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The Species of *Dictyna* (Arachnida) in the Exline Collection

Sarah E. Jones

Mrs. Harriet Exline Frizzell has very kindly loaned me her specimens of *Dictyna* Sundevall, 1833, mostly from the western United States. Examination has produced the records given below. All holotypes and allotypes have been deposited in the Museum of Comparative Zoology, Harvard University, and all other specimens have been returned to the Exline collection.

Dictyna arundinaceoides Keyserling, 1883

Wash.: Deep Creek, May 30, 1937 (M. H. Hatch); Seattle, May 6, 1932 (Henry), May 26, 1934, May 27, 1935, May 19, 1935, Sept. 24, 1935 (all M. H. Hatch); Tacoma, May 5, 1945 (Forsell); Renton, May 13, 1936; Kirkland, July 17, 1938; Lenore Lake, May 8, 1938; Medical Lake, May 30, 1937; Cedar Mt., May 19, 1938; Maloney's Grove, May 26, 1934; Lake Forest Park, Seattle, Jan. 29, 1934; Newman's Lake, May 29, 1937; *Ore.*: Lake Albert, June 16, 1938; *Mont.*: Bozeman, June 23, 1936 (all M. H. Hatch).

Dictyna bifida Jones, 1946

Wash.: Deep Creek, May 20, 1937; Newman's Lake, Aug. 15, 1934, May 29, 1937; Lake Forest Park, Seattle, Jan. 29, 1934; Medical Lake, May 30, 1937; Chace Lake, July 2, 1935; *Idaho*: Coeur d'Along, June 20, 1936; *Wyo.*: Lava Creek, Yellowstone Nat. Park, Aug. 31, 1937; *Ore.*: Crater Lake, June 29, 1934 (all M. H. Hatch).

Dictyna bostoniensis Emerton, 1888

Mich.: Houghton Co.; McLain State Park, July 5, 1936 (M. H. Hatch).

Dictyna brevitarsis Emerton, 1888

Mich.: Houghton So.; McLain State Park, July 5, 1936 (M. H. Hatch).

Dictyna bryantae Jones, 1946

Conn.: New Haven, Oct. 5, 1937.

Dictyna calcarata Banks, 1904

Wash.: Bay Center, Aug., 1931; Walla Walla, Aug., 1931; *Ore.*: Arlington, June 26, 1938 (M. H. Hatch); *Texas*: Austin, June 4, 1946.

Dictyna completa Chamberlin, 1928

Wash.: Marsch Ocean Park, June 13, 1932 (Kincaid); Soap Lake, Aug. 30, 1933; Republic Ferry Co., May 20, 1934 (Miller); Spokane, May 30, 1937; Vantage, May 7, 1937; Newman's Lake, May 29, 1937; *Wyo.*: Mammoth Hot Springs, Aug. 30, 1937; *Mont.*: Willow Creek, June 22, 1936; *Ore.*: Burns, Hot Lake, Lake Albert, Glendale, Condon, Haines, Dooley Pass, Hermiston, Lakeview, Mayville, Baker, Alkali Lake, all June (all M. H. Hatch).

Dictyna foliacea (Hentz), 1850

Mich.: Calumet, June 30, 1936; Rochester, Royal Oak, both July, 1936 (all M. H. Hatch).

Dictyna marxi Jones, 1946

Wash.: Steamboat Rock, April 30, 1939; Grand Coulee, May 8, 1938, and April 30, 1939; Dry Falls, May 7, 1938; Chace Lake, May 18, 1932; *Wyo.*: Mammoth Hot Springs, Aug. 30, 1937; *Minn.*: Wadena, June 27, 1936; *Mich.*: Ironwood, June 28, 1936 (all M. H. Hatch); *Texas*: Smithville, March 3, 1946; Austin, Sept. 18, 1945.

Dictyna sancta Gertsch, 1946

Wash.: Blue Lake, May 7, 1938; Grand Coulee, April 30, 1939; *Mont.*: Bozeman, June 22, 1936 (all M. H. Hatch).

Dictyna sublata (Hentz), 1850

Mich.: Calumet, June 30, 1936; Ironwood, May 28, 1936; Detroit, July 25, 1936 (all M. H. Hatch).

Dictyna uintana Chamberlain, 1928

Wash.: Olympia, Oct. 10, 1943; Starbuck, July 10, 1935; Cowlitz Co., Salmon Creek, July 10, 1932 (Kincaid); Newman's Lake, May 29, 1937; Grand Coulee, May 8, 1938, and May 4, 1940; Central Ferry, Aug. 12, 1934; Cle Elum, May 3, 1935; Deep Creek, May 30, 1937, and May 6, 1938; Friday Harbor, July 10, 1938; *Ore.*: Emigrant Hill State Park, May 19, 1938; Blue Mountains, Sept. 29, 1937; Robinette, June 18, 1938; Kamela, June 19, 1938; *Idaho*: Coeur d'Along, June 20, 1936; *Minn.*: Wadena, June 27, 1936 (all M. H. Hatch).

