

## Generic Changes in United States Issini (Hemiptera, Fulgoroidea, Issidae)

Vladimir M. Gnezdilov

Zoological Institute, Russian Academy of Sciences  
Universitetskaya nab. 1, 199034, St. Petersburg, Russia  
hemipt@zin.ru, vmgnezdilov@mail.ru

Lois B. O'Brien

Department of Entomology, University of Arizona  
Tucson, 85721, Arizona, USA  
llobrien@cox.net

**Abstract.** Three new genera of the family Issidae are described for species formerly included in the genus *Hysteropterum sensu lato*: *Balduza* Gnezdilov and O'Brien, gen. n. (type species: *Hysteropterum unum* Ball 1910), *Stilbometopius* Gnezdilov and O'Brien, gen. n. (type species: *Issus aureus* Uhler 1876), *Aboloptera* Gnezdilov and O'Brien, gen. n. (type species: *Hysteropterum bistriatum* Caldwell 1945). The genus *Tylanira* Ball 1936 is redescribed. The male genitalia of *Tylanira bifurca* Ball 1936 is described and illustrated. *Tylana ustulata* Uhler 1876 is transferred to *Tylanira*. *Hysteropterum bufo* Van Duzee 1923 is transferred to *Balduza* gen. n. and the male genitalia of the species is described and illustrated. The subgenus *Paralixes* Caldwell 1945 of the genus *Ulixes* Stål 1861 is raised to genus – *Paralixes* Caldwell 1945, stat. n. A key to the issid genera of the United States is given. New data on the distribution of 7 species are given.

**Key words.** Issidae, Issini, planthoppers, new genera, new combinations, key.

### Introduction

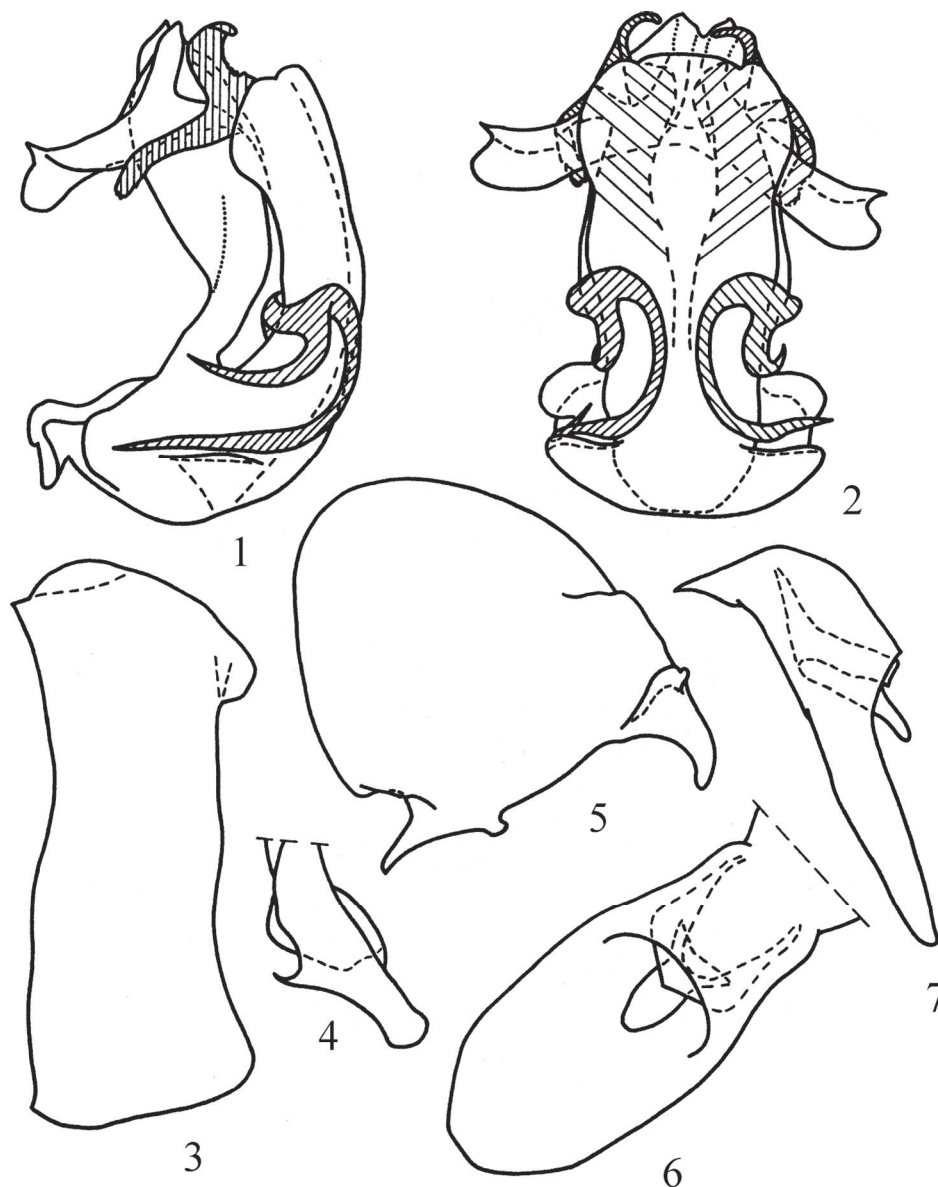
This paper has been written primarily to provide generic names to the multigeneric "U.S. *Hysteropterum sensu lato*", in preparation for a proposed generic key to U.S. Fulgoroidea. *Paralixes* is also raised to a genus from a subgenus at this point for the same reason. Illustrations of *Balduza bufo* and *Tylanira bifurca*, not previously illustrated, are provided. The reader is advised to continue using Doering's (1936, 1938, 1940, 1941) descriptions and beautiful illustrations for species identification.

