



2-15-2006

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### Recommended Citation

Shelley, Rowland M. and McAllister, Chris T. (2006) "Composition and distribution of the milliped tribe Pachydesmini west of the Mississippi River (Polydesmida: Xystodesmidae)," *Western North American Naturalist*. Vol. 66 : No. 1 , Article 4.

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COMPOSITION AND DISTRIBUTION OF THE MILLIPED  
TRIBE PACHYDESMINI WEST OF THE MISSISSIPPI RIVER  
(POLYDESMIDA: XYSTODESMIDAE)

Rowland M. Shelley<sup>1</sup> and Chris T. McAllister<sup>2</sup>

ABSTRACT.—The xystodesmid milliped tribe Pachydesmini is supported by the autapomorphic absence of bold aposematic pigmentations and possibly also by relative somatic inflexibility; it comprises 3 component genera: *Pachydesmus* Cook, 1895; *Dicellarius* Chamberlin, 1920; and *Thrinaxoria* Chamberlin and Hoffman, 1950. Three representatives occur west of the Mississippi River—*P. clarus* (Chamberlin), *P. crassicutis crassicutis* (Wood), and *T. lampra* (Chamberlin). New localities are documented in Louisiana and Texas, and literature records are summarized for these states and Arkansas; records of *P. clarus* from Cherokee County, Texas, are the westernmost in this state for the east-Nearctic xystodesmid fauna. An apparently allopatric population of *P. crassicutis crassicutis* occurs in Evangeline and Lafayette Parishes, Louisiana. These are the first records of this species from west of the Mississippi River, and new localities of this form are cited from east of the watercourse. *Thrinaxoria lampra*, known previously in Texas from only Gregg County, is documented from Bowie, Cass, Harrison, Rusk, Sabine, and Titus Counties plus Webster Parish, Louisiana. Diagnoses and pertinent anatomical illustrations are provided for each species including the first cyphopod drawings for *P. clarus* and *T. lampra*; occurrences west of the river are depicted on a map. A new tribal diagnosis is published along with a distribution map.

*Key words:* *Pachydesmini*, *Pachydesmus*, *Pachydesmus clarus*, *Pachydesmus crassicutis*, *Thrinaxoria*, *Thrinaxoria lampra*, *Dicellarius*, *Texas*, *Arkansas*, *Louisiana*, *Mississippi River*.

Nearly a half-century has elapsed since Hoffman (1958) revised the xystodesmid milliped genus *Pachydesmus* Cook, 1895, recognizing 2 species, 1 on each side of the Mississippi River: *P. clarus* (Chamberlin 1918), to the west in central Louisiana and east Texas, and *P. crassicutis* (Wood 1864), comprising 8 subspecies, to the east in Louisiana, Mississippi, Tennessee, Alabama, Georgia, and South Carolina. Since then Causey (1963) and Stewart (1969) have reported new localities for *P. clarus* in Louisiana and Texas, respectively; Shelley and Filka (1979) and Filka and Shelley (1980) recorded *P. crassicutis incursus* Chamberlin, 1939, from piedmont North Carolina and the Coastal Plain of South Carolina; and Shelley (2002a) documented *P. crassicutis adsinicolus* Hoffman, 1958, from the Florida panhandle. Records through the mid-1990s were summarized by Hoffman (1999), and Shelley (2000) included *P. c. incursus* in his listing of North Carolina diplopods.

The species of *Pachydesmus*, the largest-bodied polydesmidans in the United States,

are characterized by coxal apophyses on the gonopods and 3 telopodal projections that arise from the prefemora, relatively short prefemoral processes, and 2 longer acropodal branches, the more caudal of which carries the prostatic groove and hence is the “solenomere.” These features are so distinctive that Hoffman (1980) erected the tribe Pachydesmini to accommodate *Pachydesmus* and a second genus, *Dicellarius* Chamberlin, 1920, in which the acropodal branches arise from the acropodite. Subsequently, Shelley (1984) revived *Thrinaxoria* Chamberlin and Hoffman, 1950, from synonymy under *Dicellarius* as the 3rd component; the genera differed primarily in the arrangements of the acropodal branches, which are continuous with the axis in *Dicellarius* and discontinuous in *Thrinaxoria*. *Dicellarius*, comprising 5 species, occurs in Georgia, western North Carolina, and the Gulf Coastal states east of the Mississippi River, while *Thrinaxoria* comprises 3 species: 2 species, *T. paynei* Shelley, 2002 and *T. bifida* Wood, 1864, occurring east of the river in south Georgia and at the adjoining

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corners of Tennessee, North Carolina, and Georgia, respectively, and 1 species, *T. lampra* Chamberlin, 1918, which traverses the watercourse, occurring in the contiguous corners of Arkansas, Louisiana, and Texas, plus western Tennessee, northern Mississippi, and western Alabama (Shelley 1984, 1990, 2002b, Hoffman 1999). Though a reanalysis of the forms comprising *P. crassicutis* is needed, the tribal components east of the Mississippi have been better documented than those to the west, so this contribution updates knowledge of the latter and provides new localities of *P. c. crassicutis* from east of the watercourse. During field surveys in the "Ark-La-Tex" region from 2001–2004 we collected *P. clarus* and *T. lampra* from Texas, Arkansas, and Louisiana, and the first author discovered additional samples in institutional holdings, the most important being 3 of *P. crassicutis crassicutis* from 2 parishes in south-central Louisiana, the first records of this species from west of the Mississippi River. For over 3 years, we have searched for a male *P. clarus* in southern Arkansas to authenticate the provisional record of a female from Columbia County (McAllister et al. 2002), but none has yet been found. Based on known occurrences in Texas and Louisiana, southern Arkansas (particularly Miller, Lafayette, Columbia, and Union Counties) is plausible for *P. clarus*, and securing a male to verify occurrence there is a major objective of future sampling. Herein we present a new tribal account and accounts of *P. clarus*, *P. crassicutis crassicutis*, and *T. lampra* including diagnoses; gonopod and cyphopod illustrations, the first of the latter for *P. clarus* and *T. lampra*; detailed records from west of the Mississippi; and distribution maps. Acronyms of preserved samples are as follows: BYU—Monte L. Bean Life Science Museum, Brigham Young University, Provo, Utah; CAS—California Academy of Sciences, San Francisco; FMNH—Field Museum of Natural History, Chicago, Illinois; FSCA—Florida State Collection of Arthropods, Gainesville; LACMNH—Los Angeles County Museum of Natural History, Los Angeles, California; LSAM—Louisiana State University Arthropod Museum, Baton Rouge; NCSM—North Carolina State Museum of Natural Sciences, Raleigh; NMNH—National Museum of Natural History, Smithsonian Institution, Washington, DC; TAMUT—Biology Department, Texas A&M University, Texarkana.

