32. *Thecla cestri* (Reakirt)

Distribution.—The only specimen found thus far in the United States is a female collected by me south of Pharr, on March 25, 1945.

Flower preferences.—This specimen was found feeding on a species of *Phyla,* near La Reforma Ranch, south of Pharr.

33. *Thecla facuna* Hewitson

Distribution.—I found one female (July 23, 1945), and two males (Aug. 9, 1945), on La Reforma Ranch, south of Pharr. These are the only specimens of this species so far collected in the United States.

Flower preferences.—These specimens were not collected on flowers but were resting under and upon a large Texas Ebony tree (*Pithecellobium flexicaule* [Benth.] Coulter).

The Species of Matelea (Including Gonolobus) in North Central Texas (Asclepiadaceae)

Lloyd H. Shinners[1]

MATELEA **gonocarpa** (Walter) Shinners, comb. nov. *Vincetoxicum gonocarpos* Walt., Fl. Carol. 104. 1788. (Emend. Gray and Perry.) *Gonolobus gonocarpos* (Walt.) Perry, Rhodora 40: 284. 1938.[2]

In attempting a treatment of the *Asclepiadaceae* for a local flora of north-central Texas, the broad generic limits adopted by Dr. Woodson (1941) have proved most logical and convenient, with one exception: the separation of *Gonolobus* and *Matelea.* Concerning these two Dr. Woodson remarks (pp. 239-242): "I have tried in vain to find characters of the corona which will separate *Gonolobus* and *Matelea,* but the structures of the anthers of the two genera appear to me as amply sufficient for distinction. The anthers of both vary considerably . . . But in the species that I have assigned to *Gonolobus* the anther proper bears a more or less conspicuous, fleshy, usually laminate dorsal appendage which I have never found indicated to any degree in species

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[2]MATELEA **suberosa** (L.) Shinners, comb. nov. *Cynanchum suberosum* L., Sp. Pl. 212. 1753. *Gonolobus suberosus* (L.) R. Br., in Ait. Hort. Kew. (ed. 2) 2: 82. 1811. *Vincetoxicum suberosum* (L.) Britton, Mem. Torr. Bot. Club 5: 266. 1894. According to Miss Perry (1938), this is found from Virginia to Florida.

assigned to *Matelea*. These dorsal appendages vary greatly from species to species, and although rather poorly developed as a rule in the temperate representatives, are very conspicuous in the tropics . . . Supporting characters are found amongst the relatively few species of *Gonolobus* and *Matelea* for which fruits are known, the follicles of the former being winged, infrequently quite smooth, and those of the latter muricate or infrequently smooth. ... In *Matelea*, as has been explained previously, a peculiar indument of eglandular and interspersed glandular hairs characteristically occurs; such an indument never is found in *Gonolobus*." On an earlier page (sp. cit., 219) it is stated that "a peculiar vegetative character which links practically all the species groups of *Matelea* (though by no means every species of the groups) is the mixed indument consisting of long eglandular hairs and short, bulbose emergences. These emergences usually appear to be somewhat glandular."

Both *Gonolobus suberosus* (L.) R.Br. and *G. gonocarpos* (Walt.) Perry may exhibit double pubescence, at least on petioles or young branches, consisting of long, translucent, jointed hairs and short, more or less glandular ones. The same type of double pubescence is found in *Matelea decipiens* (Alexander) Woodson and *M. reticulata* (Engelm.) Woodson, which also have peduncled inflorescence and twining habit of *Gonolobus gonocarpos*. *M. biflora* (Raf.) Woodson and *M. cynanchoides* (Engelm.) Woodson have sessile, few-flowered umbels, are not twining, and have the characteristic *Matelea* type of indument described by Dr. Woodson. In *M. cynanchoides*, however, the short "emergences" are longer and more slender than in *M. biflora*, approaching the type of short hairs of *Gonolobus* and some species of *Matelea*. The follicles of *M. biflora* are usually copiously and conspicuously muricate, those of *M. reticulata* sparingly so; those of *M. producta* (Torr.) Woodson, of the Trans-Pecos, are not muricate at all. The remaining generic difference, the anther appendages of *Gonolobus*, "rather poorly developed as a rule in the temperate representatives," does not seem to me sufficient grounds for maintaining separate genera, particularly in view of the varied assortment of species already transferred to *Matelea*. A heavy reliance on technical minutiae of reproductive parts as generic criteria

