

NOTES ABOUT *PSORALEA* SENSU AUCT., *AMORPHA*, *BAPTISIA*, *SESBANIA* AND *CHAMAECRISTA* (LEGUMINOSAE) IN THE SOUTHEASTERN UNITED STATES¹

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ABSTRACT

The classic *Psoralea* is presented as *Orbexilum*, *Pedimelum* and *Psoralidium*: *Pedimelum digitatum* (Nutt. ex T. & G.) comb. nov.; *Orbexilum pedunculatum* var. *eglandulosum* (Elliott) comb. nov.; *Orbexilum lupinellum* (Michx.) comb. nov. *Amorpha* essentially follows Wilbur's monograph: *Amorpha herbacea* Walter var. *crenulata* (Rydberg) comb. nov. *Baptisia lactea* (Raf.) Thieret (*B. leucantha* T. & G.) and *B. alba* (L.) Vent. of prior literature must change names; *Baptisia alba* var. *macrophylla* (Larisey) comb. nov. *Sesbania* concerns the delimitation of *Sesbania macrocarpa* and *S. emerus* (Aubl.) Urban, and the distribution of *S. virgata* (Cav.) Poir. in the United States. An author alteration for *Chamaecrista nictitans* var. *aspera* is noted.

This is one of several contributions in which rationale for floristic treatment of the Leguminosae for the Vascular Flora of the Southeastern United States (University of North Carolina) is presented.

GENERIC DELIMITATION IN THE PSORALEEAE: ORBEXILUM, PEDIOMELUM AND PSORALIDIUM

Except for Rydberg (e.g. 1919 – 1920, and 1928) and the few other authors who followed him in floristic treatments (notably Small 1933), American authors have maintained a traditional, diverse *Psoralea* without generic segregation. Rydberg raised the traditional Psoraleeae (spelled *Psoraleae* by authors prior to correction by Barneby 1977) from subtribal to tribal status and divided North American *Psoralea* into seven segregate genera. Isely (1962) accepted the first of Rydberg's premises, but not the second in that he maintained the U.S. species within the confines of a single genus. He felt that Rydberg's segregates represented, at least in part, natural groups but, because of the reticulate nature of variability, was unsuccessful in delimiting coherent sets on a multiple character basis.

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Since that time, the Psoraleae has been segregated into two tribes, the Amorpheae and Psoraleae (Barneby 1977, Stirton 1981). Stirton also divided the Old World representatives of the classic *Psoralea* into some five genera, *Psoralea* in this restricted sense being a small (ca 20 species) homogeneous group limited to South Africa. The circumscription of *Psoralea* is accepted (I do not pass judgment on the other Eurasian-African segregates), and therefore that name is not available for any American species. Were American "*Psoralea*" yet maintained as a single genus the available generic name would be *Orbexilum*.

Because of the evident diversity of the North American Psoraleae, and in connection with impending decisions for the SE Vascular Flora I have reexamined the problem with the hypothesis that fruit-calyx features (rather than foliage divergence for example) are the best markers for evolutionarily segregate groups and arrived at a classification that works at least for the region concerned. In stripped down key form, it is as follows.

1. Legume enclosed in the enlarging calyx except for the long, projecting beak; pericarp thin, commonly papery *Pediomelum*
1. Legume exerted above calyx remnants, shortly beaked; pericarp thick and coriaceous.
 2. Legume cross-rugose, eglandular *Orbexilum*
 2. Legume not cross-rugose, conspicuously glandular *Psoralidium*

This presentation is the same as Rydberg's except that his *Rhytidomene* is included in *Orbexilum* and (among southeast species) *Psoralidium digitatum* (that has enlarging calyx and long beak) is transferred to *Pediomelum*.

Because I have conducted no critical phylogenetic study of the American Psoraleae as a whole, this possibly should be regarded as a working arrangement for the immediate purpose of a coherent floristic interpretation. However, a study of New World Psoraleae, comparable to that of Stirton for Africa-Eurasia (Cullen to Australia), is presently underway by James Grimes of the University of Texas. The above generic segregation, within its limited context, seems approximately equivalent to his concepts.

Three new combinations resulting from these taxonomic decisions are listed under the subject genera.

PEDIOMELUM RYDBERG

PEDIOMELUM digitatum (Nutt. ex T. & G.) Isely, comb. nov. *Psoralea digitata* Nutt. ex T. & G., Fl. N. Amer. 1:300. 1838; *Psoralidium digitatum* (Nutt. ex T. & G.) Rydb., N. Amer. Fl. 24:16. 1919.

