

**KEY TO THE SUBFAMILIES OF NORTH & CENTRAL AMERICAN ICHNEUMONIDAE:
SECTION 5**

69. Vein 2m-cu of fore wing with one bulla (may be wide or narrow) (fig. 5.01).
.....70
- 69'. Vein 2m-cu of fore wing with two bullae (with section of nebulous (pigmented) vein separating bullae) (figs. 5.02 – 5.04).
[Examination of 2m-cu requires some care, as the length of nebulous vein separating two bullae can be quite short (figs. 5.03 – 5.04)]
.....72
70. Glymmae of T1 absent (fig. 5.05).
.....**CRYPTINAE**
- 70'. Glymmae of T1 present (figs. 5.06 – 5.07, 5.09).
.....71
71. Apical margin of clypeus with fringe of long parallel setae (fig. 5.08). Submetapleural carina of metapleuron not widened anteriorly into flange (fig. 5.06). Propodeal carinae various. T2-4 without submedian pair of deep oblique grooves.
.....**TRYPHONINAE** (some)
- 71'. Apical margin of clypeus without fringe of setae. Submetapleural carina of metapleuron widened anteriorly into flange (fig. 5.09). Propodeum often without median longitudinal carina (fig. 5.10a-b), **if** median longitudinal carina present (fig. 5.10c) **then** T2-4 with submedian pair of deep oblique grooves (figs 5.10c & 5.11).
.....**BANCHINAE** (most)
72. Mesoscutum covered with sharp transverse ridges (figs. 5.12 – 5.13).
.....73
- 72'. Mesoscutum without transverse ridges, or with ridges only on median lobe.
.....74
73. T2 with deep anterolateral grooves (fig. 5.14).
.....**POEMENIINAE** (*Pseudorhyssa*)
- 73'. T2 without anterolateral grooves.
.....**RHYSSINAE**
74. Dorsal 0.5 of gena with weak to strong denticles (absent in a few species of *Poemenia*) (figs. 5.15 – 5.16). Epicnemial carina of mesopleuron absent (figs. 5.16 – 5.17).
.....**POEMENIINAE**
- 74'. Dorsal 0.5 of gena without denticles (figs. 5.18 – 5.19). Epicnemial carina usually present (figs. 5.18 – 5.19).
.....75
75. Apical margin of clypeus with fringe of long parallel setae (figs. 5.20 – 5.21). Glymmae of T1 sometimes deep and meeting almost at midline (figs. 5.22 – 5.24).
.....**TRYPHONINAE** (most)
- 75'. Apical margin of clypeus without fringe of setae. Glymmae of T1 various, but not deep and meeting almost at midline.
.....76

76. Tarsal claws pectinate, at least basally (fig. 5.25). Apical margin of clypeus convex, without median notch (not bilobate) or tooth.
..... **BANCHINAE** (some)
- 76'. Tarsal claws not pectinate. Clypeus with apical margin various, sometimes with median notch (figs. 5.59 – 5.60) or tooth.
.....77
77. Fore and middle tarsal claws with small subapical tooth, apex of claws apparently bifid (fig. 5.26). Apex of clypeus with preapical ridge, thus appearing thickened (fig. 5.27).
..... **ACAENITINAE** (all except *Coleocentrus*)
- 77'. Fore and middle tarsal claws without small subapical tooth, apex of claws simple. Clypeal apex various but not appearing thickened.
.....78
78. *With following combination of characters:* Basal 0.3-0.5 of clypeus convex, apical 0.5-0.7 flattened or weakly concave; apical margin strongly convex (fig. 5.28). Fore wing with vein 1cu-a apical vein Rs&M by about 0.7x length of 1cu-a (fig. 5.29). T2-4 with large close punctures (punctures of T2-3 15-24 μ in diameter and separated by 0.2x their diameter to confluent (fig. 5.30). Habitus as in fig. 5.31.
..... **STILBOPINAE** (*Stilbops*)
- 78'. Without above combination of characters.
.....79
79. Clypeus usually strongly convex, apical margin usually convex (figs. 5.32 – 5.33). Malar space usually \geq basal mandibular width and with distinct subocular groove (figs. 5.32 – 5.33). Mandibles usually narrow and elongate (as in fig. 5.32). Eyes sometimes ventrally convergent (fig. 5.34). Body delicate, metasoma weakly sclerotized and often collapsed in dried specimens (figs. 5.35 – 5.36).
..... **ORTHOCENTRINAE** (part)
- 79'. Characters not as above: clypeus usually flat, subocular groove absent, mandibles robust. Eyes rarely ventrally convergent.
.....80
80. Metasomal segment 1 elongate, anterior 0.4-0.5 of S1 with tergo-sternal suture absent (figs. 5.37 – 5.38).
.....81
- 80'. Metasomal segment 1 stouter, tergo-sternal suture present for entire length of S1 (figs. 5.39 – 5.41).
.....82
81. Hypostomal carina produced ventrally and posteriorly into large lobe (fig. 5.42). Notauli absent. T2-4 without grooves.
..... **LABENINAE** (*Grotea*)
- 81'. Hypostomal carina not projecting medially (fig. 5.43). Notauli strongly impressed anteriorly, meeting in center of mesoscutum and defining convex central lobe (fig. 5.44). T2-4 with antero- and posterolateral grooves delimiting more or less rhombic central area (fig. 5.45).
..... **POEMENIINAE** (*Rodrigama*)
82. Apical margin of clypeus with median tooth (figs. 5.46 – 5.47) **and** hind wing with vein 1/Cu \leq 0.3 as long as vein cu-a (fig. 5.48).
.....83
- 82'. Apical margin of clypeus usually without tooth; **if** tooth present, **then** vein 1/Cu of hind wing $>$ length of vein cu-a.
.....84