In 2003 Gnezdilov published a generic revision of European issid fauna (Gnezdilov 2003) (the English summary, pages 79-115, is a translation of the key to subtribes and genera, the diagnostics of the genera, and notes on the structure of the ovipositor; illustrations, pages 121-145, are titled in Russian and English) and noted that the genus *Hysteropterum* Amyot et Serville 1843 is limited in its distribution to Europe. That meant that the taxonomic position of all other species described in *Hysteropterum sensu lato* should be revised. One year later Gnezdilov (2004) erected the genus *Kathleenum* for *H. cornutum* Melichar 1906, *H. sepulchralis* Ball 1935, and *H. bufo* VanDuzee 1923 and the genus *Exortus* for *H. punctiferum* Walker 1851 and *H. fuscomaculosum* Doer-

ing 1938 from North America. Recently *H. severini* Caldwell and DeLong 1948 and *H. beameri* Doering 1958 were placed in synonymy under *Agalmatium bilobum* (Fieber 1877) (Gnezdilov and O'Brien 2006). The current paper finishes the rearrangement of *Hysteropterum sensu lato* species known from the US. Therefore the US fauna of the family Issidae comprises 11 genera of 2 tribes – Issini Spinola, with subtribes *Hysteropterina* Melichar and *Agalmatiina* Gnezdilov, and *Thioniini* Melichar.

Characters used are the traditional (in Fulgoroidea) shape and carination of the frons, vertex, and thorax; a hypocostal lamina or plate (a narrow basal extension of the forewing below and perpendicular to the costal margin); pairs of large oval sensory pits on the venter of the abdomen (purpose unknown); the number of alveolate or socle setae on the metatarsomere; and characters of the male and female genitalia. Until Mexican species of these genera are available for study of variation, more detailed descriptions are being delayed. For further comparison, the characters of *Hysteropterum s.s.* have been listed in Gnezdilov 2004 and 2003.

Examination of *Hysteropterum bufo* has showed that this species with *H. una* should be separated as a distinct genus – *Balduza* gen. n. which is closely related to *Kathleenum* according to the presence of a