is supported chiefly by tradition and assumption. Pteridologists have found that technical details of sori and indusia used alone only lead to endless trouble, and that recourse must be had to vegetative characters for satisfactory definition of genera. My own studies of *Compositae* have brought the conviction that no satisfactory arrangement of genera can be made in that family without extensive reliance on vegetative features, and much less emphasis on florets and pappus than has been the case. The International Rules of Nomenclature state that a plant can have only one correct name, but this does not mean that only one taxonomic interpretation is permissible. Reprehensible though it may seem to the specialist, it is after all a proper function of a local flora to record plants as they appear to the author in the area covered. The four species of *Matelea* and one of *Gonolobus* found in north-central Texas seem to me more reasonably treated as representatives of one genus, and more easily and satisfactorily keyed on the basis of inflorescence than of anther appendages:

1a. Flowers in peduncled axillary umbels or umbel-like racemes
  2a. Corolla lobes linear-lanceolate, without a network of fine veins on the upper surface
    3a. Pedicels and sepals glabrous or minutely pubescent ..... 1. *M. gonocarpa*
    3b. Pedicels and sepals densely pubescent with short glandular and long eglandular hairs ..... 2. *M. decipiens*
  2b. Corolla lobes ovate or elliptic, with a prominent network of fine veins on the upper surface ..... 3. *M. reticulata*
1b. Flowers mostly in 2's with pedicels attached directly to the main stem or leafy branches
  4a. Corolla lobes 4-7 mm. long, dark red-brown or purple-brown; pedicels shorter than the petioles of the subtending leaves when fully expanded ..... 4. *M. biflora*
  4b. Corolla lobes 2-4 mm. long, dark greenish brown; pedicels longer than the petioles of the subtending leaves when fully expanded ..... 5. *M. cynanchoides*

1. M. GONOCARPA (Walt.) Shinners, supra. Thickets, widely distributed in east Texas, south and west to Austin, Comal, and Cooke counties.[3]

2. M. DECIPIENS (Alexander) Woodson, Ann. Mo. Bot. Gard. 28: 228. 1941. *Odontostephana decipiens* Alexander. *Gonolobus decipiens* (Alexander) Perry. Thickets, Mineola, Wood Co., *J. Reverchon 3129,* May 6, 1902.

[3]Distributional notes are based primarily on collections in the Herbarium of Southern Methodist University, and cited specimens are deposited there, excepting those stated to be in the Herbarium of the Missouri Botanical Garden.

3. M. RETICULATA (Engelm.) Woodson, l.c. 234. *Gonolobus reticulatus* Engelm. *Vincetoxicum reticulatum* (Engelm.) Heller. Brazos, Palo Pinto Co., *Reverchon*, May 2, 1882. More common southward along the eastern border of the Edwards Plateau and on the Rio Grande Plain.

4. M. BIFLORA (Raf.) Woodson, l.c. 228. *Gonolobus biflorus* Raf. *Vincetoxicum biflorum* (Raf.) Heller. Our most common species, occurring from the Blackland Prairies in Dallas County westward both on calcareous prairies and on intervening sandy belts of Cross Timbers. The whole plant is ill-scented, though not as much so as the following species.

5. M. CYNANCHOIDES (Engelm.) Woodson, l.c. 228. *Gonolobus cynanchoides* Engelm. *Vincetoxicum cynanchoides* (Engelm.) Heller. Sandy soils, east central Texas. Specimens are at hand from Austin, Brazos, Smith, and Travis counties; there is also a collection at the Missouri Botanical Garden from the N. M. Glatfelter Herbarium labeled Dallas, June 15, 1898. The whole plant has an odor like that of burned rubber.

