

veloped independently in each of the four genera described, and are not indicative of close relationship.

Anopedias, also cited by Fouts (op. cit.) as a synonym of *Leptacis*, is a valid genus, not closely related to *Leptacis* or *Synopeas* (vide Masner, 1960, p. 3). *Anopedias* may be recognized by the flat dorsal surface of the thorax; when seen from the side the mesonotum, scutellum, propodeal lamellae and the dorsal surface of the gaster form an almost straight line. Fouts opinion was probably based on species placed by Ashmead in *Anopedias*, but which have since been transferred to *Synopeas* (vide Masner and Muesebeck, 1968, pp. 100–101).

Several of the opinions concerning generic status expressed in this paper had their origin in conversations with Dr. Lubomir Masner and the author gratefully acknowledges his contributions.

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A SUMMARY OF SPECIES OF MICROCTONUS NORTH OF MEXICO WITH FIVE NEW SPECIES

(HYMENOPTERA: BRACONIDAE: EUPHORINAE)

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ABSTRACT—Five new species of *Microctonus* Wesmael are described of which four are associated with the host species of adult Coleoptera: **psyllioidis** (*Psylliodes punctulata* Melsh.); **cucumeridis** (*Epitrix cucumeris* (Harris)); **longitarsi** (*Longitarsus melanurus* Melsh.); **alticae** (*Altica bimarginata* Say); and **barri**. The 24 known species of *Microctonus* occurring in America, north of Mexico, are keyed.

The Nearctic species of *Microctonus* Wesmael north of Mexico were reviewed by Muesebeck (1936). They comprised eight species, and from 1936 to 1969 ten others were described (Mason, 1960, 1968;

Muesebeck, 1961; Loan, 1967a; Drea, 1968; and Loan, Klein and Coppel, 1969). This paper does not contain a complete review of the species included in this genus. Rather, it is a summary, in the form of a key, of certain characters that are useful in their separation. The key was formulated from a study of specimens of the known Nearctic species and is based on the female; males usually require to be associated for their identification. Because of their close resemblance most species of *Microctonus* are not readily distinguished and, as noted by Muesebeck (1936), their recognition requires "close attention . . . to minute details."

Of the five new species described below, two are based on material from the collections of the U.S. National Museum, Washington, and three on specimens reared and host associated at the Research Institute, Belleville. Records of distribution for some species included in the key are taken from Muesebeck, Krombein and Townes (1951); Krombein (1958); and Krombein and Burks (1967).

The host relations of euphorine braconids, including *Microctonus*, were discussed by Muesebeck (1936, 1963). Adult Coleoptera are parasitized (Table 1) though examples of larval parasitism are recorded by Künckel d'Herculais and Langlois (1891), Loan (1963, 1967b) and Drea (1968). *M. colesi* Drea, a parasite of *Hyperica postica* (Gyllenhal) is the only known species of *Microctonus* that lays eggs exclusively in larvae. Hosts are known for 21 of the 24 species noted in this paper. *Microctonus* species are associated with Chrysomelidae (13), Curculionidae (5), Tenebrionidae (2) and Carabidae (1). Thirteen species appear to be strictly monophagous and most of the others are restricted to species of a single genus or of several closely related genera associated with a narrow range of host-breeding plants.

The types of new species described here are deposited in the Canadian National Collection (CNC) or the United States National Museum (USNM), as noted.

KEY TO NEARCTIC SPECIES OF *Microctonus*

- | | |
|--|-----------------------------|
| 1. Propodeum rugulose, more or less areolated | 2 |
| Propodeum rugulose-reticulate, exareolated | 10 |
| 2. Lobes of mesonotum generally bare, polished | 3 |
| Scutum of mesonotum sparsely hairy, weakly wrinkled or shallowly punctured | 5 |
| 3. Lateral lobes of mesonotum sparsely, finely hairy anteriorly; ovipositor sheath 1.4 times as long as tergite 1, thick; tergite 1 2.5 times as long as wide at apex; occipital carina complete medially; dark testaceous; ♀ antennal segments 21 | <i>cucumeridis</i> , n. sp. |
| Lateral lobes entirely glabrous; ovipositor sheath only slightly longer than tergite 1; occipital carina incomplete medially; yellow | 4 |
| 4. Nervellus distinctly longer than basal abscissa of basella; tergite 1 3.0 | |

