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NEW GENERA AND  
SPECIES OF ISSIDAE

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Genus *Dictyonia* Uhler, 1889*Dictyonia psychodimorpha* n. sp.

(PLATE X, Figs. 2, 3)

Form of *D. obscura* Uhl. with only the central areas of the tegmina being transparent, the margins broadly coriaceous and brown.

Male. Length 3.68 mm. Width of pronotum 1.25 mm. Length of tegmen 2.93 mm. Width of tegmen 2.44 mm.

Head inclined forward, the clypeus tumid, clearly visible from above. Pronotum set at a higher level than the vertex but covering only the basal carina. Vertex of moderate length only slightly concave, carinated on all sides, sharply so on the anterior margin which is strongly sinuate. Front as long as broad, sharply carinate medially and laterally, the median carina continued on the clypeus, the lateral carinae strongly sinuate and curved around the eyes and antennae. Anterior margin of pronotum describing a flattened curve, the posterior margin with a rather deep angulation. Mesonotum pentagonal, scutellum concealed.

Tegmina carried horizontally in the normal resting position, closely meeting at the commissure and fitting into grooves on the posterior margin of the mesonotum. On the under side the tegmen rests on the highly modified base of the hind wing. The latter is sharply bent at about the basal third so that the distal portion which is very small and non-functional is folded back under the basal portion and lies flat on the side of the abdomen at an angle to the dorsum. The specialized basal third of the wing is auricular in form, extends outwardly at right angles to the body and on its anterior edge is engaged by a triangular prop growing downward from the underside of the tegmen at a point below the basal cell. This triangular process occurs in many fulgoroid groups but not all and is found in forms with functional hind wings as well as those in which these organs are vestigial. It was briefly noted by H. J. Hansen (1890).

Tegmen ovate in form, widest behind, subtruncate apically, thickened, coriaceous and striated except for a central diaphanous fascia running obliquely from clavus towards the

apex but not attaining the latter. This fenestration consists of four large polygonal areoles of various sizes formed by the suppression of sections of longitudinal and cross veins, the stubs of the missing veins remaining around the periphery of the areoles. One or more of the missing veins reappears in an occasional specimen. Abdomen strongly compressed laterally, serrated dorsally, resembling a fowl's comb in outline. Hind tibiae with two flattened spines before the apical group.

Croceous, marked with brown and piceous. Front and clypeus with conspicuous long yellow pubescence, brownish yellow becoming darker brown laterally. Pronotum and mesonotum brownish yellow, the pronotum with a brownish piceous spot on the lateral extensions posteriorly. Tegmen light ochreous brown outside the central transparent area, the narrow costal area with about eight small translucent spots followed by a large fuscous spot on the nodal region. Beyond this there are four hyaline spots of somewhat larger size around the apex and some faint indications of smaller spots around the anal angle. Clavus pale translucent brown with three conspicuous piceous spots along the commissure. Abdomen light croceous marked with red on the sides.

Female. Length to tips of tegmina 3.75 mm. Similar to male in form and color but lacking the red markings on sides of abdomen posteriorly.

Holotype male, allotype and 21 designated paratypes, Elderswood, Tulare Co., Calif., June 17, 1963 (B.P.B.). In addition, numerous topotypical specimens are at hand in addition to a series from Fountain Springs, also in Tulare Co., June 21, 1963 (B.P.B.). All in collection of author.

#### Genus *Issovarcia* new

Resembling *Dictyonia* Uhl. in form of body. Head much broader than pronotum, eyes prominent, ocelli lacking, front carinate laterally and medially, clypeus with median carina only. Pronotum deeply concave posteriorly. Tegmina having the general shape found in the *Flatidae* with costa strongly incurved at base but the clavus not granulate. Venation rather similar to *Varcia* Stal of the *Nogodinidae*, the tegmen vitreous. Hind wings reduced in size, non-functional as organs of flight, bases modified to form supports for the tegmina when held horizontally in repose. Genotype, *Issovarcia dipteroides* n. sp.

#### *Issovarcia dipteroides* n. sp.

(PLATE X, Fig. 1)

Male. Length 4.64 mm. Width of head 1.67 mm. Width of pronotum 1.46 mm. Length of tegmen 3.84. Width of tegmen 2.23 mm.

