KEY TO THE SUBFAMILIES OF NORTH & CENTRAL AMERICAN ICHNEUMONIDAE: SECTION 4

53(52). Ovipositor with dorsal subapical notch, ventral apical margin smooth or with very inconspicuous teeth (**NOTE**: ovipositor sheaths may have to be separated from ovipositor to see notch) (figs. 4.01 – 4.02).
.....54

53'. Ovipositor without dorsal subapical notch ***or*** with weak notch surmounting raised dorsal apical node, ventral apical margin usually with conspicuous teeth (fig. 4.03).
.....57

54(53). T2-5 with submedian pair of deep oblique grooves (fig. 4.04).
.....**BANCHINAE** (Glyptini)

54'. T2-5 without grooves.
.....55

55(54). Hypopygium enlarged and with median apical notch (figs. 4.05 – 4.07). Submetapleural carina of metapleuron widened anteriorly into flange (figs. 4.08 – 4.09). Median longitudinal carinae of propodeum absent, indistinct, or absent posteriorly (figs. 4.10). Vein 2m-cu of fore wing usually with one bulla (fig. 4.11). Malar space without distinct subocular groove.
.....**BANCHINAE** (most)

55'. Hypopygium not enlarged and without median apical notch (fig. 4.12). Submetapleural carina of metapleuron not widened anteriorly (fig. 4.13). Median longitudinal carinae of propodeum usually present. Vein 2m-cu of fore wing usually with two bullae (fig. 4.14). Malar space usually with distinct subocular groove (fig. 4.15).
.....56

56(55). Clypeus convex basally, with remainder flat to weakly concave, and with apical margin truncate (fig. 4.16). Malar space without distinct subocular groove (fig. 4.16). Body robust; metasoma well-sclerotized (fig. 4.17). Fore wing length usually 5.3-8.9 mm.
.....**CYLLOCERIINAE**

56'. Clypeus usually small and strongly convex, with convex apical margin (fig. 4.15). Malar space usually with distinct subocular groove (fig. 4.15). Body delicate; metasoma weakly sclerotized and often collapsed in air-dried specimens (figs. 4.18 – 4.19). Fore wing length 1.8-6.5 mm.
.....**ORTHOCENTRINAE** (part)

57(53). Clypeus usually strongly convex, apical margin usually convex (fig. 4.20). Malar space usually ≥ basal mandibular width, usually with distinct subocular groove (fig. 4.21). Mandibles usually narrow and elongate (as in fig. 4.15). Head in anterior view strongly tapering ventrally, eyes prominent (fig. 4.20). Ovipositor cylindrical and delicate (as in fig. 4.02), not strongly tapering to needle-like point (as in fig. 4.22). Body delicate, metasoma weakly sclerotized and often collapsed in dried specimens (figs. 4.23 – 4.24).
.....**ORTHOCENTRINAE** (part)

57'. Characters not as above, if similar (some Pimplinae) then malar space usually very short (< basal mandibular width - fig. 4.25) and ovipositor as in fig. 4.22.
.....58

58(57). Basal 0.3-0.5 of clypeus convex, apical 0.5-0.7 flattened or weakly concave; apical margin strongly convex (fig. 4,26). Ovipositor gradually tapered to sharp point (fig. 4.27). Apical flagellomere 2.7-3.0x as long as preceeding flagellomere (fig. 4.28). Fore wing with vein 1cu-a apicad vein Rs&M by about 0.7x length of 1cu-a (fig. 4.29). T2-4 with strong dense punctation (fig. 4.30).
.....**STILBOPINAE** (*Stilbops*)

58'. Clypeus not as described; if apically flattened then margin not strongly convex. Ovipositor usually cylindrical to apex, occasionally strongly tapering to needle-like point (fig. 4.22). Length of apical flagellomere subequal to preceeding flagellomere. Fore wing with vein 1cu-a usually sub-opposite vein M, if basad then only by about 0.3x its length. T2-4 punctation ranging from minute to strong.
.....59

59(58). Mesoscutum covered with sharp transverse ridges (figs. 4.31 – 4.32).
.....60
59'. Mesoscutum without transverse ridges, or with ridges only on median lobe.
.....61

60(59). T2 with deep anterolateral grooves (fig. 4.33). Apex of T8 elongate but not produced as truncate polished horn (fig. 4.34).
.....**POEMENIINAE** (*Pseudorhyssa*)
60'. T2 without anterolateral grooves. Apex of T8 ending in truncate polished horn (fig. 4.35).
.....**RHYSSINAE**

61(59). Epicnemial carina absent (fig.4.36). Dorsal 0.5 of gena with weak to strong denticles (absent in a few species of *Poemenia*) (figs. 4.37 – 4.39). Pronotum with epomia absent and with sharply raised ridge close to and more or less in parallel with anterior pronotal margin (fig. 4.39).
.....**POEMENIINAE** (Poemeniini)
61'. Epicnemial carina almost always present (figs. 4.40 – 4.41). Dorsal half of gena without denticles (figs. 4.40 – 4.41). Pronotum with epomia usually present and with anterior pronotal margin low and more or less rounded (figs. 4.40 – 4.41).
.....62

