.
1788 (Oct)	eglandulosum	Cavanilles.
1788	micranthum	Cavanilles.
1788	peruvianum	Cavanilles.
1808	frutescens	Lasteyrie.
1811	purpurascens	Poiret in Lamarck.
1811	racemosum	Poiret in Lamarck.
1813	var. annuum	Delile.
1813	var. frutescens	Delile.
1813	var. rufum	Targioni-Tozzetti.
1818	lapideum	Tussac.
1818	siamense	Tussac.
1822	nigrum	Buchanan-Hamilton.
1822	album	Buchanan-Hamilton.
1827	prostratum	Schumacher & Thonning.
1827	punctatum	Schumacher & Thonning.
1831 (Apr)	var. acerifolium	Guillemin, Perrottet, & Richard.
1831 (Aug)	acuminatum	Roxb. ex G. Don.
1831	obtusifolium	Roxb. ex G. Don.
1834	nanking	Meyen.
1836	suffruticosum	Bertoloni.
1837	brasiliense	Macfadyen.
1837	jamaicense	Macfadyen.
1837	oligospermum	Macfadyen.
1837	paniculatum	Blanco.
1837	perenne	Blanco.

Priority of Selected Names

In a number of cases, different authors have published names in *Gossypium* in the same year. Should any of these names come into contention for priority, it is important to establish their exact dates of publication. In the following cases I have ascertained actual publication dates either from an examination of the publication itself or from a consideration of the information provided by Stafleu (1967). Comparisons are excluded for which, because of a difference in rank or because one or both names are illegitimate, there is no direct priority competition.

1788.—Scopoli's *G. rufum* was published between January and September and thus has priority over Cavanilles' *G. eglandulosum*, *G. micranthum*, and *G. peruvianum*, which appeared between October 12 and October 25.

1813.—I have been unable to establish the priority of Delile's *G. herbaceum* var. *annuum* and *G. herbaceum* var. *frutescens* and Targioni-Tozzetti's *G. herbaceum* var. *rufum*.

1837.—Macfadyen's *G. brasiliense*, *G. jamaicense*, and *G. oligospermum* appeared between October 10 and November 8. I have not been able to ascertain the actual publication date of Blanco's *G. paniculatum* and *G. perenne*.

1844.—The priority of Jacquin's *G. puniceum* and Hasskarl's *G. sanguineum* is problematical, since Jacquin's work appeared between March and December and Hasskarl's, in October.

1860.—Wawra and Peyritsch's *G. anomalum* and *G. senarensis* were published between January and May. I have not established the date of publication of Montrousier's *G. pallidum*, but the paper was read to the Académie impériale de Lyon on May 29 and presumably published later.

1875.—Kellogg's *G. davidsonii* was published in June, and von Mueller's *G. robinsonii* appeared in September.

1889.—The publication date of Brandegee's *G. harknessii* is November 12. The exact publication date of Sprenger's *G. comesii* is not specified in the journal.

1925.—Hochreutiner's *G. herbaceum* var. *perrieri* was published in May, but the exact publication date of Mattei's *G. wightianum* var. *africanum* is not specified in the journal.

1926.—The several names published by Watt appeared on May 26. Those of Cook and Hubbard were published on two later dates: June 19 (*G. contextum*, *G. dictadum*, *G. hypadenum*, *G. morrillii*, and *G. patens*) and December 3 (*G. auritum*, *G. calycotum*, *G. evertum*, *G. quinacre*, and *G. tridens*).

1928.—Watt's *G. nanking* var. *siamense* was published in September, but the publication date of Wittmack's *G. arboreum* var. *parviflorum* and *G. barbadense* var. *rufum* are problematical. The "Vorwort" of Wittmack's work is dated November 1927, but the exact date of publication in 1928 is not known.

1938.—Chevalier's *G. barbadense* var. *marie-galante* was published in February, while the several names, some in varietal rank, published by Roberty appeared in April.

1947.—Prokhanov's names appeared in May; those of Hutchinson, in August. (These dates are from a letter from Prokhanov, dated 11 October 1964.)

1950.—Mauer's names in various ranks were published on April 8; those of Roberty, on August 13.

Published Illustrations of *Gossypium* Types

This list includes photographs of type specimens as well as plates that are themselves types. Citations may be found in "Literature Cited."

Name	Citation
<i>G. acuminatum</i> Roxb. ex G. Don	Watt 1907, pl. 50.
<i>G. arboreum</i> L.	Watt 1907, pl. 7C.
<i>G. barbadense</i> L.	Watt 1907, pl. 46B.
<i>G. comesii</i> Spreng.	Sprenger 1889, pl. 10.
<i>G. frutescens</i> Lasteyr.	Lasteyrie 1808, pl. 1.
<i>G. fuscum</i> Roxb. ex Wight & Arn.	Watt 1907, pl. 33.
<i>G. herbaceum</i> L.	Watt 1907, pl. 24A.
<i>G. herbaceum</i> var. <i>frutescens</i> Del.	Fletcher 1908, pl. 1.
<i>G. herbaceum</i> var. <i>perennans</i> Del. ex Roberty.	Fletcher 1908, pl. 2.
<i>G. indicum</i> Lam.	Chevalier 1939, pl. 11.
<i>G. lanceiforme</i> Miers ex Britt.	Hutchinson 1947, pl. 3B.
<i>G. latifolium</i> Murr.	Murray 1776, pl. 1, reproduced by Roberty 1942, pl. 1.
<i>G. maritimum</i> var. <i>degeneratum</i> Tod.	Fletcher 1908, pl. 6.
<i>G. neglectum</i> var. <i>roxburghianum</i> Tod.	See <i>G. roxburghii</i> Tod.
<i>G. nigrum</i> Buch-Ham.	Watt 1907, pl. 9.
<i>G. obtusifolium</i> Roxb. ex G. Don	Watt 1907, pl. 20; Burkitt 1906, p. 11.
<i>G. obtusifolium</i> var. <i>africanum</i> Watt	Watt 1907, pl. 23B.
<i>G. praestansissimum</i> L. ex Jacks.	Watt 1907, pl. 17A.
<i>G. pulchellum</i> (C. A. Gardn.) Fryx.	Fryxell 1965a, pl. 2.
<i>G. puniceum</i> Fenzl ex Jacq.	Jacquin 1844, pl. 134.
<i>G. racemosum</i> Poir.	Chevalier 1939, pl. 15.
<i>G. religiosum</i> L.	Watt 1907, pl. 32A.
<i>G. roxburghii</i> Tod.	Roxburgh 1819, vol. 3, pl. (unnumbered); Watt 1907, pl. 12.
<i>G. royleanum</i> Tod.	Royle 1851, pl. 2.
<i>G. rubicundum</i> Roxb. ex Watt	Watt 1907, pl. 18.
<i>G. siamense</i> Ten.	Tenore 1839; Fletcher 1909, fig. 5.
<i>G. suffruticosum</i> Bertol.	Bertoloni 1836, pl. 9.

Nomenclator for Names in *Gossypium* of
Rank Higher Than Species

Names are listed alphabetically. Identical names are entered alphabetically by author and then chronologically by publication date. Legitimate names appear in **Boldface**. Names appearing in ROMAN are illegitimate under articles of the ICBN, as indicated; those appearing in *Italic* are not validly published under Art. 36. Cross references to entries are printed in italic irrespective of legitimacy; see the entry for nomenclatural status. The following symbols are used: T, type species; L, lectotype species.

- Africana** Prokh. (subsection), 1947, Bot. Zh. 32: 70. T: *G. africanum* (Watt) Watt, fide Art. 22, ICBN.

Anisoloba Prokh. (subsection). 1947, Bot. Zh. 32: 76. T: *G. mustelinum* Watt.

¹**Anomala** J. B. Hutch. (section), 1947, Evol. Gossyp., p. 27. See Brizicky (1967).

²**Anomala** Tod. (subsection), 1877, Monografia, p. 120. T: *G. anomalum* Wawr. & Peyr., fide Art. 22, ICBN.

Anomopambak Prokh. (section), 1947, Bot. Zh. 32: 66. T: *G. anomalum* Wawr. & Peyr. Although this name is contrary to Recommendation 60A, ICBN, it is nevertheless legitimate since "in no case does a name or an epithet have priority outside its own rank."

Apkarsa Prokh. (section), 1947, Bot. Zh. 32: 66. T: *G. bakeri* Watt. This taxon is excluded from *Gossypium*. (See "Names Excluded From *Gossypium*.")

Arboreum Roberty (section), 1946, Coton Fibres Trop. 1: 48. T: *G. arboreum* L. This name is also contrary to Art. 22, ICBN.

Archigossypium Wouters (section), 1948, Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34: 86.

Austroamericana Fryx. (subsection), 1969, Taxon 18: 589. T: *G. raimondii* Ulbr.

Baniformia Prokh. (subsection), 1947, Bot. Zh. 32: 68. T: *G. bani* (Watt) Prokh.

Breviloba Tod. (section), 1863, G. R. Ist. Incor. 1: 62. L: *G. herbaceum* L.; Prokh., 1947, Bot. Zh. 32: 69.

Caducibracteolata Mauer (subsection), 1950, Tr. Sredneaziat. Gos. Univ. 18: 21. T: *G. harknessii* Brandeg.; Brizicky's (1967) designation of *G. armourianum* Kearn. as lectotype species is incorrect since Mauer had already designated *G. harknessii* as type species.

- Coarctata** Roberty (section), 1946, Coton Fibres Trop. 1: 48. T: *G. lapi-deum* Tuss.
- Curtiloba** Mauer (subsection), 1950, Tr. Sredneaziat. Gos. Univ. 18: 19. T: *G. somalense* (Gürke) J. B. Hutch.
- Deflersia** Prokh. (section), 1947, Bot. Zh. 32: 65. T: *G. areysianum* Defl.
- Erioxyla** J. B. Hutch. (section), 1947, Evol. Gossyp., p. 18. See Brizicky (1967).
- ¹**Erioxylum** (Rose & Standl.) Fryx. (subsection), 1969, Taxon 18: 588. This name is based on genus *Erioxylum* Rose & Standl., 1911, Contrib. U.S. Natl. Herb. 13: 307. T: *G. aridum* (Rose & Standl.) Skov.
- ²**Erioxylum** (Rose & Standl.) Prokh. (section), 1947, Bot. Zh. 32: 71. This name is based on genus *Erioxylum* Rose & Standl. T: *G. aridum* (Rose & Standl.) Skov.
- ¹**EUGOSSYPIUM** Tod. (subgenus), 1863, G. R. Ist. Incor. 1: 35. (Art. 21) T: *G. arboreum* L.; lectotype incorrectly designated (cf. Brizicky 1967) as *G. herbaceum* L. by Prokh., 1947, Bot. Zh. 32: 66.
- ²**EUGOSSYPIUM** Tod. (section), 1877, Monografia, p. 120. (Art. 21) T: See *Eugossypium* (1).
- Fruticosa** Roberty (section), 1946, Coton Fibres Trop. 1: 48. T: *G. hirsutum* L. and *G. latifolium* Murr. are cited, but a lectotype species has not been chosen.
- Gossypioides** Hochr. (subgenus), 1955, Flora Madag. 129e Fam. Malv., p. 130. The basis for this name is not clearly stated, but can only be the genus *Gossypioides* Skov. ex J. B. Hutch., 1947, New Phytol. 46: 131. T: *G. kirkii* Mast. This taxon is excluded from *Gossypium*. (See "Names Excluded from *Gossypium*.")
- Grandicalyx** Fryx. (subsection), 1965, Austral. J. Bot. 13: 85. T: *G. costulatum* Tod.
- ¹**Herbacea** J. B. Hutch. (section), 1947, Evol. Gossyp., p. 32. See Brizicky (1967).
- ²**Herbacea** Prokh. (subsection), 1947, Bot. Zh. 32: 69. T: *G. herbaceum* L.
- Herbaceum** Roberty (section), 1946, Coton Fibres Trop. 1: 48. T: *G. herbaceum* L.
- Heterophylla** Tod. (subsection), 1877, Monografia, p. 181. L: herewith designated as *G. microcarpum* Tod., the only species of the three included by Todaro in this subsection that he knew in the living state.
- Hibiscoidea** Tod., (section), 1877, Monografia, p. 107. L: *G. australe* F. v. M.; Prokh., 1947, Bot. Zh. 32: 64.
- Hirsuta** J. B. Hutch. (section), 1947, Evol. Gossyp., p. 36. See Brizicky (1967).
- ¹**Houzingenia** Fryx., nom. nov. (subgenus), 1969, Taxon 18: 587. This name is based on genus *Ingenhouzia* DC., 1824, Prodromus 1: 474, non *Ingenhoussia* Dennst. 1818. T: *G. trilobum* (DC.) Skov.