Dictyna vincens Chamberlain, 1919

Wash.: Grand Coulee, Aug. 23, 1932, and May 2, 1937; Seattle, July 19, 1933, and May 17, 1934; Walla Walla, Aug. 1931; Tacoma, May 5, 1945 (Forsell); Kohlotur, June 18, 1932; Silver Lake, May 31, 1934; Friday Harbor, June 24, 1934; Olympia, July 2, 1933, and May 26, 1934; Newman's Lake, May 29, 1937; Chace Lake, May 26, 1931; Medical Lake, May 30, 1937; Dry Falls, May 2, 1937; Iron Creek, June 11, 1932 (Kincaid); Dorington, Kirk Lake, May 15, 1932 (Kincaid); North Bend, Sept. 1, 1940; Dayton, Sept. 18, 1937; Whidley Island, June 27, 1944; Easton, Apr. 28, 1939; Mt. Rainier, Paradise Park, July, 1935, and July 18, 1937; Reflection Lake, Aug. 14, 1932, and July 19, 1935; Ricksecker Point, July 19, 1935; Snohomish Co., Chace Lake, May 9, 1934, July 2, 1935, May 14, 1936, and May 7, 1940; Snoqualmie Falls, May 26, 1934; Seattle, May 26, 1935, May 22, 1935; Karkeek Park, May 19, 1935, May 17, 1936, and May 12, 1938; Renton, Cedar River, May 20, 1935, and May 13, 1936; Anacontes, July 9, 1931, and July 8, 1938; King Co., Cedar Mt., July 17, 1935, May 18, 1937, May 19, 1938, July 7, 1938, May 19, 1940, and May 15, 1945; Maloney's Grove, May 26, 1934, and May 21, 1937; Grand Coulee, May

8, 1938, and May 4, 1940; Newman's Lake, May 29, 1937; Deep Creek, May 30, 1937; Lake Marie, Fall City, May 14, 1936; Martha Lake, July 2, 1935; Kirkland Co., July 17, 1938; Ellensburg, May 6, 1938; *Idaho*: Moscow, June 17, 1932; *Minn.*: Wadena, June 27, 1936; *Ore.*: Cornelius, June 21, 1934; Portland, June 22, 1934; Union, June 19, 1938; Austin, June 17, 1938; Kamela, June 19, 1938; *Mont.*: Deer Lodge, July 21, 1936; Bozeman, June 23, 1936; *Colo.*: Jefferson Co., Bear Creek Canyon, Sept. 5, 1939 (all M. H. Hatch).

Dictyna volucripes Keyserling, 1881

Wash.: Mt. Rainier, July 20, 1935, and June 24, 1938; Paradise Park, July 19, 1935; Reflection Lake, July 19, 1935; Olympia, May 14, 1934; Deep Creek, May 30, 1937; Spokane Bridge, May 29, 1937; Spokane, May 30, 1937; Dry Falls, May 2, 1937; *Mont.*: Bozeman, June 23, 1936; Willow Creek, June 22, 1936; *Mich.*: Ann Arbor, Third Sister Lake, July 30, 1936; Royal Oak, July 16, 1936 (all M. H. Hatch); *Texas*: Travis Lake, March 10, 1946.

Dictyna californica Jones, 1946

Figure 1.

Female allotype, 4 male paratypes, 13 female paratypes, and 3 immature from *Wash.*; Soap Lake, May 2, 1937. *Wash.*: Starbuck, July 4, 1938 (C. S. Burner); Lenore Lake, May 7, 1938; *Ore.*: Arlington, June 26, 1938 (both M. H. Hatch).