Since the rather drastically altered genera of *Asclepiadaceae* have not yet been presented in convenient form for the non-professional user, and since a projected flora of north Texas is likely to require some time to complete, a simplified artificial key and brief notes on the remainder of the family are appended:

1a. Leaf blades narrowed, truncate, or subcordate at base, sessile or petioled; stems erect, ascending, or partly decumbent ..... 1. *Asclepias*

1b. Leaf blades cordate and petioled; stems prostrate, or twining and climbing

2a. Corolla greenish, white, or purple; crown (or outer crown, if double) thin or membranous, either entire and partly united with the corolla, or of narrow, more or less petal-like, erect or ascending segments

3a. Corolla lobes oblong or lanceolate, less than 5 mm. long; crown of 5 prominent, narrow, apically toothed or lobed segments ..... 2. *Cynanchum*

3b. Corolla lobes ovate or ovate-lanceolate, 5 mm. or more long; outer crown entire, saucer-like, partly united with the corolla ..... 3. *Sarcostemma*

2b. Corolla dark red-brown ("maroon"), purple-brown, or greenish brown; crown thick or fleshy, an entire narrow ring or disk, or flat or saucer-like and 5-lobed ..... 4. *Matelea*

1. ASCLEPIAS. Including *Acerates* and *Asclepiodora*. Sixteen species have been collected within a 100-mile airline

radius of Dallas and Fort Worth. One has not previously been recorded as occurring in Texas, and names of seven others differ from those in current manuals:

A. TOMENTOSA Ell. Sandy woods, Lindale, Smith Co., *Reverchon 2253,* June 9, 1902 (in Herb. Mo. Bot. Gard.; det. Woodson).

A. TUBEROSA L. var. INTERIOR (Woodson) Shinners, Field & Lab. 17: 89. 1949. *A. tuberosa* ssp. *interior* Woodson.

A. INCARNATA L. var. PULCHRA (Ehrh.) Pers. *A. pulchra* Ehrh.

A. LONGICORNU Benth. *A. brevicornu* Scheele. *A. Lindheimeri* Engelm.

A. CAPRICORNU Woodson, Ann. Mo. Bot. Gard. 32: 370. 1945. *Asclepiodora decumbens* (Nutt.) Gray. Not *Asclepias decumbens* L.

A. VIRIDIS Walt. *Asclepiodora viridis* (Walt.) Gray.

A. VIRIDIFLORA Raf. *Acerates viridiflora* (Raf.) Eaton.

A. ENGELMANNIANA Woodson, Ann. Mo. Bot. Gard. 28: 207. 1941. *Acerates auriculata* Engelm. Not *Asclepias auriculata* HBK.

2. CYNANCHUM. Texas species have been treated under *Enslenia, Ampelamus, Roulinia, Rouliniella, Metastelma,* and *Gonolobus.* C. LAEVE (Michx.) Pers. *Gonolobus laevis* Michx. Occasional in thickets throughout central Texas; more frequently seen as a weed in flower beds or shrubbery.—C. UNIFARIUM (Scheele) Woodson, Ann. Mo. Bot. Gard. 28: 210. 1941. There is a very fragmentary specimen at the Missouri Botanical Garden from the N. M. Glatfelter Herbarium labeled Parker County, determined as this species by Dr. Woodson.

3. SARCOSTEMMA. Texas species have been treated under *Funastrum, Philibertia,* and *Philibertella.* Both the species of our area are primarily of more southern and western occurrence. S. CRISPUM Benth. *S. undulata* Torr. Light soil, West Dallas, local and very rare, *Reverchon 2094,* May 18, 1900. Rocky land among the bushes, rare, Coombs Branch, Dallas Co., *Reverchon 601,* June, 1876. (Both collections in Herb. Mo. Bot. Gard.)——S. CYNANCHOIDES Dcne. Sandy banks of Brazos near Graham, Young Co., Reverchon 3199, Oct. 29, 1902 (in Herb. Mo. Bot. Gard.) All collections of this genus were determined by

Mr. Richard Holm.

4. MATELEA. Five species, keyed and discussed above.

REFERENCES

(including some on Texas *Asclepiadaceae* in general)

CARR, KATHERINE. A key to the North American species of *Asclepias*, without fruit or color characters. Castanea 7: 1-7. 1942.