- times as long as wide at apex; temple not as wide as eye; anterior margin of lateral ocellus in line with posterior margin of eye; ♀ antennal segments 20–21; United States: New Jersey to Virginia, west to Illinois and Tennessee **epitricis** (Viereck)
- Nervellus and basal abscissa of basella subequal; tergite 1 not 3.0 times as long as apical width; temple about as wide as eye; anterior margin of lateral ocellus behind posterior margin of eye; ♀ antennal segments 17–18; United States: Colorado, Arizona, Idaho, Washington **pusillae** Muesebeck
5. Body usually less than 2.4 mm. long; if 2.4 mm., then nervellus short, distinctly not as long as basal abscissa of basella 6
 Body 2.4–2.9 mm. long 7
6. First abscissa of radius about 0.5 times width of stigma; nervellus subequal to basal abscissa of basella; ovipositor sheath slightly longer than tergite 1, not 1.4 times as long; scutum weakly wrinkled; temple as wide as eye; tergite 1 2.5 times as long as wide at apex; yellow to yellowish brown; ♀ antennal segments 18–20; United States, southern Canada: most areas **vittatae** Muesebeck
- Nervellus distinctly short, not as long as basal abscissa of basella; first abscissa of radius less than 0.5 times width of stigma; ovipositor sheath 1.4 times as long as tergite 1; scutum sparsely hairy, indistinctly punctulate, usually paler than lateral lobes; temple 0.8 times as wide as eye; tergite 1 2.2–2.6 times as long as wide at apex; light testaceous; ♀ antennal segments 21–22; Canada: Ontario **disonychae** Loan
7. Basal abscissa of basella unusually long, longer than nervellus and apical abscissa; eye large, nearly 2.0 times as wide as temple; light testaceous; ♀ antennal segments 24; United States: Maryland, Tennessee, Michigan, Iowa, Idaho **carabivorus** Muesebeck
- Basal abscissa of basella not longer than nervellus; eye not 2.0 times as wide as temple 8
8. Occipital carina incomplete medially; radial cell more than 0.5 times as long as stigma; ovipositor sheath 1.1–1.4 times as long as tergite 1; tergite 1 2.0–2.5 times as long as wide at apex; amber stramineous; ♀ antennal segments 23–25; Canada: Ontario **muesebecki** Loan
- Occipital carina complete medially; radial cell not longer than 0.5 times stigma; ovipositor sheath about as long, or slightly less than tergite 1; tergite 1 2.0 times more or less as long as wide at apex 9
9. Ovipositor and sheath relatively straight, approximately parallel to body; sheath slender, 1.5 times as long as posterior tibia; temple about as wide as eye; light reddish testaceous; ♀ antennal segments 22 **psylliodis**, n. sp.
- Ovipositor and sheath apically decurved; sheath unusually thick, less than 11.0 times as long as apical depth, not as long as posterior tibia; amber stramineous; ♀ antennal segments 23–25; Canada: Ontario **crepidoderae** Loan
10. Antenna unusually short, 1.1–1.3 times as long as head, thorax and propodeum combined; eye wider than face and nearly, or more than, 2.0 times as wide as temple 11
 Antenna not unusually short, 1.5 times or more as long as head, thorax