Female. *Length* 2.9 mm; *ceph.* 1.2 mm. long, 1.0 mm. wide; *abd.* 2.1 mm. long, 1.4 mm. wide; *ceph.* yellow, brown on sides, with dark radiating thoracic lines, margins white, shape typical; *clypeus* white, with white hairs, its height one and one-half times the diameter of an AME; *eyes*, anterior row straight, subequal, medians separated by two-thirds a diameter, half a diameter from the laterals, posterior row slightly recurved, subequal, medians separated by one and one-third diameters, as far from laterals, median ocular quadrangle as wide as long, slightly wider behind; *mandibles* light, with white hairs, not emarginate medially, a slight tooth above; *sternum* white, darker on sides and in median longitudinal stripe, covered with white hairs, longer than broad; *labium* dark, as broad as long, two-thirds as

long as the pale, curved *endites*; *legs* and *palps* pale, legs with faint rings on femora, patellae, tibiae, and metatarsi, 1243, calamistrum on median two-thirds of hind metatarsus; *abdomen* white, covered with white and black hairs, spotted with brown, with a median irregular brown stripe anteriorly and pairs of brown spots posteriorly, spotted laterally, white ventrally with a broad, even, median brown band, cribellum and spinnerets pale; *epigynum* as shown, most heavily chitinized laterally and darkest posteriorly and medially.

***Dictyna acuta* sp.n.**

Figures 2, 8, 9, 10.

Types from Wash.: Soap Lake, beach of N. shore, May 4, 1940 (M. H. Hatch). Another male from Wash.: Soap Lake, May 7, 1938 (M. H. Hatch).

Male. *Length* 3.4 mm.; *ceph.* 1.7 mm. long, 1.2 mm. wide; *abd.* 2.0 mm. long, 1.2 mm. wide; *ceph.* golden brown, darker on sides of cephalon, in radiating thoracic lines, and in narrow submarginal line, three rows of white hairs behind eyes; *clypeus* light brown, black on lower margin, covered with white hairs, its height a little more than twice the diameter of an AME; *eyes*, first row recurved, medians slightly smaller, separated from one another by two-thirds a diameter and from laterals by half a diameter, hind row straight, subequal, medians separated by a little more than a diameter, as far from laterals, median ocular quadrangle longer than wide and wider behind; *mandibles* brown, black on edge, emarginated so that central cavity is wider than a mandible, a tooth just below midlength greatly sloped both above and below its tip, rounded above but without a distinct tooth; *sternum* golden, darker on edge, where are long white hairs, typical in shape; *labium* dark at base, pale distally, longer than broad, almost as long as the *endites*, which are pale but dusky on the edges; *palps* pale, tibia slightly longer than patella, one-half again as long as wide, with sub-basal bifid apophysis, one-half as long as tibia is wide, conductor thickened distally but embolus tapered; *legs* pale, unmarked, clothed with white hairs, 1243, no calamistrum observed; *abdomen* very pale, with white basal spot followed by irregular median brown band, four pairs of brown spots on pos-

terior half decreasing in size, sides with oblique dark lines, venter pale with median dusky band, spinnerets a little darker.

Female. *Length* 4.0 mm.; ceph. 1.5 mm. long, 1.3 mm. wide; abd. 2.9 mm. long, 2.2 mm. wide; *ceph.* colored as in male, except submarginal line less distinct, five rows of white hairs behind eyes; *clypeus* brown, clothed with white hairs, its height a little more than the diameter of an AME; *eyes*, first row faintly recurved, subequal, medians separated by a little less than a diameter, half a diameter from the laterals, hind row straight, subequal, medians separated by one and one-half diameters, as far from laterals, median ocular quadrangle longer than wide and wider behind; *mandibles* brown, dusky on edge, slightly emarginate medially; *sternum* golden, dusky on edge and in median stripe, with black and white hairs, typical in shape; *labium* dark at base, pale distally, longer than broad, almost as long as the dusky *endites*; *legs* and *palps* golden, unmarked, clothed with dark and white hairs, legs 1243, calamistrum covering full length of hind metatarsus; *abdomen* white, covered with short black and white hairs, a dark brown irregular spot on anterior half followed by pairs of decreasing spots behind, sides with suggestions of oblique dark lines, venter with vague median broad band, spinnerets darker.

This species resembles *Dictyna completa* Chamberlin and *D. cavernosa* Jones in having a tooth near the midlength of the male mandible; but the slope of this tooth is distinctive in being gently curved both above and below, while in the palp the embolus is far more slender than in either of the earlier species.

Dictyna curvata sp.n.

Figures 3, 11, 12, 13, 14.

Male holotype, female allotype, two female paratypes, and two immature from Mich.: Macomb Co., St. Clair Shores, Aug. 3, 1936 (M. H. Hatch).