#### TRIBE PACHYDESMINI HOFFMAN

Pachydesmini Hoffman, 1980:158, 187; 1999:369. Shelley, 1984:479. Shelley et al., 2000:118.

DIAGNOSIS.—A tribe of primarily moderately large to large-bodied Xystodesminae supported by 2 suggested autapomorphies: relatively stiff, inflexible bodies and the absence of bold, aposematic pigmentations; dorsal base colors brown to olive without mid-dorsal spots, paranotal markings and metatergal bands narrow and inconspicuous, generally white to yellowish-cream colored, at most only faintly pinkish. Also characterized by broad sterna possessing or lacking variable, transversely ovoid ridges or elevations on midbody segments; gonopods small to large, with or without variable dorsal coxal apophyses, prefemoral processes long and slender to acicular, telopodites usually linear proximad, curving or bending distal to midlengths, with long slender or blade-like secondary processes arising basally from prefemora or from varying positions on acropodal stems; cyphopods with or without receptacles or remnants thereof.

COMPONENTS.—*Pachydesmus* Cook, 1895; *Dicellarius* Chamberlin, 1920; *Thrinaxoria* Chamberlin and Hoffman, 1950.

DISTRIBUTION.—An irregular area in the southeastern United States extending east–west from near the Atlantic Ocean in southern South Carolina to eastern Texas (Cherokee County) and extending north–south from the southern fringe of piedmont North Carolina, east central and southwestern Tennessee, southwestern Arkansas, and northeastern Texas to southern Louisiana, the Gulf Coast, and central peninsular Florida (Hernando and Seminole Counties; Fig. 1). The projected range encompasses parts of 10 states and all or essentially all of Georgia and Alabama; maximal dimensions are approximately 840 mi (1344 km) east–west and 475 mi (760 km) north–south. The boundaries are nebulous in northern Mississippi and most of Tennessee and are indicated by dashed lines in Fig. 1.

*Pachydesmus crassicutis duplex* Chamberlin, 1939, occurs on bluffs and in ravines around Memphis, Shelby County, Tennessee, essentially up to the Mississippi River itself; however, records to the south in Mississippi are from much farther east, and we doubt that the genus occurs in the flat, heavily cultivated "Delta Country" of Mississippi, south of Memphis, where few wooded spots remain. To the

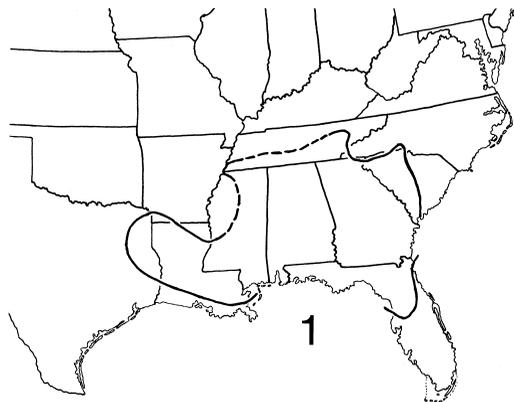


Fig. 1. Approximate distribution of the Pachydesmini. The nebulous boundaries in Mississippi and central Tennessee are indicated by dashed lines.

east in Tennessee, only 1 tribal record exists, of *T. lampra* from Henderson County, between Memphis and the Cumberland Mountains near Crossville (Cumberland County), a distance of some 330 mi (528 km), where *P. crassicutis laticollis* Attems, 1899, occurs (Hoffman 1958, Shelley 1984). Undiscovered pachydesminine populations may exist in northern Mississippi and the western half of Tennessee, from Nashville/Davidson County westward; from our field experience we believe they are more likely to be found in upland habitats with hilly topography than in flat, lowland environments along rivers. The Pachydesmini may not occur west of highway I-55 in the northern 2/3 of Mississippi, the part of the state north of I-20.

Xystodesmidae occur in 3 main areas of North America: the United States and southern Ontario and Québec, Canada, east of the Central Plains (the “eastern” fauna); southern Texas and New Mexico to El Salvador (the “mesoamerican” fauna); and along the Pacific Coast from southern California to southern Alaska, with a disjunct area extending from eastern Oregon and Washington to western Montana (the “western” fauna). Hoffman (1969, 1978) and Shelley (1987) depicted this distribution on maps that are now obsolete; for an accurate, up-to-date map, see Fig. 1 in the pages describing the first author’s milliped research at [http://www.myriapoda.org/diplopoda/shelley\\_research.html](http://www.myriapoda.org/diplopoda/shelley_research.html). The westernmost localities of the “eastern” fauna in Texas are those herein of *P. clarus* from Cherokee County, and the overall westernmost record of this fauna is

that of *Pleurolooma flavipes* Rafinesque, 1820 (tribe Rhysodesmini) in Ellsworth County, Kansas (Shelley 1980, Shelley et al. 2003).