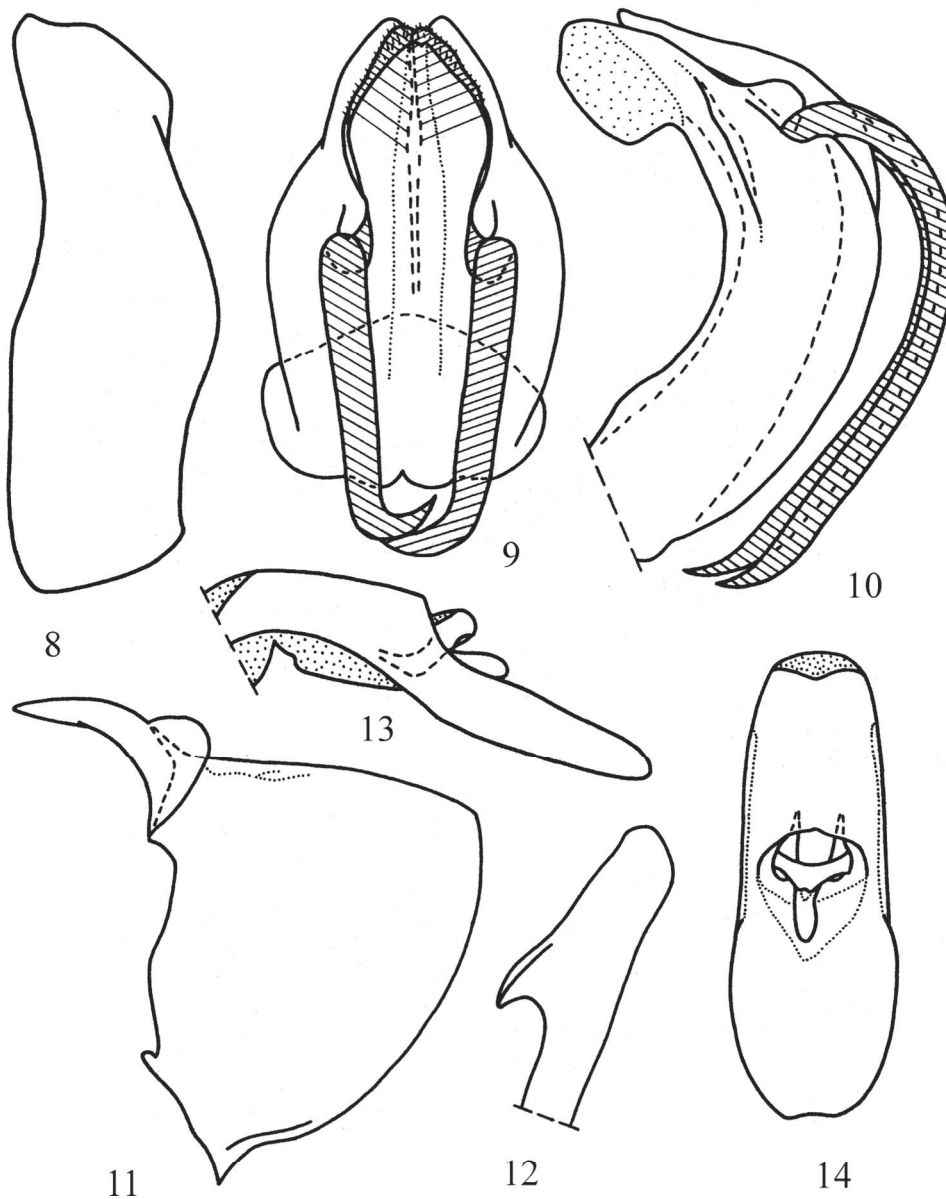


Figures 1-7. *Balduza bufo* (Van Duzee), male genitalia. 1) penis, lateral view; 2) same, ventral view; 3) pygofer, lateral view; 4) capitulum of paramere, dorsal view; 5) paramere, lateral view; 6) anal tube, dorsal view; 7) same, lateral view.

pair of large sensory pits on abdominal sternites IV-VI in the imago. *Stilbometopius* gen. n. is close to *Abolloptera* gen. n. owing to the structure of the phallobase with dorso-lateral lobes bearing elongate processes above straight aedeagal ventral hooks and median keel only of the metope distinct. All of the new genera differ from the genus *Hysteropterum sensu stricto* by a complex of morphological features.

### Material and methods

The morphological nomenclature of the head follows Anufriev and Emeljanov (1988) and Emeljanov (1995). According to Emeljanov in the advanced families of Fulgoroidea, including Issidae, the division into the vertical and facial sides of the head runs between the coryphe and metope. This can be determined in the nymphal stage, when the metope bears two rows of sensory pits along the lateral and the sublateral keels. The coryphe always is without sensory pits. In Cixiidae and Delphacidae, this is compli-



Figures 8–14. *Tylanira bifurca* Ball, male genitalia. 8) pygofer, lateral view; 9) penis, ventral view; 10) same, lateral view; 11) paramere, lateral view; 12) capitulum of paramere, dorsal view; 13) anal tube, lateral view; 14) same, dorsal view.

cated by part of the metope being joined to the coryphe, forming a macrocoryphe, and leaving a reduced metope, named eumetope. In the Issidae “metope” corresponds with the frons and “coryphe” the vertex. (for further explanation, and illustration see Emelyanov 1995). The nomenclature of the male and female genitalia follows Bourgoïn (1993) and Gnezdilov (2003).

Examined material is deposited in the following collections: LBOB – Lois B. O’Brien (Green Valley, Arizona, USA), ZIN – Zoological Institute of the

Russian Academy of Sciences (St. Petersburg, Russia), CASC – California Academy of Sciences (San Francisco, USA).