Front rectangular, as long as broad, clypeus not tumid, face in profile arcuated and receding. Eyes globose, large and prominent, vertex one-third length of pronotum, the latter one-half length of mesonotum. Pronotum lunate, deeply emarginate behind. Mesonotum pentagonal with low median and lateral carinae, the surface between them depressed and flat. Costal area of tegmen reaching nearly to middle of costal margin, strongly arcuated, deeply incurved at base, broad and provided with 5-7 cross veins. Apical half of costa without a definite margin, claval vein reaching apex of clavus and rest of tegmen closely net-veined as in *Varcia* Stal. Hind tibiae with two flattened spines on outer edge, not including the apical group. Abdomen only slightly compressed laterally with posterior margins of tergites moderately produced. Anal segment with a fingerlike lobe produced downward on either side.

Yellowish ochraceous marked with brown. Front with a brownish stripe on each side upon which is a row of pale spots. Clypeus brownish in front with median carina pale. Tegmina glassy, veins brownish yellow. Each tegmen with two narrow brown fasciae: the anterior one running diagonally from base of clavus to middle of costal margin, the posterior one irregular and crossing from tip of clavus to outer apical angle of tegmen. Tergopleural abdominal segments margined with reddish brown.

Female. Length to tips of tegmina 5.12 mm. Similar to male in most respects but the fingerlike lobes of the anal segment are joined together by a broad median plate.

Holotype male, Blocksburg, Humboldt Co., Calif., Aug. 20, 1944. Allotype, Larabee Valley, Humboldt Co., Calif., Aug. 7, 1938. 19 paratypes from Blocksburg, Larabee Valley and Mts. above Bull Cr., all in Humboldt Co., August and September (all B.P.B.), author's collection.

#### Genus *Epidanepteryx* new

Resembling *Danepteryx* Uhl. but differing significantly in the form of both the pronotum and mesonotum. Lateral portions of pronotum separated from the dorsal area by the high, reflexed, sharply carinated side margins of the disc which nearly attain the posterior margin. Mesonotum not triangular, the posterior margin broadly truncate and with a raised, calloused edge which widely separates the tegmina medially.

Type of the genus *Epidanepteryx sequoiae* n. sp.

This genus clearly belongs in the family *Issidae* although it does not conform to Metcalf's definition of 1958.

***Epidanepteryx sequoiae* n. sp.**

(PLATE X, Fig. 4)

Resembling *Osbornia* Ball in form of head, the latter being produced in a pair of hornlike angles above the eyes. Venation of tegmina complex and regular, consisting of a network of areoles. Vertex without a median carina. Front nearly vertical, hind tibiae with five or six spines in addition to the apical ones.

Male. Length 5.12 mm. Width of pronotum 1.46 mm. Length of tegmen 4.16 mm. Greatest width of tegmen 0.77 mm.

Front long and narrow, distinctly longer than wide; widest just below the antennae, narrowest at the vertex. Clypeus only moderately inflated. Vertex trough-shaped, as long as broad, measuring from the basal angles to the apex, the latter bluntly rounded. Pronotum narrow on the disc, a little longer than the vertex, subacute in front, deeply emarginate behind. Mesonotum polygonal, tricarinate on the disc, the posterior margin truncate, thick and calloused, wider than an eye. Tegmina separated in the middle by the width of the posterior margin of mesonotum, surpassing abdomen by 1.05 mm. Legs comparatively long and slender, length of hind tibiae 2.5 mm. or half the total length of the insect.

Pale greenish ochraceous in life, fading to brownish ochraceous (the green color is partly retained in the male paratype at this writing). Inner margins of tegmina broadly pale yellowish, veins entirely pale, the areoles or interspaces chiefly sooty brown with a few irregular pale spots. Costal margin with a series of pale yellow translucent spots of small size alternating with black dots on the extreme edge. Abdomen considerably darkened with brown on the tergopleural area. Legs and tarsi with a few irregular fuscous dots and the setae relatively fine.

Female. Length 5.6 mm. Very similar to male in form and color.

Holotype male, Dyerville, Humboldt Co., Calif., July 28, 1963. Allotype, same locality July 21, 1963. Paratype male, same locality, August 11, 1963. These three individuals, as well as two others which were not secured, were all swept from the same low-hanging redwood bough in full sunshine, the captures being made on three different days. I can do no better than to quote from my field notes of July 28, 1963, "Fulgoroïd: hind wings absent, elytra modified to form 2 elongated flippers which do not meet along the middle line at rest. These are raised at 45° angle with body when captured, giving insect the appearance of small grasshopper nymph, the raised flippers appearing almost exactly like the femora of a young grasshopper. Swept from low-hanging redwood foliage in same spot as three others (1 captured, 2 escaped).