REMARKS.—The Pachydesmini is sister-group to the Apheloriini, with which it shares 2 synapomorphies: generally large body size (*Dicellarius okefenokensis* Chamberlin, 1918, being the lone pachydesminine exception) and the absence of sternal spines or lobes (Shelley and Whitehead 1986). Its representatives exhibit long and slender to acicular prefemoral processes that these authors interpreted as a symplesiomorphy with the Rhysodesmini and Nannariini, the other major “eastern” tribes; the “non-acicular” condition in the Apheloriini, where the structure may be present or absent, is apomorphic. Shelley and Whitehead (1986) suggested that tribal distinction between the Apheloriini and Pachydesmini may be unwarranted due to lack of a structural autapomorphy for the latter, as all such distinctions between them involve exceptions. However, they also noted that apheloriinines, along with many rhysodesminines, are typically brightly colored with vivid aposematic metatergal bands or middorsal and paranotal spots. Pachydesminines and nannariinines, however, display dull colorations that are considered convergent; in the former, species of *Pachydesmus* and *Thrinaxoria* exhibit brown dorsal base colors with whitish to cream-colored paranotal margins, whereas those of *Dicellarius* are olive to olive brown with faint pinkish metatergal bands. Shelley and Whitehead (1986) suggested that the lack of bold pigmentations in the Pachydesmini may constitute its autapomorphy, and we concur, as its colorations contrast greatly with the vivid red, yellow, orange, blue, purple, and violet pigmentations in sympatric representatives of the Apheloriini and Rhysodesmini. The difference is particularly dramatic when a pachydesminine and apheloriinine are encountered syntopically, under the same layer of leaves.

Another aspect of pachydesminines that warrants mention as a possible autapomorphy, but that is difficult to verbalize or quantify, is the relative stiffness and inflexibility of their bodies. The first author has collected scores of individuals of all 3 genera and found that they are noticeably less flexible than representatives of the Apheloriini and Rhysodesmini, which is particularly evident when one tries to

unroll the head to check for gonopods; unrolling a large adult of *P. crassicutis* actually takes a bit of effort. As with pigmentation, this difference is most noticeable when individuals of the 2 tribes are found syntopically. The stiffness is also evident in preserved pachydesminines, which are typically tightly coiled and which fragment upon handling. We do not mean to imply that pachydesminines are rigid, but the segments seem to be more firmly coalesced than those of apheloriinines and rhyso-desminines, which, being looser and easier to manipulate, possibly reflects differences in the internal musculature. Molecular analyses are needed to fully resolve relationships among the “eastern” tribes, but we believe that the lack of aposematic pigmentations and relative somatic inflexibility constitute autapomorphies that support the Pachydesmini as a monophyletic group. The tribe also differs from the Apheloriini in the configurations of the gonopodal prefemoral processes, but here the Apheloriini exhibits the apomorphic condition.

The acropodal branch carrying the prostatic groove is, by definition, the “solenomere,” but naming the 2nd branch is problematic because it arises at different positions—distad from the acropodite in *Thrinaxoria*, at more basal acropodal locations in *Dicellarius*, and even more proximad from the prefemur itself in *Pachydesmus*. It is tempting to interpret these different origins as a transformation series in which a homologous structure is positioned progressively more basally (proximad) on the telopodite, like the different solenomere positions in the “*planca* group” of the apheloriinine genus, *Sigmorina* (*Cheiropus*; Shelley and Whitehead 1986). However, the branch arises on different sides of the prostatic groove in *Thrinaxoria* and *Dicellarius* with no evidence of torsion, so this hypothesis seems inoperative. Names of gonopodal projections are usually analogized to ambulatory appendages based on their relative positions, and we concur with Shelley (1984) in using “tibial process” for the secondary branches in *Thrinaxoria* and *Dicellarius*. In *Pachydesmus*, Hoffman (1958) labeled the branches as the primary (the solenomere) and secondary tibiotarsi, but this term is effectively preoccupied with “tibial process” being employed for *Thrinaxoria* and *Dicellarius*; therefore, we arbitrarily use “femoral process” for the structure in *Pachydesmus* because of its

more proximal origin. With the secondary process located on the other side of the prostatic groove and the distal telopodal curvature being opposite to those of *Pachydesmus* and *Dicellarius*, *Thrinaxoria* seems misplaced in the Pachydesmini. However, the only alternative, a monotypic tribe, is unappealing, and like Shelley and Whitehead (1986), we consider the shared absence of bold colorations to be a synapomorphy that unites all 3 genera into a monophyletic taxon. Shelley (1984) placed *Thrinaxoria* in the Pachydesmini with *Pachydesmus* and *Dicellarius* because of the shared, acicular prefemoral processes, but as a plesiomorphy this feature does not define a monophyletic group. Consequently despite the anatomical differences among its components, we regard the Pachydesmini as a true taxonomic entity and *Thrinaxoria* as a valid tribal component.

Hoffman (1958) illustrated the cyphopods of 3 of the 8 subspecies of *P. crassicutis* but not those of *P. clarus*, nor did Shelley (1984) show the cyphopods of *T. lampra*. The structures in both species (Figs. 4, 9) are typical for the polydesmidan suborder Leptodesmidea, consisting of a pair of prominent valves with a large receptacle mediad and a relatively large operculum laterad, which are all hirsute. The illustrated receptacle in the female of *T. lampra* (Fig. 9) is detached from the valves, but it is contiguous with them in other individuals. The differences between the cyphopods in these species are minor and insufficient to be the basis for identifications; so, as with many millipeds, males are necessary for authoritative determinations.