Although this species indeed superficially resembles some of *Psoralidium*, e.g., *P. tenuiflorum* (Pursh) Rydb., it has the fruit of *Pediomelum*.

ORBEXILUM RAFINESQUE

ORBEXILUM PEDUNCULATUM (Miller) Rydberg

Of the two varieties listed following, var. *pedunculatum*, the eastern Coastal Plain form, is usually glandular on all plant parts, conspicuously so on bracts, and the undersides of leaflets. Var. *eglandulosum*, lacking the glands or nearly so, is widely distributed from Texas and Oklahoma east into the Appalachians. Varietal segregation is not entirely "air-tight"; there is some intermediacy in the mountains and a few weakly glandular forms may be encountered farther west. But most material is clearly one or the other and it seems worthwhile to retain this now traditional varietal bifurcation despite, perhaps, its rather trivial nature.

ORBEXILUM PEDUNCULATUM (Miller) Rydb. var. PEDUNCULATUM, N.

Amer. Fl. 24:7. 1919. *Hedysarum pedunculatum* Miller, Gard. Dict. ed. 8. No. 17. 1768; non *Psoralea pedunculata* (Pursh) Poir. (1816) nec *P. pedunculata* Ker (1817).

Trifolium psoralioides Walt., Fl. Carl. 184. 1788; *Psoralea psoralioides* (Walt.) Cory, Rhodora 38:406. 1936.

As the above citations indicate, the familiar *Psoralea psoralioides* is lost on transfer to *Orbexilum* where the earlier epithet must be taken up. That the *Hedysarum pedunculatum* Miller is this species was verified for Freeman by C. A. Weatherby who, however, felt that it was a mixture of the two varieties (Freeman 1937).

Dr. C. E. Jarvis of the British Museum has kindly sent me a photocopy of the sheet of the Miller material that Weatherby examined. It includes the apices of two separate flowering stems that might or might not have come from the same plant. Both are easily, as Weatherby asserted, the now traditional *Psoralea psoralioides*. Dr. Jarvis kindly also examined the specimens and says "There are indeed numerous dark glands on the lower surfaces of the leaflets and bracts" thus contradicting Weatherby's assertion that the collection(s) includes a mixture of the two conventional varietal types.

While these specimens match the protologue, the secondary observations, i.e. "The seventeenth sort . . ." starts with the same subject but trails off into the statement that the flowers "are succeeded by jointed pods, straight on one side." In view of the fact that the specimen and diagnosis are confirmatory, it is reasonable to assume that Miller, perhaps writing his commentary at a later date, became confused about his subject, possibly then thinking of a *Desmodium*.

Dr. Jarvis has also noted that the specimen "bears on the verso the legend 'America septentrionalis' and was accordingly filed amongst the North American rather than amongst the cultivated material in our herbarium.

Miller clearly had material in cultivation, but I would not like to say whether this sheet was of cultivated or wild origin." Because of this ambiguity, I hesitate to designate the sheet as holotypic although I think it would be expedient to regard it in this light.

The British Museum also has a specimen in the Dale herbarium, presumably collected by Thomas Dale in South Carolina in 1730. It is almost an exact match for the Miller specimen.

ORBEXILUM PEDUNCULATUM var. **eglandulosum** (Elliott) Isely, comb.

nov. *Psoralea eglandulosa* Elliott, Sketch Bot. S. Carolina 2:198. 1822; *Psoralea psoraloides* var. *eglandulosa* (Elliott) Freeman, Rhodora 39:426. 1937.

Freeman (1937) made no reference to Elliott's original material, and I have not had an opportunity to see it (if extant). Identification, however, seems evident from the protologue.

ORBEXILUM lupinellum (Michx.) Isely, comb. nov. *Psoralea lupinella* Michx., Fl. Bor. Amer. 2:58. 1803; *Rhytidomene lupinellus* (Michx.) Rydb., N. Amer. Fl. 24:12. 1919.

Orbexilum, though predominantly of species with pinnately trifoliolate leaves, as *O. pedunculatum* and *O. simplex* (Nutt. ex T. & G.) Rydb., includes *O. lupinellum* with linear-filiform, palmately foliolate leaves and *O. virgatum* (Nutt.) Rydb. with simple leaves. They all have the same fruit type. Michaux's protologue of *Psoralea lupinella* is explicit as to the identity of his material.