62(61). Glymmae of T1 present (figs. 4.42 – 4.43).
.....63
62'. Glymmae of T1 absent (figs. 4.44 – 4.46).
.....64

63(62). Clypeus with apical margin with fringe of long parallel setae and without median notch; clypeus usually weakly but evenly convex (figs. 4.47 – 4.48). Tarsal claws ranging from simple to pectinate, without large basal tooth (fig. 4.49). T2-4 without large punctures (punctures ≤ 12µ) or pairs of tubercles (except in *Neliopisthus*, which has ventral valve of ovipositor with median membranous region, as in fig. 2.55). Eggs sometimes attached to ovipositor by stalk (fig. 4.50).
.....**TRYPHONINAE** (most)
63'. Apical margin of clypeus without fringe of long parallel setae and often with median notch (appearing bilobed); clypeus usually with basal ± 0.5 convex and with remainder weakly concave and thinned (figs. 4.51 – 4.52). Tarsal claws not pectinate, often with large basal tooth or lobe (fig. 4.53). T2-4 often with large punctures (24-48µ in diameter) and/or pairs of tubercles (figs. 4.54 – 4.55). Eggs never attached to ovipositor.
.....**PIMPLINAE**

64(62). Metasomal segment 1 elongate, anterior 0.4-0.5 of S1 with tergosternal suture absent (figs. 4.56 – 4.57).
.....65
64'. Metasomal segment 1 stouter, tergosternal suture present for entire length of S1 (figs. 4.58 – 4.59).
.....66

65(64). Juncture of occipital and hypostomal carinae produced ventrally and posteriorly into large lobe (fig. 4.60). Notauli absent (fig. 4.60). T2-4 without grooves.
……..**LABENINAE** (*Grotea*)

65'. Juncture of occipital and hypostomal carinae not produced as large lobe (fig. 4.61). Notauli strongly impressed anteriorly, meeting in center of mesoscutum and defining convex central lobe (fig. 4.62). T2-4 with antero- and posterolateral grooves delimiting more or less rhombic central areas (fig. 4.63).
.....**POEMENIINAE** (*Rodrigama*)

66(64). Sternaulus of mesopleuron present, extending to at least middle of mesopleuron, usually reaching middle coxa (fig. 4.64).
.....**CRYPTINAE** (some)

66'. Sternaulus of mesopleuron indistinct, absent, or less than 0.5x as long as mesopleuron.
……...67

67(66). Clypeus with basal 0.8 weakly convex, apical 0.2 impressed; apical margin more or less truncate (fig. 4.65). Pronotum mediodorsally with shallow depression (figs. 4.66 – 4.67).
*[**Diacritus muliebris** is the only New World diacritine, distributed from eastern North America to the northwestern USA. Its habitus (fig. 4.68) is quite distinct from the species in the following couplets.]*
.....**DIACRITINAE**

67'. Clypeus ranging from weakly convex (fig. 4.69), to having basal 0.2-0.5 weakly convex and remainder flat and thin (figs. 4.70 – 4.71); apical margin truncate to convex (figs. 4.69 – 4.71). Pronotum either mediodorsally flat or with transverse sulcus or with median longitudinal ridge (figs. 4.72 – 4.73).
.....68

68(67). Possessing one of the following character sets:
a. Mesosoma flattened and elongate (fig. 4.74; normal mesosoma shown in fig. 4.75).
b. Supra-antennal area with strong median apophysis (fig. 4.76).
c. Hind femur with strong median ventral tooth (fig. 4.77).
d. Apex of mandible unidentate; flagellum curved or elbowed subapically, with one, two, or series of peg-like setae at curve or elbow (figs. 4.78 – 4.79).
.....**XORIDINAE**