- ²**Houzingenia** Fryx. (section), 1969, Taxon 18: 587. This name is based on *Houzingenia* (1).
- ³**Houzingenia** Fryx. (subsection), 1969, Taxon 18: 588. This name is based on *Houzingenia* (1).
- ¹**INDICA** Tod. (section), 1863, G. R. Ist. Incor. 1: 35. (Art. 22) L: *G. arboreum* L.; Prokh., 1947, Bot. Zh. 32: 67. Todaro includes *G. indicum* in another section.
- ²**INDICA** (Tod.) Tod. (subsection), 1877, Monografia, p. 126. This name is based on *Indica* (1).
- ¹**INGENHOUIA** (DC.) Mauer (subsection), 1950, Tr. Sredneaziat. Gos. Univ. 18: 20. (Art. 64) This name is based on genus *Ingenhouzia* DC., non *Ingenhoussia* Dennst. See *Houzingenia* (3).
- ²**INGENHOUIA** (DC.) Prokh. (subgenus), 1947, Bot. Zh. 32: 71. (Art. 64) See *Houzingenia* (1).
- ³**INGENHOUIA** (DC.) Prokh. (section), 1947, Bot. Zh. 32: 72. (Art. 64) See *Houzingenia* (2).
- Insculpta** Roberty (section), 1946, Candollea 10: 346. T: *G. peruvianum* Cav. and *G. barbadense* L. are cited, but a lectotype species has not been chosen.
- Integritifolia** Tod. (section), 1863, G. R. Ist. Incor. 1: 35. T: *G. klotzschianum* Anderss.
- Integritifolia** (Tod.) Tod. (subsection), 1877, Monografia, p. 188. This name is based on *Integritifolia* (1).
- Intermedia** Prokh. (subsection), 1947, Bot. Zh. 32: 69. T: *G. intermedium* Tod.
- Karpas** Raf. (subgenus), 1838, Sylva Tellur., p. 14. L: *G. guyanense* Raf.; Fryx., 1969, Taxon 18: 409.
- K.a. pasoidea** Prokh. (subsection), 1947, Bot. Zh. 32: 65. T: *G. robinsonii* F.v.M.
- Klotzschiana** J. B. Hutch. (section), 1947, Evol. Gossyp., p. 22. See Brzicky (1967).
- Lanigerum** Raf. (subgenus), 1838, Sylva Tellur., p. 14. L: *G. divaricatum* Raf.; Fryx., 1969, Taxon 18: 409.
- Leiofaium** Raf. (subgenus), 1838, Sylva Tellur., p. 14. L: *G. asiaticum* Raf.; Fryx., 1969, Taxon 18: 409.
- Leiofaium** (Raf.) Prokh. (subsection), 1949, Bot. Zh. 32: 74, as *Liophaea*. This name is based on *Leiofaium* (1). Prokhanov's choice of *G. tattense* Parl. as type is inadmissible, since Parlatore's species was not published until 1866 and therefore could not have been included by Rafinesque.
- Longicalyciana** Phill. & Strickl. (section), 1966, Can. J. Genet. Cytol. 8: 92. T: *G. longicalyx* Hutch. & Lee.
- Longiloba** Fryx. (subsection), 1969, Taxon 18: 590. T: *G. longicalyx* Hutch. & Lee.

- Macropoda** Prokh. (subsection), 1947, Bot. Zh. 32: 72. T: *G. patens* Cook & Hubb.
- ¹**Magnibracteolata** Tod. (section), 1863, G. R. Ist. Incor. 1: 80. Prokhanov's (1947) choice of *G. mexicanum* Tod. as lectotype species is incorrect since the species was not published until 1868, 5 years after the section. I herewith designate *G. hirsutum* L. as lectotype species.
- ²**Magnibracteolata** (Tod.) Tod. (subsection), 1877, Monografia, p. 190. This name is based on *Magnibracteolata* (1).
- Mao** Prokh. (section), 1947, Bot. Zh. 32: 72. T: *G. tomentosum* Nutt. ex Seem.
- Neogossypium** Wouters (section), 1948, Publ. Inst. Natl. Etud. Agron. Congo Belge, Sér. Sci. No. 34: 96.
- Notoxylinon** (Lewt.) Prokh. (subgenus), 1947, Bot. Zh. 32: 64. This name is based on the genus *Notoxylinon* Lewt., 1915, J. Wash. Acad. Sci. 5: 305. T: *G. australe* F. v. M., not *G. thespesioides* (Benth.) F. v. M. as stated by Prokhanov (loc. cit.)
- Obliquifolia** Prokh. (subsection), 1947, Bot. Zh. 32: 75. T: *G. nicaraguense* Ram.-Goy.
- Pseudopambak** Prokh. (section), 1947, Bot. Zh. 32: 65. T: *G. stocksii* Mast.
- Selera** (Ulbr.) Fryx. (subsection), 1969, Taxon 18: 588. This name is based on genus *Selera* Ulbr., 1913, Verh. Bot. Ver. Prov. Brandenburg 55: 50. T: *G. gossypoides* (Ulbr.) Standl.
- Stocksiana** J. B. Hutch. (section), 1947, Evol. Gossyp. 30. See Brizicky (1967).
- ¹**Sturtia** (R.Br.) Tod. (subgenus), 1863, G. R. Ist. Incor. 1: 35. This name is based on the genus *Sturtia* R. Br. in Sturt, 1849, Exped. Cent. Austral., vol. 2, app. p. 68. T: *G. sturtianum* J. H. Willis.
- ²**Sturtia** (R. Br.) Tod. (section), 1877, Monografia, p. 117. This name is based on the genus *Sturtia*; see *Sturtia* (1).
- Sturtiana** J. B. Hutch. (section), 1947, Evol. Gossyp., p. 16. See Brizicky (1967).
- Sturtioidea** Prokh. (subsection), 1947, Bot. Zh. 32: 64. T: *G. australe* F.v.M.
- ¹**Synspermia** Tod. (section), 1864, G. R. Ist. Incor. 1(4): 113. L: *G. brasiliense* Macf.; Prokh., 1947, Bot. Zh. 32: 76.
- ²**Synspermia** (Tod.) Tod. (subsection), 1877, Monografia, p. 249. This name is based on *Synspermia* (1).
- Thespesiastra** Tod. (section), 1877, Monografia, p. 103. L: *G. thespesioides* (Benth.) F. v. M.; Prokh., 1947, Bot. Zh. 32: 64. This taxon is excluded from *Gossypium*. (See "Names Excluded from *Gossypium*.")
- Thurberana** J. B. Hutch. (section), 1947, Evol. Gossyp., p. 24. See Brizicky (1967).

Thurberia (A. Gray) Prokh. (section), 1947, Bot. Zh. 32: 71. This name is based on genus *Thurberia* A. Gray, 1854, Mem. Am. Acad. Arts. Sci. [new ser.] 5: 308. T: *G. thurberi* Tod.

Triphylla Prokh. (subsection), 1947, Bot. Zh. 32: 66. T: *G. triphyllum* (Harv.) Hochr.

Names Excluded From *Gossypium*

Names in <i>Gossypium</i>	Genus to which transferred
<i>Apkarsa</i> Prokh. (section)	<i>Senra</i>
<i>G. bakeri</i> Watt	<i>Senra</i>
<i>G. brevilanatum</i> Hochr.	<i>Gossypioides</i>
<i>G. bussei</i> Gürke ex Roberty, nom. nud.	<i>Gossypioides</i>
<i>G. drynarioides</i> Seem.	<i>Kokia</i>
<i>G. flaviflorum</i> F. v. M. ex Tod.	<i>Thespisia</i>
<i>Gossypioides</i> (Skov.) Hochr. (subgenus)	<i>Gossypioides</i>
<i>G. kirkii</i> Mast	<i>Gossypioides</i>
<i>G. kirkii</i> ssp. <i>brevilanatum</i> (Hochr.) Roberty	<i>Gossypioides</i>
<i>G. kirkii</i> ssp. <i>scandens</i> Roberty	<i>Gossypioides</i>
<i>Thespisiastra</i> Tod. (section)	<i>Thespisia</i>
<i>G. thespesioides</i> (R. Br. ex Benth.) F. v. M. ex Tod.	<i>Thespisia</i>

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INDEX OF TYPE SPECIMENS OF GOSSYPIUM

The following list is cross-referenced to the "List of Basionyms." Numbers in parentheses under "Basionym" distinguish identical entries in the list. Paratypes are included where holotypes or lectotypes have not been designated.

TYPES LISTED BY COLLECTOR

<i>Specimen</i>	<i>Basionym</i>
Andersson s.n. [1852]	klotzschianum.
Aranha, Leitão, & Gridi-Papp s.n.	caicoense.
Backer 35320	subglabrum.
Baker s.n., 30 Jan 1921	bakeri.
Bélanger 19 bis	harlandianum.
Bélanger 20 bis	pellitum.
Berlandier s.n.	berlandieri.
Bertoloni s.n.	sulfruticosum.
Bick 82	bickii.
Birkinshaw s.n., 11 Jan 1914	marie-galante.
Birkinshaw s.n., 15 Jan 1915	birkinshawii.
Blume s.n.	javanicum (?)
Bowman s.n.	pedunculatum (?)
Brandegee s.n., 1 Mar 1889	harknessii.
Branderhorst 155, 156	scandens (?)
Broadway s.n., 1905	praticolum.
Broadway 7076	atrocoloratum.
Broun 693	soudanense.
Brown 5139	thespesioides.
Browne s.n.	procerius.
Bukasov s.n.	bukasovii, colombianum, flaviflorum (2), macrocarpum (2), macrospermum (2), panamicum, pedunculatum (2), rubicundum (2), rubidulum, rubrum (2), tomentosum (2).
Burkill 21884 (?)	nadam.
Burman s.n. (?)	burmanii.
Burtt Davy 369	transvaalense.
Busse 2911	bussei, scandens (2).
Bynoe s.n.	populifolium.
Byrnes 2316	pilosum.
Cavanilles s.n.	peruvianum.
Cavelsen s.n.	cavelsenii.
Chevalier 43324	praticolum.
Cook s.n., 22 Nov 1929	ceratadenum.
Cook & Hubbard s.n., 8 Dec 1925	patens.
Cook & Hubbard s.n., 15 Dec 1925	contextum, dicladum, hypadenum, morrilii.
Cook & Hubbard 63	evertum.

Cook & Hubbard 108.....	auritum.
Cook & Hubbard 112.....	quinacre.
Cook & Hubbard 169.....	tridens.
Cunningham 262.....	costulatum.
Cunningham 264.....	cunninghamii.
Curtiss 135.....	archetypicum.
Curtiss 5655.....	uliginosum.
Darwin s.n., 1835.....	darwinii.
Davidson s.n., Mar 1873.....	davidsonii.
Deflers 1058.....	areysianum.
de la Bathie. See Perrier de la Bathie.	
Delile s.n.....	annuum.
Delile s.n.....	frutescens (2).
Delile s.n., 1799.....	perennans.
Derera s.n., 18 Jan 1961.....	nandewarense.
Diell s.n.....	parvifolium.
Dinter 2271.....	dinteri.
Disney 33.....	longicalyx.
Duthie 19261.....	himalayanum.
Eggers 342.....	eggersii.
Ekman H5792.....	ekmanianum.
Ellenbeck 220.....	somalense.
Ellenbeck 2069, 2082.....	ellenbeckii.
Elliot s.n.....	triphyllum.
Elmer 15445.....	elmeri.
Elsey s.n.....	integrum.
Fenzl s.n.....	puniceum.
Fiebrig 1319.....	chacoense.
Fischer s.n.....	sinense.
Forskål s.n., "hadje".....	rubrum (1).
Forster s.n.....	taitense.
Fryxell 757.....	gossypioides (1).
Gammie s.n.....	himalayanum.
C. A. Gardner 1520.....	pulchellum.
G. Gardner 1463.....	mustelinum.
Gasparrini s.n.....	liospermum.
Gaumer s.n.....	pellitum.
Gaumer 23236.....	gaumeri.
Gentry 12314.....	lobatum.
Hahn 492.....	hahnii.
Hamilton 1949.....	nigrum.
Harper 6.....	robinsonii.
Harris s.n.....	apospermum.
Harris s.n., Flora Jamaic. No. 10179.....	harrisii.
Harris s.n., 4 May 1914.....	pedatum.
Hasskarl s.n.....	maculiflorum, sanguineum.
Henderson s.n., 1870.....	himalayanum.
Irving s.n.....	irvingianum.
Jameson s.n.....	assamicum.
Johnson 3.....	pellitum.
W. H. Johnson 76a.....	bracteatum.
Kearney s.n., 25 Aug 1933.....	armourianum.
Kerr 8034, 10141, 10270.....	siamense (3).

- Kirk s.n., 1869.....kirkii.
 Kirk 224.....pellitum.
 Kotschy 90.....senarensis.
 Labillardier s.n.....labillarderianum.
 Lace 1836.....himalayanum.
 Lamb 7.....zaria.
 Lambert s.n., Dec 1836.....stauntonii.
 Ledru s.n., 1796.....racemosum.
 Lewton 1007.....irenaeum.
 Lewton 1009.....hopi.
 Linnaeus, "I. herbaceum".....herbaceum.
 Linnaeus, "3 arboreum".....arboreum.
 Linnaeus, "praestantissimum".....praestantissimum.
 Linnaeus, "religiosum".....religiosum, elatum (1),
 Lugard 198.....africanum (1), wattii.
 Macfadyen, "near Rockport".....jamaicense.
 Macfadyen, "Liguanea".....oligospermum.
 Maire s.n.....praticolum.
 Martin 6.....flaviflorum (1).
 Mauri s.n.....mollis.
 Maximowicz s.n.....japonicum.
 Maxon s.n., 1905.....ferrugineum.
 Menzies s.n.....sandvicense.
 Meyen s.n., 1830.....nanking.
 Miura 10.....japanense.
 Moerenhout s.n., 1835.....taitense.
 Montrouzier s.n.....pallidum (1).
 Mueller. See von Mueller.
 Murray 72, 122.....pellitum.
 Myers 7300, 10046.....myersii.
 Narváez-Montes s.n., 6 Mar 1918.....amapola.
 Nelson s.n.....drynarioides.
 D. Nelson 2255.....nelsonii.
 E. Nelson & Goldman 7328.....californicum.
 Nuttall s.n.....tomentosum (1).
 Ortega s.n., Dec 1926.....roseum (2).
 Palmer 351.....nervosum.
 Palmer 384.....palmeri (1).
 Palmer 1316.....palmeri (2), rosei.
 Paolii s.n., 4 July 1913.....paolii.
 Paolii s.n., 26 Oct 1913.....benadirensis.
 Perrier de la Bathie 1633.....brevilanatum.
 Perrier de la Bathie 5382.....perrieri.
 Perrottet s.n., 1825.....acerifolium.
 Philippi s.n.....multiglandulosum.
 Phillips 945.....laxum.
 Phillips & Clement 891.....barbosanum.
 Playfair 102.....pellitum.
 Pollard, Collins, & Morris 134.....pollardii.
 Quartin-Dillon & Petit 267.....abyssinicum.
 Raimondi 8218.....raimondii.
 Roberty 1094.....deserticum, soninkurensis.
 Roberty 1480.....gracile (2).