AMORPHA L.

I follow Wilbur's admirable revision (1964, 1975) of an amorphous genus except for reduction of a couple of taxa, noted following, in the dwarf *A. herbacea* complex. The major problems, however, are not with the so-called dwarf group. They are instead with the segregation of *A. fruticosa* and its immediate relatives. These include all of the remaining species save *A. schwerinii* Schneider, *A. paniculata* T. & G. and *A. californica* Nutt. Herein the omnipresent *A. fruticosa* not only overlaps with the others in its geographic range, but also in its plethora of variability (in pubescence, number of leaflets, the level and type of exsertion of the leaflet midrib, calyx lobe length, level of glandular development on all plant parts). I follow Wilbur because I believe the species that he delineated from the overlying blanket of *A. fruticosa* represent real entities, although it is possible that some of the southwestern (e.g. Texas, Arkansas) segregates should be considered peripheral varieties. Also, among those I have recently studied, I find that I cannot always confidently distinguish some

specimens, e.g. of *A. glabra* Poir., *A. nitens* Boynton, and *A. ouachitensis* Wilbur from *A. fruticosa*. I believe that the problem is not hybridization, rather that the evident exomorphic features are less than consistently diagnostic, and that perhaps we have yet to discern characters that clearly differentiate the taxa.

AMORPHA HERBACEA Walter and *A. CRENULATA* Rydb.

I confirm Wilbur's lucid (1964, 1975) characterization of geographic-morphological variation in this complex that includes the relatively wide-ranging and variable *Amorpha herbacea*, North Carolina to Lake Co., Florida and *A. crenulata*, a monotype in Dade Co., Florida.

Amorpha herbacea is normally conspicuously pubescent, but the typical form fades to thinly hairy in various parts of the range, and to glabrate in two disjunct areas in Florida, specifically Hillsborough and contiguous counties, and separately in Franklin and Wakulla counties in the Panhandle. The glabrate forms are the basis of var. *floridana* (Rydb.) Wilbur. Because pubescence is a quantitative feature that is regionally variable, I prefer to regard the glabrous forms as local extremes and withdraw var. *floridana* from nomenclatural listing. The name is, of course, available for those who wish to call attention to glabrate forms.

Amorpha crenulata, exclusively of Dade Co., Florida, differs, in Wilbur's analysis, from the glabrate forms of *A. herbacea* in that it is usually white-flowered and that the revolute margins of its leaflets are slightly crenulate. But I have seen white-flowered forms of *A. herbacea*, and the flowers of *A. crenulata* (as to herbarium labels) may range to pale lavender. Wilbur (1964) called *A. crenulata* a "weakly differentiated species," and I reduce it to a slightly isolated variant of *A. herbacea* as follows.

Plants conspicuously pubescent to almost glabrous; leaflets usually 1.8–3 times as long as wide, entire or subcrenulate, petioluled 1–1.5 mm; flowers blue-purple (-white) var. *herbacea*
 Plants glabrous; leaflets mostly 2.8–3.5 times as long as wide, usually evidently crenulate along the incurved (revolute) margin, usually petioluled 1.5–2 mm; flowers white (-lavender) var. *crenulata*

AMORPHA HERBACEA Walter var. **crenulata** (Rydberg) Isely, comb. nov. *A. crenulata* Rydb., N. Amer. Fl. 24:30. 1919.

BAPTISIA VENTENAT

BAPTISIA LEUCANTHA — LACTEA — ALBA SEQUENCE.

The relatively common *Baptisia* with large, white flowers of the central states has traditionally been known as *B. leucantha* T. & G. The similar eastern plants were referred to the same species by Small (1933), but were

mostly relegated to *B. pendula* Larisey and *B. psammophila* Larisey in Larisey's (1940) monograph of the genus. Thieret (1969) identified Rafinesque's *Dolichos lacteus* with *B. leucantha* and took up *B. lactea* (Raf.) Thieret for the subject species. His determination was confirmed by Isely (1981) with reasonable assurance, and *B. leucantha*, therefore, was relegated to synonymy.

