

BULLETIN OF THE UNIVERSITY OF UTAH

Volume 38

February 20, 1948

No. 15

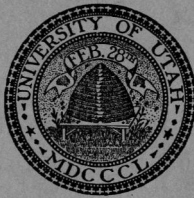
The Genera of North American
Dictynidae

BY

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BIOLOGICAL SERIES, Vol. X, No. 6



PUBLISHED BY
THE UNIVERSITY OF UTAH
SALT LAKE CITY

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THE GENERA OF NORTH AMERICAN DICTYNIDAE

By RALPH V. CHAMBERLIN

Inasmuch as it seems desirable to postpone the printing of a more extensive treatise on the Dictynidae, now in manuscript, in order to amplify it, the author is publishing for use in the interim the present synoptic account of the genera which he recognizes in the family. Opportunity is taken to clarify the characters of these genera, particularly those of *Dictyna* sen. str. and *Emblyna*, by means of drawings of the copulatory organs of series of new species that have been detected in the course of the study. Sincere appreciation is here expressed to Dr. W. J. Gertsch of the American Museum of Natural History for his generous and unflinching cooperation. He has placed at my disposal a considerable amount of material, including a number of forms which he had recognized as new together with several drawings of these, made by W. Ivie, and here reproduced as figs. 16, 26, and 48-53.

Holotypes will be deposited in the American Museum and paratypes, when present, in the Zoological Museum of the University of Utah.

KEY TO THE NORTH AMERICAN GENERA OF DICTYNIDAE

1. Fourth tarsus without a row of trichobothria; clypeus mostly much wider than the anterior eyes..... 2
-Fourth tarsus with a row of trichobothria; clypeus not or scarcely wider than anterior eyes 8
2. Cribellum entire 3
-Cribellum divided by a fine median line..... *Mallos* Cambridge
3. Epigynum with a caudally free finger on median line and spermathecal tubes forming a characteristic U-shaped, outline (fig. 42); patella of ♂ palpus with 1 or more forwardly directed teeth or apophyses (fig. 42)..... *Tivyna* n. gen.
-Not so 4
4. Epigynum very simple, without foveae, the spermathecal openings small and remote from genital furrow and the spermathecal tubes running from them transversely (fig. 39); tibia of ♂ palpus with 2 apophyses on opposite sides of the joint (fig. 40)..... *Phantyna* n. gen.
-Not so 5
5. Epigynum with two foveae or pits widely separated, the area between them more or less convex, and showing a usually somewhat V-shaped figure outlined by the spermathecal tubes which run mesocaudad to openings at middle line (fig. 69) *Tosyna*, n. gen.
-Not so 6
6. Patella of ♂ palpus with a lateral or subventral process or blade (fig. 45), epigynal foveae remote from the genital furrow, more or less suggesting that of *Mallos* (fig. 44)..... *Varyna*, n. gen.
-Patella with no such process; epigynum with caudal rim of foveae transversely elongate, in some part of length typically near genital furrow.. 7
7. Embolus of ♂ palpus thick, with an abruptly more slender terminal stylus or with the end portion divided, incised or otherwise complicated (figs. 19, 28); posterior rim of each epigynal fovea or depression typically running caudad of ectad, being nearest the genital furrow toward the outer end (figs. 17, 20-25) *Emblyna*, n. gen.
-Embolus of ♂ palpus slender, not specially modified at distal end, (fig. 13-14) caudal rim of each epigynal fovea transverse or typically nearest genital furrow toward its mesal end (figs. 9, 12)..... *Dictyna* Sundevall
8. Anterior median eyes absent or abortive..... 9
-With 8 eyes, the anterior median eyes not abortive, though sometimes very small 10

9. Some true spines on legs.....*Tugana* n. gen.
 -Legs without true spines*Scotolathys* Simon
10. Upper margin of furrow of chelicera armed with a keel but no teeth
*Pagomys* n. gen.
 -Upper margin of furrow bearing 2 or more true teeth..... 11
11. Lower margin of furrow of chelicera unarmed..... 12
 -Lower margin of furrow of chelicera armed with teeth..... 13
12. Upper margin of furrow of chelicera with 3 teeth of which the median is
 much largest.....*Dixomys* n. gen.
 -Upper margin of furrow normally with 4 subequal teeth.....*Zanomys* n. gen.
13. Anterior median eyes decidedly smaller than the posterior medians..... 14
 -Anterior and posterior median eyes subequal..... 15
14. Upper margin of furrow of chelicera with 3 teeth, the lower with 2.....
*Lathys* Simon
 -Upper margin with 2 teeth, the lower with 4 or 5.....*Prodalina* Marx
15. Upper margin of furrow of chelicera with 3 teeth, the lower with 2, 3 or
 rarely 4 (mostly 2)..... 16
 -Upper margin of furrow with 4 teeth, the lower with from 2 to 5 (typically 4)
*Tricholathys* C. and I.
16. Labium longer than broad, abdomen slender....*Argennina* Gertsch and Mulaik
 -Not so*Argenna* Thorell

Genus ARGENNA Thorell, 1870

GENEROTYPE.—*Argenna mengei* (Thorell)

In addition to 3 American species previously referred to this genus, the following new one is here briefly diagnosed.

***Argenna saphes* new species**

♀ Carapace brown, sternum and legs light yellow, and abdomen gray. Lower and upper margins of chelicerae with 3 teeth. Distinguishable from *obesa* Em. and the other species especially in the form of the epigynum (fig. 1).

Length, 2 mm.

TYPE LOCALITY: Utah: Uintah Mts., Mirror Lake. ♀ holotype.

Genus ARGENNINA Gertsch and Mulaik, 1936

GENEROTYPE.—*Argennina unica* Gertsch and Mulaik.

Includes also *A. reclusa* Gertsch.

Genus DICTYNA Sundevall, 1833, emended

GENEROTYPE.—*Dictyna arundinacea* Clerck

As indicated in the key, this genus as here restricted is defined primarily by the characters of the copulatory organs. The form of the epigynum, by which the females of the genus are ordinarily at once to be recognized, is illustrated in figures for *D. arundinacea* Clerck, the generotype, *D. volucripes* Keyserling, *D. chenea* n. sp., *volucripes* Keyserling, *D. tucsona* n. sp., *D. socarnia* n. sp., etc. The features of the palpus, including the simple slender embolus, are shown for *D. arundinacea*, *D. coloradensis* Chamberlin and *D. sierra* n. sp. Includes about 55 known North American species.

Dictyna alias new species

♀ Carapace brown, a little lighter on the head, with the usual rows of white hairs. Chelicerae chestnut. Endites orange brown. Legs yellowish. Abodmen light gray, with a large black hastate basal mark and typical markings behind. Venter with a broad median area dusky.

Epigynum as shown in fig. 7.

Length of ♂ holotype 1.85 mm.; of ♀ allotype, 2.20 mm.

TYPE LOCALITY: Manitoba.

Belongs in the *major* group among the species of which it is the smallest in size. In addition it is recognizable by structure of epigynum and of the ♂ palpus.