Male. *Length* 2.1 mm.; ceph. 1.0 mm. long, 0.8 mm. wide; abd. 1.2 mm. long, 0.9 mm. wide; *ceph.* brown, a little paler on dorsum, with a narrow black margin, white hairs among eyes and in five rows behind them, shape typical; *clypeus* light brown with white hairs, its height two and one-half

times the diameter of an AME; *eyes*, first row straight, medians smaller, separated by a little more than a diameter, a little less than a diameter from the laterals, posterior row recurved, subequal, medians separated by one and one-half diameters, as far from laterals, median ocular quadrangle broader than long, as broad in front as behind; *mandibles* light brown, dusky on edge, with scattered white hairs, basal tooth rather prominent, median emargination gently curved and, at midlength, not as wide as a mandible; *sternum* light brown, darker on edge, where are white hairs, typical in shape; *labium* light brown, but darker on basal edge, longer than broad, two-thirds as long as *endites*; *palps* with tibia twice as long as patella, with bifid, subbasal apophysis, broadened distally as seen dorsally, embolus with a thin, distinctively curved tip, lacking notches, conductor twisted as shown; *legs* pale, except first femur slightly darkened, 1243, calamistrum on median two-thirds of hind metatarsus; *abdomen* pale, covered with short hairs, reticulated with white, a light brown, irregular, median band slender on basal half, broadened posteriorly, ending well above spinnerets and completely bordered by white, sides brown with indistinct oblique bands, venter pale with broad, tan median band, cribellum and spinnerets pale.

Female. *Length* 2.3 mm.; *ceph.* 1.0 mm. long, 0.8 mm. wide; *abd.* 1.4 mm. long, 1.1 mm. wide; *ceph.* dark brown, a little lighter on mid-dorsum and in thin submarginal line, white hairs among eyes and in five longitudinal lines behind them, normal in shape; *clypeus* light brown, with white hairs, its height twice the diameter of an AME; *eyes*, first row faintly recurved, medians slightly smaller, separated by one and one-half diameters, one diameter from the laterals, posterior row recurved, subequal, medians separated by one and one-third diameters, one and two-thirds diameters from laterals, median ocular quadrangle broader behind and a little broader than long; *mandibles* brown, dusky on edges, with definite lateral bulge but weak median emargination; *sternum* brown, darker on edge and covered with white hairs, typical in shape; *labium* dark except distally, as broad as long, three-fourths as long as the paler *endites*; *legs* and *palps* pale, covered with hairs, legs 1243, calamistrum on almost the full length of hind metatarsus; *abdomen* pale,

covered with hairs and reticulated with white, with light brown median basal line, separated from a broader posterior one, pale above spinnerets, sides darker with oblique lines, venter pale; *epigynum* as shown.

This species resembles *Dictyna bryantae* Jones except that, in the male, the mandibular emargination is narrower and more gently curved, and the basal mandibular tooth is more pronounced, while in the palp the curve of the embolus is distinctive, and the conductor is farther from the cymbium laterally.

Dictyna exlineana sp.n.

Figures 4, 15, 16, 17.

Holotype, allotype, and a male and female paratype from Wash.: Edmunds, Martha Lake, June 2, 1935 (M. H. Hatch). Others from Wash.: Olympia, May 26, 1934; Seattle, May 28, 1934, May 19, 1935, May 26, 1934, and May 12, 1945; Kirkland, May 27, 1935 (M. H. Hatch); Friday Harbor, July 9, 1938; Ore.: Taleat, June 15, 1938 (M. H. Hatch); Medford, June 14, 1938 (M. H. Hatch); Glendale, June 14, 1938.

Male. *Length* 2.2 mm.; *ceph.* 0.9 mm. long, 0.6 mm. wide; *abd.* 1.4 mm. long, 0.8 mm. wide; *ceph.* brown, darker on sides, with black marginal lines, lighter on dorsum behind eyes, where are five rows of white hairs, shape typical; *clypeus* light brown, covered with white hairs, its height three times the diameter of an AME; *mandibles* light brown, dusky on edges, narrowed below, gently concave posteriorly, with prominent basal knob but no tooth; emarginate medially with central cavity as wide as mandible at that point; *sternum* light brown, dusky on edges, where are long white hairs, shape typical; *labium* dark basally, lighter distally, longer than broad, three-fourths as long as the pale *endites*; *palps* as figured, with tibia one and one-half times as long as patella, about twice as long as wide, with short, basal, bifid apophysis, tarsus with widely flared conductor, this conductor and embolus both having distinctive curves distally; *legs* 1243, pale, unmarked, with black and white hairs; *abdomen* pale, covered with dark and white hairs, reticulated with white except in short, irregular basal line and in two pairs of dark spots posteriorly, sides with irregular dark oblique lines, venter light with broad, pale brown, median

band, spinnerets light brown.