#### *Pachydesmus clarus* (Chamberlin)

Figs. 2–4

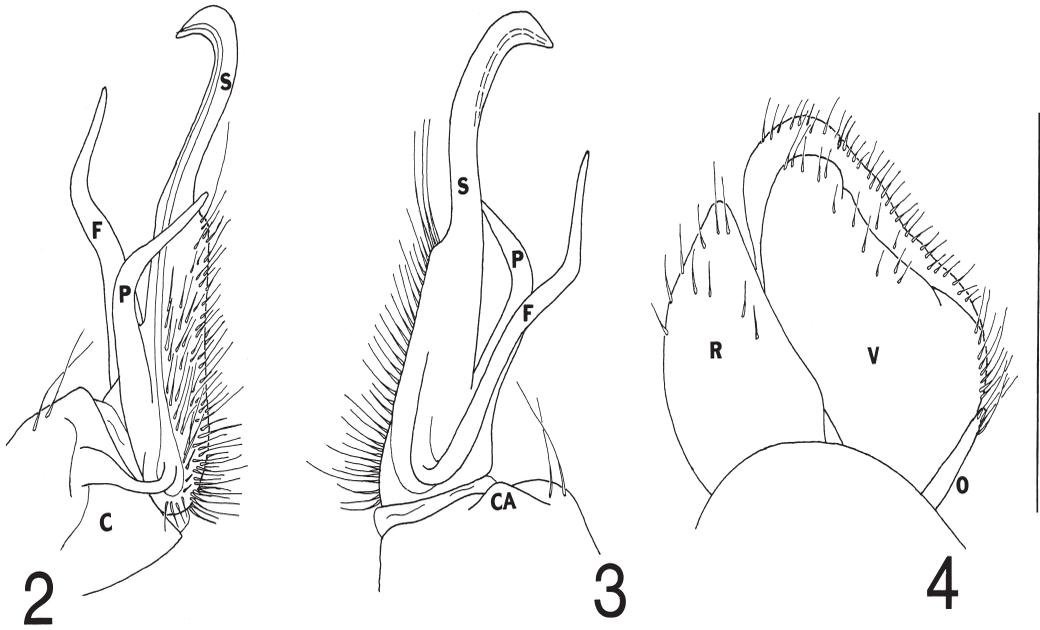
*Fontaria clara* Chamberlin, 1918:372. Attems, 1938:167.

*Pachydesmus kisatchinsis* Chamberlin, 1942:4, Plate 1, Fig. 8.

*Pachydesmus clarus* Loomis and Hoffman, 1948:53. Chamberlin and Hoffman, 1958:43. Hoffman, 1958:190–195, Figs. 1b, 6; 1999:371. Causey, 1955:25; 1963:76. Stewart, 1969:383.

DIAGNOSIS.—Solenomere and femoral process arising from prefemur and directed distad, latter narrow and subacicular, distinctly shorter than former; coxal apophysis small and inconspicuous.

ECOLOGY.—The female from Stephen F. Austin Forest, Nacogdoches County, Texas,



Figs. 2–4, *Pachydesmus clarus*. 2, left gonopod of male from Natchitoches Parish, Louisiana, medial view. 3, the same, lateral view. 4, left cyphopod of female from Natchitoches Parish, caudal view. F, femoral process; P, prefemoral process; S, solenomere; C, coxa; CA, coxal apophysis; R, receptacle; V, valve; O, operculum. Scale line = 0.56 mm for Figs. 2–3, 0.75 mm for Fig. 4.

was discovered under a large oak log in a predominantly pine woodland.

**DISTRIBUTION.**—*Pachydesmus clarus* is the only pachydesminine occurring exclusively west of the Mississippi River. Assuming that the provisional Arkansas female is correctly assigned, the species occupies an area of around 175 mi (280 km) north–south and 220 mi (352 km) east–west, extending from northeastern Columbia County, Arkansas, to northern Beauregard Parish, Louisiana, and from central Cherokee County, Texas, to northeastern Catahoula Parish. The following new records are available:

**LOUISIANA:** **Avoyelles Par.**, Evergreen, ♀, 3 December 1965, M. Kordish (FSCA). **Beauregard Par.**, 5 mi (8 km) S DeRidder, 4♀, 10 December 1969, H. Rhame (FSCA). **Caldwell Par.**, 2 and 6.3 mi (3.2 and 10.2 km) NE Columbia Heights, along LA Hwy. 4, 3♂, ♀, 3 April 1966, R.E. Tandy (FSCA). **Catahoula Par.**, 2.2 mi (3.5 km) SW Leland, along LA Hwy. 8, ♂, 26 March 1966, L.D. Wilson (FSCA); 1 mi (1.6 km) WNW Harrisonburg, 2♂, 2♀, 25 April 1971, D.A. Rossman, Kimmich, Guthans (FSCA); and Sicily Island (not town), 2♂, 12