Dictyna chenea new species

♀ Carapace dark chestnut or nearly black, clothed with white hair. Chelicerae nearly black. Abodmen above with a broad basal dark mark followed by dark chevrons, sides of dorsum yellow, reticulated. Venter with a broad median band.

Differing from *idahoana*, to which related, in the broader septum of the epigynum and the configuration of the seminal canals (fig. 2).

Length, 3 mm.

TYPE LOCALITY: Washington: Cheney, Turnbull Refuge.

Dictyna clackamas new species

♀ In size and general structure very close to *D. tucsona*, but the head narrower and the eyes of posterior row closer together. Head with a median dark line in place of a light one. Chelicerae nearly yellow instead of black as they are in *tucsona*. Sternum dusky brown. Legs yellow, unmarked. Venter with a broad median brown band. Dorsum with basal mark followed by a broader posterior dark band indistinctly divided into thick chevrons.

Epigynum distinct in details from that of *tucsona* (fig. 66).

Length 2.6 mm.

TYPE LOCALITY: Oregon: Clackamas Co., Damascus. ♀ holotype taken by B. Malkin. (American Museum).

Dictyna marilina new species

♀ Carapace light chestnut with sides blackish. Sternum yellow with dark borders. Legs clear yellow. Abodmen yellow beneath except for a brown area in front of cribellum. Sides with sparse spots and streaks of brown. Basal mark of dorsum parallel sided; chevrons broken.

Quite distinct from other known species in the structure of the epigynum (fig. 8).

Length, 1.8 mm.

TYPE LOCALITY: Arizona: 8 mi. N. of Roosevelt Dam.

This form distinguishable from related small species in its very small size and the form of epigynum.

Dictyna phoenix new species

♀ Carapace with head chestnut and thorax darker, nearly chocolate colored. Legs yellow, conspicuously annulate. Sternum dusky chestnut. Abdomen in general white, reticulated with gray lines; venter with a broad median brown band; dorsum with a sagittate basal mark, followed by a herring-bone figure; abdomen densely clothed with white hair.

Epigynum as shown in fig. 5.

Length, 3.2 mm.

TYPE LOCALITY: Arizona: Phoenix.

Dictyna sierra new species

♂ Carapace dusky chestnut, with a darker shield-shaped area behind eyes. Legs yellow, with broad and conspicuous black annuli. Abdomen black on sides and most of dorsum on which yellow areas set off in relief a basal mark and a series of chevrons. Venter dusky yellow.

Characterized by a widely coiled conductor and embolus as shown in fig. 16, in this contrasting, e.g., with that of the much larger *coloradensis* (fig. 13).

Length, 2 mm.

TYPE LOCALITY: California: Sierra Co. (A.M.N.H.)

Dictyna socarnia new species

♀ Carapace dusky brown, with darker radiating lines. Sternum and labium dusky brown, nearly black. Legs yellow, annulate. Dorsum of abdomen laterally yellow, reticulated with darker lines; median basal mark followed at a distance by several black chevrons. Venter yellowish gray. A median dark band indistinct.

Differing from others of the smaller western species, e.g., *tucsona*, in a distinctive structure of epigynum, with its relatively long median septum as shown in fig. 6.

Length 2.6 mm.

TYPE LOCALITY: Utah: 4 mi. up City Creek Canyon, Salt Lake Co.

Dictyna tucsona new species

♀ Carapace dusky chestnut; a light median line running between eyes and part way back on head. Legs yellow, unmarked. Venter of abdomen yellow, with a median darker band. Dorsum white at sides, more yellow in a median band that embraces a brown basal mark.

Related to *D. littoricolens*, but a considerably smaller species differing in the structure of the epigynum, e.g., especially that of the seminal apparatus. (fig. 4).

Length 2.6 mm.

TYPE LOCALITY: Arizona: Tucson (Am. M. N. H.).

Genus **DIXOMYS** new

ORTHOTYPE.—*Dixomys pinea* (Chamberlin and Ivie)

Differing from *Zanomys* in having only 3 teeth on the upper margin of the furrow of the chelicera, with the median of these much largest. Anterior row of eyes slightly procurved, with the medians widely separated. Characters of ♂ not known.

Genus EMBLYNA new

ORTHOTYPE.—*Emblyna completa* (Chamberlin and Gertsch)

The characteristic form of the epigynum referred to in the diagnosis embraced in the key is illustrated for *completa*, the generotype, *monoca* n. sp., *palomara* n. sp., *siwa* n. sp., *rena* n. sp. and others. The distinctive features of the ♂ palpus, particularly the characteristically thickened embolus with its usually more or less complicated apical portion, are illustrated for *completa* (Chamberlin and Gertsch), *sublata* (Hentz), *rena* n. sp., *mariae* n. sp., *utesca* n. sp., etc.

This genus includes about 75 known North American species.

***Emblyna ampla* new species**

♂ Carapace chestnut, darkened in the usual way. Sternum reddish yellow, unmarked. Dorsum of abdomen slightly yellowish gray; a narrow basal mark; posterior chevrons connected by a median longitudinal line. Venter with median dark band only obscurely developed.

Related to *E. rena* but differing clearly, e.g., in the different form of the distal end of the embolus (see figs. 55 and 56).

Length, 2 mm.

TYPE LOCALITY: Wyoming: Near Rock Springs.

***Emblyna capens* new species**

Carapace orange to chestnut in part reticulate in dark lines. Sternum dusky yellow. Legs yellow, weakly annulate. Abdomen over sides and lateral parts of dorsum solid black, the dorsum otherwise white. Median basal mark of dorsum prolonged caudad in a line forming part of a network of dark lines; no chevrons. Venter entirely pale.

Readily distinguished by form of epigynum as shown in fig. 58.

Tibial apophysis of ♂ palpus very short; spur of conductor of embolus short, presenting a distinct tooth below the hook (fig. 65).

Length of ♀, 1.8 mm.; of ♂ 1.5 mm.

TYPE LOCALITY: Florida: Alachua.

***Emblyna cognata* new species**

Close to *sanfrana* with which agreeing in general in color pattern. On the dorsum of abdomen posterior chevrons are present but the lines are thin and broken.

In *sanfrana* the posterior median eyes are larger relatively to the anterior medians than in the present species. In *cognata* the quadrangle of median eyes is fully as wide in front as behind. In *cognata* (fig. 51) the septum of the epigynum is proportionately decidedly broader than in *sanfrana* (fig. 50).

Length of holotype, 3.2 mm.

TYPE LOCALITY: Arizona: San Francisco Mts., timberline to peak, 12,600 ft. (American Museum).

Emblyna crocana new species^o

Carapace nearly black over dark chestnut. Legs conspicuously annulate. Sternum dusky over chestnut, more solid black at borders. Abdomen above with the usual basal mark followed by chevrons. Venter with a broad median black band.

Epigynum and the ♂ palpus as drawn. (figs. 52, 53, 54).

Length, 3 mm.

TYPE LOCALITY: California: Alameda Co., Crow Canyon, ♂ holotype, ♀ allotype. (American Museum).

Close to *bifida* Jones in structure of palpus. The embolus is similarly bifid at distal end, but the branches are more slender and are equal instead of unequal.