- and propodeum combined; if eye wider than face, then antenna as long as or longer than body less ovipositor and sheath 12
11. Eye more than 2.0 times as wide as temple; ovipositor sheath about as long as tergite 1; occiput margined behind; stigma 3.4 times as long as wide; first abscissa of radius narrow, somewhat oblique, 0.5 times width of stigma; yellow, dorsal face of propodeum darker; ♀ antennal segments 18; United States: Louisiana, Florida **pachylobii** Muesebeck
- Eye not more than 2.0 times as wide as temple; ovipositor sheath 1.3–1.4 times as long as tergite 1; occiput immargined behind; stigma broad, 2.8 times as long as wide; first abscissa of radius not as narrow, vertical to stigma, less than 0.3 times width of stigma; yellow, dorsal face of propodeum, thorax, testaceous; ♀ antennal segments 18–19; United States: Wisconsin **glyptosceli** Loan, Klein and Coppel
12. Eye large, transverse diameter wider than face and more than 2.0 times as wide as temple; radial cell 0.3 times as long as stigma; dark testaceous; ♀ antennal segments 27; United States: California, Arizona **invictus** Muesebeck
- Structural features not as described 13
13. Scutum and lateral lobes of mesonotum hairy; radial cell unusually long, almost as long as stigma; tergite 1 more than 3.0 times as long as wide at apex; ovipositor sheath almost 2.0 times as long as tergite 1; yellow; ♀ antennal segments 28–34; United States: District of Columbia, Maryland, Virginia, Massachusetts, Georgia. Canada: Quebec **mellinus** (Provancher)
- Structural features not as described 14
14. Tergite 1 1.5–2.2 times as long as wide at apex 15
- Tergite 1 2.5–3.0 times or more as long as wide at apex 21
15. First sector of cubitus usually indicated at each end; ovipositor sheath 1.7 times as long as tergite 1; tergite 1 unusually short, 1.5–1.8 times as long as apical width; radial cell 0.7–0.8 times as long as stigma; mesepisternum rugulo-punctate; brown or fuscous; ♀ antennal segments 20–21; Canada: Ontario **blapstini** Loan
- Structural features not as described 16
16. Ovipositor sheath subequal to length of tergite 1; tergite 1 not 2.0 times as long as wide at apex, coarsely striate; radial cell 0.7 times as long as stigma; habitus black, coarse; ♀ antennal segments 25; United States: New Jersey, Pennsylvania, Delaware, Maryland, North Carolina, Connecticut **colesi** Drea
- Structural features not as described 17
17. Temple as wide as transverse diameter of eye 18
- Temple not as wide, distinctly less than width of eye 19
18. Posterior margin of tergite 2 defined; radial cell more than 0.5 times as long as stigma; antenna dark brown; tergite 1 aciculate from apex to base; dark testaceous; ♀ antennal segments 21–22; United States: District of Columbia, Virginia **gastrophysae** (Ashmead)
- Posterior margin of tergite 2 not defined; radial cell not more than 0.5 times stigma length; antenna black; tergite 1, post-petiole relatively smooth, weakly aciculate, petiole smooth; black; yellow face, gaster

- testaceous or stramineous; ♀ antennal segments 21 --- **longitarsi**, n. sp.
19. Radial cell more than 0.5 times as long as stigma; second abscissa of radius weakly curved; testaceous to black; ♀ antennal segments 21; United States: Michigan. Canada: Quebec ----- **nigritus** (Provancher)
Radial cell not more than 0.5 times as long as stigma; second abscissa of radius moderately to strongly curved ----- 20
20. Head 1.8–1.9 times as wide as long; anterior margin of lateral ocellus in line with or anterior to posterior margin of eye; lateral margins of tergite 1 lightly carinate; postpetiole aciculate; ovipositor sheath 1.5–1.6 times as long as tergite 1; testaceous to black; tergite 1 light testaceous; ♀ antennal segments 21–23; United States: Kansas, Nebraska, Colorado, New Mexico, Idaho, Washington ----- **eleodis** (Viereck)
Head not 1.8 times as wide as long; anterior margin of lateral ocellus behind posterior margin of eye; lateral margins of tergite 1 darkly carinate; postpetiole striate laterally and rugulose medially; ovipositor sheath 1.2–1.3 times as long as tergite 1; color variable: mesonotum, mesepisternum reddish brown to almost black, or stramineous; head dark or stramineous; tergite 1 reddish black or black; ♀ antennal segments 22–24; United States: New Jersey (introduced from Europe) ----- **aethiops** (Nees)
21. Thorax reddish testaceous or stramineous, if dorsum black, then mesepisternum stramineous or reddish yellow; scutum of mesonotum sparsely hairy, shallowly punctate; prescutal sutures relatively wide, area of convergence large; tergite 1 aciculate or rugulo-striate ----- 22
Thorax black, polished, with mesepisternum dark castaneous; scutum partly or almost completely finely setose, relatively smooth; prescutal sutures sharply impressed, area of convergence not large; tergite 1 weakly aciculate ----- 23
22. Mesepisternum relatively smooth; nervellus longer than basal abscissa of basella, 2.0 times as long as marginal cilia of hind wing; tergite 1 2.5–3.0 times as long as apical width, postpetiole aciculate; radial cell not quite 0.5 times as long as stigma; ovipositor sheath 1.5 times as long as tergite 1; reddish testaceous, dorsum of thorax, propodeum black; ♀ antennal segments 22–24; Canada: Ontario ----- **sitonae** Mason
Mesepisternum with pronounced carinate depression below; nervellus not as long as basal abscissa of basella, subequal to marginal cilia of hind wing; postpetiole rugulo-striate; radial cell 0.7 times as long as stigma; ovipositor sheath 1.2 times as long as tergite 1; antennal segments, number unknown; head yellow; mesonotum reddish yellow or reddish brown; mesepisternum stramineous ----- **barri**, n. sp.
23. Ovipositor sheath 1.2 times as long as tergite 1; nervellus longer than marginal cilia of hind wing, subequal to basal abscissa of basella; radial cell slightly more than 0.5 times as long as stigma; antennal segments, number unknown; length 3.0 mm. ----- **alticae**, n. sp.
Ovipositor sheath not as long as tergite 1; nervellus not as long as marginal cilia of hind wing nor basal abscissa of basella; radial cell about 0.5 times as long as stigma; ♀ antennal segments 23–27; length 2.2 mm.; Canada: Ontario, Quebec, New Brunswick ----- **loani** Mason