**Taxonomy**

**Key to adults of issid genera of the US fauna**

- 1. Hind wings rudimentary (Tribe Issini Spinola) ... 2

- Hind wings well developed, 3-lobed, with wide anal lobe (Tribe Thioniini Melichar) ..... 10
2. Ovipositor with posterior connective lamina of gonapophyses IX without long process on median field. Gonoplags without transverse keels. Gonocoxa VIII with low hind margin (Subtribe Hysteropterina Melichar) ..... 3
- Ovipositor with posterior connective lamina of gonapophyses IX bearing long process on median field. Gonoplags with transverse keels. Gonocoxa VIII with high lobe-shaped hind margin (or the following combination of characters: metope with median carina only, plus either hypocostal lamina very broad, as wide as a apex of posterior tibia at widest point or/and Sc+R forking at same level as M) (Subtribe Agalmatiina Gnezdilov) .....  
..... *Agalmatium* Emeljanov (composition in US: only *A. bilobum* (Fieber 1877), introduced into California)
3. Fore wings with hypocostal lamina (a narrow basal plate or lamina below and perpendicular to the costal margin) ..... 4
- Fore wings without hypocostal lamina ..... 9
4. Abdominal sternites IV–VI with a pair of large oval sensory pits medially ..... 5
- Abdominal sternites IV–VI without large sensory pits ..... 6
5. Fore wings wide and short. Metatarsomere I with 3 intermediate alveolate or socle setae – small teeth on tarsomere pad between two lateral teeth. Apical aedeagal processes without projections. Ventral aedeagal hooks simple. Apical group of anterior connective lamina of gonapophyse VIII with 3 teeth, lateral group with 4 teeth. Metope with single median longitudinal disk wider than either lateral disk; lateral carinae of metope reaching vertex .....  
..... *Kathleenum* Gnezdilov (composition: *K. cornutum* (Melichar 1906), type species; *K. sepulchrale* (Ball 1935).
- Fore wings elongate. Metatarsomere I with 6 intermediate alveolate or socle setae. Apical aedeagal processes with long narrow projections (Figs. 1, 2). Ventral aedeagal hooks bifurcate (Fig. 1). Apical group of anterior connective lamina of gonapophyse VIII with single tooth, lateral group with 2 teeth. Metope with single median longitudinal disk narrower than either lateral disk; lateral carinae of metope not reaching vertex ..  
..... *Balduza* Gnezdilov and O'Brien, **gen. n.** (composition: *B. una* (Ball 1910), type species; *B. bufo* (Van Duzee 1923).
6. Metope with only median keel distinct ..... 7
- Metope with distinct median and sublateral keels ..... 8
7. Metope convex, with median keel invisible above clypeus. Metatarsomere I with 5 intermediate socle setae. Each dorso-lateral phallobase lobe with sclerotized triangular process on inner side subapically. Ventral phallobase lobe without notch apically. Posterior connective lamina of gonapophyses IX wide. Endogonocoxal process bifurcate apically. Lateral margins of forewings cream-colored .....  
..... *Stilbometopius* Gnezdilov and O'Brien, **gen. n.**
- Metope flat, with 2 grooves running from apical angles toward center, with median keel continuing through postclypeus. Metatarsomere I with 7 intermediate socle setae. Dorso-lateral phallobase lobes without processes on inner side. Ventral phallobase lobe with deep notch apically. Posterior connective lamina of gonapophyses IX ovipositor elongate. Endogonocoxal process gradually narrows apically .....  
..... *Abolloptera* Gnezdilov and O'Brien, **gen. n.**
8. Aedeagus with straight ventral hooks. Endogonocoxal process bifurcate apically. Metope with single longitudinal median longitudinal disk less than 1.3 wider than either lateral disk .....  
..... *Tylanira* Ball
- Aedeagus with ventral hooks strongly turned dorsally. Endogonocoxal process gradually narrows apically. Metope with single longitudinal median disk 2 x wider than either lateral disk .....  
..... *Exortus* Gnezdilov (composition: *E. punctiferus* (Walker 1851), type species; *E. fuscomaculosus* (Doering 1938)
9. Metope and clypeus in lateral view flat where joined. Male paramere with indistinct neck, capitulum without additional tooth opposite to lateral tooth (in lateral view). Each dorso-lateral phallobase lobe with simple subapical process .....  
..... *Paralixes* Caldwell
- Metope and clypeus are joined at obtuse angle (in lateral view). Male paramere with long neck, capitulum with additional tooth opposite to lateral tooth (in lateral view). Each dorso-lateral phallobase lobe with bifurcate subapical process .....  
..... *Traxus* Metcalf
10. Fore wing with cubitus anterior (CuA) simple. Hind wing with first anal vein ( $A_1$ ) well developed through its whole length and second anal vein ( $A_2$ ) branched ..... *Thionia* Stål
- Fore wing with cubitus anterior (CuA) bifurcate. Hind wing with first anal vein ( $A_1$ ) very weak distally and second anal vein ( $A_2$ ) simple .....  
..... *Picumna* Stål