Emblyna eugenia new species

♀ Carapace light brown, dusky at sides and in radiating lines. Legs yellow, annulate. Venter with broad median dark band, yellow at sides. Sides of dorsum yellowish, reticulated; basal mark followed by a series of chevrons.

Epigynum (fig. 47) with posterior rims of foveolae interrupted somewhat as in *mitis* but the outer segment of the rim shorter and the *Emblyna* form less distinct.

Length, 2.7 mm.

TYPE LOCALITY: Oregon: Lane Co., Eugene. (American Museum).

Emblyna mariae new species

♂ Carapace light brown, dusky on sides. Legs clear yellow, without annuli. Sternum dusky yellow. Abdomen yellow throughout; above a basal mark followed by pairs of dark dots, these markings rather faint in the holotype; sides with some streaks and dots of brown. Spinnerets yellow.

Interval between chelicerae broader at middle than endite at that level, a prominent tooth projecting on each side into the interval at its lower end. Male palpus as shown in fig. 26. The complicated terminal part of embolus of ♂ palpus (fig. 26) readily distinguishes this species from *olympiana*, *completa* and other western species.

Length, 3 mm.

TYPE LOCALITY: Colorado: Alpine Meadow, Grand Mesa. (A.M.N.H.)

Emblyna monoca new species

♀ A light colored species in which the carapace is yellowish brown suffused with some black pigment. Legs light yellow without markings. Sternum yellow, with some dark pigment along middle and over borders. Venter of abdomen yellowish white, and an incomplete median dark band. Sides and dorsum white or silvery, reticulated.

In coloration resembling some specimens of *reticulata* but obviously differing in the form of epigynum (fig. 24).

Length, 3 mm.

TYPE LOCALITY: California: Mono Co., Benton Station. (A.M.N.H.).

Emblyna newina new species

Carapace chestnut, sides of head and thorax blackish as usual. Sternum dusky chestnut. Legs yellow, annulate with brown. Dorsum of abdomen with basal mark broad and short; the posterior cross marks thick, not distinctly separated in ♀ holotype, but narrowly separated in ♂. Median band of venter a dilute brown.

Readily distinguished by the unusually wide separation of the foveae in the epigynum (fig. 57).

Spur of tibia of ♂ palpus small, located toward ectal side; the spur of conductor of embolus evenly and not strongly curved.

Length of ♀, 2.7 mm.; of ♂ 2.3 mm.

TYPE LOCALITY: Colorado: N. of Ouray.

Emblyna palomara new species

♀ Carapace light chestnut, in part dusky. Legs yellow. Sternum yellow, with borders and a median line dusky. Dorsum and sides of abdomen gray, the dorsum with 5 or 6 pairs of dark spots on posterior half and a narrow basal mark weakly indicated. Venter gray, with a median dark band.

The embolus of the palpus sinuous beyond its middle and distally furcate somewhat as in *reticulata*. The epigynum differs from that of *reticulata* as shown in fig. 23.

Length of ♂, 2.2 mm.; of ♀ 2.5 mm.

TYPE LOCALITY: California: Mt. Palomar.

Emblyna religens new species

♀ Carapace with usual color pattern. Legs yellow, with annuli faintly developed. Sternum dusky chestnut, black about borders. Abdomen above yellowish brown; basal mark followed by pairs of widely separated spots, those of each side connected. Sides yellow with dark spots and streaks. Venter yellow at sides, with a broad median dark band.

Epigynum as shown in fig. 64.

Length, 2.5 to 3 mm.

TYPE LOCALITY: South Dakota: Jefferson. Also taken at Newell. ♂s not known.

Emblyna rena new species

♀ Carapace light brown, dusky; a pair of longitudinal dark marks on head weakly annulate. Sternum black along middle and borders. Abdomen with a narrow basal mark followed by typically 3 pairs of dark spots. Venter pale excepting for a dark spot immediately back of the furrow.

The epigynum differs from that of *reticulata*, to which species closely related, aside from a difference in general shape, in the smaller, differently placed, spermathecae (fig. 22). Distinct in structure of distal end of embolus (fig. 21).

Length of ♂, 2.8 mm.; of ♀, 3.3 mm.

TYPE LOCALITY: Nevada: Reno. Also known from Utah.

Emblyna rosana new species

♀ Carapace dark yellow, sides of head and thorax dusky. Legs yellow, unmarked. Sternum yellow, with a median dark stripe. Abdomen above dominantly yellowish gray; basal mark in form of 2 weakly connected deltoid areas; followed by pairs of brown spots. Venter with a dark median band enclosing a long U-shaped figure in light yellow.

Epigynum with foveae placed at about same angle as in *rena*, but the septum relatively broader and the spermathecae placed more obliquely (fig. 29).

Length, 2.5 mm.

TYPE LOCALITY: New Mexico: Santa Rosa.

Emblyna sanfrana new species

♀ Carapace light brown, dusk as usual. Legs yellow, unmarked. Sternum and labium light brown. Abdomen yellowish below and on sides, silvery white above, reticulate, with or without two dark chevrons behind.

Epigynum as drawn (fig. 50).

Length, 3-3.6 mm.

TYPE LOCALITY: Arizona: San Francisco Mts. (American Museum).

Emblyna scotta new species

♀ Carapace chestnut. Legs light brown, joints darkened at ends. Sternum chestnut, black at borders. Dorsum of abdomen with narrow basal mark followed by chevrons; elsewhere median region of dorsum white, the more lateral part yellowish. Venter yellow at sides, a dark band over middle.

Epigynum as drawn (fig. 49).

Length, 2.2 mm.

TYPE LOCALITY: New Mexico: Scottsdale Canyon (American Museum).

OTHER LOCALITY: Arizona: Santa Rita Mts. (♀ paratype).

A larger form than *E. utona* from which also readily distinguished by the conspicuous dorsal markings on abdomen.

Emblyna siwa new species

♀ Carapace with head clear fulvous, unmarked; thorax dusky. Sternum rust colored over yellow, more condensed at borders. Legs clear yellow, unmarked. Dorsum of abdomen white or in part yellowish white, reticulated; basal mark expanded behind. Sides and venter darker than dorsum, brownish.

Epigynum suggesting that of *hoya* but the septum much broader, etc. (fig. 25).

Length, 2 mm.

TYPE LOCALITY: Minnesota: Waskish.

Emblyna tosa new species

♀ Carapace dusky brown, dorsal area of head clearer. Legs yellow, dusky annuli faint. Sternum light chestnut. Dorsum of abdomen entirely light gray or white excepting a pair of brown spots at caudal end a subbasal mark in form of 2 deltoid areas broadly connected at middle.

Epigynum characterized by the nearly transversely placed foveae separated by a wide septum (fig. 30).

Length, 2 mm.

TYPE LOCALITY: Ontario: Fort Albany.

Emblyna utesca new species

Carapace dusky brown. Legs yellow, with distinct black annuli, but the annuli often interrupted dorsally. Sternum light chestnut with borders and a median stripe black. Dorsum of abdomen with basal mark ending in a deltoid expansion and followed by a series of chevrons connected by a median longitudinal dark line. Venter yellow, a median, more or less broken, dark band.