October 1974, S. Ziser (FSCA). **Grant Par.**, 2.6 mi (4.2 km) S Georgetown, along old LA Hwy. 165, 3♂, 3♀, 24 March 1966, R.E. Tandy (NCSM). **LaSalle Par.**, LaSalle, ♂, 27 March 1966, R.E. Tandy (FSCA). **Lincoln Par.**, 1 mi (1.6 km) N Ruston, ♀, 8 October 1954, Stevens (FSCA); and 6 mi (9.6 km) S Ruston, along US Hwy. 167, ♂, 2 April 1955, D. Harman (FSCA). **Natchitoches Par.**, 4 mi (6.4 km) S Bellwood, ♀, date and collector unknown (FSCA); Grand Ecore, ♀, 19 October 1954, Withers (FSCA); 4 mi (6.4 km) N Natchitoches, 2♂, 2♀, 1956, J. Motyre (FSCA); College Wells Pond, ♀, 31 October 1954, W.T.H. (FSCA); Kisatchie National Forest, ♂, April 1975, S. Ziser (FSCA); and 1 mi (1.6 km) NW Rapides Par. line along LA Hwy. 1, ♀, 9 April 1967, L.D. Wilson (FSCA). **Rapides Par.**, 4.2 mi (6.7 km) S Latanier, along LA Hwy. 165, ♂, 30 March 1967, R.M. Shelton (FSCA); and Gardner Island, 2♀, 15 March 1973, D.A. Rossman (FSCA). **Sabine Par.**, 1.5 mi (2.4 km) NE Negreet, ♂, 28 March 1965, R.E. Tandy, G.E. Gates, J.M. Byrd (FSCA); and 8 mi (12.8 km) W Noble, ♀, 5 April 1969, Marizot, Blaney (FSCA). **Vernon Par.**, 1.9 mi (3 km) N jct. LA Hwys. 464 and 111, near

Sabine River, 2 ♀, 29 February 1966, R.E. Tandy (FSCA); jct. LA Hwy. 111 and US Hwy. 90, ♂, 3 ♀, 8 April 1967, L.D. Wilson (FSCA); and 2.7 mi (4.3 km) NE Caney, along LA Hwy. 8, 4 ♂, 2 ♀, 8 April 1967, L.D. Wilson (FSCA, NCSM).

TEXAS: **Cherokee Co.**, Jacksonville, 2 ♂, 20 February 1959, J.E. Stearns (FSCA); and 3 mi (4.8 km) W Rusk, Rusk-Palestine State Park, ♂, 1 March 2003, C.T. McAllister, G. Torres (NCSM). **Jasper Co.**, Jasper, ♂ ♂, ♀ ♀, 26 January, 5 March, and May 1962, Jasper Science Club (FSCA). **Nacogdoches Co.**, Nacogdoches, ♀, 10 March 1938, R.H.A. (NMNH); NE of Nacogdoches, jct. E. Post Oak Rd. and TX Hwy. 59, 2 ♀, 11 March 1991, K.J. McWest, Kulhavy (NCSM); and Stephen F. Austin St. For. nr. Angelina R., ♂, ♀, 16 March 1968, J.R. Reddell (FSCA) and ♀, 5 October 2001, R.M. Shelley (NCSM). **Rusk Co.** 8 mi (12.8 km) S Henderson, along US Hwy. 259, ♀, 31 March 1970, O. Sanders (FSCA).

The following literature records are considered valid:

ARKANSAS: **Columbia Co.**, Logoly State Park [provisional determination based on a female] (McAllister et al. 2002).

LOUISIANA: **Beauregard Par.** (Causey 1963). **Grant Par.** (Causey 1963), W of Pollock and Dry Prong (Hoffman 1958). **LaSalle Par.** (Causey 1963), Jena (Causey 1955, Hoffman 1958). **Lincoln Par.** (Causey 1963), Ruston (Causey 1955, Hoffman 1958). **Natchitoches Par.** (Causey 1963); Creston, 2 mi (3.2 km) N Creston, Bellwood, Chastine, and Kisatchie (Chamberlin 1918, 1942, Attems 1938, Causey 1955, Chamberlin and Hoffman 1958, Hoffman 1958). **Rapides Par.** (Causey 1963), Forest Hill (Hoffman 1958).

TEXAS: **Gregg Co.**, 4 mi (6.4 km) SE Glade-water (Stewart 1969). **Nacogdoches Co.**, Nacogdoches (Stewart 1969). **Newton Co.**, Weirgate (Hoffman 1958). **Panola Co.**, 9 mi (14.4 km) SW Carthage (Stewart 1969).

REMARKS.—The female from Columbia County, Arkansas (McAllister et al. 2002) was assigned provisionally to *P. clarus* because of its size; it is much larger than any known individual of *T. lampra*, the only other pachydesminine in this state (Fig. 10). The cyphopods match the illustration of *P. clarus* (Fig. 4), but as stated previously the differences between the cyphopods of this species and those of *T. lampra* are insufficient to be a reliable basis for determinations.

*Pachydesmus crassicutis*  
*crassicutis* (Wood)

Figs. 5–6

- Polydesmus crassicutis* Wood, 1864:7; 1865:224, Fig. 55.  
*Fontaria crassicutis* Bollman, 1888:344. Brölemann, 1900: Plate 6, Figs. 28–29.  
*Pachydesmus crassicutis* Cook, 1895:5. Attems, 1938:153, Fig. 174. Chamberlin and Hoffman, 1958:43.  
*Fontaria louisiana* Chamberlin, 1918:363.  
*Pachydesmus simulans* Chamberlin, 1942:4, Figs. 9–10.  
*Pachydesmus crassicutis crassicutis*: Hoffman, 1958:199–205, Figs. 1a, 1e, 7a, 8a, 9; 1999:371–372. Causey, 1963:76.

DIAGNOSIS.—Solenomere and femoral process arising from prefemur and directed distad, latter broad, not subacicular, as long as or longer than former; coxal apophysis large and conspicuous, distinctly elevated above coxal surface.