The name *Baptisia alba* (L.) Vent. has traditionally been applied to the eastern (primarily North Carolina to Georgia) white-flowered *Baptisia* that, though with entirely different fruits, considerably resembles *B. leucantha* (*lactea*) in flower except that the corolla is usually smaller. The identity of the Linnaean basionym (*Crotalaria alba*) has been assumed rather than definitively identified and Isely remarked (1981, p. 219) "*Crotalaria alba*.... traces to 'Hort Cliff 499' and the associated specimen (BM). The specimen in LINN (microfiche!) marked by Linnaeus as '*alba*' lacks fruit and could be *Baptisia lactea*." But Isely had no opportunity to see the Hortus Cliffortianus material and indeed was happy to leave the reference of *B. alba* as it has been for over 150 years. That is no longer possible. For Turner (1982), in a critique of Isely's treatment, wrote that he had had opportunity with Stearn to examine the Hort. Cliff. specimen at the British Museum and that it was indeed the species that had been called *B. leucantha* and subsequently *B. lactea*. The consequences of the Turner-Stearn identification, sadly, result in a further scrambling of names for both of the white-flowered species. *B. leucantha*, recently to *B. lactea*, now becomes *B. alba* (L.) Vent. and the shift follows to the varietal names for the eastern and western components of that species because the Linnaean type (Habitat Carolina) is of the eastern rather than the western variety. And the prior *B. alba* of all U.S. treatments must become *B. albescens* Small. In the following listing only the names mentioned above and essential synonyms are cited; complete synonymy is given in Isely (1981).

BAPTISIA ALBESCENS Small, Fl. SE. U.S. 600, 1331. 1903.

B. albiflora Raf., New Fl. N. Amer. 2:47. 1837 sensu Merrill (1949).

B. alba sensu auct. pl.

Merrill (1949) identified the Rafinesque name with *Baptisia albescens* (as *B. alba*) but this determination is patently unwarranted because Rafinesque described the pods as obovate. *Baptisia albescens* has cylindric pods while those of *B. alba* (= *B. leucantha*, *lactea*) are obovate. Furthermore the range given, "Carolina to Alabama and Louisiana," is impossible because *B. albescens* is exclusively an eastern species. Granting that Rafinesque might have had a mixture of the two, the reference to *B. albescens* is rejected.

BAPTISIA ALBA (L.) Vent., Dec. Gen. Nov. 9. 1808. *Crotalaria alba* L., Sp. Pl. 716. 1753.

Dolichos lacteus Raf., Fl. Lud. 102. 1817; *B. lactea* (Raf.) Thieret, Sida 3:496. 1969.
Baptisia leucantha T. & G., Fl. N. Amer. 1:385. 1840.

The identity of *Crotalaria alba* has been discussed in foregoing text. Eastern and western varieties of *B. alba* may be distinguished as follows:

Legume usually 1.5–2(-3) cm in diam., thin-walled and brittle (-thick-walled); eastern U.S.: North Carolina, south to northern Florida, west to Alabama var. *alba*
 Legume usually 0.9–1.2(-1.5) cm in diam., rigidly coriaceous; central U.S.: Mississippi to eastern Texas, north to Minnesota, Wisconsin and Ohio var. *macrophylla*

BAPTISIA ALBA var. ALBA

B. leucantha T. & G., Fl. N. Amer. 1:385. 1840 sensu authors in part.
B. pendula Larisey, Ann. Missouri Bot. Gard. 27:170. 1940.
B. psammophila Larisey, Ann. Missouri Bot. Gard. 27:180. 1940.
B. pendula Larisey var. *obovata* Larisey, Ann. Missouri Bot. Gard. 27:171. 1940; *B. lactea* Raf. var. *obovata* (Larisey) Isely, Brittonia 30:471. 1978.

BAPTISIA ALBA var. **macrophylla** (Larisey) Isely, comb. nov. *B. pendula* var. *macrophylla* Larisey, Ann. Missouri Bot. Gard. 27:172. 1940 as to type, not Georgia citations.

B. leucantha T. & G., Fl. N. Amer. 1:385. 1840.
B. lactea (Raf.) Thieret, Sida 3:446. 1969 as to var. *lactea*.

SESBANIA SCOPOLI

This genus has been known under two similar names: *Sesban* Adanson, Fam. 2:327, 604. 1763 and *Sesbania* Scopoli, Introd. 308. 1777. The fact that they were once considered orthographic variants, but are now treated as different names, *Sesbania* being conserved over the earlier *Sesban*, has produced some interpretational problems in author citation of several species that are listed in both genera.