Roberty 2009.....	harlandianum.
Roberty 2011.....	fallax.
Roberty 2122, 2493, 2764.....	praticolum.
Roberty 2811.....	apertum,
Roberty 2889.....	ficifolium.
Roberty 2911.....	cupulare.
Roberty 2916.....	praticulum.
Roberty 2922.....	dubiosum.
Roberty 2990.....	rubrostaminatum.
Roberty 3001.....	mocoense.
Roberty 3048.....	africanum (2).
Roberty 3049.....	akkorense.
Roberty 3053.....	guineense.
Roberty 3167, 3266.....	involucellans.
Roberty 3522.....	gambiae.
Roberty 3835.....	guatemalaquense.
Roberty 3855.....	hutchinsonii.
Roberty 3884.....	latistipulatum.
Roberty 3886.....	cearense.
Roberty 3888.....	neotypicum.
Roberty 3890.....	sahelicum.
Roberty 3892.....	bandiagarae.
Roberty 3894.....	todari.
Roberty 3895.....	mocoense.
Roberty 3907.....	optimatum.
Roberty 3964.....	minimiflorum.
Roberty 5200.....	involutum.
Roberty 5205.....	reale.
Roberty 5207.....	brownei.
Roberty 5215.....	littorale.
Roberty 5250.....	niloticum.
Roberty 5251.....	thebaicum.
Roberty 5254.....	knightii.
Roberty 6369.....	bailense.
Roberty 6866.....	pellitum.
Roberty 7123.....	nanum.
Roberty 3006.....	praticulum.
Rohr. See von Rohr.	
Rose, Standley, & Russell 14999.....	aridum, purpureum (2).
Sagot s.n., 1861.....	cayenense (2), versicolor.
Schott 602.....	schottii.
Seemann 28.....	religiosoides.
Seler & Seler 1700.....	gossypoides (1).
Sessé & Moçino s.n., 1790.....	lanceiforme, trilobum.
Shantz 933.....	canescens.
Simpson C1.....	simpsonii.
Simpson C87.....	nubarense.
Simpson C103.....	aegyptiacum.
Simpson C104.....	breve.
Simpson C114.....	rubrocoloratum.
Simpson C121.....	copticum.
Simpson C125.....	strictifolium.
Simpson C133.....	arizonicum.

TB 1491 (1976)
FRYXELL, R. A.

USDA TECHNICAL BULLETIN
A NOMENCLATOR OF GOSSYPIUM: THE BOTANICAL NAMES OF COTTON

2-82

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|--|--|
| Simpson C138..... | praticolum. |
| Simpson C285..... | harlandianum. |
| Simpson C826..... | praticolum. |
| Simpson C837..... | deltaicum. |
| Simpson C853, C854..... | anomalum (2), paradoxum, wattianum. |
| Sintenis 6854..... | rufum (4). |
| Sonnerat s.n..... | indicum (2), vitifolium. |
| Sprenger s.n..... | comesii. |
| Spruce 6451..... | sprucei. |
| Steele s.n..... | pseudoracemosum. |
| Stewart 63..... | capitis-viridis. |
| Steudner 1134..... | steudneri. |
| Stocks 469..... | stocksii. |
| Sturt 20..... | australiense, gossypoides (2),
sturtianum, sturtii. |
| Symon 7133..... | pilosum. |
| Targioni-Tozzetti s.n..... | refum (2). |
| Thonning 327..... | punctatum. |
| Thonning 328..... | prostratum. |
| Thurber 914..... | thurberi. |
| Todaro s.n..... | caespitosum, cerrutianum, degeneratum,
figarii, grandiflorum, hardyanum,
hibridum, hirsutissimum, jumelianum,
luxurians, maritimum, mexicanum,
microcarpum (1), microcarpum (2),
pallidiflorum. |
| Todaro s.n., seed accession No. 1..... | avense, roseum. |
| Todaro s.n., seed accession No. 3..... | albiflorum. |
| Todaro s.n., seed accession No. 13..... | wightianum. |
| Todaro s.n., seed accession No. 16..... | multiflorum. |
| Todaro s.n., seed accession No. 18..... | floribundum (1). |
| Todaro s.n., seed accession No. 19..... | neglectum. |
| Todaro s.n., seed accession No. 31..... | humile. |
| Todaro s.n., seed accession No. 32..... | multiflorum. |
| Todaro s.n., seed accession No. 36..... | macranthum (1). |
| Todaro s.n., seed accession Nos. 48, 49..... | neglectum. |
| Todaro s.n., seed accession No. 53..... | intermedium (1). |
| Todaro s.n., seed accession No. 57..... | cernuum. |
| Todaro s.n., seed accession No. 58..... | glabratum (1). |
| Todaro s.n., seed accession No. 66..... | humile. |
| Todaro s.n., seed accession No. 72..... | macrocarpum (1). |
| Todaro s.n., seed accession No. 80..... | rufum (3). |
| Todaro s.n., seed accession No. 106..... | glabratum (2). |
| Todaro s.n., seed accession No. 123..... | intermedium (2). |
| Todaro s.n., seed accession Nos.
128, 152, 199..... | rufum (3). |
| Tussac s.n. (?)..... | siamense (1). |
| Unger 149..... | harlandianum. |
| Vanoverbergh 3659..... | paniculatum. |
| von Fischer. See Fischer. | |
| von Mueller s.n., Oct 1855..... | australe. |
| von Rohr s.n., "Siam blanc velouté"..... | asiaticum. |

von Rohr s.n., "Gossypium brasiliense foliis inferioribus stipulatis"	braziliense.
von Rohr s.n., "Indian"	convexum.
von Rohr s.n., "Domingo couronné"	divaricatum.
von Rohr s.n., "Siam seminibus glabris"	fuscum (2).
von Rohr s.n., "Guiana"	guyanense.
von Rohr s.n., "Siam couronné brun"	pallens.
von Rohr s.n., "G. rubrifolium"	purpureum.
von Rohr s.n., "Gossypium portorico Cattun"	rohrianum.
von Rohr s.n., "Gossypium semirubrum"	rubescens.
von Kohr s.n., "Gossypium curassavicum Coibiornsen v. Rohrio dedit."	rupestre.
von Rohr s.n., "Gossypium tranquebarens"	speciosum.
Walcott s.n.	trilobum (2), waichottianum.
Watt 1741, 1872	roji.
Watt 7990, 9776, 10210, 13449	himalayanum.
Wawra 262, 285	anomalum (1).
Welwitsch 5221	microcarpum (3).
Welwitsch 5288	edentulum.
Wetherill s.n.	aboriginum.
Wight 176 (?)	album (!).
Wight 180	pseudo-volubile.
Winit s.n.	siamense (3).
Wolff 19	parviflorum.

TYPES WITHOUT COLLECTOR DESIGNATION

<i>Identification</i>	<i>Basionym</i>
Cult. Hort. Paris	alepicum, flavum, micranthum, purpurascens, tricuspidatum.
Cult. Kamerun	caravanicum.
Algeria, Jard. Bot. s.n., 1846	casimianum.
Mexico 1844, n. 198 in herb. Webb	fruticosum.
Tepic et sur la route de Jalisco, ex herb. Webb	lanceolatum.
Cotonnier pierre, ou coton de Cayenne	lapideum.
Damiatae et Rosettæ in herb. Webb	macranthum (2).
G. siamense Hort. Genuens. [Genoa], 1864	pallidum (2).
In hort. Surinam. colit., 1838	pubescens (1).
G. album Hort. Genuens. [Genoa], 1864	pubescens (2).
Cult. Hort. Petropol. [Leningrad]	pubescens (2).
[Simpson?] C117	rugatum.
Mostagan in herb. Webb	rhorii.
Cult. Tashkent	sericatum.
Anon. in herb. Peradenaya	praticolum.
G. album Hort. Prag. 1865	intermedium (3).

INDEX OF AUTHORS

Published names in *Gossypium* are listed by author. Illegitimate and invalidly published names appear in roman type. Legitimate names are in *italic*.

- Aliotta, *G. hirsutum* var. *lanceolatum*
Andersson, *G. klotzschianum*
Aranha, Leitão, & Gridi-Papp, *G. caicoense*
Backer, *G. caespitosum* f. *subglabrum*
Bello, *G. janiphaeifolium*
Bertoloni, *G. suffruticosum*
Blanco, *G. paniculatum*, *G. perenne*
Blume, *G. javanicum*
Brandegee, *G. harknessii*
Britten. See Miers ex Britten.
Buchanan-Hamilton, *G. album*, *G. croceum*, *G. nigrum*
Burlamaqui, *G. arborescens*
Camara, *G. peruvianum* var. *brasiliense*
Cavánilles, *G. alepicum*, *G. eglandulosum*, *G. flavum*, *G. micranthum*, *G. peruvianum*
Chevalier, *G. barbadense* var. *marie-galante*, *G. glabrum* var. *purpurascens*,
 G. herbaceum var. *acerifolium*, *G. herbaceum* subvar. *simpsonii*, *G. religiosum* var.
 tricuspidatum
Cook, *G. ceratadenum*, *G. leucadenum*, *G. lysinum*, *G. synochrum*, *G. terra-ceium*
Cook ex Roberty, *G. hirsutum* var. *synochrum*
Cook & Hubbard, *G. auritum*, *G. calycotum*, *G. contextum*, *G. didiadum*, *G. evertum*,
 G. hypadenum, *G. morrillii*, *G. patens*, *G. quinacre*, *G. tridens*
Curtiss, *G. uliginosum*
Curtiss ex Roberty, *G. hirsutum* var. *uliginosum*
Decaisne, *G. javanicum*
Deflers, *G. areysianum*
Dekaprelevich, *G. punctatum* var. *timofeevii*
Délie, *G. herbaceum* var. *annuum*, *G. herbaceum* var. *frutescens*
Délie ex Roberty, *G. herbaceum* var. *perennans*
Derera, *G. nandwarens*
DeVriese. See Splitgerber ex DeVriese.
Don. See Roxburgh ex G. Don.
Fenzl ex Jacquin, *G. puniceum*
Fenzl ex Wawra & Peyritsch, *G. senarens*
Fischer, *G. sinense*
Fischer ex Todaro, *G. neglectum* var. *sinense*
Fischer & Otto ex Steudel, *G. chinense*
Forskål, *G. rubrum*
Fryxell, *G. barbadense* var. *braziliense*, *G. nelsonii*, *G. pilosum*, *G. pulchellum*,
 G. sturtianum var. *nandwarens*
Gammie, *G. arboreum* var. *platylobum*, *G. arboreum* var. *vagans*, *G. cernuum* var.
 silhetense, *G. herbaceum* var. *madraspatanum*, *G. herbaceum* var. *melanospermum*,
 G. herbaceum var. *sakalia*, *G. indicum* var. *mollisonii*, *G. intermedium* var. *album*,
 G. neglectum subvar. *avense*, *G. neglectum* subvar. *bengalense*, *G. neglectum*