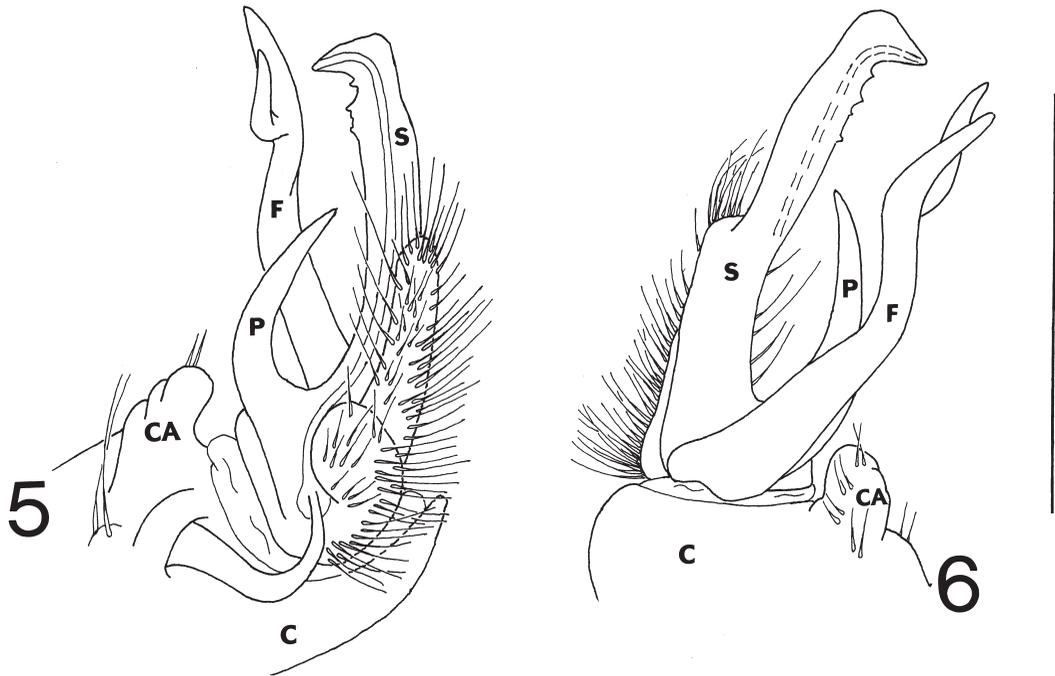
ECOLOGY.—The Evangeline Parish male was collected on a hillside in deciduous woods; the individuals from Angie, Washington Parish, were encountered in pine woods.

DISTRIBUTION.—South central and southwestern Mississippi and eastern Louisiana, east of the Mississippi River, with a newly discovered and apparently allopatric population in south central Louisiana, west of the river, represented by the following samples.

LOUISIANA: **Evangeline Par.**, 2.5 mi (4 km) S Chicot State Park, along LA Hwy. 3042, ♂, January 1968, E.D. Keiser (FSCA). **Lafayette Par.**, Lafayette, 4 ♂, 3 ♀, July 1965, N. Albert (FSCA); and nr. Milton, cemetery on Vermillion R., ♂, 1 April 1967, R.E. Tandy (FSCA).

For the benefit of future workers, we also publish the following new records from east of the Mississippi River.

LOUISIANA: **East Baton Rouge Par.**, Baton Rouge, 2 ♂, May 1967, N.B. Causey (LAC-MNH) and 5 ♂, 5 ♀, 1 July 1973, J. Odom (LSAM); and LSU campus, 2 ♀, 14 September 1980, D.A. Rossman (NCSM). **St. Tammany Par.**, 1 mi (1.6 km) N Martinville, along LA Hwy. 25 at Morgan Cr., ♀, juv. ♀, 23 December 1964, R.E. Tandy (FSCA). **Tangipahoa Par.**, 1.1 mi (1.7 km) E Holton, along LA Hwy. 16, ♀, 29 December 1964, R.E. Tandy (FSCA). **Washington Par.**, Angie and vic., 2 ♂, 3 ♀, 2–28 May 1958, J.L. Crain (FSCA); and 7–8 mi (11.2–12.8 km) S Angie, 7 ♂, 7 juvs., 15 September–November 1958, J.L. Crain (FSCA). **West Feliciana Par.**, 2 mi (3.2 km) NNW Tunica, 2 ♀, 17 April 1964, G.N. Ross (FSCA).



Figs. 5–6, *Pachydesmus crassicutis crassicutis*. 5, left gonopod of male from Lafayette Parish, Louisiana, medial view. 6, the same, lateral view. C, coxa; CA, coxal apophysis; F, femoral process; P, prefemoral process; S, solenomere. Scale line = 0.45 mm.

MISSISSIPPI: **Adams Co.**, along unnumbered rd. to Sandy Cr. GMA ca. 1.8 mi (2.9 km) W Franklin Co. line, 3♂, ♀, 12 June 1999, R.M. Shelley (FMNH, NCSM). **Amite Co.**, 2.3 mi (3.7 km) N Gloster, along MS Hwy. 33, Homochitto National Forest, 2♂, ♀, 13 June 1999, R.M. Shelley (FMNH, NCSM). **Claiborne Co.**, Port Gibson, ♂, 14 June 1999, R.M. Shelley (NCSM). **Franklin Co.**, Homochitto National Forest, Clear Springs Rec. Area, ♂, 12 June 1999, R.M. Shelley (NCSM) and jct. USFS Rds. 191 and 191A, ♂, 2♀, 12 June 1999, R.M. Shelley (NCSM). **Hinds Co.**, Jackson, ♂, 27 October 1948, O. Bryant (CAS). **Jefferson Co.**, along Bullen Cr., ♂, ♀, 14 June 1999, R.M. Shelley (NCSM). **Warren Co.**, 3 mi (4.8 km) SE Vicksburg, along MS Hwy. 27, 3♂, 2♀, 28 June 1959, collector unknown (FSCA). **Wilkinson Co.**, Clark Cr. Nat. Area, ♂, 13 June 1999, R.M. Shelley (NCSM).