Table 1. Known coleopteran hosts of Nearctic *Microctonus*.

Species of <i>Microctonus</i>	Host	Literature Reference
<i>cucumeridis</i>	<i>Epitrix cucumeris</i>	
<i>epitricis</i>	<i>E. parvula</i> (F.), <i>E. cucumeris</i>	Viereck, 1912; Muesebeck, 1936 (taxonomy); Dominick and Wene, 1941; Wene and Dominick, 1943 (biology).
<i>pusillae</i>	<i>Phyllotreta pusilla</i> Horn	Muesebeck, 1936 (taxonomy); Chittenden and Marsh, 1920 (biology).
<i>vittatae</i>	<i>P. bipustulata</i> (F.), <i>P. cruciferae</i> (Goeze), <i>P. striolata</i> (F.), <i>P. vittata</i> (F.), <i>P. zimmermani</i> (Crotch)	Muesebeck, 1936 (taxonomy); Smith, 1952, 1953; Smith and Peterson, 1950; Loan, 1967b (biology).
<i>disonychae</i>	<i>Disonycha triangularis</i> Say	Loan, 1967a (taxonomy); 1967b (biology).
<i>carabivorus</i>	<i>Galerita</i> sp.	Muesebeck, 1936 (taxonomy).
<i>muesebecki</i>	<i>Paria thoracica</i> Melsh.	Loan, 1967a (taxonomy); 1967b (biology).
<i>psylliodis</i>	<i>Psylliodes punctulata</i>	
<i>nigritus</i>	<i>Hypomolyx piceus</i> (DeGeer)	Provancher, 1888; Muesebeck, 1936; Krombein, 1958 (taxonomy).
<i>eleodis</i>	<i>Eleodes suturalis</i> (Say), <i>E. opaca</i> (Say), <i>E. obsoleta</i> (Say), <i>E. extricata</i> (Say), <i>E. tricolorata</i> (Say), <i>E. vandykei</i> Blaisd., <i>Embaphion muricatum</i> Say, <i>E. planum</i> Horn	Viereck, 1913; Muesebeck, 1936 (taxonomy); Wade and St. George, 1923; McColloch, 1918 (biology).
<i>sitonae</i>	<i>Sitona scissifrons</i> Say	Mason, 1960 (taxonomy); Loan, 1960, 1961 (biology).
<i>barri</i>	unknown	
<i>alticae</i>	<i>Altica bimarginata</i>	
<i>loani</i>	<i>Altica corni</i> Woods, <i>A. ambiens alni</i> Harris, <i>Calligrapha philadelphica</i> (L.)	Mason, 1968 (taxonomy); Loan, 1963 (biology).
<i>crepidoderae</i>	<i>Crepidodera</i> spp.	Loan, 1967a (taxonomy); 1967b (biology).
<i>pachylobii</i>	<i>Pachylobius picivorus</i> (Germar)	Muesebeck, 1961 (taxonomy).
<i>glyptosceli</i>	<i>Glyptoscelis pubescens</i> (F.)	Loan, Klein and Coppel, 1969 (taxonomy, biology).
<i>invictus</i>	<i>Trigonoscuta</i> sp.	Muesebeck, 1961 (taxonomy).
<i>mellinus</i>	unknown	Provancher, 1888; Muesebeck, 1936 (taxonomy).
<i>blapstini</i>	<i>Blapstinus metallicus</i> (F.)	Loan, 1967a (taxonomy); 1967b (biology).
<i>colesi</i>	<i>Hypera postica</i>	Drea, 1968 (taxonomy); Brunson and Coles, 1968 (biology).