83. Posterior transverse carina of propodeum present (at least laterally, but usually complete) (fig. 5.49).
 Areolet of fore wing present (fig. 5.48a). T2-3 with anterolateral grooves (fig. 5.47).
**ACAENITINAE** (*Coleocentrus*)
- 83'. Posterior transverse carina of propodeum absent. Areolet of fore wing absent (fig. 5.48b). T2-3
 without basolateral grooves.
**COLLYRIINAE**
84. Glymmae of T1 present (figs. 5.51 – 5.52).
85
- 84'. Glymmae of T1 absent. (figs. 5.53 – 5.55).
87
85. Flagellomeres 3-4 with smooth concavity on dorsal surface (fig. 5.56).
**CYLLOCERIINAE** (*Cylloceria*)
- 85'. Flagellomeres 3-4 without dorsal concavities.
86
86. Clypeus, paraocular areas between antennal sockets and vertex, and mandibles except for extreme
 apices, white to brownish-white (fig. 5.57). Clypeus with basal 0.2 convex, remainder flat; apical
 margin convex (fig. 5.57). T2-4 impunctate, ranging from strongly granulate to smooth. Habitus as
 in fig. 5.58.
**CYLLOCERIINAE** (*Allomacrus*)
- 86'. Clypeus and paraocular areas not with above color combination. Clypeus usually with basal ± 0.5
 convex and with remainder weakly concave and thinned; apical margin often with median notch
 (figs. 5.59 – 5.60). T2-4 often with large punctures (24-48µ in diameter) and/or pairs of tubercles
 (figs. 5.61 – 5.62).
**PIMPLINAE**
87. Sternaulus of mesopleuron present, extending to at least middle of mesopleuron, usually reaching
 middle coxa (fig. 5.63).
**CRYPTINAE** (some)
- 87'. Sternaulus of mesopleuron indistinct, absent, or less than 0.5x as long as mesopleuron.
88
88. Clypeus with basal 0.8 weakly convex, apical 0.2 impressed; apical margin more or less truncate (fig.
 5.64). Pronotum mediodorsally with shallow depression (figs. 5.65 – 5.66).
*[Diacritus muliebris is the only New World diacritine, distributed from eastern North America to
 the northwestern USA. Its habitus (fig. 5.67) is quite distinct from the species in the following
 couplets.]*
**DIACRITINAE**
- 88'. Clypeus ranging from weakly convex (fig. 5.68), to having basal 0.2-0.5 weakly convex and remainder
 flat and thin (figs. 5.69 – 5.70); apical margin truncate to convex (figs. 5.68 – 5.70). Pronotum
 either mediodorsally flat or with transverse sulcus or with median longitudinal ridge (figs. 5.71 –
 5.72).
89

89. Possessing one of the following character sets:

- a. Mesosoma flattened and elongate (fig. 5.73; normal mesosoma shown in fig. 5.74); apex of mandible bidentate.
- b. Supra-antennal area with strong median apophysis (figs. 5.74 – 5.75).
- c. Hind femur with strong median ventral tooth (fig. 5.76).
- d. Apex of mandible unidentate (fig. 5.77); epomia strong and reaching dorsal pronotal margin, sometimes projecting dorsally as tooth (figs. 5.78 – 5.79; usual xoridine epomia shown in fig. 5.80).

.....**XORIDINAE**

89'. Not possessing above characters.

.....**CRYPTINAE (few)**

Figures

The American Entomological Institute photograph voucher code for an individual specimen follows the species name. For example, '0137-03' is the third photograph taken of voucher specimen 137. All specimens are in the American Entomological Institute collection unless otherwise noted. Line drawings are from *Memoirs of the American Entomological Institute* 11, 12, 13, and 17 unless otherwise noted.