The following literature records, all from east of the river, are available.

LOUISIANA: **Ascension Par.** (Causey 1963), Gonzales and 4 mi (6.4 km) N Gonzales (Chamberlin 1942, Hoffman 1958, 1999). **East Feliciana Par.** (Causey 1963). **East Baton Rouge**

**Par.** (Causey 1963, Stewart and Woodring 1973), Port Hudson (Hoffman 1958). **Orleans Par.** (Causey 1963), New Orleans (Hoffman 1958). **St. Tammany Par.**, Covington (Chamberlin 1918; Hoffman 1958, 1999). **Washington Par.** (Causey 1963). **West Feliciana Par.** (Causey 1963).

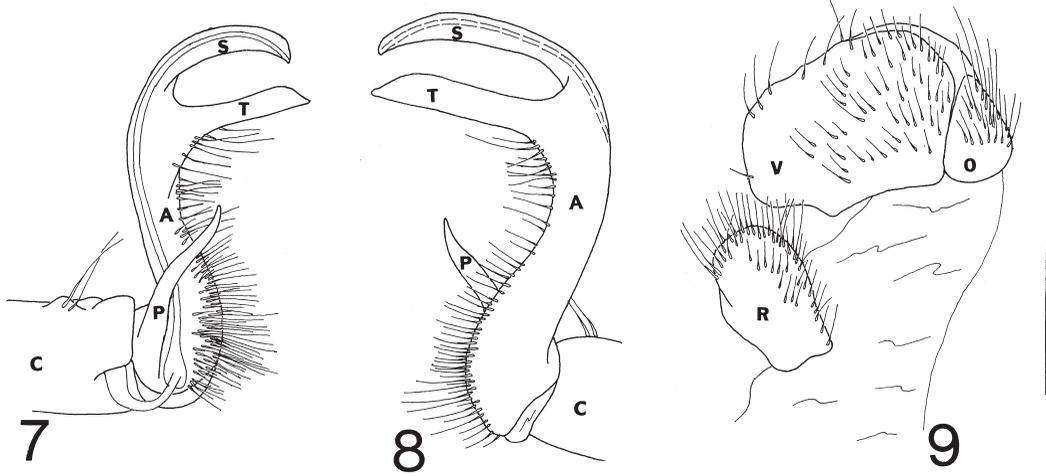
REMARKS.—Cook (1895) established the genus *Pachydesmus* without comment in a short list of xystodesmid genera and designated "*P. crassicutis* (Wood)" as the type species. Brölemann (1900) provided medial and lateral gonopodal illustrations of *P. crassicutis* as 1 of 7 examples of the appendages in the genus *Fontaria* but did not provide a taxonomic account. Pocock (1909), however, verbally characterized the gonopods of *Pachydesmus*, stating that *F. crassicutis* is the type species and that *F. laticollis* Attems also belongs to it.

*Thrinaxoria lampra*  
(Chamberlin)

Figs. 7–9

*Fontaria lampra* Chamberlin, 1918:371–372. Attems, 1938: 167.

*Zinaria aberrans* Chamberlin, 1942:4, Plate 1, Fig. 7.



Figs. 7–9, *Thrinaxoria lampra*. 7, left gonopod of male from Harrison County, Texas, medial view. 8, telopodite of the same, lateral view. 9, left cyphopod of female from Cass County, Texas, caudal view. S, solenomere; T, tibial process; A, acropodite; P, prefemoral process; C, coxa; R, receptacle; V, valve; O, operculum. Scale line = 0.5 mm for Fig. 7, 0.63 mm for Fig. 8, and 1.00 mm for Fig. 9.

*Thrinaxoria lampra* Chamberlin and Hoffman, 1950:4, 1958:52. Causey, 1963:77. Shelley, 1984:504–506, Figs. 24–26. Hoffman, 1999:374.

**DIAGNOSIS.**—Solenomere and tibial process arising from acropodite, directed or curving strongly caudad; coxal apophysis absent.

**ECOLOGY.**—The Harrison County, Texas, male was found under a decaying hardwood log at the bottom of a ravine in a deciduous forest; that in Rusk County was under a decaying oak log in a predominantly pine forest.

**DISTRIBUTION.**—As discussed by Shelley (1984), *T. lampra* comprises 2 allopatric populations, 1 with widely separated localities extending from west central Tennessee to southwestern Alabama, and 1 in the present area of study, which is continuous. The latter covers an area of approximately 110 mi (176 km) north-south and 275 mi (440 km) east-west and extends from the vicinity of Texarkana to central Sabine Parish, Louisiana, and from Longview, Gregg County, Texas, to northern Natchitoches Parish. The following new records are available from west of the Mississippi River.

**LOUISIANA:** **Caddo Par.**, nr. Myrtis, 8 mi (12.8 km) W LA Hwy. 1 on McCloud–State Line Rd., ♀, 11 March 1966, R.E. Tandy (FSCA). **Sabine Par.**, Many, along Marthaville Hwy., ♂, 28 December 1996, A.J. Fryday (BYU). **Webster Par.**, Lake Bistineau State Park, ♂, 1 June 2004, Z.D. Ramsey (NCSM).