FERNALD, M. L. [Comments on *Acerates viridiflora* and var. *lanceolata*, in] Virginian botanizing under restrictions. Rhodora 45: 458-459. 1943. (Reprinted as Contrib. Gray Herb. 149.)

————. [*Asclepias viridiflora* Raf., var. *linearis* (Gray), comb. nov., in] Identifications and reidentifications of North American plants. Rhodora 48: 208-209. 1946. (Reprinted as Contrib. Gray Herb. 162.)

GRAY, ASA. [Conspectus of *Gonolobus*.] Proc. Amer. Acad. 12: 75-79. 1876.

————*Asclepiadaceae*. Syn. Fl. N. A. 2 pt. 1: 85-106. 1878.

HARPER, ROLAND M. Some incorrectly described Asclepiads. Bull. Torr. Bot. Club 66: 605-613. 1939. (*Asclepias perennis* Walt., 605-610. *Cynanchum laeve* [as *Enslenia albida*], 611-613.)

PERRY, LILY M. *Gonolobus* within the Gray's Manual range. Rhodora 40: 281-288. 1938. (Reprinted as Contrib. Gray Herb. 122/1.)

WOODSON, ROBERT E., JR. The North American *Asclepiadaceae*. I. Perspective of the genera. Ann. Mo. Bot. Gard. 28: 193-244. 1941.

————. Notes on some North American Asclepiads. *Asclepias galioides* HBK. vs. *A. subverticillata* (Gray) Vail. Ann. Mo. Bot. Gard. 31: 365-366. 1944. (Latter name applies to Texas species.)——Three subspecies of *Asclepias tuberosa*. l.c. 366-369.——*Asclepiodora decumbens* when treated as an *Asclepias*. l.c. 32: 369-371. 1945.

————. Some dynamics of leaf variation in *Asclepias tuberosa*. Ann. Mo. Bot. Gard. 34: 353-432. 1947.

Note

THE DISTRIBUTION OF WALLENGRENIA OTHO (ABBOT & SMITH) AND ITS SUBSPECIES IN THE UNITED STATES (LEPIDOPTERA, RHOPALOCERA, HESPERIIDAE.)——(1) *Wallengrenia otho* (Abbot & Smith). The typical species *otho* has a reddish shade on the lower surface of the wings; the secondaries have an indistinct row of closely connected spots, which are of a somewhat lighter color. On the upper surface of the primaries, the basal half of the costa is fulvous, and there is a complete series of subapical spots. There are some indistinct discal spots on the secondaries. Typical *otho* occurs from Florida, through Georgia, Alabama, Mississippi, Arkansas, Louisiana, parts of Oklahoma, and into Texas as far south as San Antonio.——(2) *Wallengrenia otho egeremet* (Scudder). The subspecies *egeremet* differs from typical *otho* in having the under surface of the wings pale fuscous, sometimes with a brownish shade and the spots are indistinct yet readily discernable. The discal spots rarely show up in this subspecies and the pale spots of the primaries are limited to three or less beyond the stigma and one or two small subapical spots. This subspecies seems to be characterized by its indistinct maculation and dull coloration. This subspecies occurs over the most of southern Canada, and in the United States west to the Rocky Mountains. It occurs rarely in the same localities as typical *otho*, especially near Dallas, Texas, during June. ——(3) *Wallengrenia otho curassavica* (Snellen). This subspecies is characterized by being much brighter yellow on the lower surface of the wings and by having the maculation above more pronounced and of a brighter coloration. The costal area of the primaries from the base nearly to the apex is bright fulvous. The spots on the lower surface of the secondaries are nearly obliterated because of the much lighter ground-coloration. This subspecies has been reported previously from Mexico to South America. While making a study of the skippers of Texas, I found that this is the subspecies that occurs from Del Rio, through Laredo on down to Brownsville, along the Rio Grande river. Around Pharr, Hidalgo County, this subspecies occurs commonly. In four years of collecting in the Pharr to Brownsville area no specimens of typical *otho* were observed. This establishes another new skipper record for the United States.——H. A. FREEMAN, Instructor in Biology, Southern Methodist University.