Close to *D. rena*, but differing in the form of the distal end of the embolus (fig. 19) and in the form and placing of the spermathecae in the epigynum (fig. 20).

Length of ♀, 2.75 mm.

TYPE LOCALITY: Utah: East Canyon. Also found near Wanship and in Provo Canyon at North Fork.

Emblyna urica new species

♀ Median area of head and thorax yellow, carapace elsewhere black or nearly so. Sternum dusky yellow, darker at borders. Legs yellow, distinctly annulate. Abdomen above white at sides of basal mark, the latter solid, followed behind by pairs of spots, each pair connected by chevron lines. Venter yellow, with a wide median dark band. Spinnerets black.

The epigynum distinct from that of any other species referred to the genus (fig. 63).

Length, 2.7 mm.

TYPE LOCALITY: Utah: Hurricane. ♀ holotype.

Placed in *Emblyna* tentatively.

Emblyna utona new species

♀ Carapace light brown, the lateral borders not darkened. Legs yellow, not annulate. Sternum and endites dark yellow. Abdomen with integument pale yellow throughout, with coat of gray hair.

Epigynum (fig. 48) with spermathecae much larger than those of *scotta*, with other differences in details as shown in the figures.

Length, 2.5 mm.

TYPE LOCALITY: Arizona: Scottsdale (?) (American Museum).

Genus LATHYS Simon, 1884

GENEROTYPE.—*Lathys humilis* Blackwall

The species described below is referred tentatively to *Lathys*. It seems to differ from the known European species only in lacking an apophysis or specialized setae on the patella of the ♂ palpus.

***Lathys hesperus* new species**

Carapace and chelicerae pale brown with dusky blotches on sides of head and in radiating lines on thorax; a series of black setae along the median line of head. Legs yellow, in part somewhat dusky. Sternum and labium dusky yellow, the endites lighter. Dorsum of abdomen nearly black, with several yellow chevrons behind and a yellow area each side of middle and a light streak on middle line anteriorly. Markings sometimes nearly absent. Sides of abdomen also nearly black. Venter dusky over a yellowish ground. Spinnerets dusky yellow.

Posterior row of eyes straight; medians a little more than their diameter apart, nearer to the laterals. Anterior row of eyes also straight; the medians much smaller than the laterals, hardly their diameter apart, and closer to the laterals. Clypeus a little broader than diameter of an anterior lateral eye. Quadrangle of median eyes narrower in front than behind.

Upper margin of furrow of chelicerae with 3 teeth of which the median is much largest, lower margin with 2 small teeth.

In the palpus of the male the patella is unmodified; the tibia moderately produced at anterior end on ectal side, bearing long setae dorsally. The epigynum presents two small foveae very widely separated.

Length of ♀, 2.5 mm.; of ♂, 2 mm.

TYPE LOCALITY: Utah (?). Several males and females taken in 1939.

Genus MALLOS O. P. Cambridge, 1902

GENEROTYPE.—*Mallos niveus* O. P. Cambridge

As indicated in the key to genera, this genus has been distinguished primarily by the possession of a divided cribellum, in which, however, the dividing line is often very fine and is occasionally quite absent. The epigynum is characteristic, presenting paired foveae well removed from the genital furrow as shown for *M. alpheus*, n. sp., and *M. eutypus* (Chamberlin and Gertsch) (figs. 31 and 33).

Some eleven North American species are known in this genus.

***Mallos alpheus* new species**

Carapace with head light brown, the thorax dark brown. Legs with dark femora, other joints yellow, annulate. Abdomen light, with median dark band on dorsum and one on venter.

For features on epigynum and palpus see figs. 31 and 32.

Length of ♀, 3.25 mm.; of ♂, 2.5 mm.

TYPE LOCALITY: Utah: American Fork Canyon.

Also known from Idaho and Colorado. Differing from *eutypus* in epigynum and palpus.

Mallos zionis new species

♀ Carapace reddish yellow, unmarked. Legs yellow, unmarked. Abdomen in general white, with a double series of brown spots on dorsum. Anterior margin of chelicerae with 4 teeth, the posterior with 2.

Length, 6 mm.

TYPE LOCALITY: Utah: Zion National Park. Close to *M. trivittatus* (Banks) but apparently quite distinct in form of epigynum; e.g., in having septum caudally more acute and prolonged.

Genus **PAGOMYS** new

ORTHOTYPE.—*Pagomys uinta* new species

Apparently most readily distinguished from related genera in having the upper margin of the furrow of the chelicera bearing a keel or keel-like tooth (fig. 34), and the lower margin unarmed. Eyes of anterior row close together, the medians reduced in size. Tibia of ♂ palpus bearing a conspicuous apophysis produced along outer side of tarsus (fig. 36).

Pagomys uinta new species

Carapace and sternum light yellow. Legs and palpi very pale yellow. Abdomen above dark gray, finely maculate with lighter color and showing (♂ only) faint light chevrons behind. Venter light gray.

Anterior eyes subcontiguous, the eyes of posterior row subequal, the medians their diameter apart. Palpus as shown in fig. 36 and epigynum in fig. 35.

Length of ♂, 1.8 mm.; of ♀, 2 mm.

TYPE LOCALITY: Utah: Uintah Mts., Mirror Lake.

Genus **PHANTYNA** new

ORTHOTYPE.—*Phantyna micro* (Chamberlin and Ivie)

Characterized primarily by structure of epigynum and ♂ palpus. The former is simple and has the small openings well removed forward from the furrow and the spermathecal canals running from them transversely (fig. 39). In the palpus of the male the tibia, which is relatively small, bears 2 apophyses, one subectal and one submesal in position (figs. 40, 41).

Genus **PRODALIA** Marx, 1891

GENEROTYPE.—*Prodalía foxi* Marx

This genus, long merged with the European Lathys, seems to differ from the latter in the dentition of the chelicerae, the furrow bearing 2 teeth above and 4 or 5 subequal teeth below, instead of 2 and 2 or 3 respectively. In Lathys the patella of ♂ palpus bears an apophysis or else specialized setae which are lacking in *Prodalía*.

Includes 3 known North American species.

Genus SCOTOLATHYS Simon, 1884

GENEROTYPE.—*Scotolathys simplex* Simon.

Embraces 6 known North American species, including the following new one.

Scotolathys apachea new species

♀ Carapace yellowish brown. Sternum and legs yellow. Abdomen gray above, paler beneath. Clypeus very narrow. Eyes 6, the two anterior largest, separated by less than their diameter.

Differing from *maculata* Banks in coloration and in details of epigynum (fig. 37).

Length, 2.25 mm.

TYPE LOCALITY: Arizona: 8 m. N. of Roosevelt Dam.

Genus TIVYNA new

ORTHOTYPE.—*Tivyna floridana* (Banks)

In this genus the patella of the ♂ palpus is commonly enlarged and bears a dorsal apophysis at the distal end (fig. 43). The epigynum is characterized by having a finger-like process on the septum with its caudal end free; the spermathecal tubes run from near the caudal end at the middle, curving outward and forward and together form a U-shaped figure (fig. 42).