Table 1 continued.

Species of <i>Microctonus</i>	Host	Literature Reference
<i>gastrophysae</i>	<i>Gastrophysa cyanea</i> Melsh., <i>Gastrophysa</i> sp.	Ashmead, 1888; Muesebeck, 1936 (taxonomy).
<i>longitarsi</i> <i>aethiops</i>	<i>Longitarsus mellanurus</i> <i>H. postica</i>	Nees ab Esenbeck, 1834 (taxonomy); Brunson and Coles, 1968; Loan and Holdaway, 1961 (biology).

***Microctonus psylliodis*, n. sp.**

Holotype.—Female (CNC 10736), reared 18-VII-1967, C. C. Loan, from adult *Psylliodes punctulata* Melsh., breeding on cultivated rhubarb at Moira, Ontario, Canada, latitude 44°21' N., longitude 77° 24' W.

Length, 2.4 mm. Dark reddish brown; face, scape, cheeks, frons next to eye, legs, petiole pale red; stemmaticum, vertex, mesonotum, scutellum, apical 0.7 gaster behind tergite 1 reddish black; pedicel, segments 1 and 2 of flagellum paler than scape, remainder of flagellum dusky.

Head transverse, 1.6 times as wide as long, 1.3 times as wide as thorax; antenna 22 segments, 0.7 times as long as body not including ovipositor and sheaths; scape, pedicel, flagellar segments 2 and 3, 0.9, 0.5, 0.8, 0.8 as long as flagellar segment 1; scape and pedicel distinctly hairy; face as long as wide, hairy; cheek about as wide as transverse diameter of eye; malar space 0.7 times as long as basal width of mandible; occipital carina distinctly complete medially; OOL (ocular-ocellar line) 2.0 times as long as POL (postocellar line); anterior margin of lateral ocellus slightly behind posterior margin of eye.

Scutum sparsely hairy; prescutal sutures narrowly impressed, area of convergence rugulose, separated by a median carina; antescutellar groove more than 2.0 times as long as broad, shallow; mesepisternum glabrous, polished, smooth except small rugulo-reticulate patch below; propodeum 1.3 times as wide as long, posterior face weakly excavated, rugulose; fore wing about as long as body not including ovipositor and sheaths; stigma 2.6 times as long as broad; radial cell 0.5 times as long as stigma measured along inside wing margin, its width measured from apex of stigma to middle of second abscissa of radius slightly less than length; first abscissa of radius emitted at basal 0.7 of hind margin of stigma, less than 0.3 times width of stigma; veins not dark, parastigma not as dark as stigma; basella broken at about its middle, nervellus slightly longer than basal or apical abscissa of basella; marginal cilia of hind wing almost as long as nervellus.

Tergite 1 2.1 times as long as wide at apex, lateral margins carinate from base to spiracles, 0.3 times as wide as posterior margin at narrowest part; postpetiole finely striate; ovipositor sheath 1.1 times as long as posterior femur, 1.5 times as long as posterior tibia, 1.1 times as long as tergite 1.

Allotype.—Male, data as cited for holotype but reared 26-VII-1967 (CNC).

Similar to female except as follows: eye 0.9 times as wide as temple; basella of hind wing broken much below middle; striae of tergite 1 more distinct, spiracles prominent.

Paratype (♀).—1 specimen, data as cited for holotype (CNC).

Remarks.—Somewhat similar to *M. crepidoderae*, as indicated in the key, *M. psylliodis* is distinct by the following combination of characters: short antenna, short tergite 1 of gaster, and short ovipositor sheath; occipital carina complete medially; cheek about as wide as eye; rather broad stigma; and very short first abscissa of the radius.

***Microctonus longitarsi*, n. sp.**

Holotype.—Female (CNC 10738), reared 23-VI-1967, C. C. Loan, from adult *Longitarsus melanurus* Melsh., breeding on *Echium vulgare* L. at Moira, Ontario, Canada, latitude 44° 21' N., longitude 77° 24' W.