- subvar. *burmanicum*, *G. neglectum* subvar. *cutchicum*, *C. neglectum* subvar. *kachinavarensis*, *G. neglectum* subvar. *kokatia*, *G. neglectum* subvar. *malvense*, *G. neglectum* var. *roseum*, *G. obtusifolium* ssp. *arboreum*, *G. obtusifolium* var. *coconadum*, *G. obtusifolium* ssp. *herbaceum*, *G. obtusifolium* var. *hirsutius*, *G. obtusifolium* var. *nanking*, *G. obtusifolium* var. *sindicum*, *G. sangiuneum* var. *minus*
- Gardner, *G. gossypoides*
 Gentry, *G. lobatum*
 Graham, *G. vaupellii*
 Grisebach, *G. barbadense* var. *integrum*
 Guillemin & Perrottet ex Guillemin, Perrottet, & Richard, *G. punctatum* var. *acerifolium*
 Gürke. See Schweinfurth ex Gürke.
 Gürke ex Roberty, *G. bussei*
 Harland (see also Hutchinson ex Harland), *G. purpurascens* var. *punctatum*
 Hasskari, *G. sanguineum*, *G. vitifolium* var. *maculiflorum*
 Herzog. See Wittmack.
 Hillcoat, *G. incanum*
 Hochreutiner, *G. brevilanatum*, *G. taitense* f. *scandens*, *G. triphyllum*
 Hooker. See Masters in Hooker.
 Hooker & Webb, *G. nigrum* var. *punctatum*
 Hu, *G. wattianum*
 Hutchinson, *G. barbadense* var. *darwini*, *G. hirsutum* var. *marie-galante*, *G. klotzschianum* var. *davidsonii*, *G. somalense*
 Hutchinson ex Harland, *G. arboreum* var. *nanking*, *G. arboreum* var. *soudanensis*, *G. herbaceum* var. *africanum*, *G. herbaceum* var. *wightianum*
 Hutchinson & Ghose, *G. arboreum* f. *bengalense*, *G. arboreum* f. *burmanicum*, *G. arboreum* var. *cernum*, *G. arboreum* f. *indicum*, *G. arboreum* f. *soudanensis*
 Hutchinson & Lee, *G. longicalyx*
 Jackson. See Linnaeus ex Jackson.
 Jacequin. See Fenzl ex Jacquin.
 Kerney, *G. armourianum*
 Kellogg, *G. davidsonii*
 Kitsugawa. See Mihara ex Kitsugawa.
 Klotzsch ex Peters, *G. puberulum*
 Lamarck (see also Poiret in Lamarck), *G. glabrum*, *G. indicum*, *G. tricuspidatum*, *G. vitifolium*
 Lasteyrie, *G. frutescens*
 Lewton, *G. hopi*, *G. irenaeum*
 Lignier & LeBey, *G. versicolor*
 Linnaeus, *G. arboreum*, *G. barbadense*, *G. herbaceum*, *G. hirsutum*, *G. religiosum*
 Linnaeus ex Jackson, *G. praestantissimum*
 Macfadyen, *G. jamaicense*, *G. oligospermum*
 Masters, *G. kirkii*
 Masters in Hooker, *G. herbaceum* var. *hirsutum*, *G. herbaceum* var. *obtusifolium*, *G. herbaceum* var. *religiosum*, *G. herbaceum* var. *vitifolium*, *G. stocksii*
 Mattei, *G. benadiense*, *G. paolii*, *G. wightianum* var. *africanum*
 Mauer (see also Narváez ex Mauer), *G. arboreum* ssp. *nanking*, *G. arboreum* ssp. *neglectum*, *G. arboreum* ssp. *obtusifolium*, *G. arboreum* ssp. *perenne*, *G. aridum* var. *palmeri*, *G. aridum* var. *purpureum*, *G. aridum* var. *roseum*, *G. barbadense* var. *brasiliense*, *G. barbadense* ssp. *darwini*, *G. barbadense* ssp. *eubarbadense*, *G. barbadense* var. *macrocarpum*, *G. burbadense* var. *peruvianum*, *G. barbadense* var. *rubicundum*, *G. barbadense* var. *rubidulum*, *G. barbadense* ssp. *ruderale*,

- G. barbadense* var. *tomentosum*, *G. californicum*, *G. capitis-viridis*, *G. davidsonii* var. *lobulatum*, *G. davidsonii* var. *sonoricum*, *G. ellenbeckii*, *G. herbaceum* ssp. *africanum*, *G. herbaceum* ssp. *frutescens*, *G. herbaceum* ssp. *pseudoarboreum*, *G. herbaceum* var. *transvaalense*, *G. hirsutum* var. *bukasovii*, *G. hirsutum* var. *colombianum*, *G. hirsutum* var. *ferrugineum*, *G. hirsutum* var. *flaviflorum*, *G. hirsutum* var. *macropermum*, *G. hirsutum* ssp. *mexicanum*, *G. hirsutum* var. *microcarpum*, *G. hirsutum* var. *panamicum*, *G. hirsutum* ssp. *paniculatum*, *G. hirsutum* var. *pedunculatum*, *G. hirsutum* ssp. *punctatum*, *G. hirsutum* var. *rubrum*, *G. soudanense* ssp. *perrieri*, *G. tricuspidatum* var. *ekmanianum*, *G. tricuspidatum* ssp. *glabrum*, *G. tricuspidatum* var. *jamaicense*, *G. tricuspidatum* var. *oligospermum*, *G. tricuspidatum* ssp. *purpurascens*, *G. tricuspidatum* ssp. *rupestre*, *G. trilobum* var. *arizonicum*, *G. trilobum* var. *emaculatum*
- Mauri ex Tenore, *G. molle*
- Medikus, *G. indicum*, *G. leoninum*, *G. strictum*
- Meyen, *G. nanking*
- Miers ex Britten, *G. lanceiforme*
- Miers ex Watt, *G. congestum*, *G. mustelinum*
- Mihara ex Kitsugawa, *G. tonju*
- Millspaugh ex Pepper, *G. aborigineum*
- Montrouzier, *G. pallidum*
- Mueller. See von Mueller, von Mueller ex Todaro.
- Müller in Waipers, *G. barbadense* var. *jumelianum*
- Murray (see also Spielmann ex Murray), *G. latifolium*
- Narváez ex Mauer, *G. aridum* var. *amapola*
- Nuttall ex Seemann, *G. parvifolium*, *G. tomentosum*
- Nuttall ex Watt, *G. parvifolium*
- Pariatore, *G. sandvicense*, *G. taitense*
- Pepper. See Millspaugh ex Pepper.
- Peters. See Klotzsch ex Peters.
- Philippi, *G. multiglandulosum*
- Phillips, *G. laxum*
- Phillips & Clement, *G. barbosanum*
- Poiret in Lamarck, *G. racemosum*
- Prokhanov, *G. abyssinicum* var. *hirsutius*, *G. abyssinicum* var. *sindicum*, *G. albescens* var. *fasciculatum*, *G. albescens* var. *hibridum*, *G. albescens* var. *liospermum*, *G. albescens* var. *luxurians*, *G. albescens* var. *rugatum*, *G. albescens* var. *sphaerocarpum*, *G. albescens* var. *webberianum*, *G. arboreum* var. *coconadum*, *G. arboreum* var. *nadam*, *G. arboreum* var. *paradoxum*, *G. arboreum* var. *roji*, *G. bani*, *G. bani* var. *mollisonii*, *G. bickii*, *G. cambayense* var. *humile*, *G. cambayense* var. *madraspatanum*, *G. cambayense* var. *melanospermum*, *G. cambayense* var. *wightianum*, *G. cernuum* var. *assamicum*, *G. frutescens* var. *maritimum*, *G. frutescens* var. *pallidiflorum*, *G. frutescens* var. *polycarpum*, *G. herbaceum* var. *clistocarpum*, *G. herbaceum* var. *metocarpum*, *G. hirsutum* var. *schottii*, *G. hirsutum* var. *typicum*, *G. jumelianum*, *G. jumelianum* var. *degeneratum*, *G. jumelianum* var. *turbineum*, *G. perrieri*, *G. peruvianum* var. *apospermum*, *G. peruvianum* var. *braziliense*, *G. rosei*, *G. roxburghii* var. *avense*, *G. roxburghii* var. *bengalense*, *G. roxburghii* var. *burmanicum*, *G. roxburghii* var. *kokatia*, *G. roxburghii* var. *roxburghianum*, *G. sericatum*, *G. speciosum* var. *canescens*, *G. speciosum* var. *cutchicum*, *G. speciosum* var. *himalayanum*, *G. speciosum* var. *japonense*, *G. speciosum* var. *malvense*, *G. speciosum* var. *minus*, *G. speciosum* var. *parvulum*, *G. speciosum* var. *roseum*, *G. speciosum* var. *rubicundum*, *G. speciosum* var. *sanguineum*, *G. timorense*, *G. zaitzevi*.
- Rafinesque, *G. albescens*, *G. albescens* var. *cayenense*, *G. albescens* var. *megaspermum*,

G. albescens var. *rubescens*, *G. amblospermum*, *G. asiaticum*, *G. aureum*, *G. bicolor*,
G. cambayense, *G. cinereum*, *G. convexum*, *G. decurrens*, *G. decurrens* var.
floscosum, *G. decurrens* var. *patulum*, *G. decurrens* var. *rubrum*, *G. decurrens* var.
viride, *G. divaricatum*, *G. fuscum*, *G. guyanense*, *G. guyanense* var. *braziliense*,
G. herbaceum var. *barbatum*, *G. herbaceum* var. *megacarpum*, *G. herbaceum* var.
petenne, *G. herbaceum* var. *vulgare*, *G. isabelum*, *G. macrospermum*, *G. niveum*,
G. pallens, *G. purpureum*, *G. rohrianum*, *G. rupestre*, *G. sarmentosum*,
G. speciosum, *G. teleium*, *G. tenax*, *G. trichospermum*, *G. virens*, *G. virgatum*
 Ramirez-Goyena, *G. nicaraguense*, *G. volubile*
 Roberty (see also Cook ex Roberty, Curtiss ex Roberty, Delile ex Roberty, Gürke ex
 Roberty), *G. anomalum* ssp. *areysianum*, *G. anomalum* ssp. *steudneri*, *G. anomalum*
 ssp. *triphyllum*, *G. arboreum* var. *acerifolium*, *G. arboreum* var. *afghanicum*,
G. arboreum var. *africanum*, *G. arboreum* var. *albiflorum*, *G. arboreum* f. *albiflorum*,
G. arboreum f. *assamicum*, *G. arboreum* var. *bani*, *G. arboreum* var. *burmanii*,
G. arboreum f. *canescens*, *G. arboreum* ssp. *ceruum*, *G. arboreum* var. *comesii*,
G. arboreum ssp. *dentatum*, *G. arboreum* ssp. *elatum*, *G. arboreum* var.
floribundum, *G. arboreum* var. *frutescens*, *G. arboreum* var. *herbaceum*, *G. arboreum*
 f. *himalayanum*, *G. arboreum* f. *hutchinsonii*, *G. arboreum* var. *indicum*, *G. arboreum*
 ssp. *linnaeanum*, *G. arboreum* ssp. *longiflorum*, *G. arboreum* f. *neglectum*,
G. arboreum ssp. *pallidiflorum*, *G. arboreum* var. *perennans*, *G. arboreum* var.
perrieri, *G. arboreum* ssp. *rotundum*, *G. arboreum* var. *rubicundum*, *G. arboreum* ssp.
rubriflorum, *G. arboreum* var. *rubrum*, *G. arboreum* f. *rubrum*, *G. arboreum* ssp.
sanguineum, *G. arboreum* ssp. *subintegrum*, *G. arboreum* var. *sudanense*,
G. arboreum f. *vaupellii*, *G. arboreum* var. *wightianum*, *G. barbadense* var.
aegyptiacum, *G. barbadense* var. *apertum*, *G. barbadense* var. *apospermum*,
G. barbadense var. *arizonicum*, *G. barbadense* var. *breve*, *G. barbadense* var.
brownii, *G. barbadense* var. *caravonicum*, *G. barbadense* var. *casimirianum*,
G. barbadense var. *cayenense*, *G. barbadense* var. *copticum*, *G. barbadense*
 f. *darwini*, *G. barbadense* var. *deltiacum*, *G. barbadense* var. *dubiosum*,
G. barbadense f. *eggersii*, *G. barbadense* f. *ficifolium*, *G. barbadense* var.
glabrum, *G. barbadense* var. *hahnii*, *G. barbadense* var. *involutum*, *G. barbadense* f.
irvingianum, *G. barbadense* f. *knightii*, *G. barbadense* var. *littorale*, *G. barbadense*
 f. *maritimum*, *G. barbadense* ssp. *microcarpum*, *G. barbadense* var. *microcarpum*,
G. barbadense f. *nanum*, *G. barbadense* ssp. *nigrum*, *G. barbadense* var. *niloticum*,
G. barbadense var. *nubarense*, *G. barbadense* var. *pedatum*, *G. barbadense* ssp.
peruvianum, *G. barbadense* ssp. *racemosum*, *G. barbadense* var. *reale*,
G. barbadense f. *rubro-staminatum*, *G. barbadense* var. *sabericum*, *G. barbadense*
 ssp. *sprucei*, *G. barbadense* var. *strictifolium*, *G. barbadense* f. *suffruticosum*,
G. barbadense ssp. *thebaicum*, *G. barbadense* var. *thebaicum*, *G. barbadense* var.
todari, *G. barbadense* ssp. *vitifolium*, *G. barbadense* f. *vitifolium*, *G. barbadense*
 var. *zaria*, *G. harknessii* ssp. *armourianum*, *G. herbaceum* var. *canescens*,
G. herbaceum f. *perrieri*, *G. hirsutum* var. *africanum*, *G. hirsutum* var.
akkorense, *G. hirsutum* ssp. *archetypicum*, *G. hirsutum* f. *atrocotolatum*,
G. hirsutum f. *bailense*, *G. hirsutum* f. *bandiagarae*, *G. hirsutum* f. *berlandieri*,
G. hirsutum ssp. *caespitosum*, *G. hirsutum* f. *cambodiense*, *G. hirsutum* f.
cavelsenii, *G. hirsutum* f. *cearensis*, *G. hirsutum* var. *chacoense*, *G. hirsutum* f.
cupulare, *G. hirsutum* ssp. *deserticum*, *G. hirsutum* var. *ekmanianum*, *G. hirsutum*
 var. *falax*, *G. hirsutum* f. *flavum*, *G. hirsutum* f. *fuscum*, *G. hirsutum* f.
gambiae, *G. hirsutum* f. *gaumeri*, *G. hirsutum* var. *gracile*, *G. hirsutum* f.
guatemaltequense, *G. hirsutum* f. *gussonei*, *G. hirsutum* var. *harlandianum*,
G. hirsutum f. *involucellans*, *G. hirsutum* ssp. *latifolium*, *G. hirsutum* f. *latistipulatum*,
G. hirsutum var. *mexicanum*, *G. hirsutum* f. *mexicanum*, *G. hirsutum* var.
micranthum, *G. hirsutum* var. *millerianum*, *G. hirsutum* f. *minimiflorum*,