***Balduza* Gnezdilov and O'Brien, gen. n.****Type species:** *Hysteropterum unum* Ball 1910

**Diagnosis:** Metope elongate, with distinct median and sublateral keels nearly parallel to each other and joined or not joined apically. Median keel continuing through postclypeus. Coryphe transverse, concave. Pronotum with median keel. Forewings nearly oval, widely rounded apically, with narrow hypocostal plate. Radius and media bifurcate, cubitus anterior simple. Hind wings rudimentary. Hind tibia with single lateral tooth. Metatarsomere I with 6 intermediate socle setae. Abdominal sternites IV–VI with a pair of large oval sensory pits medially. *Male* (Figs 1–7): Dorso-lateral phallobase lobes fused dorsally, with or without long processes. Ventral phallobase lobe wide and long. Each apical aedeagal processes with long and narrow projection. Ventral aedeagal hooks bifurcate. *Female*: Anal tube elongate. Anal column short. Gonopods without keels. Furca with short basal part. Distal parts of posterior connective lamina of gonapophyses IX straight. Median field convex, weakly flattened laterally in basal part, with deep incision between large lobes. Lateral fields weakly convex. Hind margin of gonocoxa VIII weakly protruding proximally. Endogonocoxal process narrows apically. Apical group of anterior connective lamina of gonapophyse VIII with 1 or 3 teeth, lateral group with 2–3 small keeled teeth.

**Etymology:** The name is derived from the combination of surnames of well-known American hemipterists E.D. Ball and E.P. Van Duzee. It is feminine in gender.

**Composition:** The genus includes also *Hysteropterum bufo* Van Duzee, 1923.

**Comparison:** It differs from *Hysteropterum* s. str. by large sensory pits on abdominal sternites, apical aedeagal processes with long and narrow projections, ventral aedeagal hooks bifurcate, distal parts of posterior connective lamina of gonapophyses IX straight, median field weakly flattened laterally in basal part, with deep incision between large lobes and small lobe at the base of incision, and lateral fields weakly convex.

***Balduza una* (Ball 1910), comb. n.***Hysteropterum unum* Ball 1910: 43.

**Material Examined:** (LBOB, ZIN). **USA, Texas:** 7 males, 12 females, Culberson Co., 1 N. of Van Horn, 26.VII.1970, on *Atriplex canescens*, G.B. Marshall, L. and C.W. O'Brien leg. **Mexico:** 14 males, 21 females, Nuevo Leon: 79 mi SW Linares, Hwy 57, 22.VI.1971, 6700' [2042m], C. O'Brien and Marshall leg.; 5 males, 14 females, same except 14.VIII.1971, C. and L. O'Brien and Marshall; 3 males, 5 females, Durango: 12 mi N Cuencame, 4800' [1463m], 20.VIII.1971, C. and L. O'Brien and Marshall leg.; 10 males, 9 females, same except 6 mi. N Cuencame, 500' [152m].

***Balduza bufo* (Van Duzee 1923), comb. n.**

Figs. 1–7

*Hysteropterum bufo* Van Duzee 1923: 192.*Kathleenium bufo*: Gnezdilov 2004: 2.

**Male genitalia:** Hind margin of pygofer with semi-circular process apically (Fig. 3). Anal tube elongate (Figs 6, 7). Anal column short. Phallobase wide, weakly curved (in lateral view), with short supporting lobes under aedeagal hooks and a pair of lateral lobes basally (Figs 1, 2). Each dorso-lateral phallobase lobe with long bifurcate apical process. Ventral phallobase lobe long and wide, with wide incision apically. Ventral aedeagal hooks bifurcate, directed to dorsal side of the phallobase. Each apical process of aedeagus with a pair of long projections. Paramere with convex hind margin and widely rounded caudo-dorsal angle (Fig. 5). Capitulum of paramere without neck (in lateral view), weakly enlarged apically (in dorsal view) (Fig. 4).