This genus as at present known embraces 7 North American species.

Genus TOSYNA new

ORTHOTYPE.—*Tosyna apachea* (Chamberlin)

Characterized primarily by the structure of the epigynum. In this the two foveae are widely separated, with the area between them more or less elevated and convex; openings at median line near caudal end of convex area, with tubes running forward and outward from there and forming a more or less V-shaped figure, the tubes then forming a few loose loops at each fovea (fig. 69). The apophysis of the tibia of the ♂ palpus is sometimes very large (fig. 68), but is much reduced in *apachea*.

Ten North American species are at present known for this genus. These are mostly small, pale forms such as *cholla* (Gertsch and Davis), *apachea* (C. and I.), *terrestris* (Emerton), etc.

One of the largest forms is the following, *T. pior*.

Tosyna pior new species

♀ Carapace yellow of a slightly orange cast, with radiating blackish lines on the thorax. Endites and sternum a clear lighter yellow. Legs light yellow, unmarked. Abdomen a somewhat pinkish gray throughout. On dorsum a median basal line with a cross mark; 3 pairs of widely separated dark dots behind, the last pair faint; abdomen otherwise unmarked.

Distinct from other species in the arrangement of the sperm tubes, each of which runs ectad from its spermathecum, then bends at right angle, and curves forward to the loop; an opening laterad from each spermathecum.

Length, 2.5 mm.

TYPE LOCALITY: Arizona: Near Marble Canyon (N 36°:W 111°). One female.

Genus TRICHOLATHYS Chamberlin and Ivie, 1935

ORTHOTYPE.—*Tricholathys spiralis* Chamberlin and Ivie.

Six species of North American dictynids are referable to this genus, among them being the following new one.

Tricholathys saltona new species

♀ Carapace yellow or pale brown, with thorax somewhat dusky. Legs light yellow. Dorsum of abdomen black, with an elongate area each side of middle at base yellow, 2 yellow chevrons posteriorly and some yellow spots. Venter clear yellow.

Chelicerae differing from those of other known species in having but 3 teeth on lower margin of furrow. In the palpus the conductor and embolus well developed but less extremely so than in *ohioensis* (fig. 38).

Length, 2.5 mm.

TYPE LOCALITY: California: Salton Sea, at Fish Springs.

Genus TUGANA new

ORTHOTYPE.—*Tugana cavatica* (Bryant)

Eyes 6 in two groups of 3 each. Legs armed with spines. Chelicerae in the type with a rounded keel and 5 teeth on upper margin and 4 small teeth on the lower.

The generotype is the only species at present known.

Genus VARYNA new

ORTHOTYPE.—*Varyna mulegensis* (Chamberlin)

In this genus the patella of the ♂ palpus has a prominent flattened process or keel projecting from the lateral or subventral surface and the tibia is relatively short (fig. 45). The foveae of the epigynum remote from the transverse furrow, the general appearance being that of Mallos rather than of Dictyna (fig. 44).

In addition to *mulegensis*, *segregata* (Gertsch and Mulaik) and *parietalis* (Cambridge) belong in this genus.

Genus ZANOMYS new

ORTHOTYPE.—*Zanomys kaiba* new species

A genus of the Lathys group in which distinguished by characters of eyes, chelicerae and ♂ palpus. The tibia of the ♂ palpus has a conspicuous apophysis at its distal end whereas in Lathys sem. etc. the apophysis is on the patella. Upper margin of furrow of chelicerae typically with 4 teeth, the lower margin unarmed. Both rows of eyes strongly procurved.

In addition to the 2 new species here diagnosed, includes *Z. californica* (Banks).

Zanomys kaiba new species

Carapace, sternum and legs clear yellow. Abdomen nearly white above, but same color pattern as in *californica* weakly indicated. Posterior median eyes somewhat closer to the laterals than in *californica*.

Distinct in the form of epigynum (fig. 62) and palpus (fig. 61).

Length, 2.25 mm.

TYPE LOCALITY: Utah: Dry Canyon.

Known from other Utah localities and also from Arizona and Idaho.

Zanomys moabana new species

♀ Carapace, sternum and legs clear orange yellow. Abdomen dull white, without markings.

Distinct from the two other known species in the extreme reduction of the anterior median eyes which are distinctly separated from each other but are contiguous with the laterals. It also differs in the form of the epigynum which presents a spade-shaped caudal expansion of the septum, resembling that of *californica* rather than that of *kaiba* in general structure.

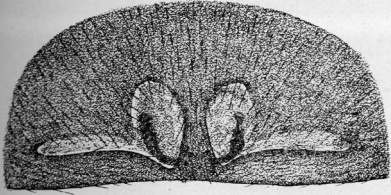
Length, 2 mm.

TYPE LOCALITY: Utah: Moab.

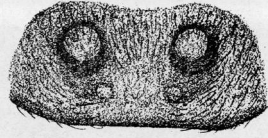
Explanation of Figures

PLATE 1

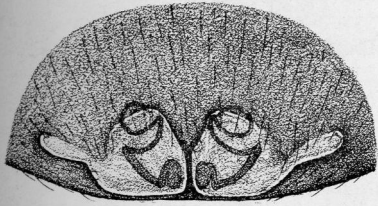
1. *Argenna saphes* n. sp. Epigynum.
2. *Dictyna chenea* n. sp. Epigynum.
3. *Dictyna volucripes* Keyserling. Epigynum.
(Specimen cleared).
4. *Dictyna tucsona* n. sp. Epigynum.
5. *Dictyna phoenix* n. sp. Epigynum.
6. *Dictyna socarnia* n. sp. Epigynum.
7. *Dictyna alias* n. sp. Epigynum.
8. *Dictyna marilina* n. sp. Epigynum.
9. *Dictyna arundinacea* Keyserling. Epigynum.
10. *Dictyna arundinacea* Keyserling. ♂ palpus.



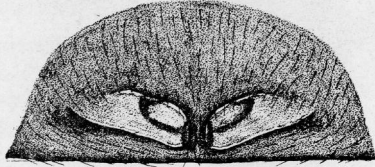
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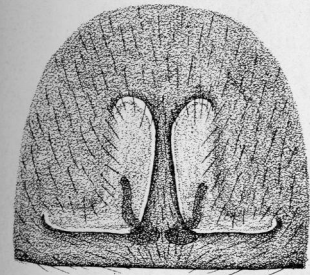
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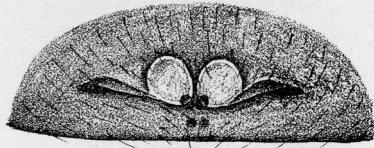
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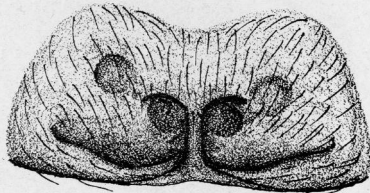
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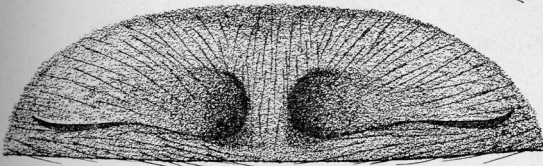
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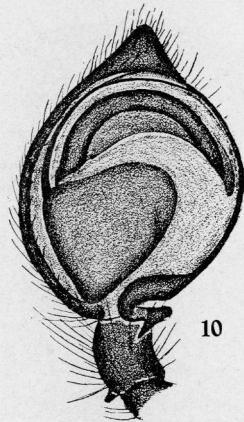
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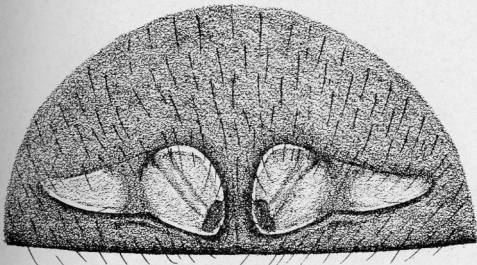
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PLATE 2