SESBANIA MACROCARPA Muhl., Cat. 65. 1813; also Muhl. ex Nutt. Gen. 2:112. 1818; also Muhl. ex Elliott, Sketch Bot. S. Carolina 2:221. 1822.

Darwinia exaltata Raf., Fl. Ludoviciana 106. 1817; *Sesban exaltatus* (Raf.) Rydb., N. Amer. Fl. 24:204. 1924; *Sesbania exaltata* (Raf.) Hill, Index Kewensis, Suppl. 7: 223, 1929 (of authors); *Sesbania exaltata* (Raf.) Cory, Rhodora 38:406. 1936.

Sesbania macrocarpa is an abundant weedy species that ranges in the southern United States from Florida to California. In vegetative condition and flower, *S. macrocarpa* resembles *Glottidium vesicarium* (Jacquin) Harper (this species is commonly treated as a *Sesbania*), which ordinarily has fewer

leaflets, considerably smaller flowers and a calyx that is but slightly toothed. It is easily known in fruit because, except for *S. emerus* (Aubl.) Urban and *S. sericea* (Willd.) Link of subtropical Florida, the linear pods are essentially unique among our herbaceous legumes. The *S. macrocarpa-emerus* problem will be discussed under the latter species following.

The flowers of *S. macrocarpa* are ordinarily yellow or mottled, but there is a race in western peninsular Florida (Bay and Santa Rosa counties) that has a conspicuously dark red standard.

Merrill and Hu (1949) regarded the Muhlenberg entry for *Sesbania macrocarpa* as a nom. nud. and attributed first validation of the name to Elliott in 1822. Consequently the synonym *S. exaltata* has been taken up by many recent authors.

Muhlenberg (loc. cit.) listed two species under *Sesbania* as follows:

- rubr. 1. *platycarpa* broad-podded
- lut. 2. *macrocarpa* long-podded

These statements, contrasting both flower color and pod conformation of the two kinds, meet the minimum, technical requirements of a diagnosis. *Sesbania macrocarpa* is retained.

The synonym *Sesbania exaltata* (Raf.) Hill enters the literature under the presumption that Hill (then editor of *Index Kewensis*) made an inadvertant combination. This is not the case, the listing is *Sesbania exaltatus* Rydberg. Hill only corrected Rydberg's spelling.

SESBANIA EMERUS (Aublet) Urban, Repert. Spec. Nov. Regni Veg. 16: 149. 1919. *Aeschynomene emerus* Aublet, Hist. Pl. Guiane 775, table des noms p. 1, 1775; *Sesban emerus* (Aublet) Britt. & Wilson, Sci. Surv. Porto Rico 5:395. 1924 (of Rydberg, N. Amer. Fl. 24:204. 1924).

?*Emerus herbacea* Miller, Gard. Dict. ed. 8. *Emerus* no. 3. 1768.

The differences between the herbaceous to suffrutescent *Sesbania emerus* and the ubiquitous, probably derivative United States annual, *S. macrocarpa* are of uncertain dimensions. On the basis of Antilles and Central American specimens and descriptions (e.g. Standley and Steyermark 1946; White 1980), *S. emerus* is a branched, presumably perennial or potentially perennial herb or a shrub 1–2(-5) m tall with larger flowers (corolla ca 15–20 mm long) than those usually possessed by *S. macrocarpa*.

In the United States, interpretations of these species and their distribution have been various. Rydberg (1924) listed both *Sesban emerus* of Florida and *Sesban exaltatus* (= *Sesbania macrocarpa*) "Missouri to Louisiana and Texas." Small (1933) postulated a similar distribution but said of *Sesban emerus*, "one of our very vigorous annuals," surely primarily with reference to *Sesbania macrocarpa*.

Long and Lakela (1971; subtropical Florida) reported only *Sesbania macrocarpa* without inclusion of *Sesbania emerus* as a synonym; Ward (1972) listed both species for Florida; and Wunderlin (1982; central Florida) included only *Sesbania emerus* "Disturbed sites. Frequent; throughout." *Sesbania macrocarpa* (as *Sesbania exaltata* (Raf.) Cory) was relegated to synonymy.

Thus, United States authors have reduced *Sesbania macrocarpa* to *Sesbania emerus* or ignored the latter (Long and Lakela), or attempted differentiation. Distinction, where attempted, as indicated both by descriptions and annotation of specimens seems to be entirely on the basis of flower size. Most Florida material seen has been identified as *Sesbania macrocarpa* (or by its synonym, *Sesbania exaltata*) except that a few specimens from the southern half of the peninsula with flowers more than ca 15 mm long are identified as *Sesbania emerus*.