**Material Examined:** (CASC). **Mexico:** 1 male, 1 female, topotypes, Gulf of California, Cerralbo Is[land], 7.VII.1921, E.P. Van Duzee leg.

**Key to the species of *Balduza***

1. Apical margin of metope acutely concave. Hind margin of male pygofer without process. Dorso-lateral phallobase lobes without processes. Each apical aedeagal process with single projection. Phallobase without supporting lobes under aedeagal ventral hooks. Apical group of anterior connective lamina of gonapophyse VIII with single tooth ..... *B. una* (Ball)
- Apical margin of metope trapezoid-like concave. Hind margin of male pygofer with semicircular process apically. Each dorso-lateral phallobase lobe with long bifurcate process apically. Each apical aedeagal process with a pair of projections. Phallobase with supporting lobes under

aedeagal ventral hooks. Apical group of anterior connective lamina of gonapophyse VIII with 3 teeth ..... *B. bufo* (Van Duzee)

***Stilbometopius Gnezdilov and O'Brien,***  
**gen. n.**

**Type species:** *Issus aureus* Uhler 1876

**Diagnosis:** Metope convex, median and sublateral keels smooth (median keel usually distinct only apically). Coryphe transverse. Pronotum with weak median keel. Scutellum with weak lateral keels. Fore wings broad, widely rounded apically, with rather wide hypocostal plate, Radius and media bifurcate, cubitus anterior simple. Hind wings rudimentary. Hind tibia with 2 lateral teeth. Metatarsomere I with 5 intermediate socle setae. *Male:* Dorso-lateral phallobase lobes fused dorsally, with a pair of triangular processes on inner side subapically and with elongate processes above aedeagal ventral hooks. Ventral phallobase lobe wide. Ventral aedeagal hooks long, directed to the base of aedeagus. Paramere without neck, capitulum of paramere wide in lateral view. *Female:* Gonoplares without keels. Furca with short basal part. Posterior connective lamina of gonapophyses IX wide. Each distal part of posterior connective lamina weakly obtusely angulate, with a triangular process in the angle. Median field convex, with a deep incision between lobes. Lateral fields weakly convex. Gonocoxa VIII with lobe-shaped hind margin. Endogonocoxal process bifurcate apically. Anterior connective lamina of gonapophyse VIII with 2 large teeth in apical group and 2 keeled teeth in lateral group.

**Etymology:** The name is derived from the Greek verb ..... {stilbo} – glisten and noun ..... [metope] – forehead. The gender is masculine.

**Composition:** Monotypic genus.

**Comparison:** It differs from *Hysteropterum* s. str. by the smooth median and sublateral keels, dorso-lateral phallobase lobes with a pair of triangular processes on the inner side subapically and with elongate processes above the aedeagal ventral hooks, paramere without neck, distal parts of posterior connective lamina of gonapophyses IX with a triangular process in the angles, median field with a deep incision between lobes, lateral fields weakly convex, and endogonocoxal process bifurcate.

***Stilbometopius aureus* (Uhler 1876),**  
**comb. n.**

*Issus aureus* Uhler 1876: 352.

*Hysteropterum aureum* Metcalf 1958: 228.

**Material Examined:** USA, Texas: Big Bend N[ational] P[ark]: 2 males, 1 female, Pine Cyn., 5100', 5.VI.1970; 3 females, Juniper Cyn., 4500', 5.VI.1970, all C.W. O'Brien leg. (LBOB, ZIN). **Mexico:** 14 males, 10 females, Nuevo Leon : 14 mi W Monterrey, 3800', 14.VIII.1971, C. and L. O'Brien and Marshall leg. (LBOB, ZIN); 8 males, 7 females, Tamaulipas : Hwy 101, 28 mi NE Tula, 4500', 22.VII.1982, C.W. and L. O'Brien and G. Wibmer leg. (LBOB, ZIN); 2 males, 1 female, San Antonio, E Saltillo, 8.VII.2000, D.R. Kasparyan leg. (ZIN); 1 female, 20 km SSW C[ajuda]d Victoria, 1000 m, 15.IX.2000, D.R. Kasparyan leg. (ZIN).