12. *Dictyna coloradensis* Chamberlin. Epigynum.
13. *Dictyna coloradensis* Chamberlin. Palpus of ♂, submesal view.
14. *Dictyna coloradensis* Chamberlin. Tip of embolus.
15. *Emblyna bostoniensis* (Emerton). Tip of embolus.
16. *Dictyna sierra* n. sp. Palpus of ♂, submesal view.
17. *Emblyna completa* (Chamberlin and Gertsch). Epigynum.
18. *Emblyna completa* (Chamberlin and Gertsch). Distal portion of embolus.
19. *Emblyna utesca* n. sp. Distal portion of embolus.
20. *Emblyna utesca* n. sp. Epigynum.
21. *Emblyna rena* n. sp. Distal portion of embolus.
22. *Emblyna rena* n. sp. Epigynum.
23. *Emblyna palomara* n. sp. Epigynum.
24. *Emblyna monoca* n. sp. Epigynum.
25. *Emblyna siwa* n. sp. Epigynum.

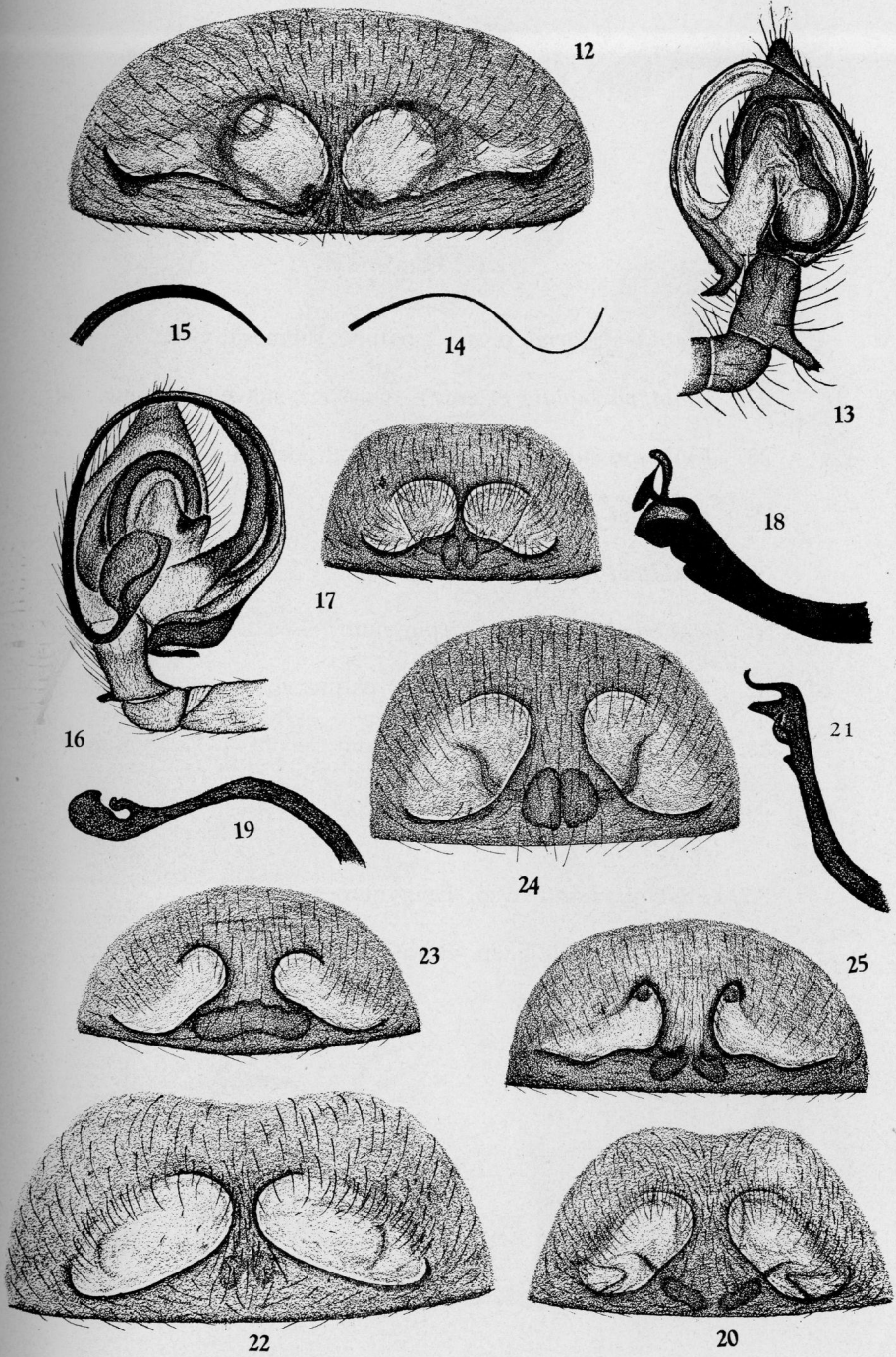
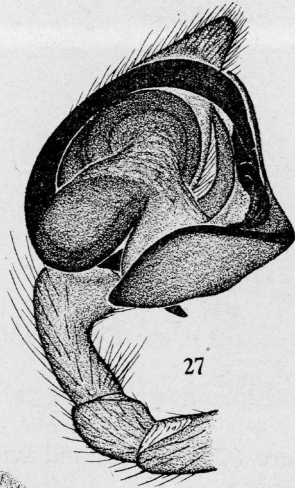


PLATE 3

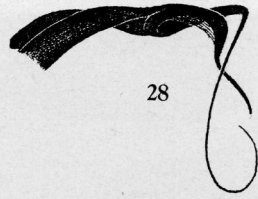
26. *Emblyna mariae* n. sp. ♂ palpus, submesal view.
27. *Emblyna sublata* (Hentz). ♂ palpus, subventral view.
28. *Emblyna sublata* (Hentz). Distal portion of embolus.
29. *Emblyna rosana*, n. sp. Epigynum.
30. *Emblyna tosa* n. sp. Epigynum.
31. *Mallos alpheus* n. sp. Epigynum.
32. *Mallos alpheus* n. sp. Left ♂ palpus, mesoventral aspect.
33. *Mallos eutypus* (Chamberlin and Gertsch). Epigynum.
34. *Pagomys uinta* n. sp. Tip of left chelicera,
anterior view.
35. *Pagomys uinta* n. sp. Epigynum.
36. *Pagomys uinta* n. sp. Right palpus of ♂, ectal view.