**TEXAS:** **Bowie Co.**, off FM 558 on co. rd. 1370, ♂♂, 5 December 2001, C.T. McAllister (TAMUT); S. Texarkana, Liberty Eylau, along Co. Rd. 1370, ♂, 5 January 2002, and ♂, ♀, 3 March 2002, C.T. McAllister (NCSM); and Bringle L. off FM 1397, 3♂, 14 March 2004, M. Cameron (NCSM). **Cass Co.**, Atlanta State Park, ♀, 3 October 2001, R.M. Shelley, C.T. McAllister (NCSM); and Linden, ♂, 2♀, 6 February 1933, O.F. Cook (NMNH). **Harrison Co.**, Caddo Lake State Park, ♂, 4 October 2001, R.M. Shelley (NCSM). **Rusk Co.**, 2.2 mi (3.2 km) E Mt. Enterprise, Griff Ross Trail off US Hwy. 84 [15R 034452 3532802], juv. ♂, 6 October 2004, R.M. Shelley (NCSM). **Sabine Co.**, Sabine National Forest, Red Hills Lake Area, ♀, 4 October 2001, R.M. Shelley (NCSM). **Titus Co.**, Lake Bob Sandlin State Park, 2♀, 21 December 2002, C.T. McAllister (NCSM).

The following literature records of both populations are available.

**ALABAMA:** **Tuscaloosa Co.**, Tuscaloosa (Chamberlin and Hoffman 1958, Shelley 1984). **Walker Co.**, Jasper (Shelley 1984). **Washington Co.**, 3 mi (4.8 km) E Leroy (Shelley 1984).

**TENNESSEE:** **Henderson Co.**, Natchez Trace State Park (Shelley 1984).

**MISSISSIPPI:** **Tishomingo Co.**, Tishomingo State Park (Shelley 1984).

**LOUISIANA:** **Caddo Par.**, Shreveport (Chamberlin 1942, Chamberlin and Hoffman 1958), 5 mi (8 km) NW Shreveport (Shelley 1984).

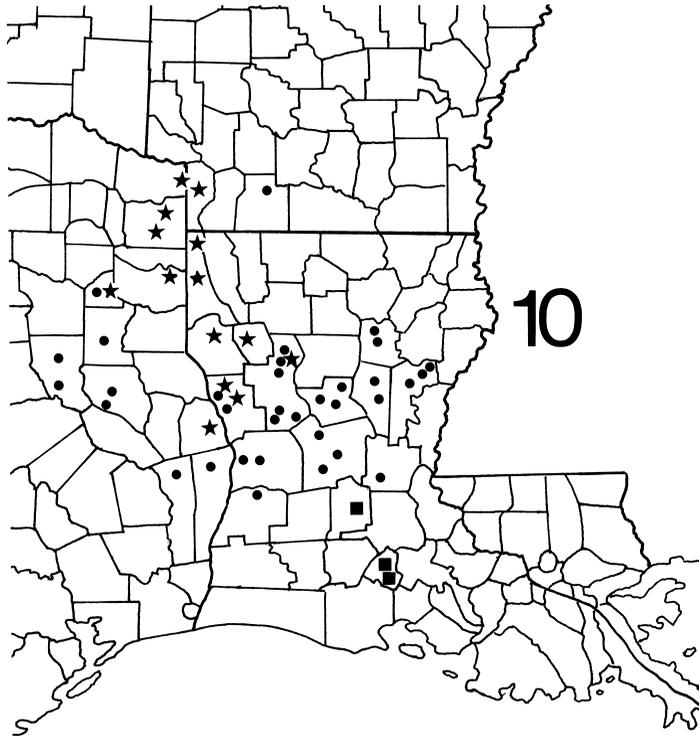


Fig. 10. Distribution of the Pachydesmini west of the Mississippi River: dots, *Pachydesmus clarus*; squares, *Pachydesmus crassicutis crassicutis*; stars, *Thrinaxoria lampra*. Some symbols represent more than one locality.

**DeSoto Par.**, 11 mi (17.6 km) N Mansfield (Shelley 1984). **Natchitoches Par.** (Causey 1963), Creston (Chamberlin 1918, Attems 1938, Chamberlin and Hoffman 1958, Shelley 1984), Moreland (Shelley 1984). **Red River Par.**, 4 mi (6.4 km) NW Coushatta (Shelley 1984). **Sabine Par.**, 8 mi (12.8 km) W Noble (Shelley 1984).

ARKANSAS: **Miller Co.**, 1 mi (1.6 km) S Genoa (McAllister et al. 2003).

TEXAS: **Gregg Co.**, Longview (Shelley 1990).

REMARKS.—Causey (1963) stated that *T. lampra* is a rare species in Louisiana, but it actually seems to be rather common within its range in the northwest corner of the state.

Chamberlin and Hoffman (1950) proposed *Thrinaxoria* specifically to accommodate *F. lampra*, which they designated as the type species. Subsequently, they (Chamberlin and Hoffman 1958) retained the genus and placed *Z. aberrans* in synonymy, and 5 years later, Causey (1963) also cited *T. lampra*. Jeekel (1971) included *Thrinaxoria* in his Nomenclator, and Hoffman (1980) placed it in synonymy under *Dicellarius*, which constituted a new synonymy though not indicated as such; 4 years later,

however, Shelley (1984) resurrected the genus for *T. lampra* and *T. bifida*. Consequently, *lampra* was not cited at all for 21 years, between 1963 and 1984, and was never officially published in combination with *Dicellarius*.

#### ACKNOWLEDGMENTS

The 2nd author thanks the Arkansas State Game and Fish Commission for scientific collection permit 1480. We also thank G. Torres for assistance in collecting and the following curators and collection managers for loans from, or access to, specimens involved in this study: R.W. Baumann (BYU), C.E. Griswold (CAS), G.B. Edwards (FSCA), the late C.L. Hogue (LACMNH), V. Moseley (LSAM), and J. Coddington (NMNH). This research was supported in part by a TAMU-T Faculty Senate Research Enhancement grant to the 2nd author.

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Received 15 December 2004

Accepted 22 March 2005