***Aboloptera Gnezdilov and O'Brien,***  
**gen. n.**

**Type species:** *Hysteropterum bistriatum* Caldwell 1945

**Diagnosis:** Metope wide and flat; with only median keel distinct, continuing through postclypeus. Coryphe transverse. Pronotum without keels. Scutellum with weak lateral keels. Fore wings broad, widely rounded apically, with rather wide hypocostal plate, radius and media bifurcate, cubitus anterior simple or bifurcate. Hind wings rudimentary. Hind tibia with 2 lateral teeth. Metatarsomere I with 7 intermediate socle setae. *Male:* Dorsolateral phallobase lobes fused dorsally, with elongate processes above aedeagal ventral hooks. Ventral phallobase lobe wide, with deep notch apically. Ventral aedeagal hooks long, directed to the base of aedeagus. Paramere without neck, capitulum of paramere wide in lateral view. *Female:* Gonoplares without keels. Furca with short basal part. Posterior connective lamina of gonapophyses IX elongate. Each distal part of posterior connective lamina obtusely angulate, with a weak triangular process in the angle. Median field convex, with a deep incision between lobes. Lateral fields weakly convex. Gonocoxa VIII with straight hind margin weakly protruding. Endogonocoxal process gradually narrowing apically. Anterior connective lamina of gonapophyse VIII with 3 large teeth in apical group and 2 keeled teeth and 2 keels in lateral group.

**Etymology:** The name is derived from Latin noun of Greek origin *bolla* – dense cape and Greek noun [ptera] – wing. The gender is feminine.

**Composition:** Monotypic genus.

**Comparison:** It differs from *Hysteropterum* s. str. by having only a median keel distinct, the dorsolateral phallobase lobes with elongate processes above the aedeagal ventral hooks, paramere without neck, distal parts of posterior connective lamina of gonapophyses IX obtusely angulate, with weak triangular processes in the angles, median field with a deep incision between lobes, and lateral fields weakly convex.

***Abolloptera bistrinata* (Caldwell 1945),  
comb. n.**

*Hysteropterum bistrinatum* Caldwell 1945: 100.

**Material Examined:** (LBOB, ZIN). 19 males, 8 females, USA, Texas: Webb Co., 18 mi N Laredo, 18.X.1970, L. and C.W. O'Brien leg.

**Genus *Tylanira* Ball 1936**

**Type species:** *Tylanira bifurca* Ball 1936

**Diagnosis.:** Metope elongate, with distinct median and sublateral keels nearly parallel to each other, median keel continuing through postclypeus. Coryphe transverse or elongate. Apical angles of coryphe may protrude in shape of horns. Pronotum without keels. Scutellum with median and sublateral keels. Forewings elongate, widely rounded apically, with narrow hypocostal plate, radius bifurcate, media bi or trifurcate, cubitus anterior simple. Transverse veins are prominent in apical part of the wings. Forewings with long setae on veins and marginally, but usually rubbed off wing surface. Hind wings rudimentary, oval. Hind tibia with 2 or 4 lateral teeth. Metatarsomere I with 5–6 intermediate sole setae. *Male* (Figs 8–14): Anal tube long and narrow (Figs 13, 14). Each dorso-lateral phallobase lobe with process above ventral hook (Fig. 10). Ventral phallobase lobe long and wide, strongly narrowing apically (Fig. 9). Aedeagus with ventral hooks straight, long, directed to its base. Paramere without neck, with straight hind margin and right caudo-dorsal angle (Fig. 11). Capitulum of paramere wide in dorsal view, does not narrow apically (Fig. 12); lateral tooth wide, apical tooth weak or

indistinct. *Female:* Anal tube elongate. Anal column short. Gonoplac without keels, its distal parts weakly sclerotized. Furca well sclerotized, with short basal part. Posterior connective lamina of gonapophyses IX elongate. Each distal part of posterior connective lamina straight, with tooth-shaped subapical process. Median field convex, with deep incision between lobes. Lateral fields weakly convex. Hind margin of gonocoxa VIII may protrude proximally. Endogonocoxal process bifurcate apically. Anterior connective lamina of gonapophyse VIII with 3–4 large teeth in apical group and 4–8 large keeled teeth in lateral group.

**Composition:** The genus includes also *Tylanira ustulata* Uhler 1876.

**Comparison:** It differs from *Hysteropterum* s. str. by the elongate metope with median and sublateral keels nearly parallel each to other, forewings with long setae on veins and marginally, posterior connective lamina of gonapophyses IX elongate, distal parts of posterior connective lamina with tooth-shaped subapical processes, median field with deep incision between lobes, lateral fields weakly convex, endogonocoxal process bifurcate, anterior connective lamina of gonapophyse VIII with 4–8 large keeled teeth in lateral group.