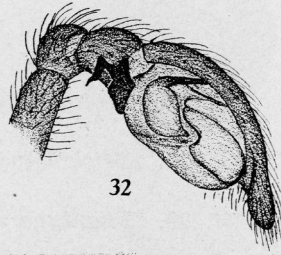
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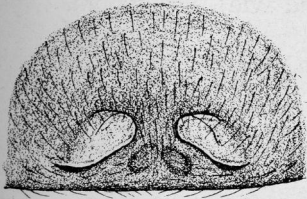
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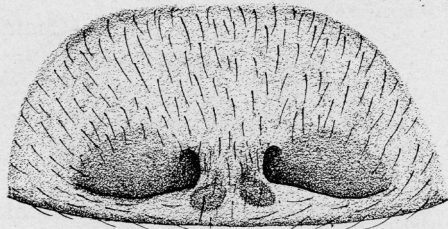
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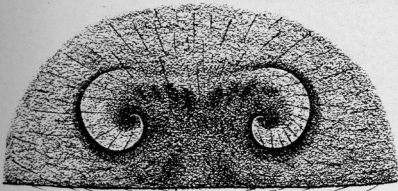
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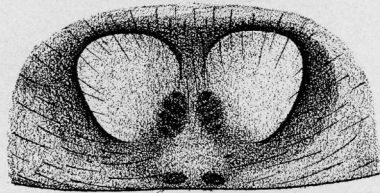
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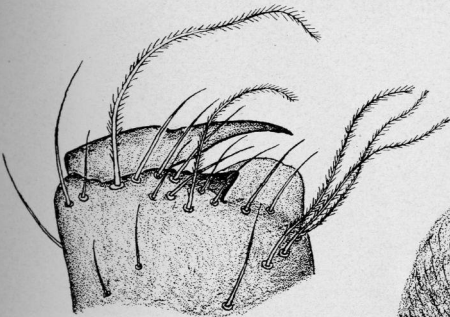
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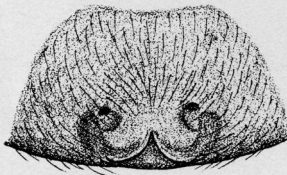
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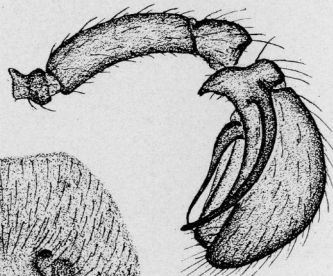
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36

PLATE 4

37. *Scotolathys apachea* n. sp. Epigynum.
38. *Tricholathys saltona* n. sp. Left ♂ palpus, ectal view.
39. *Phantyna micro* (Chamberlin and Ivie). Epigynum.
40. *Phantyna micro* (Chamberlin and Ivie). ♂ palpus, dorsal view.
41. *Phantyna micro* (Chamberlin and Ivie). ♂ palpus, submesal view.
42. *Tivyna floridana* (Banks). Epigynum.
43. *Tivyna floridana* (Banks). Left ♂ palpus, ectal view.
44. *Varyna mulegensis* (Chamberlin). Epigynum.
45. *Varyna mulegensis* (Chamberlin). Patella and tibia of ♂ palpus, dorsal view.
46. *Tivyna pallidula* (Keyserling). Epigynum.

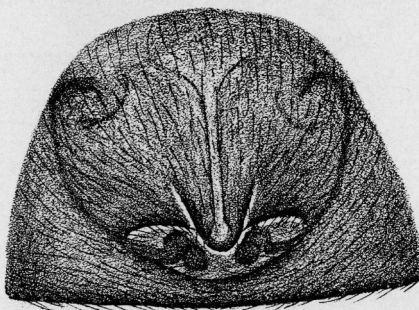
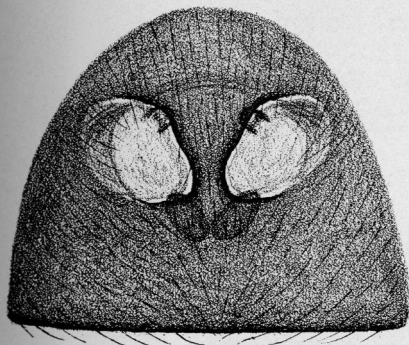
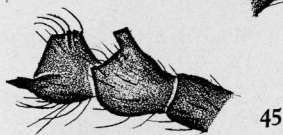
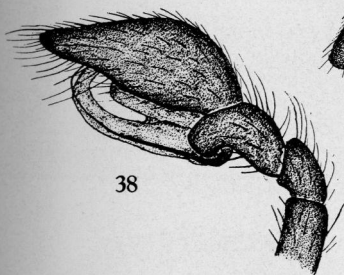
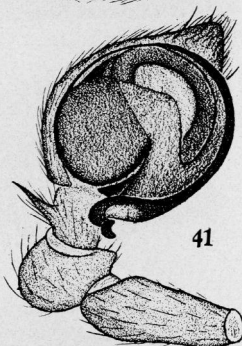
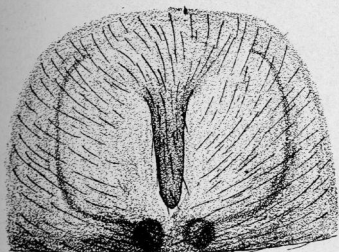
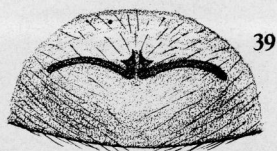
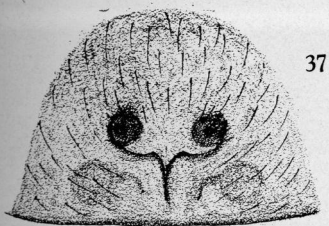
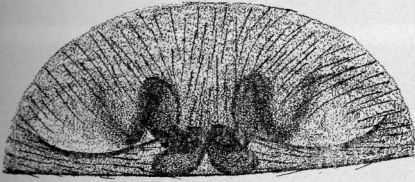
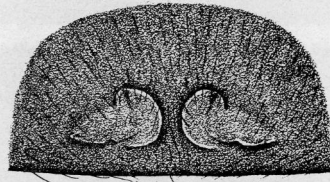


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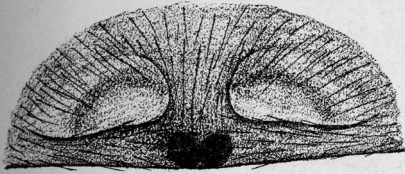
47. *Emblyna eugenia* n. sp. Epigynum.
48. *Emblyna utona* n. sp. Epigynum.
49. *Emblyna scotta* n. sp. Epigynum.
50. *Emblyna sanfrana* n. sp. Epigynum.
51. *Emblyna cognata* n. sp. Epigynum.
52. *Emblyna crocana* n. sp. Left ♂ palpus,
submesal view.
53. *Emblyna crocana* n. sp. Left ♂ palpus,
ectal view.
54. *Emblyna crocana* n. sp. Epigynum.
55. *Emblyna ampla* n. sp. Right ♂ palpus,
56. *Emblyna ampla* n. sp. Distal portion
of embolus.
57. *Emblyna newina* n. sp. Epigynum.
58. *Emblyna capens* n. sp. Epigynum.