***Epidanepteryx santana* n. sp.**

(PLATE X, Fig. 5)

Differs from *sequoiae* in the small head, medially carinated vertex, form of pronotum and the incrassate and strongly echinate legs and tarsi.

Female. Length 4.96 mm. Width of pronotum 1.32 mm. Length of tegmen 4 mm. Greatest width of tegmen 0.65 mm.

Head appearing small in comparison to the size of body and eyes only moderately prominent. Sides of head lacking the high hornlike prominences above the eyes found in the preceding species. Clypeus tumid, covered with coarse setae. Pubescence on sides of front almost setose, finer than that of clypeus. Vertex narrow, deeply concave with a low median calloused line or carina. Pronotum shorter and broader than *sequoiae* with an angular emargination posteriorly rather than the deep, rounded arcuation of that species. Mesonotum with disc much narrower, lateral carinae more strongly converging anteriorly, median carina higher and sharper while the posterior calloused margin is much shorter and thinner. The tegmina lack the rich network of veins and complete areoles found in *sequoiae*. Legs and tarsi incrassate and echinate, the bristles pale. Hind tibiae with four spines besides the apical ones.

Greenish ochraceous, mottled with dark brown. Tegmina dark brown with the veins all greenish ochraceous and with a row of small pellucid spots around the entire periphery excepting the basal margin adjacent to the mesonotum.

Holotype female, Beaumont, Riverside Co., Calif., May 13, 1948 (B.P.B.), collection of author.

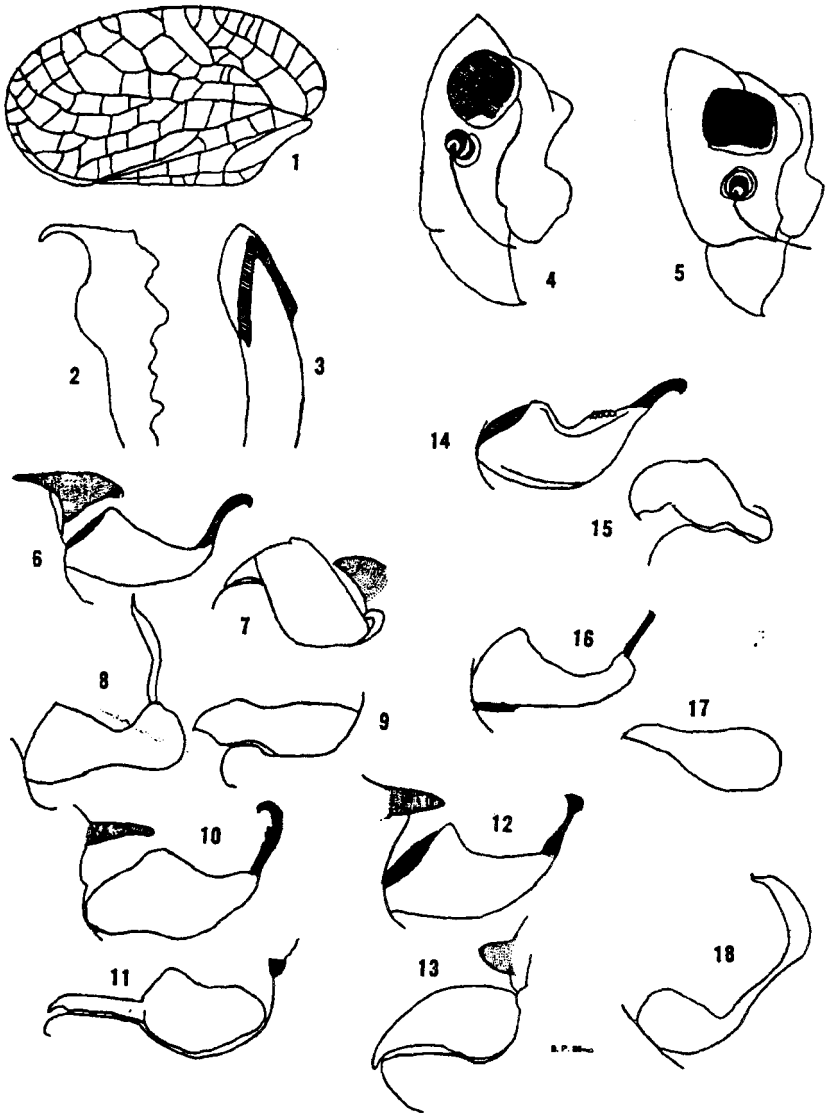


PLATE X