Female. *Length* 2.3 mm. ceph. 0.9 mm. long, 0.6 mm. wide; abd. 1.6 mm. long, 1.1 mm. wide; *ceph.* light brown, lighter behind eyes, dark on margin and in radiating thoracic lines, with three longitudinal rows of which hairs behind eyes and other hairs among eyes; *clypeus* light, with white hairs, its height twice the diameter of an AME; *eyes*, first row straight, medians two-thirds as wide as laterals, separated by a diameter, half as far from laterals, second row slightly recurved, subequal, medians separated by one and one-half diameters, as far from laterals, median ocular quadrangle wider behind, as wide as long; *mandibles* light, with white hairs, faintly excavated medially, with slight basal knob; *sternum* light brown, darker on edge, covered with white hairs, typical in shape; *labium* dark, as broad as long, three-fourths as long as the paler *endites*; *legs* and *palps* pale, unmarked, covered with white and black hairs, legs 1243, calamistrum on median two-thirds of hind metatarsus; *abdomen* light brown, mottled with white, covered with short dark and light hairs, an irregular median brown band anteriorly and four pairs of decreasing brown spots posteriorly, oblique brown bands laterally, venter light brown, slightly darker around cribellum and spinnerets; *epigynum* as shown, with vulval openings near fold and lateral depressions widely separated, more thickly chitinized laterally.

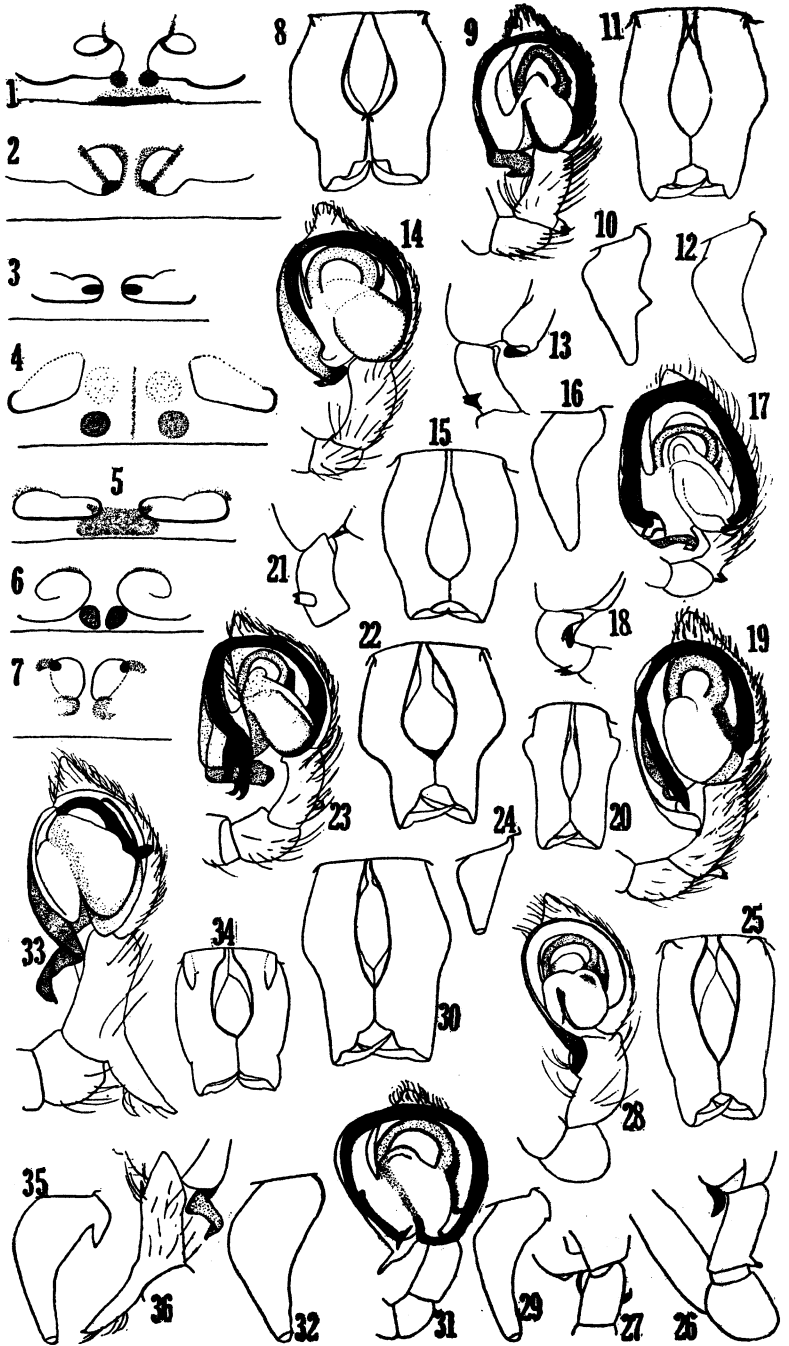
This species somewhat resembles *Dictyna orbiculata* Jones in its palpal structure, but its conductor is less separated from the cymbium, the tips of the conductor and embolus are different, and the tibia is more broadened distally.

