(Engler) Shinners, comb. nov. (*R. trilobata* var. *pilosissima* Engler in DC., Mon. Phan. 4: 386, 1883). Dr. Barkley's treatment of Texas *Rhus* (under several segregate genera) is quite superficial and frequently inaccurate. No mention is made of *R. copallina* var. *leucantha* (Jacq.) DC. and *R. copallina* var. *latifolia* Engler, credited to Texas by earlier authors; nor of *Schmaltzia pulchella* and *S. sabulosa* Greene, based on collections made by Charles Wright on the Rio Limpio and Rio San Pedro of Texas, respectively; nor of *S. leiocarpa* and *S. Emoryi* Greene from southeastern New Mexico, nor of *S. tridophylloides* Greene from Oklahoma, all surely warranting mention in a supposedly definitive flora of Texas. The distribution patterns of Texas species and varieties given by Dr. Barkley frequently are quite discordant with those common in the Texas flora. I have examined only a few of the specimens cited by Dr. Barkley, but two are illustrative, and I cannot help but believe that a number of other records in the Flora of Texas are the result of misidentifications. *Lundell & Lundell 11199*, labeled *R. glabra*, cited in the Flora (p. 96) as "*R. lanceolata* Gray" [the proper citation under the International Rules of Botanical Nomenclature is *R. lanceolata* (Gray) Britton], collected in oak-pine forest in Jasper County, is actually *R. copallina* var. *latifolia* Engler. *R. copallina* var. *lanceolata Gray* (as I prefer to treat it) is the narrow-leaflet, limestone outcrop congener of var. *latifolia* common from the Blackland Prairies westward, certainly not to be expected in sandy oak-pine woods in extreme eastern Texas. Var. *latifolia*, with broad leaflets, is the plant of sandy soils westward to the East Cross Timbers, rarely to the West Cross Timbers near the Red River. *Lundell & Lundell 11325*, labeled *Schmaltzia trilobata*, cited (p. 102) as *S. crenata*, from Wood County, is actually *Rhus aromatica* var. *serotina* (Greene) Rehder (the same plant treated by Barkley as *Schmaltzia trilobata* var. *serotina*). All of the nine sheets from eastern Texas at hand I consider to belong to this variety.——LLOYD H. SHINNERS, Director of the Herbarium, Southern Methodist University.

The Sweet Clovers (Melilotus) of Texas

Joe F. Hennen[1]

The sweet clovers are of great economic importance in Texas as honey plants, soil builders, and forage crops, especially in the blackland prairie regions. *Melilotus alba* and its varieties are the most important. The 1937 Yearbook of Agriculture lists the following varieties of *M. alba* (pages 1204-1206) : Grundy County, Arctic, Alpha, Iowa Late White, Ohio Evergreen, Madrid White, and Hubam (an annual mutant). The last two named are the most important in Texas. No attempt has been made to differentiate these varieties taxonomically.

The three Texas species of sweet clover are easily distinguished when flowers are present, as shown in the key below. Vegetatively, however, *M. alba* and *M. officinalis* are difficult to separate. *M. indica* can usually be recognized by its low or sometimes prostrate growth and especially by its character-

[1]Department of Agricultural Botany, Purdue University.

istic stipules, those of lower leaves being widened below the middle into scarious margins.

This study is based on specimens in the Southern Methodist University Herbarium and the University of Texas Herbarium. The distribution of the three species as wild plants is given only in a general way, on the basis of herbarium specimens. Inasmuch as all three are introduced and cultivated, they might be expected to occur in almost any part of the state.

KEY TO FLOWERING PLANTS

A. Flowers yellow; standard and wings approximately the same length
  B. Petals not over 2.5 mm. long (usually 2 mm. or less); stipules of lower leaves widened below the middle into scarious margins partly encircling the stem; flowers rather crowded in short spike-like racemes 1-8 cm. long (usually 4 cm. or less); plants annual, low, erect to reclining.....1. *M. indica*
  BB. Petals 3 mm. or more long (usually about 4 mm.); stipules needle- or thread-like; flowers close but not crowded, in longer spike-like racemes 3-10 cm. long (usually more than 4 cm.); plants biennial, erect, usually tall.....2. *M. officinalis*
AA. Flowers white; standard longer than the wings; plants annual or biennial, usually erect.....3. *M. alba*