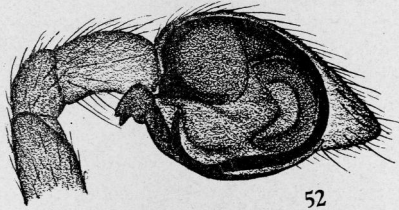
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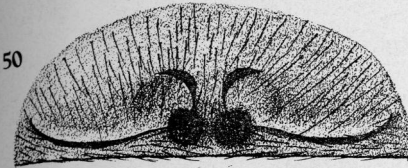
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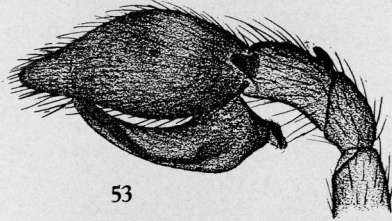
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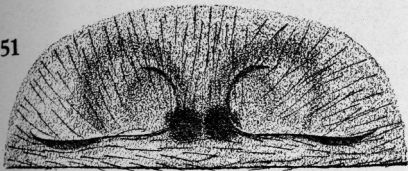
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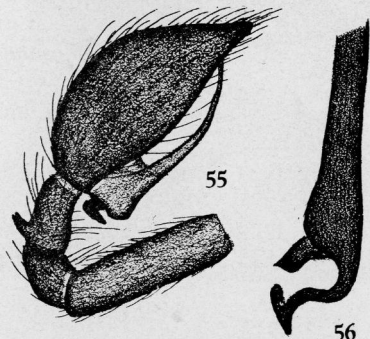
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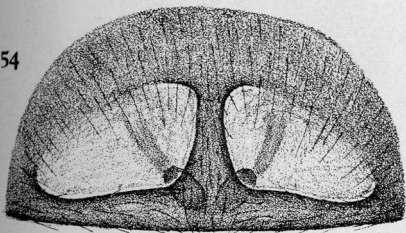


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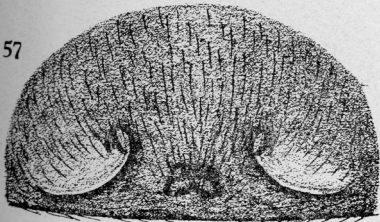


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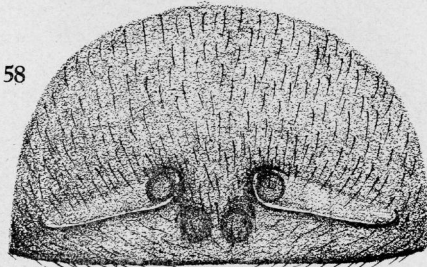
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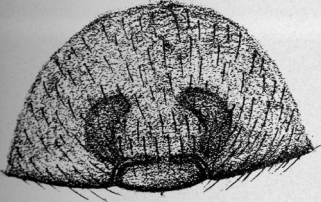
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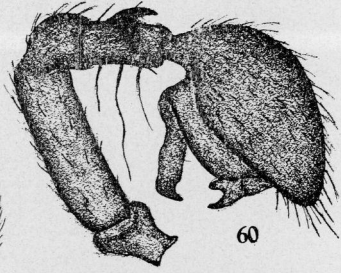
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PLATE 6

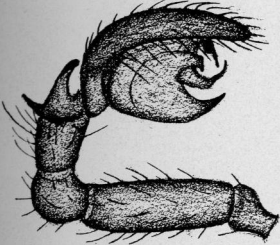
59. *Zanomys californica* (Banks). Epigynum.
60. *Zanomys californica* (Banks). Right ♂ palpus, ectal aspect.
61. *Zanomys kaiba* n. sp. Right ♂ palpus, ectal aspect.
62. *Zanomys kaiba* n. sp. Epigynum.
63. *Emblyna urica* n. sp. Epigynum.
64. *Emblyna religens* n. sp. Epigynum.
65. *Emblyna capens* n. sp. Right ♂ palpus, ectal view.
66. *Dictyna clackamas* n. sp. Epigynum.
67. *Dictyna alias* n. sp. Left ♂ palpus, ectal aspect.
68. *Tosyna calcarata* (Banks). Left ♂ palpus, mesal view.
69. *Tosyna calcarata* (Banks). Epigynum, cleared and a little spread to show loops of seminal tubes.



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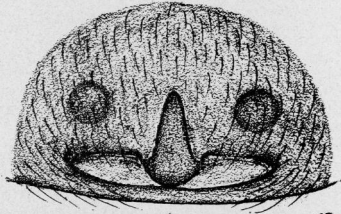
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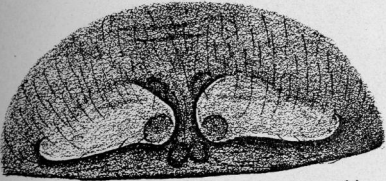
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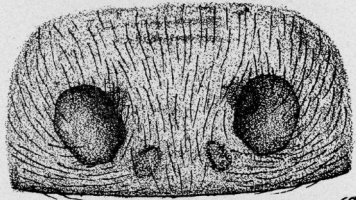
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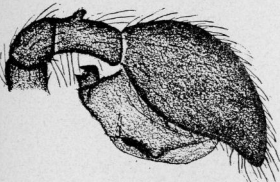
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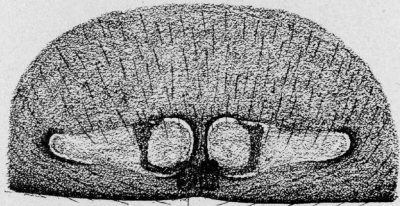
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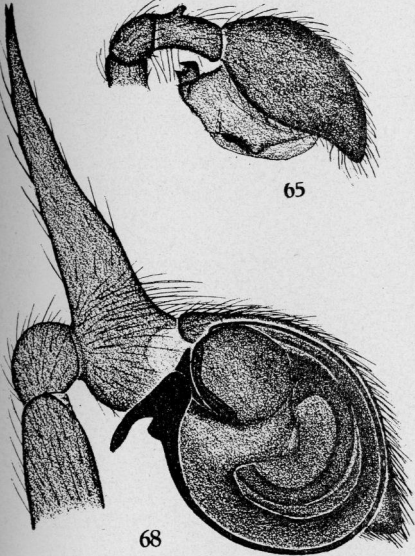
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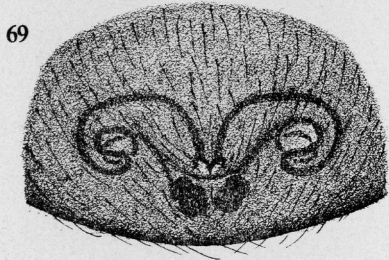
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66



68



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