Dictyna montana sp.n.

Figures 18, 19, 20.

Male holotype from Mont.: Bozeman, Hyalite Canyon, June 22, 1936 (M. H. Hatch).

Male. *Length* 2.3 mm.; ceph. 0.9 mm. long, 0.7 mm. wide; abd. 1.3 mm. long, 0.8 mm. wide; *ceph.* golden brown, dusky on submarginal band, on sides of cephalon, and in faint radiating thoracic lines, white hairs among eyes and in three vague lines behind eyes, normal in shape; *clypeus* light brown, with white hairs, a little more than twice as high as



the diameter of an AME; *eyes*, first row recurved, medians slightly smaller, separated by a little more than a diameter, a diameter from laterals, hind row slightly recurved, subequal, medians separated by one and one-half diameters, as far from laterals, median ocular quadrangle wider behind, slightly longer than wide; *mandibles* pale, dusky on edges, with strong lateral angle and gentle median excavation; *sternum* golden, slightly darker on edge, where are white hairs, typical in shape; *labium* darker, longer than broad, two-thirds as long as the pale *endites*; *palps* pale, tibia twice as long as patella and more than twice as long as wide, strongly broadened distally, with a short, bifid, basal apophysis, conductor and embolus broad and blunt, dark at tips, as shown; *legs* pale, clothed with dark hairs, 1243, a small calamistrum on distal two-thirds of hind metatarsus; *abdomen* lighter than cephalothorax, iridescent, with black and white hairs, slightly darker on broad median basal line and in three pairs of cross bars on posterior half, light on sides and venter, with pale cribellum and spinnerets.

Dictyna montana closely resembles *D. sancta* Gertsch, but can be distinguished by its broader, blunter conductor and embolus, by the different curve of the conductor, and by the more golden coloring.

***Dictyna pacifica* sp.n.**

Figures 5, 25, 26, 28, 29.

Types from Wash.: Vantage, May 1, 1936 (M. H. Hatch). Another male from Wash.: Cle Elum, June 12, 1938 (M. H. Hatch).

Male. *Length* 2.1 mm.; *ceph.* 0.9 mm. long, 0.8 mm. wide; *abd.* 1.3 mm. long, 0.7 mm. wide; *ceph.* light brown, dusky on sides of cephalon and in a few broad radiating thoracic lines, a thin black submarginal line, a few white hairs behind eyes, shape typical; *clypeus* brown with scattered white hairs, its height slightly more than the diameter of an AME; *eyes*, first row recurved, subequal, medians separated by a diameter, nearer to the laterals, hind row faintly recurved, subequal, medians separated by a little more than a diameter, as far from laterals, median ocular quadrangle longer than broad, slightly wider behind; *mandibles* light brown, dusky on edges, glabrous, slender, with median excavation wider than a mandible, a prominent tooth at base;

sternum golden, slightly darker on edge, where are white hairs; *labium* brown, paler at tip, longer than broad and almost as long as the light *endites*; *palp* pale, patella conspicuously swollen dorsally, tibia longer than broad, with a distal lateral projection and a small, bifid basal apophysis, conductor curved broadly at tip as shown; *legs* pale, unmarked, with dark and light hairs, 1243, a calamistrum on full length of hind metatarsus; *abdomen* white, with dark hairs forming a basal median band and faint pairs of posterior spots, sides with oblique rows of dark hairs, venter with scattered dark hairs.

Female. *Length* 3.2 mm.; ceph. 1.4 mm. long, 1.1 mm. wide; abd. 2.0 mm. long, 1.6 mm. wide; *ceph.* white, dark on sides of cephalon and in faint radiating thoracic lines, thickly covered with white hairs behind eyes; *clypeus* white, with many white hairs, its height one and one-half times the diameter of an AME; *eyes*, first row recurved, medians slightly smaller, separated by one and one-half diameters; two-thirds a diameter from laterals, second row faintly recurved, subequal, medians separated by one and one-half diameters, as far from laterals, median ocular quadrangle longer than broad, slightly wider behind; *mandibles* pale, with black and white hairs, faintly emarginate, with no distinct basal tooth; *sternum* pale, dark on edge and in median line, with white hairs on edge; *labium* pale, darker at base, slightly longer than broad, shorter than the pale *endites*; *legs* and *palps* pale, with black and white hairs, legs with faint rings at ends of femora and succeeding joints, and at midlengths of femora and tibiae, 1243; *abdomen* white, with white and black hairs, a narrow irregular median dark line basally followed by a series of paired decreasing dark spots, with scattered dark spots on sides of dorsum, sides white with oblique dark lines, venter pale with median dark band; *epigynum* as shown, with openings widely separated.