KEY TO FRUITING PLANTS

A. Stipules of lower leaves widened below the middle into wide scarious margins partly encircling the stem; pod round, 2 mm. or less in length.....1. *M. indica*
AA. Stipules needle- or thread-like; pod somewhat longer than wide, usually 2.5 mm. or more long
  B. Corrugations on pod more prominent crosswise than lengthwise; mature pod usually light brown to tan.....2. *M. officinalis*
  BB. Corrugations on pod irregular, net-like; mature pod usually dark brown to black.....3. *M. alba*

1. M. INDICA (L.) All. Sour Clover, Indian Clover. Sometimes cultivated and escaped. Found growing as a weed in most parts of Texas, excepting the Panhandle and South Plains, and extreme East Texas. First collected in Texas by Charles Wright in 1851 or 1852; listed in Gray's *Plantae Wrightianae*, Part 2, page 41, as "*Melilotus parviflora* Desf. Near El Paso and in Sonora; naturalized." Leaflets 1-2 cm. long, 4-10 mm. wide; stipules 3-6 mm. long. Calyx 1.5-2 mm. long; corolla 1-2 mm. long; pods orbicular, 1.5-2 mm. long.

2. M. OFFICINALIS (L.) Lam. Yellow Sweet Clover. Sometimes cultivated, and also escaped; found in central, western, and northern Texas. Leaflets 1-2.5 cm. long, 5-20 mm. wide; stipules 4-8 mm. long. Calyx 2-2.5 mm. long; corolla 3-5 mm. long; pod 2.5-3 mm. long.

3. M. ALBA Desr. White Sweet Clover. Economically the most important species, widely cultivated and often escaped

in most of Texas, excepting the East Texas Pine Belt. Leaflets 1-4 cm. long, 4-11 mm. wide; stipules 2-8 mm. long. Inflorescence of spike-like racemes 3-10 cm. long. Calyx 1.5-2 mm. long; corolla 2-4 mm. long; pod 2-3 mm. long.

Keys to Texas Genera of Clovers (Leguminosae)

Joe F. Hennen

The three Texas genera of clovers (*Leguminosae,* Tribe *Trifolieae*) are most readily distinguished by their pods, as shown below. Floral and vegetative keys have been devised for the identification of plants without fruit. No single characters other than fruit could be found which would set off all the species in each genus; therefore there will be more than one place in these keys in which a genus may appear. This study was based on specimens in the Herbarium of Southern Methodist University.

KEY BASED ON MATURE FRUITS

A. Fruit longer than the calyx
  B. Fruit coiled or curved.....1. *Medicago*
  BB. Fruit straight.....2. *Melilotus*
AA. Fruit included within the calyx.....3. *Trifolium*

KEY BASED ON FLOWERS AND LEAVES

A. Leaves palmately trifoliolate (leaflets all sessile or equally short-stalked).....3. *Trifolium*
AA. Leaves pinnately trifoliolate (terminal leaflet longer-stalked than the lateral)
  B. Inflorescence a slender, elongate, spike-like raceme at least 4 times as long as thick, usually much more.....2. *Melilotus*
  BB. Inflorescence a short raceme (not over 3 times as long as thick) or head or umbel
    C. Petals furrowed on outside.....3. *Trifolium*
    CC. Petals not furrowed.....1. *Medicago*

KEY BASED ON LEAVES

A. Leaves palmately trifoliolate (leaflets all sessile or equally short-stalked).....3. *Trifolium*
AA. Leaves pinnately trifoliolate (terminal leaflet longer stalked than the lateral)
  B. Stipules on upper ⅓ of plant divided beyond the middle —1. *Medicago*
  BB. Stipules on upper ⅓ of plant entire or toothed or shallowly divided
    C. Stipules on lower ⅓ of plant needle-like or thread-like, less than 0.5 mm. wide.....2. *Melilotus*
    CC. Stipules on lower ⅓ of plant lanceolate or broader, 1 mm. or more wide
      D. Basal part of stipules narrower than the stem
        E. Midrib of leaflets usually ending in a tooth somewhat longer than the other teeth; plants perennial from a large woody taproot.....1. *Medicago sativa*
        EE. Teeth of leaflets about equal; plant annual