- G. hirsutum* f. *movoense*, *G. hirsutum* var. *modestum*, *G. hirsutum* var. *murrayanum*, *G. hirsutum* ssp. *mustelinum*, *G. hirsutum* f. *mustelinum*, *G. hirsutum* f. *myersii*, *G. hirsutum* var. *neotypicum*, *G. hirsutum* var. *nervosum*, *G. hirsutum* var. *optimatum*, *G. hirsutum* f. *optimatum*, *G. hirsutum* var. *paniculatum*, *G. hirsutum* var. *pellitum*, *G. hirsutum* f. *pollardii*, *G. hirsutum* var. *preticolum*, *G. hirsutum* ssp. *prostratum*, *G. hirsutum* f. *pseudoracemosum*, *G. hirsutum* var. *punctatum*, *G. hirsutum* f. *punctatum*, *G. hirsutum* var. *purpureum*, *G. hirsutum* var. *rhorii*, *G. hirsutum* f. *rubrocoloratum*, *G. hirsutum* f. *soninkurens*, *G. hirsutum* var. *taitense*, *G. hirsutum* f. *tomentosum*, *G. hirsutum* var. *tricuspidatum*, *G. hirsutum* var. *volutile*, *G. jamaicense* f. *fruticulosum*, *G. jamaicense* f. *janiphaefolium*, *G. jamaicense* f. *lanceolatum*, *G. kirkii* ssp. *brevilanatum*, *G. kirkii* ssp. *scandens*, *G. klotzschianum* ssp. *davidsonii*, *G. klotzschianum* ssp. *raimondii*, *G. lapideum* ssp. *acuminatum*, *G. lapideum* ssp. *brasiliense*, *G. lapideum* f. *edentulum*, *G. lapideum* f. *elmeri*, *G. latifolium* subvar. *akkorense*, *G. latifolium* var. *archetypicum*, *G. latifolium* var. *cambojiense*, *G. latifolium* f. *cearense*, *G. latifolium* subvar. *chacoense*, *G. latifolium* var. *deserticum*, *G. latifolium* var. *ekmanianum*, *G. latifolium* f. *flavum*, *G. latifolium* f. *fuscum*, *G. latifolium* var. *neotypicum*, *G. latifolium* var. *paniculatum*, *G. latifolium* var. *prostratum*, *G. latifolium* f. *pseudoracemosum*, *G. latifolium* var. *pseudovolubile*, *G. latifolium* subvar. *soninkurens*, *G. latifolium* var. *taitense*, *G. latifolium* var. *tricuspidatum*, *G. latifolium* f. *tricuspidatum*, *G. nanking* f. *rubicundum*, *G. obtusifolium* f. *simpsonii*, *G. obtusifolium* f. *wattii*, *G. peruvianum* var. *apertum*, *G. peruvianum* var. *arizonicum*, *G. peruvianum* var. *brownei*, *G. peruvianum* var. *caravonicum*, *G. peruvianum* var. *copticum*, *G. peruvianum* var. *dubiosum*, *G. peruvianum* var. *glabrum*, *G. peruvianum* f. *guineense*, *G. peruvianum* var. *involutum*, *G. peruvianum* f. *marie-galante*, *G. peruvianum* ssp. *nigrum*, *G. peruvianum* var. *nigrum*, *G. peruvianum* var. *niloticum*, *G. peruvianum* ssp. *racemosum*, *G. peruvianum* var. *racemosum*, *G. peruvianum* var. *reale*, *G. peruvianum* ssp. *sprucei*, *G. peruvianum* var. *sprucei*, *G. peruvianum* var. *todari*, *G. purpurascens* var. *deserticum*, *G. purpurascens* var. *religiosoides*, *G. purpurascens* var. *taitense*, *G. sturtii* ssp. *robinsonii*

Roxburgh, *G. herbaceum* var. *indicum*

Roxburgh ex G. Don, *G. acuminatum*, *G. obtusifolium*

Roxburgh ex Wight & Arnott, *G. fuscum*, *G. rubicundum*

Salisbury, *G. elatum*, *G. gracile*

Schumacher & Thonning in Schumacher, *G. prostratum*, *G. punctatum*

Schweinfurth ex Gürke, *G. herbaceum* var. *steudneri*

Scopoli, *G. rufum*

Seemann (see also Nuttall ex Seemann), *G. drynarioides*

Skovsted, *G. aridum*, *G. trilobum*

Smith, *G. neglectum* var. *sanguineum*

Spielmann ex Murray, *G. macedonicum*

Splitgerber ex DeVriese, *G. pubescens*

Sprague, *G. brasiliense* var. *apospermum*

Sprenger, *G. comesii*

Standley, *G. gossypioides*

Steudel (see also Fischer & Otto ex Steudel), *G. glandulosum*

Swartz, *G. procerius*

Targioni-Tozzetti, *G. herbaceum* var. *rufum*

Tenore (see also Mauri ex Tenore), *G. siamense*

Tershek, *G. album*

Thierry, *G. luteum*

Todaro (see also Fischer ex Todaro, von Mueller ex Todaro), *G. albiflorum*,

- G. albiflorum* var. *floribundum*, *G. albiflorum* var. *glabratum*, *G. australe* var. *pedunculatum*, *G. australiense*, *G. brasiliense* var. *cerrutianum*, *G. caespitosum*, *G. cavanillesianum*, *G. cernuum*, *G. cernuum* var. *macranthum*, *G. cernuum* var. *multiflorum*, *G. costulatum*, *G. cunninghamii*, *G. figarii*, *G. fruticulosum*, *G. glabratum*, *G. herbaceum* var. *hirsutissimum*, *G. herbaceum* var. *microcarpum*, *G. hirsutum* var. *album*, *G. hirsutum* var. *glabratum*, *G. hirsutum* var. *hardyanum*, *G. hirsutum* var. *intermedium*, *G. hirsutum* var. *macrocarpum*, *G. hirsutum* var. *rufum*, *G. intermedium*, *G. intermedium* var.? *japonicum*, *G. intermedium* var. *royleanum*, *G. labillarderianum*, *G. lanceolatum*, *G. macranthum*, *G. maritimum*, *G. maritimum* var. *degeneratum*, *G. maritimum* var. *floribundum*, *G. maritimum* var. *jumelianum*, *G. maritimum* var. *pallidiflorum*, *G. maritimum* var. *polycarpum*, *G. mexicanum*, *G. microcarpum*, *G. microcarpum* var. *hibridum*, *G. microcarpum* var. *luxurians*, *G. microcarpum* var. *rufum*, *G. nanking* var. *grandiflorum*, *G. neglectum*, *G. neglectum* var. *roxburghianum*, *G. parlatori*, *G. prostratum* var. *rufescens*, *G. rhori*, *G. roseum*, *G. roseum* var. *albiflorum*, *G. roseum* var. *glabratum*, *G. roxburghii*, *G. royleanum*, *G. thurberi*, *G. walchottianum*, *G. wightianum*, *G. wightianum* var. *humile*, *G. wightianum* var. *intermedium*, *G. wightianum* var. *pallidum*, *G. wightianum* var. *pubescens*
- Triana & Planchon, *G. barbadense* subvar. *acerifolium*, *G. barbadense* var. *acuminatum*, *G. barbadense* var. *hirsutum*, *G. barbadense* var. *nigrum*, *G. barbadense* subvar. *peruvianum*, *G. barbadense* var. *vitifolium*
- Tussac, *G. lapideum*, *G. siamense*
- Ulbrich, *G. herbaceum* var. *dinteri*, *G. raimondii*
- Ulbrich ex Wittmack in Herzog, *G. arboreum* var. *parviflorum*
- Vaupell, *G. imbricatum*
- von Fischer. See Fischer, Fischer ex Todaro, Fischer & Otto ex Steudel.
- von Mueller, *G. australe*, *G. robinsonii*, *G. sturtii*
- von Mueller ex Todaro *G. flaviflorum*, *G. populifolium*, *G. thespesiooides*
- Waipers (see also Müller in Waipers), *G. barbadense* var. *hirsutum*
- Wang, *G. nanking* var. *album*
- Watt (see also Miers ex Watt, Nuttall ex Watt), *G. abyssinicum*, *G. africanum*, *G. africanum* var. *braceatum*, *G. anomalum*, *G. arboreum* var. *assamicum*, *G. arboreum* var. *neglectum*, *G. arboreum* var. *roseum*, *G. arboreum* var. *sanguineum*, *G. bakeri*, *G. barbadense* var. *maritimum*, *G. birkinshawii*, *G. darwinii*, *G. harrissii*, *G. hirsutum* var. *religiosum*, *G. marie-galante*, *G. mexicanum* var. *rugatum*, *G. nanking* var. *bani*, *G. nanking* var. *canescens*, *G. nanking* var. *himlayanum*, *G. nanking* var. *japanense*, *G. nanking* var. *nadam*, *G. nanking* var. *roji*, *G. nanking* var. *siamense*, *G. nanking* var. *soudanense*, *G. nervosum*, *G. obtusifolium* var. *africanum*, *G. obtusifolium* var. *wightianum*, *G. palmeri*, *G. pedatum*, *G. peruvianum* var. *aegyptiacum*, *G. peruvianum* var. *irvingianum*, *G. peruvianum* var. *zaria*, *G. punctatum* var. *jamaica*, *G. punctatum* var. *nigeria*, *G. punctatum* var. *prostratum*, *G. schottii*, *G. simpsonii*, *G. soudanense*, *G. transvaalense*
- Wawra ex Wawra & Peyritsch, *G. anomalam*
- Wawra & Peyritsch. See Fenzl ex Wawra & Peyritsch, Wawra ex Wawra & Peyritsch.
- Webb ex Todaro, *G. stauntonii*
- Welwitsch ex Gürke, *G. microcarpum*
- Wiesner, *G. conglomeratum*, *G. flavidum*
- Wight & Arnott. See Roxburgh ex Wight & Arnott.
- Willis, *G. sturtianum*, *G. sturtianum* var. *trilobum*
- Wittmack in Herzog (see also Ulbrich ex Wittmack in Herzog), *G. barbadense* var. *rufum*, *G. ekmanianum*

- Wouters, *G. arboreum* sub-subvar. *cernuum*, *G. arboreum* subvar. *nanking*, *G. arboreum* subvar. *neglectum*, *G. arboreum* var. *obtusifolium*, *G. arboreum* subvar. *roji*, *G. barbadense* subvar. *aegyptiacum*, *G. barbadense* subvar. *maritimum*, *G. barbadense* subvar. *vitifolium*; *G. herbaceum* subvar. *africanum*, *G. herbaceum* subvar. *wightianum*, *G. hirsutum* f. *jamaicense*, *G. hirsutum* f. *palmeri*, *G. hirsutum* subvar. *punctatum*, *G. hirsutum* subvar. *purpurascens*, *G. hirsutum* f. *schottii*, *G. hirsutum* var. *tricuspidatum*
- Zaitzev, *G. hirsutum* var. *laciniatum*

INDEX OF PUBLISHED NAMES IN *GOSSYPIUM*

Names are listed in alphabetical order without regard to taxonomic rank and author unless they are identical. Identical binomials are entered alphabetically by author. Identical trinomials are arranged first in descending taxonomic rank of the infraspecific epithet (subspecies, varietas, subvarietas, sub-subvarietas, and forma) and then alphabetically by author. Legitimate names appear in **Boldface**. Names appearing in Roman are illegitimate; those in *Italic* are not validly published. The page numbers refer to the entry in "List of Basionyms," where illegitimacy or invalidity is explained.

- | | |
|---|--|
| <i>G. aborigineum</i> Millsp. ex Pepper, 14 | <i>G. anomalum</i> ssp. <i>areysianum</i> (Defl.) |
| <i>G. abyssinicum</i> Watt, 14 | Roberty, 18 |
| <i>G. abyssinicum</i> var. <i>hirsutus</i> (Gammie)
Prokh., 39 | <i>G. anomalum</i> ssp. <i>steudneri</i> (Schweinf.) |
| <i>G. abyssinicum</i> var. <i>sindicum</i> (Gammie)
Prokh., 69 | Roberty, 71 |
| <i>G. acuminatum</i> Roxb. ex G. Don, 14 | <i>G. anomalum</i> ssp. <i>triphyllum</i> (Harv. ex
Harv. & Sond.) Roberty, 75 |
| <i>G. africanum</i> (Watt) Watt, 15 | <i>G. arborens</i> Burlamaqui, 18 |
| <i>G. africanum</i> var. <i>bracteatum</i> Watt, 22 | <i>G. arboreum</i> L., 18 |
| <i>G. albescens</i> Raf., 15 | <i>G. arboreum</i> var. <i>acerifolium</i> (Guill. &
Perr. ex Guill. Perr. & Rich.) Roberty, 14 |
| <i>G. albescens</i> var. <i>cayennense</i> Raf. (= var.
<i>albescens</i>), 26 | <i>G. arboreum</i> var. <i>afghanicum</i> Roberty, 15 |
| <i>G. albescens</i> var. <i>fasciculatum</i> Prokh., 33 | <i>G. arboreum</i> var. <i>africanum</i> (Watt) |
| <i>G. albescens</i> var. <i>hybridum</i> (Tod.) Prokh.,
38 | Roberty, 15 |
| <i>G. albescens</i> var. <i>liospermum</i> Prokh., 46 | <i>G. arboreum</i> var. <i>albiflorum</i> (Tod.) |
| <i>G. albescens</i> var. <i>luxurians</i> (Tod.) Prokh.,
47 | Roberty, 16 |
| <i>G. albescens</i> var. <i>megaspermum</i> Raf., 49 | <i>G. arboreum</i> forma <i>albiflorum</i> (Tod.) |
| <i>G. albescens</i> var. <i>rubescens</i> Raf., 65 | Roberty, 15 |
| <i>G. albescens</i> var. <i>rugatum</i> (Watt) Prokh.,
67 | <i>G. arboreum</i> var. <i>assamicum</i> Watt, 19 |
| <i>G. albescens</i> var. <i>sphaerocarpum</i> Prokh.,
70 | <i>G. arboreum</i> f. <i>assamicum</i> (Watt?) |
| <i>G. albescens</i> var. <i>webberanum</i> Prokh., 77 | Roberty, 19 |
| <i>G. albiflorum</i> Tod., 15 | <i>G. arboreum</i> var. <i>bani</i> (Watt) |
| <i>G. albiflorum</i> var. <i>floribundum</i> Tod., 34 | Roberty, 20 |
| <i>G. albiflorum</i> var. <i>glabratum</i> Tod., 35 | <i>G. arboreum</i> f. <i>bengalense</i> Hutch. &
Ghose, 21 |
| <i>G. album</i> Buch.-Ham., 16 | <i>G. arboreum</i> f. <i>burmanicum</i> Hutch. &
Ghose, 23 |
| <i>G. album</i> Tersk., 16 | <i>G. arboreum</i> var. <i>burmanii</i> Roberty, 23 |
| <i>G. alepicum</i> Cav., 17 | <i>G. arboreum</i> f. <i>canescens</i> (Watt) Roberty,
25 |
| <i>G. amblosperrnum</i> Raf., 17 | <i>G. arboreum</i> ssp. <i>cernuum</i> (Tod.) |
| <i>G. anomalam</i> Watt, 17 | Roberty, 26 |
| <i>G. anomalam</i> Wawra ex Wawra & Peyr.,
17 | <i>G. arboreum</i> var. <i>cernuum</i> (Tod.) Hutch.
& Ghose, 26 |
| | <i>G. arboreum</i> sub-subvar. <i>cernuum</i> (Tod.)
Wouters, 26 |