The swollen patella of the male palp is suggestive of *Dictyna cubana* Franganillo, but *D. pacifica* has no such elaborate tibia as this species, and its conductor is different.

***Dictyna rotunda* sp.n.**

Figures 6, 21, 22, 23, 24.

Types from Oregon: Crater Lake, June 19, 1934 (M. H.

Hatch).

Male. *Length* 2.8 mm.; ceph. 1.4 mm. long, 1.0 mm. wide; abd. 1.8 mm. long, 1.1 mm. wide; *ceph.* very dark brown, a little lighter on dorsum, with white hairs among eyes and a few behind them, shape typical; *clypeus* light brown, with white hairs, its height twice the diameter of an AME; *eyes*, first row straight, medians smaller, separated by a diameter, two-thirds a diameter from the laterals, hind row faintly recurved, subequal, medians separated by a little more than a diameter, one and one-half diameters from laterals, median ocular quadrangle broader behind and longer than wide; *mandibles* brown, dusky on edge, with short white hairs, widely emarginate so that central cavity is wider than a mandible, strongly bowed laterally; *sternum* brown, black in median longitudinal line and on edges where are white hairs; *labium* dark, longer than broad, two-thirds as long as the light brown *endites*; *palps* with tibia as long as patella, but narrower as seen dorsally, with a bifid lateral apophysis whose teeth are directed dorsad, and a distal lateral expansion, embolus dark, thickened, and split near distal end, the median part being longer and slightly subdivided at tip, the conductor curved about the embolus as shown and free near the upper end of the cymbium; *legs* light brown, with dark and light hairs, darker annulations on patellae and at midlengths and distal ends of femora, tibiae, and metatarsi, but annulations blurred on first femora, 1243, a small calamistrum on basal three-fourths of hind metatarsus; *abdomen* light brown, covered with hairs, mottled with black to form a median basal line and several connecting pairs of spots posteriorly, light above spinnerets, sides with irregular dark oblique lines, venter lighter with a faint, broad median line, cribellum and spinnerets pale.

Female. *Length* 2.9 mm.; ceph. 1.1 mm. long, 0.8 mm. wide; abd. 2.0 mm. long, 1.5 mm. wide; *ceph.* dark brown, lighter on cephalon, where are five rows of white hairs, these hairs also among eyes; *clypeus* pale, with white hairs, its height one and one-third times the diameter of an AME; *eyes*, first row straight, medians smaller, separated by two-thirds a diameter, one-half a diameter from the laterals, hind row faintly recurved, subequal, medians separated by a little more than a diameter, a diameter from laterals,

median ocular quadrangle broader behind and longer than broad; *mandibles* pale, covered with white hairs, slightly emarginate at midlength; *sternum* pale, darker on median longitudinal line and on edge, where are white hairs, typical in shape; *labium* dark, broader than long, two-thirds as long as the pale *endites*; *legs* and *palps* pale, covered with dark and light hairs, legs with darker rings on patellae and at midlengths and distal ends of femora, tibiae, and metatarsi; *abdomen* light brown, with dark and light hairs, reticulated with white, with irregular darker median basal line followed by several pairs of dark spots posteriorly, sides with irregular dark oblique lines, venter faintly darker on median line, spinnerets and cribellum light; *epigynum* as shown.

This species is closely related to *Dietyna californica* Jones, but differs in being a darker, less distinctly marked species; in the female epigynum the openings are closer together; in the male palp the conductor, at its distal curve, stands free of the embolus, though it is attached there in *californica*; the embolus is broader and stockier than in *californica*, with its division occurring nearer the tip; and in the male mandible the tooth near its midlength does not project anteriorly, and the basal tooth is reduced. From *D. oregona* Gertsch, which *rotunda* also resembles, it may be distinguished by the broader tip of the lateral branch of the embolus, by the greater space between the conductor and the cymbium, and by the greater length and more basal position of the tibial apophysis.

***Dictyna texana* sp.n.**

Figures 7, 30, 31, 32.

Male holotype from Texas: Austin, Mt. Barker, Oct. 27, 1945.