68'. 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. 4.01 - *Exetastes* n. sp. 0204-01
Fig. 4.02 - *Aperileptus albipalpus* 0985-01
Fig. 4.03a - *Agrothereutes mandator*
Fig. 4.03b - *Perithous mediator*
Fig. 4.03c - *Xorides albopictus*
Fig. 4.03d - *Odontocolon vicinum*
Fig. 4.04 - *Glypta* sp. 0961-01
Fig. 4.05 - *Sphelodon phoxopteridis* 0986-01
Fig. 4.06 - *Syzeuctus laminatus* 0987-01
Fig. 4.07 - *Cryptopimpla quadrilineata* 0988-01
Fig. 4.08 - *Diradops bethunei* 0989-01
Fig. 4.09 - *Cryptopimpla quadrilineata* 0988-02
Fig. 4.10a - *Arenetra pallipes*
Fig. 4.10b - *Isomeris marginata*
Fig. 4.10c - *Lissocaulus maceratus*
Fig. 4.11a - *Diradops bethunei*
Fig. 4.11b - *Lissocaulus maceratus*
Fig. 4.12 - *Proclitus speciosus* 0991-01
Fig. 4.13 - *Aperileptus erasus* 0990-01
Fig. 4.14 - *Proclitus* sp.
Fig. 4.15 - *Proclitus speciosus* 0992-01
Fig. 4.16 - *Cylloceria rubrica* 0160-02
Fig. 4.17 - *Cylloceria melancholica* 0165-02
Fig. 4.18 - *Aperileptus bellulus* 0993-01
Fig. 4.19 - *Proclitus speciosus* 0994-01
Fig. 4.20a - *Aniseres pallipes*
Fig. 4.20b - *Plectiscidea* sp.
Fig. 4.21 - *Aniseres pallipes* 0995-01
Fig. 4.22 - *Oxyrrhexis carbonator* 0997-01
Fig. 4.23 - *Aniseres pallipes* 0995-02
Fig. 4.24 - *Plesctiscidea prolata* 0996-01
Fig. 4.25 - *Oxyrrhexis carbonator* 0997-02
Fig. 4.26 - *Stilbops latibasis* 0149-03
Fig. 4.27 - *Stilbops vetula* 1025-01
Fig. 4.28 - *Stllbops mexicana* 0147-03
Fig. 4.29 - *Stilbops abdominalis* 0159-03
Fig. 4.30 - *Stilbops latibasis* 0146-03
Fig. 4.31 - *Pseudorhyssa alpestris* 0110-01
Fig. 4.32 - *Rhyssella perfulva* 0998-01
Fig. 4.33 - *Pseudorhyssa alpestris* 0110-01
Fig. 4.34 - *Pseudorhyssa maculicoxis* 0999-01
Fig. 4.35 - *Megarhyssa greenei* 1000-01
Fig. 4.36 - *Poemenia albipes* 0010-01
Fig. 4.37 - *Poemenia albipes* 1001-01
Fig. 4.38 - *Podoschistus vittifrons* 0011-01
Fig. 4.39 - *Podoschistus vittifrons* 0011-02
Fig. 4.40 - *Dolichomitus irritator* 1003-01
Fig. 4.41 - *Pimpla aequalis* 1002-01
Fig. 4.42 - *Phytodietus* sp. 1006-01
Fig. 4.43 - *Liotryphon coracinus*
Fig. 4.44 - *Cestrus* sp. 1004-01
Fig. 4.45 - *Grotea californica* 1005-01
Fig. 4.46 - *Xorides humeralis* 0079-04
Fig. 4.47 - *Exenterus* sp. 1008-01
Fig. 4.48 - *Monoblastus dionnei* 1007-01
Fig. 4.49 - *Ctenochira* sp. 1009-01
Fig. 4.50 - *Polyblastus varitarsus*
Fig. 4.51 - *Calliephialtes grapholithae* 1010-01
Fig. 4.52 - *Pimpla aequalis* 1011-01
Fig. 4.53a - *Dolichomitus irritator* 1012-01
Fig. 4.53b - *Clistopyga recurva* 0008-02
Fig. 4.54 - *Liotryphon coracinus*
Fig. 4.55 - *Tromatobia blancoi* 1021-01
Fig. 4.56 - *Grotea californica* 1005-02
Fig. 4.57 - *Rodrigama gamezi* 1013-01
Fig. 4.58 - *Cestrus* sp. 1004-02
Fig. 4.59 - *Xorides humeralis* 0079-05
Fig. 4.60 - *Grotea californica* 1014-01
Fig. 4.61 - *Rodrigama gamezi* 1013-02
Fig. 4.62 - *Rodrigama gamezi* 1015-01
Fig. 4.63 - *Rodrigama gamezi* 1015-02
Fig. 4.64 - *Cestrus calidus*
Fig. 4.65 - *Diacritus muliebris* 1017-01
Fig. 4.66 - *Diacritus muliebris* 1018-01
Fig. 4.67 - *Diacritus* sp. (unpublished Wahl illustration)
Fig. 4.68 - *Diacritus muliebris* 1019-01
Fig. 4.69 - *Cryptohelcostizus genalis* 1020-01
Fig. 4.70 - *Odontocolon albotibiale* 0080-02
Fig. 4.71 - *Xorides stigmapterus*
Fig. 4.72 - *Odontocolon strangaliae* 1022-01
Fig. 4.73 - *Xorides albopictus* 1023-01
Fig. 4.74 - *Aplomerus* sp. 0084-01
Fig. 4.75 - *Ischnoceros caligatus* 0086-01
Fig. 4.76 - *Ischnoceros rusticus* 0083-01
Fig. 4.77 - *Odontocolon albotibiale* 0080-01
Fig. 4.78 - *Xorides humeralis* 0079-02
Fig. 4.79 - *Xorides humeralis* 0079-03