***Tylanira bifurca* Ball 1936**

Figs. 8–14

**Material Examined:** USA: female, holotype, Arizona, Benson, 7.VI.1930, J.O. Martin leg. (CASC). TEXAS: 1 male, Davis Mts., 27.V.1935, J.N. Knull leg. (LBOB); Culberson Co.; 1 female, 11 mi N of Van Horn, 26.VII.1970, G.B. Marshall and C.W. O'Brien (LBOB); 1 female, 1 mi. S. Pine Springs, 5400' (1660m), VII-3-1971, on mesquite, Brothers; Hudspeth Co.: 1 male, 49 mi. E. Hueco, 3450' (1060m) VII-3-1971. C.W. O'Brien, G.B. Marshall, and Brothers.

***Tylanira ustulata* (Uhler 1876),  
comb. n.**

*Tylana ustulata* Uhler 1876: 354.

*Hysteropterum ustulata* O'Brien 1988: 868.

*Hysteropterum morum* Van Duzee 1923: 191.

**Material Examined:** (LBOB, ZIN). USA, Arizona: 1 male, Sabino Canyon: 11.VII.1952, D.J. and J.N. Knull leg.; 2 males, 2 females, same locality, 9.VIII.1910, on *Prosopis odorata*, M.W. Nielson leg.

### Key to the species of *Tylanira*

1. Apical angles of coryphe strongly protruding in shape of horns. Hind tibia with 4 lateral teeth. Dorso-lateral phallobase lobes without semicircular subapical processes. Hind margin of gonocoxa VIII protruding proximally in shape of lobe. Anterior connective lamina of gonapophyse VIII with 4 large keeled teeth in lateral group .....  
..... *T. bifurca* Ball
- Apical angles of coryphe not protruding in shape of horns. Hind tibia with 2 lateral teeth only. Each dorso-lateral phallobase lobe with semicircular subapical process. Hind margin of gonocoxa VIII does not protrude proximally in shape of lobe. Anterior connective lamina of gonapophyse VIII with 7–8 large keeled teeth in lateral group ....  
..... *T. ustulata* (Uhler)

### Genus *Paralixes* Caldwell 1945, stat. n.

*Paralixes* Caldwell 1945:107 (as subgenus of *Ulixes* Stål 1861).

**Type species:** *Issus scutatus* Walker 1858.

We consider the base of the postclypeus at the same level as the metope to be a synapomorphy for the genus *Paralixes*; in *Ulixes* the postclypeus is right angled at the base and its surface is recessed from the level of the metope, as Caldwell noted.

### *Paralixes scutatus* (Walker 1858), comb.n.

*Issus scutatus* Walker 1858: 44

*Ulixes (Paralixes) scutatus* Caldwell 1945: 108

**Material Examined:** (LBOB, ZIN). USA: TEXAS, 2 males, Big Bend N.[ational] P.[ark], Chisos Basin, VI-4-1970, on *Quercus* sp., C.W.O'Brien leg.; 1 female, Culberson Co., Pine Springs, VI-12-1971, at night, C.O'Brien, on *Quercus*; 1 female, Kerr Co., Kerrville-Schreiner St[ate] P[ar]k, IV-2-1990, E.G.Riley and C. S. Wolfe. ARIZONA, 1 female, N. Owen. V-17-1917, L.L.Muchmore.

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### Quick reference for current names of former *Hysteropterum s.l.* species in the U.S.

- Aboloptera*, gen. n.  
*bistriata* (Caldwell 1945) TX; Mexico
- Agalmatium* Emelyanov 1971  
*bilobum* (Fieber 1971) Introduced to CA from Europe  
= *severini* (Caldwell and DeLong 1948)  
= *beameri* (Doering 1958)
- Balduza*, gen. n.  
*una* (Ball 1910), comb.n. AZ, CONM, NV, TX; Mexico  
*bufo* (VanDuzee 1923), comb.n. AZ; Mexico
- Exortus* Gnezdilov 2004  
*punctiferus* (Walker 1851) FL, GA  
*fuscomaculosus* (Doering 1939) FL
- Kathleenium* Gnezdilov 2004  
*cornutum* (Melichar 1906) AZ, CA, CO, ID, NM, NV, UT  
*sepulchrale* (Ball 1935) AZ, NM, TX
- Stilbometopius*, gen. n.  
*aureus* (Uhler 1876), comb.n. TX; Mexico
- Tylanira* Ball 1936  
*bifurca* Ball 1936 AZ, TX  
*ustulata* (Uhler 1876), comb. n. AZ, CO, NM

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