- G. arboreum* var. *coconadum* (Gammie)
Prokh., 27
- G. arboreum* var. *comesli* (Spreng.)
Roberty, 27
- G. arboreum* ssp. *dentatum* Roberty, 30
- G. arboreum* ssp. *elatum* Roberty, 32
- G. arboreum* var. *floribundum* (Tod.)
Roberty, 34
- G. arboreum* var. *frutescens* (Del.)
Roberty, 35
- G. arboreum* var. *herbaceum* (L.)
Roberty, 38
- G. arboreum* f. *bimalayanum* (Watt)
Roberty, 38
- G. arboreum* f. *hutchinsonii* Roberty, 39
- G. arboreum* var. *indicum* (Lam.)
Roberty, 40
- G. arboreum* f. *indicum* Hutch. &
Ghose, 40
- G. arboreum* f. *indicum* (Lamarck?) Hutch.
& Ghose, 40
- G. arboreum* ssp. *linnaeanum* Roberty, 46
- G. arboreum* ssp. *longiflorum* Roberty, 47
- G. arboreum* var. *nadam* (Watt) Prokh., 52
- G. arboreum* ssp. *nanking* (Mey.) Mauer, 53
- G. arboreum* var. *nanking* (Mey.) J. B.
Hutch. ex Harland, 52
- G. arboreum* subvar. *nanking* (Mey.)
Wouters, 52
- G. arboreum* ssp. *neglectum* (Tod.)
Mauer, 53
- G. arboreum* var. *neglectum* (Tod.)
Watt, 53
- G. arboreum* subvar. *neglectum* (Tod.)
Wouters, 53
- G. arboreum* f. *neglectum* (Tod.)
Roberty, 53
- G. arboreum* ssp. *obtusifolium* (Roxb. ex
G. Don) Mauer, 55
- G. arboreum* var. *obtusifolium* (Roxb.
ex G. Don) Wouters, 54
- G. arboreum* ssp. *pallidiflorum* Roberty, 78
- G. arboreum* var. *paradoxum* Prokh., 56
- G. arboreum* var. *parviflorum* Ulbr. ex
Wittm. in Herz., 57
- G. arboreum* var. *perennans* (Del. ex
Roberty) Roberty, 58
- G. arboreum* ssp. *perenne* (Blanco)
Mauer, 58
- G. arboreum* var. *perrieri* (Hochr.)
Roberty, 58
- G. arboreum* var. *platylobum* Gammie, 58
- G. arboreum* var. *roji* (Watt) Prokh., 63
- G. arboreum* subvar. *roji* (Watt)
Wouters, 63
- G. arboreum* var. *roseum* (Tod.) Watt, 64
- G. arboreum* ssp. *rotundum* Roberty, 64
- G. arboreum* var. *rubincundum* (Watt)
Roberty, 65
- G. arboreum* ssp. *rubriflorum* Roberty, 65
- G. arboreum* var. *rubrum* (Forsk.)
Roberty, 66
- G. arboreum* f. *rubrum* (Forsk.)
Roberty, 66
- G. arboreum* ssp. *sanguineum* (Hassk.)
Roberty, 68
- G. arboreum* var. *sanguineum* (Hassk.)
Watt, 68
- G. arboreum* var. *soudanense* (Watt) J. B.
Hutch. ex Hart., 70
- G. arboreum* f. *soudanense* (Watt) Hutch.
& Ghose, 70
- G. arboreum* ssp. *subintegrum* Roberty, 71
- G. arboreum* var. *vagans* Gammie, 75
- G. arboreum* f. *vaupellii* (Grah.)
Roberty, 75
- G. arboreum* var. *wightianum* (Tod.)
Roberty, 77
- G. areysianum* Del., 18
- G. aridum* (Rose & Standl.) Skov., 19
- G. aridum* var. *amapola* Navr. ex Mauer, 17
- G. aridum* var. *palmeri* (Rose) Mauer, 56
- G. aridum* var. *purpureum* Mauer (= var.
aridum), 62.
- G. aridum* var. *roseum* Mauer, 64
- G. armoutianum* Kearn., 19
- G. asiaticum* Raf., 19
- G. aureum* Raf., 20
- G. auritum* Cook & Hubb., 20
- G. australe* F. v. M., 20
- G. australe* var. *pedunculatum* Tod., 57
- G. australiense* Tod., 20
- G. bakeri* Watt, 20
- G. bani* (Watt) Prokh., 20
- G. bani* var. *mollisonii* (Gammie)
Prokh., 51
- G. barbadense* L., 21
- G. barbadense* var. *acuminatum* (Roxb. ex
G. Don) Triana & Planch., 14
- G. barbadense* var. *aegyptiacum* (Watt)
Roberty, 14
- G. barbadense* subvar. *aegyptiacum*
(Watt) Wouters, 14
- G. barbadense* var. *apertum* (Roberty)
Roberty, 17

- G. barbadense* var. *apospermum* (Sprague)
Roberty, 17
- G. barbadense* var. *arizonicum* (Roberty)
Roberty, 19
- G. barbadense* var. *brasiliense* (Macf.)
Mauer, 22
- G. barbadense* var. *braziliense* (Raf.)
Fryx., 22
- G. barbadense* var. *breve* Roberty, 22
- G. barbadense* var. *brownii* (Roberty)
Roberty, 23
- G. barbadense* var. *caravonicum* (Roberty)
Roberty, 25
- G. barbadense* f. *casimiranum* Roberty, 25
- G. barbadense* var. *cayenense* Roberty, 26
- G. barbadense* var. *copticum* (Roberty)
Roberty, 28
- G. barbadense* ssp. *darwindi* (Watt)
Mauer, 29
- G. barbadense* var. *darwindi* (Watt)
J. B. Hutch., 29
- G. barbadense* f. *darwindii* (Watt)
Roberty, 29
- G. barbadense* var. *deltaicum* Roberty, 30
- G. barbadense* var. *dubiosum* (Roberty)
Roberty, 31
- G. barbadense* f. *eggersii* Roberty, 32
- G. barbadense* f. *fidifolium* Roberty, 33
- G. barbadense* var. *glabrum* (Lam.)
Roberty, 36
- G. barbadense* var. *hahnii* Roberty, 37
- G. barbadense* var. *hirsutum* Hook. &
Benth., 39
- G. barbadense* var. *hirsutum* (L.)
Triana & Planch., 39
- G. barbadense* var. *integrum* Griseb., 40
- G. barbadense* var. *involutum* (Roberty)
Roberty, 41
- G. barbadense* f. *Irvingianum* (Watt)
Roberty 41
- G. barbadense* var. *jumelianum* (Tod.)
C. Müll. in Walp., 43
- G. barbadense* f. *knightii* Robert, 44
- G. barbadense* var. *littorale* Roberty, 46
- G. barbadense* var. *macrocarpum*
Mauer, 48
- G. barbadense* var. *marie-galante* (Watt)
A. Chev., 49
- G. barbadense* var. *maritimum* (Tod.)
Watt, 49
- G. barbadense* subvar. *maritimum* (Tod.)
Wouters, 49
- G. barbadense* f. *maritimum* (Tod.)
Roberty, 49
- G. barbadense* ssp. *microcarpum* (Tod.)
Roberty, 50
- G. barbadense* f. *nanum* Roberty, 53
- G. barbadense* ssp. *nigrum* (Buch.-Ham.)
Roberty, 54
- G. barbadense* var. *nigrum* (Buch.-Ham.)
Triana & Planch., 54
- G. barbadense* var. *niloticum* (Roberty)
Roberty, 54
- G. barbadense* var. *nubarensis* Roberty, 54
- G. barbadense* var. *pedatum* (Watt)
Roberty, 57
- G. barbadense* ssp. *peruvianum* (Cav.)
Roberty, 58
- G. barbadense* var. *peruvianum* (Cav.)
Mauer, 58
- G. barbadense* subvar. *peruvianum* (Cav.)
Triana & Planch., 58
- G. barbadense* ssp. *racemosum* (Poir.)
Roberty, 62
- G. barbadense* var. *reale* (Roberty)
Roberty, 63
- G. barbadense* var. *rubicundum* Mauer, 65
- G. barbadense* var. *rubidulum* Mauer, 65
- G. barbadense* f. *rubrostaminatum*
Roberty, 66
- G. barbadense* ssp. *ruderale* Mauer, 66
- G. barbadense* var. *rufum* Wittm. in
Herz., 67
- G. barbadense* var. *sahelicum* Roberty, 67
- G. barbadense* ssp. *sprucei* (Roberty)
Roberty, 70
- G. barbadense* var. *strictifolium* Roberty, 71
- G. barbadense* f. *suffruticosum* (Bertol.)
Roberty, 71
- G. barbadense* ssp. *thebaicum* Roberty, 72
- G. barbadense* var. *thebaicum* (Roberty)
Roberty, 72
- G. barbadense* var. *todari* (Roberty)
Roberty, 73
- G. barbadense* var. *tomentosum* Mauer, 74
- G. barbadense* ssp. *vittifolium* (Lam.)
Roberty, 76
- G. barbadense* var. *vittifolium* (Lam.)
Triana & Planch., 76
- G. barbadense* subvar. *vittifolium* (Lam.)
Wouters, 76
- G. barbadense* f. *vittifolium* (Lam.)
Roberty, 76
- G. barbadense* var. *zarai* (Watt)
Roberty, 77

- G. barbosanum* Phill. & Clem., 21
G. benadirens Mattei, 21
G. bickii Prokh., 21
G. bicolor Raf., 22
G. birkinshawii Watt, 22
G. brasiliense Macf., 22
G. brasiliense var. *apospermum* Sprague, 17
G. brasiliense var. *cerrutianum* Tod., 26
G. brevilanatum Hochr., 23
G. bussei Gürke ex Roberty, 23
G. caespitosum Tod., 24
G. caespitosum f. *subglabrum* Backer, 71
G. caicoense Aranha, Leitão & Gr. di-Papp, 24
G. californicum Mauer, 24
G. calycotom Cook & Hubb., 24
G. cambayense Raf., 24
G. cambayense var. *humile* (Tod.) Prokh., 39
G. cambayense var. *madraspatanum* (Gammie) Prokh., 48
G. cambayense var. *melanospermum* (Gammie) Prokh., 49
G. cambayense var. *wightianum* (Tod.) Prokh., 77
G. capitis-viridis Mauer, 25
G. cavanillesianum Tod., 25
G. ceratadenum Cook, 26
G. cernuum Tod., 26
G. cernuum var. *assamicum* (Watt) Prokh., 19
G. cernuum var. *mucranthum* Tod., 47
G. cernuum var. *multiflorum* Tod., 51
G. cernuum var. *silhetense* Gammie, 69
G. chinense Fisch. & Otto ex Steud., 27
G. cinereum Raf., 27
G. comesli Spreng., 27
G. congestum Miers ex Watt, 28
G. conglomeratum Wiesn., 28
G. contextum Cook & Hubb., 28
G. convexum Raf., 28
G. costulatum Tod., 28
G. croceum Buch.-Ham., 28
G. cunninghamii Tod., 29
G. darwinii Watt, 29
G. davidsonii Keil., 30
G. davidsonii var. *lobulatum* Mauer, 78
G. davidsonii var. *sonoricum* Mauer, 78
G. decurrens Raf., 30
G. decurrens var. *flocosum* Raf., 34
G. decurrens var. *patulum* Raf., 57
G. decurrens var. *rubrum* Raf., 66
G. decurrens var. *viride* Raf. (= var. *decurreans*), 76
G. dicladum Cook & Hubb., 31
G. divaricatum Raf., 31
G. drynarioides Seem., 31
G. eglandulosum Cav., 32
G. ekmanianum Wittm. in Herz., 32
G. elatum Salisb., 32
G. ellenbeckii (Gürke) Mauer, 32
G. evertum Cook & Hubb., 32
G. figarii Tod., 33
G. flavidum Wiesn., 33
G. flaviflorum (F. v. M.) F. v. M. ex Tod., 33
G. flavum Cav., 34
G. frutescens Lasteyr., 34
G. frutescens var. *marlimum* (Tod.) Prokh., 49
G. frutescens var. *pallidiflorum* (Tod.) Prokh., 55
G. frutescens var. *polycarpum* (Tod.) Prokh., 59
G. fruticosum Tod., 35
G. fuscum Raf., 35
G. fuscum Roxb. ex Wight & Arn., 35
G. glabratum Tod., 36
G. glabrum Lam., 36
G. glabrum var. *purpurascens* (Poir.) A. Chev., 62
G. glandulosum Steud. (sphalm. = *G. eglandulosum* Cav., q.v.)
G. gossypoides (R. Br.) C. A. Gardn., 36
G. gossypoides (Ulbr.) Standl., 36
G. gracile Salisb., 37
G. guyanense Raf., 37
G. guyanense var. *braziliense* Raf., 22
G. barknessii Brandeg., 37
G. barknessii ssp. *armourianum* (Kearn.) Roberty, 19
G. harrisii Watt, 38
G. herbaceum L., 38
G. herbaceum var. *acerifolium* (Guill. & Perr.) A. Chev., 14
G. herbaceum ssp. *africanum* (Watt) Mauer, 15
G. herbaceum var. *africanum* (Watt) J. B. Hutch. ex Harl., 15
G. herbaceum subvar. *africanum* (Watt) Wouters, 15
G. herbaceum var. *annuum* Del., 17
G. herbaceum var. *barbatum* Raf., 21
G. herbaceum f. *canescens* (Watt) Roberty, 25