Male. *Length* 1.6 mm.; *ceph.* 0.8 mm. long, 0.5 mm. wide; *abd.* 0.8 mm. long, 0.6 mm. wide; *ceph.* golden brown, darker on submarginal line, dusky sides of cephalon, and faint radiating thoracic lines, white hairs among eyes and in three rows behind them, typical in shape; *clypeus* brown and glabrous, its height equal to the diameter of an AME; *eyes*, first row recurved, medians smaller, separated by one-third a diameter, as far from laterals, hind row recurved, subequal, medians separated by almost a diameter, a diameter from laterals, median ocular quadrangle longer than

broad and wider behind; *mandibles* light brown, dusky on edge, with sides of median excavation subparallel, median cavity two-thirds as wide as a mandible; *sternum* golden, dusky on edge, with long dark hairs there, normal in shape; *labium* darker, slightly longer than broad, two-thirds as long as the pale *endites*; *palps* golden, tibia slightly longer than patella and longer than broad, with short, dark, bifid apophysis just below midlength, tarsus with long, slender, pointed embolus protected by slender conductor; *legs* pale, unmarked, with long dark hairs, 1243; *abdomen* pale, with dark hairs, a mid-dorsal dark line followed by four pairs of dark bars on posterior part of abdomen, sides with faint oblique stripes, venter pale, with pale cribellum.

This species is recognizable by its small size and the distinctive shape of the embolus of the palp.

Dictyna hatchi sp.n.

Figures 7, 33, 34, 35, 36.

Types and paratypes from Oregon: Roseburg, June 14, 1938 (M. H. Hatch). Another male and female from Oregon: Glendale, June 14, 1938 (M. H. Hatch).

Male. *Length* 2.3 mm.; *ceph.* 1.2 mm. long, 0.9 mm. wide; *abd.* 1.2 mm. long, 0.8 mm. wide; *ceph.* brown, slightly darker on sides of cephalon and in radiating thoracic lines, paler on marginal band, a few white hairs among and behind eyes, typical in shape; *clypeus* brown, glabrous, its height twice the diameter of an AME; *eyes*, first row recurved, medians smaller, separated by a little more than a diameter, a diameter from the laterals, second row recurved, subequal, medians separated by one and one-half diameters, as far from laterals, median ocular quadrangle longer than wide and slightly wider behind; *mandibles* brown, black on median edge, glabrous, strongly bowed laterally so that, at midlength, the median cavity is wider than a mandible, basal tooth very large and overhanging; *sternum* light brown, black on margin, where are white hairs; *labium* dark at base, pale distally, longer than broad; *endites* pale, curved, slender; *palps* pale, tibia much longer than wide, basal apophysis almost as long as tibia, with one tooth, a second tooth dorsally near distal end, conductor curved laterally as shown, its lower tip pointed and its lateral edge slightly undulating; *legs* pale, unmarked, with black and

white hairs, 1243, no calamistrum observed; *abdomen* pale, iridescent, covered with short dark hairs, a median, basal, irregular black line followed by four narrow black transverse lines, sides with broad oblique lines, venter pale but darker around spinnerets.

Female. *Length* 3.2 mm.; *ceph.* 1.3 mm. long, 0.9 mm. wide; *abd.* 1.9 mm. long, 1.6 mm. wide; *ceph.* as in male but lighter and with suggestions of five rows of white hairs behind eyes; *clypeus* golden, with black and white hairs, its height twice the diameter of an AME; *eyes*, first row recurved, medians smaller, separated by a little more than a diameter, a little less than a diameter from laterals, second row recurved, subequal, medians separated by one and one-third diameters, one and two-thirds diameters from laterals, median ocular quadrangle slightly wider behind and slightly wider than long; *mandibles* pale, dusky on edge, faintly emarginate medially, with a prominent, slightly overhanging tooth basally; *sternum* golden, darker on edge, with black hairs; *labium* pale, narrower than long, three-fourths as long as pale *endites*; *legs* and *palps* pale, unmarked, with black and white hairs, legs 1243, calamistrum on full length of hind metatarsus; *abdomen* white, black hairs forming a grayish median basal band followed by a series of paired spots which decrease in size posteriorly, sides with black hairs, venter having these in a broad median band, spinnerets and cribellum white; *epigynum* as shown.

This species resembles *Dictyna bellans* Chamberlin and *D. extensa* Jones in having the very long tibial apophysis on the male patella. It differs from the former in having the tip of the conductor shorter; and the lateral edge of the conductor undulates in *bellans* much more than in *hatchi*. The mandibular tooth is much larger in *hatchi* than in *bellans*, and *bellans* is a smaller species. *D. hatchi* differs from *extensa* in having the mandibular tooth much larger; and the central emargination of the mandibles closes more gently in *hatchi* than in *extensa*; in the palp the conductor is twisted farther laterally.