- Fig. 5.01 - *Lissonota* sp. 1026-01
Fig. 5.02 - *Apechthis annulicornis* 1029-01
Fig. 5.03 - *Tryphon seminiger* 1028-01
Fig. 5.04 - *Mnioes* sp. 1027-01
Fig. 5.05 - *Cestrus* sp. 1004-01R
Fig. 5.06 - *Ctenochira haemosternus* 1030-01
Fig. 5.07 - *Lissonota* sp. 1026-02
Fig. 5.08 - *Ctenochira haemosternus* 1030-02
Fig. 5.09 - *Lissonota tegularis* 1031-01
Fig. 5.10a - *Arenetra pallipes*
Fig. 5.10b - *Isomeris marginata*
Fig. 5.10c - *Glypta inversa*
Fig. 5.11 - *Glypta* sp. 1032-01
Fig. 5.12 - *Pseudorhyssa alpestris* 0110-01
Fig. 5.13 - *Rhysella perfulva* 0998-01
Fig. 5.14 - *Pseudorhyssa alpestris* 0110-03
Fig. 5.15 - *Poemenia hectica* 1001-01
Fig. 5.16 - *Podoschistus vittifrons* 0011-02
Fig. 5.17 - *Poemenia albipes* 0010
Fig. 5.18 - *Dolichomitus irritator* 1003-01
Fig. 5.19 - *Pimpla aequalis* 1002-01
Fig. 5.20 - *Extenterus* sp. 1008-01
Fig. 5.21 - *Monoblastus dionnei* 1007-01
Fig. 5.22 - *Grypocentrus* sp. 1033-01
Fig. 5.23 - *Lagoleptus* sp. 1034-01
Fig. 5.24 - *Netelia* sp. 1035-01
Fig. 5.25 - *Cryptopimpla quadrilineata* 0988-01
Fig. 5.26 - *Arotes amoenus* 1036-01
Fig. 5.27 - *Arotes amoenus* 1036-02
Fig. 5.28 - *Stilbops mexicana* 0148-03
Fig. 5.29 - *Stilbops abdominalis* 0150-03
Fig. 5.30 - *Stilbops mexicana* 0148-02
Fig. 5.31 - *Stilbops mexicana* 1037-01
Fig. 5.32 - *Proclitus speciosus* 0992-01
Fig. 5.33 - *Aniseres pallipes* 0995-01
Fig. 5.34a - *Catastenus femoralis*
Fig. 5.34b - *Symplecis sitkensis*
Fig. 5.35 - *Aniseres pallipes* 1038-01
Fig. 5.36 - *Proclitus speciosus* 1039-01
Fig. 5.37 - *Grotea californica* 1005—01
Fig. 5.38 - *Rodrigama gamezi* 1013-01
Fig. 5.39 - *Cestrus* sp. 1004-02
Fig. 5.40 - *Xorides humeralis* 0079-05
Fig. 5.41 - *Diacritus muliebris* 1044-01
Fig. 5.42 - *Grotea californica* 1014-01
Fig. 5.43 - *Rodrigama gamezi* 1013-02
Fig. 5.44 - *Rodrigama gamezi* 1013-03
Fig. 5.45 - *Rodrigama gamezi* 1013-04
Fig. 5.46 - *Coleocentrus rufus* 1040-01
Fig. 5.47 - *Collyria coxator* 1041-01
Fig. 5.48a - *Coleocentrus excitator*
Fig. 5.48b - *Collyria coxator*
Fig. 5.49 - *Coleocentrus rufus* 1040-02
Fig. 5.50 - *Coleocentrus rufus* 1040-03
Fig. 5.51 - *Liotryphon coracinus*
Fig. 5.52 - *Cylloceria melancholia* 1042-01
Fig. 5.53 - *Cestrus* sp. 1004-01
Fig. 5.54 - *Xorides humeralis* 0079-04
Fig. 5.55 - *Diacritus muliebris* 1044-01
Fig. 5.56 - *Cylloceria melancholica* 1045-01
Fig. 5.57 - *Allomacrus arcticus* 1046-01
Fig. 5.58 - *Allomacrus arcticus* 1046-02
Fig. 5.59 - *Calliephialtes grapholithae* 1010-01
Fig. 5.60 - *Pimpla aequalis* 1011-01R
Fig. 5.61 - *Liotryphon coracinus*
Fig. 5.62 - *Tromatobia blancoi* 1021-01
Fig. 5.63 - *Cestrus calidus*
Fig. 5.64 - *Diacritus muliebris* 1017-01
Fig. 5.65 - *Diacritus muliebris* 1018-01
Fig. 5.66 - *Diacritus* sp. (unpublished Wahl illustration)
Fig. 5.67 - *Diacritus muliebris* 1043-01
Fig. 5.68 - *Cryptohelcostizus genalis* 1020-01
Fig. 5.69 - *Odontocolon albotibiale* 0080-02
Fig. 5.70 - *Xorides stigmapterus*
Fig. 5.71 - *Odontocolon strangaliae* 1022-01
Fig. 5.72 - *Xorides albopictus* 1023-01
Fig. 5.73 - *Aplomerus* sp. 1047-01
Fig. 5.74 - *Ischnoceros rusticus* 1048-01
Fig. 5.75 - *Ischnoceros rusticus* 0083-01
Fig. 5.76 - *Odontocolon albotibiale* 0080-03
Fig. 5.77 - *Xorides* sp. 1049-01
Fig. 5.78 - *Xorides* sp. 1049-02
Fig. 5.79 - *Xorides* sp. 1050-01
Fig. 5.80 - *Odontocolon* sp. 1051-01

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