- G. herbaceum* var. *ciliocarpum* Prokh., 27
G. herbaceum var. *dinteri* Ulbr., 31
G. herbaceum ssp. *frutescens* (Del.)
 Mauer, 35
G. herbaceum var. *frutescens* Del., 35
G. herbaceum var. *hirsutissimum* Tod., 38
G. herbaceum var. *hirsutum* (L.) Mast. in
 Hook., 39
G. herbaceum var. *indicum* (Lam.)
 Roxb., 40
G. herbaceum var. *madiaspatanum*
 Gammie, 48
G. herbaceum var. *megacarpum* Raf., 49
G. herbaceum var. *melanostpermum*
 Gammie, 49
G. herbaceum var. *melocarpum* Prokh., 49
G. herbaceum var. *microcarpum* Tod., 50
G. herbaceum var. *obtusifolium* (Roxb.)
 Mast. in Hook., 54
G. herbaceum var. *perennans* Del. pro sp.
 ex Roberty, 58
G. herbaceum var. *perenne* Raf., 58
G. herbaceum var. *perrieri* Hochr., 58
G. herbaceum f. *perrieri* (Hochr.)
 Roberty, 58
G. herbaceum ssp. *pseudoarboreum*
 Mauer, 60
G. herbaceum var. *religiosum* (L.) Mast.
 in Hook., 63
G. herbaceum var. *rufum* Targ., 66
G. herbaceum var. *sakalia* Gammie, 67
G. herbaceum subvar. *simpsonii* (Watt)
 A. Chev., 69
G. herbaceum var. *steudneri* Schweinf. ex
 Gürke, 71
G. herbaceum var. *transvaalense* (Watt)
 Mauer, 74
G. herbaceum var. *vittifolium* (Lam.) Mast.
 in Hook., 76
G. herbaceum var. *vulgare* Raf., 76
G. herbaceum var. *wightianum* (Tod.)
 J. B. Hutch. ex Harl., 77
G. herbaceum subvar. *wightianum* (Tod.)
 Wouters, 77
G. hirsutum L., 39
G. hirsutum var. *africanum* Roberty, 15
G. hirsutum var. *akkorense* (Roberty)
 Roberty, 15
G. hirsutum var. *album* (Tersk.) Tod., 16
G. hirsutum ssp. *archetypicum* (Roberty)
 Roberty, 18
G. hirsutum f. *atrocoloratum* Roberty, 19
G. hirsutum f. *bailense* Roberty, 20
G. hirsutum f. *bandiegarae* Roberty, 20
G. hirsutum f. *berlandieri* Roberty, 21
G. hirsutum var. *bukasovii* Mauer, 23
G. hirsutum ssp. *caespitosum* (Tod.)
 Roberty, 24
G. hirsutum f. *cambodiense* (Roberty)
 Roberty, 24
G. hirsutum f. *cavelsenii* Roberty, 25
G. hirsutum f. *cearensis* (Roberty)
 Roberty, 26
G. hirsutum var. *chacoense* (Roberty)
 Roberty, 26
G. hirsutum var. *colombianum* Mauer, 27
G. hirsutum f. *cupulare* Roberty, 29
G. hirsutum ssp. *deserticum* (Roberty)
 Roberty, 30
G. hirsutum var. *ekmanianum* (Wittm.
 in Herz.) Roberty, 32
G. hirsutum var. *failax* Roberty, 33
G. hirsutum var. *ferrugineum* Mauer, 33
G. hirsutum var. *flaviflorum* Mauer, 34
G. hirsutum f. *flavum* (Cav.) Roberty, 34
G. hirsutum f. *fuscum* (Roxb. ex Wight &
 Arn.) Roberty, 35
G. hirsutum f. *gambiae* Roberty, 35
G. hirsutum f. *gaumeri* Roberty, 35
G. hirsutum var. *glabratum* Tod., 36
G. hirsutum var. *gracile* Roberty, 37
G. hirsutum f. *guatemaltequense*
 Roberty, 37
G. hirsutum f. *gussonii* Roberty, 37
G. hirsutum var. *hardyanum* Tod., 37
G. hirsutum var. *harlandianum* Roberty, 37
G. hirsutum var. *intermedium* Tod., 40
G. hirsutum f. *involucellans* Roberty, 41
G. hirsutum f. *jamaicense* (Macf.?)
 Wouters, 41
G. hirsutum var. *laciniatum* Zaitz., 44
G. hirsutum var. *lanceolatum* (Tod.)
 Aliotta, 45
G. hirsutum ssp. *latifolium* (Murr.)
 Roberty, 45
G. hirsutum f. *latistipulatum* Roberty, 46
G. hirsutum var. *macrocarpum* Tod., 48
G. hirsutum var. *macrospermum* Mauer, 48
G. hirsutum var. *marie-galante* (Watt)
 J. B. Hutch., 49
G. hirsutum ssp. *mexicanum* (Tod.)
 Mauer, 49
G. hirsutum var. *mexicanum* (Tod.)
 Roberty, 49
G. hirsutum f. *mexicanum* (Tod.)
 Roberty, 49

- G. hirsutum** var. *micranthum* (Cav.)
Roberty, 50
- G. hirsutum** var. *microcarpum* (Tod.)
Mauer, 50
- G. hirsutum** var. *millerianum* Roberty
(= var. *hirsutum*), 51
- G. hirsutum** f. *minimiflorum* Roberty, 51
- G. hirsutum** f. *mocoense* Roberty, 51
- G. hirsutum** var. *modestum* Roberty, 78
- G. hirsutum** var. *murrayanum* Roberty, 51
- G. hirsutum** ssp. *mustellinum* (Miers ex Watt) Roberty, 52
- G. hirsutum** f. *mustellinum* (Miers ex Watt)
Roberty, 52
- G. hirsutum** f. *myersii* Roberty, 32
- G. hirsutum** var. *neotypicum* (Roberty)
Roberty, 53
- G. hirsutum** var. *nervosum* (Watt)
Roberty, 53
- G. hirsutum** var. *optimatum* Roberty, 55
- G. hirsutum** f. *optimatum* (Roberty)
Roberty, 55
- G. hirsutum** f. *palmeri* (Watt) Wouters, 56
- G. hirsutum** var. *panamicum* Mauer, 56
- G. hirsutum** ssp. *paniculatum* (Blanco)
Mauer, 56
- G. hirsutum** var. *paniculatum* (Blanco)
Roberty, 56
- G. hirsutum** var. *pedunculatum* Mauer, 57
- G. hirsutum** var. *pellitum* Roberty, 57
- G. hirsutum** f. *pollardii* Roberty, 59
- G. hirsutum** var. *praticolum* Roberty, 59
- G. hirsutum** ssp. *prostratum* (Schum. & Thonn. in Schum.) Roberty, 59
- G. hirsutum** f. *pseudo-racemosum*
(Roberty) Roberty, 60
- G. hirsutum** ssp. *punctatum* (Schum. & Thonn. in Schum.) Mauer, 61
- G. hirsutum** var. *punctatum* (Schum. & Thonn. in Schum.) Roberty, 61
- G. hirsutum** subvar. *punctatum* (Schum. & Thonn. in Schum.) Wouters, 61
- G. hirsutum** f. *punctatum* (Schum. & Thonn. in Schum.) Roberty, 61
- G. hirsutum** subvar. *purpurascens* (Poir.) Wouters, 62
- G. hirsutum** var. *purpureum* Roberty, 78
- G. hirsutum** var. *religiosum* (L.) Watt, 63
- G. hirsutum** var. *rhexi* (Tod.) Roberty, 63
- G. hirsutum** f. *rubrocoloratum* Roberty, 66
- G. hirsutum** var. *rubrum* Mauer, 66
- G. hirsutum** var. *rufum* Tod., 67
- G. hirsutum** var. *schottii* (Watt)
Prokh., 68
- G. hirsutum** f. *schottii* (Watt) Wouters, 68
- G. hirsutum** f. *soninkurense* (Roberty)
Roberty, 70
- G. hirsutum** var. *synochrum* Cook pro sp.
ex Roberty, 72
- G. hirsutum** var. *taitense* (Parl.)
Roberty, 72
- G. hirsutum** f. *tomentosum* (Nutt. ex Seem.)
Roberty, 73
- G. hirsutum** var. *tricuspidatum* (Lam.?)
Wouters, 74
- G. hirsutum** var. *typicum* Prokh., 75
- G. hirsutum** var. *uliginosum* Curt. pro sp.
ex Roberty, 75
- G. hirsutum** var. *volubile* (Ram.-Goy.)
Roberty, 76
- G. hopi** Lewt., 39
- G. hypadenum** Cook & Hubb., 39
- G. imbricatum** Vaup., 39
- G. incanum** (Schwartz) Hillc., 39
- G. indicum** Lam., 40
- G. indicum** Medik., 40
- G. indicum** var. *mollisonii* Gammie, 51
- G. intermedium** Tod., 40
- G. intermedium** var. *album* Gammie, 16
- G. intermedium** var. *?japonicum* Tod., 42
- G. intermedium** var. *royleanum* (Tod.)
Tod., 65
- G. irenaeum** Lewt., 41
- G. isabelum** Raf., 41
- G. jamaicense** Macf., 41
- G. jamaicense** f. *fruticosum* (Tod.)
Roberty, 35
- G. jamaicense** f. *janiphaefolium* (Bello)
Roberty, 42
- G. jamaicense** f. *lanceolatum* (Tod.)
Roberty, 45
- G. janiphaefolium** Bello, 42
- G. javanicum** Bl., 42
- G. javanicum** Dec., 42
- G. jumelianum** (Tod.) Prokh., 43
- G. jumelianum** var. *degeneratum* (Tod.)
Prokh., 30
- G. jumelianum** var. *turbineum* Prokh., 75
- G. kirkii** Mast., 43
- G. kirkii** ssp. *brevilanatum* (Hochr.)
Roberty, 23
- G. kirkii** ssp. *scandens* Roberty, 68
- G. klotzschianum** Andersss., 43
- G. klotzschianum** ssp. *davidsonii* (Kell.)
Roberty, 30