Those United States plants that I tentatively take to be *Sesbania emerus* are of my own collections (ISC) from Key West where the species is not uncommon in ruderal areas. These plants are suffrutescent or woody, to 3 m tall, much branched and spring-flowering, i.e., blooming in April and abundantly fruiting by June. At least some *Sesbania emerus* from the Antilles are also spring-flowering. The large-flowered (corolla 15–20 mm long) specimens from peninsular Florida otherwise, which botanists have identified as *Sesbania emerus*, I presently consider to be the annual, often wand-like and fall-flowering *Sesbania macrocarpa*. Similar plants are occasional elsewhere in the United States. It is true that duration cannot always be determined from the specimens but, so far as discernible, the plants are not branched as are those of Key West, and all are late summer- or fall-flowering, typical of *Sesbania macrocarpa* throughout its range.

KEY DIFFERENTIATION IN SUMMARY

- A scarcely branched, annual herb, flowering middle to late summer; flowers 11–15(-20) mm long; a widely distributed and abundant weed across the entire southern U.S. *Sesbania macrocarpa*
 A branched shrub, flowering in the spring; flowers 15–22 mm long; Fla, Key West, and possibly farther north. *Sesbania emerus*

The name *Aeschynomene emerus* of Aublet is derived from a Plumier plate that I have not seen. Since Urban, who made the combination in *Sesbania*, published an extensive commentary about the Plumier taxa (Rep. Spec. Nov. Beih. 5:1–196. 1920), the identity may be reasonably assumed.

Britton and Wilson credited the combination *Sesban emerus* to Urban; i.e., they only corrected the spelling to that of the earlier orthographic variant and did not claim authorship. It was Rydberg (1924) who initially assigned the combination to them.

But the epithet "*emerus*" possibly should be superseded by the earlier *Emerus herbacea* cited in synonymy above. Miller said, of his *Emerus herbacea*, "It was found growing in plenty in La Vera Cruz, New Spain by the late Dr. Houston, who sent me the seeds—which succeeded in the Chelsea garden." and this is verified by the annotations on the type specimen (Photo of type: photographs of Miller collections BH!) that I have examined. The specimen, which consists of pods and a few leaves, is either *Sesbania emerus* or *Sesbania macrocarpa*, but it seems impossible to tell which, and the name is therefore rejected.

SESBANIA VIRGATA (Cav.) Poir., Lam. Encyl. 7:129. 1806. *Aeschynomene virgata* Cav., Icon. Pl. 3:47, pl. 293. 1797.

Sesbania marginata Benth., Mart., Fl. Bras. 15:43. 1859.

Sesbania virgata, introduced from South America, is similar to the well known *S. drummondii* and *S. punicea* but the flowers are smaller and the fruit, the indehiscent *Daubentonia* type, lacks wings. United States specimens seen range from coastal Florida panhandle to southern Mississippi. Most of them, collected by Demaree in the vicinity of Ocean Springs, Harrison Co., Mississippi match South American *S. virgata* except that the flowers may be either red or yellow, whereas those of *S. virgata* are said to be yellow only. There is evident introgression between *S. drummondii* and the red-flowered *S. punicea* about Ocean Springs, and it is possible that *S. virgata* is also genetically affected by the latter species.

The preponderance of U.S. collections were initially identified as *S. marginata* Benth., possibly because Pierce (1942) felt that the original Cavanilles material of *Aeschynomene virgata* was *Glottidium vesicarium*. The identity of the Cavanilles plant (completely unlike the *Glottidium*, both as to description and plate) has been verified by Burkhart (1967).

CHAMAECRISTA (L.) MOENCH

CHAMAECRISTA NICTITANS var. *ASPERA* (Muhl. ex Ell.) Irwin & Barneby, Mem. New York Bot. Gard. 35:838. 1982. *Cassia aspera* Muhl. ex Ell., Sketch Bot. S. Carolina 1:474. 1817; *Cassia nictitans* var. *aspera* (Muhl. ex Ell.) T. & G., Fl. N. Amer. 1:396. 1838.

Irwin & Barneby inadvertently attributed their combination to Torrey & Gray who published the equivalent trinomial in *Cassia*.

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