- G. klotzschianum* var. *davidsonii* (Kell.)
J. B. Hutch., 30
- G. klotzschianum* ssp. *raimondii* (Uibr.)
Roberty, 62
- G. labillarderianum* Tod., 44
- G. lanceiforme* Miers ex Britt., 44
- G. lanceolatum* Tod., 45
- G. lapideum* Tuss., 45
- G. lapideum* ssp. *acuminatum* (Roxb. ex G. Don) Roberty, 14
- G. lapideum* ssp. *brasiliense* (Macf.)
Roberty, 22
- G. lapideum* f. *edentulum* Roberty, 31
- G. lapideum* f. *elmeri* Roberty, 32
- G. latifolium* Murr., 45
- G. latifolium* subvar. *akkorense* Roberty, 15
- G. latifolium* var. *archetypicum* Roberty, 18
- G. latifolium* var. *cambodiense* Roberty, 24
- G. latifolium* f. *cearensis* Roberty, 26
- G. latifolium* subvar. *chacoense* Roberty, 26
- G. latifolium* var. *deserticum* (Roberty)
Roberty, 30
- G. latifolium* var. *ekmanianum* (Wittm. in Herz.) Roberty, 32
- G. latifolium* f. *flavum* (Cav.) Roberty, 34
- G. latifolium* f. *fuscum* (Roxb.)
Roberty, 35
- G. latifolium* var. *neotypicum* Roberty, 53
- G. latifolium* var. *paniculatum* (Blanco)
Roberty, 56
- G. latifolium* var. *prostratum* (Schum. & Thonn. in Schum.) Roberty, 59
- G. latifolium* f. *pseudo-racemosum*
Roberty, 60
- G. latifolium* var. *pseudo-volvibile*
Roberty, 60
- G. latifolium* subvar. *soninkurense*
Roberty, 70
- G. latifolium* var. *taitense* (Parl.)
Roberty, 72
- G. latifolium* var. *tricuspidatum* (Lam.)
Roberty, 74
- G. latifolium* f. *tricuspidatum* (Lam.)
Roberty, 74
- G. laxum* Phillips, 46
- G. leoninum* Medik., 46
- G. leucadenum* Cook, 46
- G. lobatum* Gentry, 47
- G. longicalyx* Hutch. & Lee, 47
- G. luteum* Thierry, 47
- G. lysinum* Cook, 47
- G. macedonicum* Spielm. ex Murr., 47
- G. macranthum* Tod., 47
- G. macropermum* Raf., 48
- G. marie-galante* Watt, 49
- G. maritimum* Tod., 49
- G. maritimum* var. *degeneratum* Tod., 30
- G. maritimum* var. *floribundum* Tod., 34
- G. maritimum* var. *jumelianum* Tod., 43
- G. maritimum* var. *palidiflorum* Tod., 55
- G. maritimum* var. *polycarpum* Tod., 59
- G. mexicanum* Tod., 49
- G. mexicanum* var. *rugatum* Watt, 67
- G. micranthum* Cav., 50
- G. microcarpum* Tod., 50
- G. microcarpum* Welw. ex Gürke, 50
- G. microcarpum* var. *hibridum* Tod., 38
- G. microcarpum* var. *luxurians* Tod., 47
- G. microcarpum* var. *rufum* Tod., 67
- G. molle* Mauri ex Ten., 51
- G. morrilli* Cook & Hubb., 51
- G. multiglandulosum* Philippi, 51
- G. mustelinum* Miers ex Watt, 52
- G. nanadwarensis* Der., 52
- G. nanking* Mey., 52
- G. nanking* var. *album* Wang, 16
- G. nanking* var. *bani* Watt, 20
- G. nanking* var. *canescens* Watt, 25
- G. nanking* var. *grandiflorum* Tod., 37
- G. nanking* var. *himalayanum* Watt, 38
- G. nanking* var. *japonense* Watt, 42
- G. nanking* var. *nadam* Watt, 52
- G. nanking* var. *roji* Watt, 63
- G. nanking* var. *rubicundum* Roxb. ex Watt, 65
- G. nanking* f. *rubicundum* (Roxb. ex Watt)
Roberty, 65
- G. nanking* var. *siamense* Watt, 69
- G. nanking* var. *soudanense* Watt, 70
- G. neglectum* Tod., 53
- G. neglectum* subvar. *avense* Gammie, 20
- G. neglectum* subvar. *bengalense*
Gammie, 21
- G. neglectum* subvar. *burmanicum*
Gammie, 23
- G. neglectum* var. *chinense* (Fisch. & Otto)
Tod., 27
- G. neglectum* subvar. *cutchicum*
Gammie, 29
- G. neglectum* subvar. *kathiavarensis*
Gammie, 43
- G. neglectum* subvar. *kokatia* Gammie, 44
- G. neglectum* subvar. *malvense*
Gammie, 48
- G. neglectum* var. *roseum* (Tod.)
Gammie, 64

- G. neglectum** var. **roxburghianum** Tod., 64
G. neglectum var. **sanguineum**, 68
G. neglectum var. **sinense** Fisch. pro sp.
 ex Tod., 27, 69
G. nelsonii Fryx., 53
G. nervosum Watt, 53
G. nicaraguense Ram.-Goy., 54
G. nigrum Buch.-Ham., 54
G. nigrum var. **punctatum** (Schum. &
 Thonn. in Schum.) Hook. & Webb, 61
G. niveum Raf., 54
G. obtusifolium Roxb. ex G. Don, 54
G. obtusifolium var. **africanum** Watt, 15
G. obtusifolium ssp. **arboreum** (L.)
 Gammie, 18
G. obtusifolium var. **coconadum**
 Gammie, 27
G. obtusifolium ssp. **herbaceum** (L.)
 Gammie, 38
G. obtusifolium var. **hirsutius** Gammie, 39
G. obtusifolium var. **nanking** (Mey.)
 Gammie, 52
G. obtusifolium f. **simpsonii** (Watt)
 Roberty, 69
G. obtusifolium var. **sindicum** Gammie, 69
G. obtusifolium f. **wattii** Roberty, 77
G. obtusifolium var. **wightianum** (Tod.)
 Watt, 77
G. oligospermum Macf., 55
G. pallens Raf., 55
G. pallidum Montr., 55
G. palmeri Watt, 56
G. paniculatum Blanco, 56
G. paulli Mattei, 56
G. parlatori Tod., 56
G. parvifolium Nutt. ex Seem., 57
G. patens Cook & Hubb., 57
G. pedatum Watt, 57
G. perenne Blanco, 58
G. perrieri (Hochr.) Prokh., 58
G. peruvianum Cav., 58
G. peruvianum var. **aegypticum** Watt, 14
G. peruvianum var. **apertum** Roberty, 17
G. peruvianum var. **apospermum** (Sprague)
 Prokh., 18
G. peruvianum var. **arizonicum** Roberty, 19
G. peruvianum var. **brasiliense** (Macf.)
 Camara, 22
G. peruvianum var. **braziliense** (Raf.)
 Prokh., 22
G. peruvianum var. **brownii** Roberty, 23
G. peruvianum var. **caravonicum** Roberty,
 25
- G. peruvianum** var. **copticum** Roberty, 28
G. peruvianum var. **dubiosum** Roberty, 31
G. peruvianum var. **glabrum** (Lam.)
 Roberty, 36
G. peruvianum f. **guineense** Roberty, 37
G. peruvianum var. **involutum** Roberty, 41
G. peruvianum var. **irvingianum** Watt, 41
G. peruvianum f. **marie-galante** (Watt)
 Roberty, 49
G. peruvianum ssp. **nigrum** (Buch.-Ham.)
 Roberty, 54
G. peruvianum var. **nigrum** (Buch.-Ham.)
 Roberty, 54
G. peruvianum var. **niloticum** Roberty, 54
G. peruvianum ssp. **racemosum** (Poir.)
 Roberty, 62
G. peruvianum var. **racemosum** (Poir.)
 Roberty, 62
G. peruvianum var. **reale** Roberty, 63
G. peruvianum ssp. **sprucei** Roberty, 70
G. peruvianum var. **sprucei** (Roberty)
 Roberty, 70
G. peruvianum var. **todari** Roberty, 73
G. peruvianum var. **zaria** Watt, 77
G. pilosum Fryxell, 58
G. populifolium (Benth.) F. v. M.
 ex Tod., 59
G. praestantissimum L. ex Jacks., 59
G. procerius Swartz, 59
G. prostratum Schum. & Thonn. in
 Schum., 59
G. prostratum var. **rufescens** Tod., 66
G. puberulum Klotzsch ex Peters, 60
G. pubescens Splitg. ex DeVriese, 60
G. pulchellum (C. A. Gardn.) Fryx., 61
G. punctatum Schum. & Thonn. in
 Schum., 61
G. punctatum var. **acerifolium** Guill. &
 Perr. in Guill. Perr. & Rich., 14
G. punctatum var. **jamaicense** Watt, 41
G. punctatum var. **nigeria** Watt (= var.
punctatum), 54
G. punctatum var. **prostratum** (Schum. &
 Thonn. in Schum.) Watt, 59
G. punctatum var. **timoffeevii** Dekapr., 73
G. puniceum Fenzl ex Jacq., 61
G. purpurascens Poir. in Lam., 62
G. purpurascens var. **deserticum**
 Roberty, 30
G. purpurascens var. **punctatum** (Schum.
 & Thonn.?) Harl., 61
G. purpurascens var. **religiosoides**
 Roberty, 63

- G. purpurascens* var. *taitense* (Parl.)
Roberty, 72
- G. purpureum* Raf., 62
- G. quinacroides* Cook & Hubb., 62
- G. racemosum* Poir. in Lam., 62
- G. raimondii* Ulbr., 62
- G. religiosum* L., 63
- G. religiosum* var. *tricuspidatum* (Lam.)
A. Chev., 74
- G. rhori* Tod., 63
- G. robinsonii* F. v. M., 63
- G. rohrianum* Raf., 63
- G. rosei* Prokh., 64
- G. roseum* Tod., 64
- G. roseum* var. *albiflorum* (Tod.) Tod., 15
- G. roseum* var. *glabratum* (Tod.)
Tod., 36
- G. roxburghii* Tod., 65
- G. roxburghii* var. *avense* (Gammie)
Prokh., 20
- G. roxburghii* var. *bengalense* (Gammie)
Prokh., 21
- G. roxburghii* var. *burmanicum* (Gammie)
Prokh., 23
- G. roxburghii* var. *kokatia* (Gammie)
Prokh., 44
- G. roxburghii* var. *roxburghianum* (Tod.)
Prokh., 64
- G. royleanum* Tod., 65
- G. rubicundum* Roxb. ex Wight & Arn., 65
- G. rubrum* Forsk., 66
- G. rufum* Scop., 66
- G. rupestre* Raf., 67
- G. sandwicense* Parl., 67
- G. sanguineum* Hassk., 68
- G. sanguineum* var. *minus* Gammie, 51
- G. sarmentosum* Raf., 68
- G. schottii* Watt., 68
- G. senarensis* Fenzl ex Wawra &
Peyr., 68
- G. sericatum* Prokh., 68
- G. siamense* Ten., 69
- G. siamense* Tuss., 69
- G. simpsonii* Watt., 69
- G. sinense* Fisch., 69
- G. somalense* (Gürke) J. B. Hutch., 70
- G. soudanense* (Watt.) Watt., 70
- G. soudanense* ssp. *perrieri* (Hochr.)
Mauer, 58
- G. speciosum* Raf., 70
- G. speciosum* var. *canescens* (Watt.)
Prokh., 25
- G. speciosum* var. *cutchicum* (Gammie)
Prokh., 29
- G. speciosum* var. *himalayanum* (Watt.)
Prokh., 38
- G. speciosum* var. *japonense* (Watt.)
Prokh., 42
- G. speciosum* var. *malvense* (Gammie)
Prokh., 48
- G. speciosum* var. *minus* (Gammie)
Prokh., 51
- G. speciosum* var. *parvulum* Prokh., 57
- G. speciosum* var. *roseum* (Tod.)
Prokh., 64
- G. speciosum* var. *rubicundum* (Roxb. ex
Watt.) Prokh., 65
- G. speciosum* var. *sanguineum* (Hassk.)
Prokh., 68
- G. stauntonii* Webb ex Tod., 70
- G. stocksii* Mast. in Hook., 71
- G. strictum* Medik., 71
- G. sturtianum* J. H. Willis, 71
- G. sturtianum* var. *nandewarense* (Der.)
Fryx., 52
- G. sturtianum* var. *trilobum* J. H. Willis, 74
- G. sturtii* F. v. M., 71
- G. sturtii* ssp. *robinsonii* (F. v. M.)
Roberty, 63
- G. suffruticosum* Bertol., 71
- G. synochrum* Cook, 72
- G. taitense* Parl., 72
- G. taitense* f. *scandens* Hochr., 68
- G. teleium* Raf., 72
- G. tenax* Raf., 72
- G. terra-cælum* Cook, 72
- G. thesesioides* (R. Br. ex Benth.) F. v. M.
ex Tod., 73
- G. thurberi* Tod., 73
- G. timorense* Prokh., 73
- G. tomentosum* Nutt. ex Seem., 73
- G. tomentosum* var. *parvifolium* Nutt. ex
Watt., 57
- G. tonju* Mih. ex Kits., 74
- G. transvaalense* Watt., 74
- G. trichospermum* Raf., 74
- G. tricuspidatum* Lam., 74
- G. tricuspidatum* var. *ekmanianum*
(Wittm.) Mauer, 32
- G. tricuspidatum* ssp. *glabrum* (Lam.)
Mauer, 36
- G. tricuspidatum* var. *jamaicense* (Macf.)
Mauer, 41
- G. tricuspidatum* var. *oligospermum* (Macf.)
Mauer, 55

- | | |
|---|---|
| <i>G. tricuspidatum</i> ssp. <i>purpurascens</i> (Poir.)
Mauer, 62 | <i>G. vires</i> Raf., 76 |
| <i>G. tricuspidatum</i> ssp. <i>rupestre</i> (Raf.)
Mauer, 67 | <i>G. virginatum</i> Raf., 76 |
| <i>G. tridens</i> Cook & Hubb., 74 | <i>G. vitifolium</i> Lam., 76 |
| <i>G. trilobum</i> (Sess. & Moç. ex DC.)
Skov., 74 | <i>G. vitifolium</i> var. <i>maculiflorum</i> Hassk., 48 |
| <i>G. trilobum</i> var. <i>arizonicum</i> Mauer, 78 | <i>G. volubile</i> Ram.-Goy., 76 |
| <i>G. trilebum</i> var. <i>emaculatum</i> Mauer, 78 | <i>G. walichotianum</i> Tod., 77 |
| <i>G. triphyllum</i> (Harv. ex Harv. & Sond.)
Hochr., 75 | <i>G. wattianum</i> Hu, 77 |
| <i>G. uliginosum</i> Curt. See <i>G. hirsutum</i> var.
<i>uliginosum</i> Curt. ex Roberty. | <i>G. wightianum</i> Tod., 77 |
| <i>G. vaupelli</i> Grah., 75 | <i>G. wightianum</i> var. <i>africanum</i> (Watt)
Mattei, 15 |
| <i>G. versicolor</i> Lign. & LeBey, 76 | <i>G. wightianum</i> var. <i>humile</i> Tod., 39 |
| | <i>G. wightianum</i> var. <i>intermedium</i> Tod., 40 |
| | <i>G. wightianum</i> var. <i>pallidum</i> Tod., 55 |
| | <i>G. wightianum</i> var. <i>pubescens</i> Tod., 61 |
| | <i>G. zaitzevi</i> Prokh., 77 |

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