Length 2.0 mm. Black; face yellow, lower genae, back of head, legs, gaster yellowish brown; frons, vertex, reddish black; ovipositor sheath brownish black.

Head transverse, 1.3 times as wide as thorax, vertex smooth, sparsely hairy; antenna 20 segments, 0.9 times as long as body not including ovipositor and sheath; scape, pedicel, flagellar segments 2 and 3, 0.8, 0.4, 0.9, 0.9 times as long as flagellar segment 1; face not quite as wide as long; temple, cheeks as wide as transverse diameter of eye; OOL subequal to POL; malar space subequal to basal width of mandible; occipital carina weak medially; anterior margin of lateral ocellus distinctly behind posterior margin of eye.

Scutum sparsely hairy; lateral lobes entirely glabrous, polished, very finely wrinkled; foveae of prescutal sutures broad, distinct, area of convergence divided by a median longitudinal carina; propodeum 1.3 times as wide as long, moderately declivous, rugulose, posterior face somewhat depressed, rugulo-punctate; stigma 3.0 times as long as broad; inside length of radial cell on wing margin 0.4 times as long as stigma; width of radial cell from apex of stigma to middle of second abscissa of radius slightly greater than length; first abscissa of radius emitted at basal 0.6 of hind margin of stigma, somewhat oblique, less than 0.4 times as long as width of stigma; basella broken at middle; nervellus perpendicular, longer than basal abscissa of basella and marginal cilia of hind wing.

Tergite 1 about 2.0 times as long as wide at apex, lateral margins carinate from apex almost to base, postpetiole smooth, finely granular, scarcely aciculate; ovipositor sheath 1.3 times as long as tergite 1, almost 0.8 times as long as posterior tibia, 1.1 times as long as posterior femur.

Allotype.—Male, data as cited for female specimen but reared 26-VI-1967.

Similar to female except as follows: face distinctly longer than wide, reddish brown; antenna 25 segments, much longer than body; scape 0.5 times as long as flagellar segment 1; basal 0.5 of gaster behind tergite 1 yellowish red.

Paratypes.—Some specimens were reared from *Longitarsus melanurus* feeding and breeding on *Echium vulgare* and *Cynoglossum officinale* L., at the type locality; others were taken by sweeping at

various locations within several miles of the type locality. 1 ♀ reared 16-VI-1967 (USNM); 2 ♀♀ reared 18-VI-1967; 2 ♂♂ reared 12-VI-1967 (CNC); 13 ♂♂ swept 23-VI-1967; 7 ♂♂ swept 26-VI-1967 (3 ♂♂ USNM; 17 ♂♂ CNC).

Variation.—Females: gaster light yellowish brown; face distinctly longer than wide; ovipositor sheath 1.3–1.5 times as long as tergite 1. Males: antennal segments 23–26; habitus black, with clypeus and mandibles yellowish, tergite 1 yellowish brown, not black.

Remarks.—This small species is distinct from *M. gastrophysae* Mues., by characters noted in the key. It is unique by the following combination of characters: cheek as wide as eye; tergite 1 short, carinate laterally; habitus black with yellow face (♀).

***Microctonus cucumeridis*, n. sp.**

Holotype.—Female (CNC 10737) reared 23-VII-1964, C. C. Loan, from adult *Epitrix cucumeris* (Harris) feeding on foliage of potatoes at Fuller, Ontario, Canada, latitude 44°24' N., longitude 77° 25' W.

Length 1.7 mm. Reddish; scape, pedicel, basal flagellar segments 1–4 pale yellowish red with remainder of flagellum dusky; tip of ovipositor sheath black; remainder of ovipositor sheath, face, legs, tergite 1, basal 0.5 gaster behind tergite 1 yellowish red; vertex, genae, dorsum and side of thorax, propodeum, apical 0.5 gaster behind tergite 1 shining reddish brown.

Head almost 1.7 times as long as wide, 1.5 times as wide as thorax; vertex smooth, sparsely hairy; antenna almost 0.8 times as long as body, 21 segments including small, barely discernible apical segment; flagellum width increases from flagellar segment 4, apical 2 segments 0.5 times as wide as preceding segment; scape, pedicel, flagellar segments 2 and 3, 0.9, 0.5, 0.9, 0.9 times as long as flagellar segment 1; face as wide as long with short, sparse pubescence above clypeus; malar space 0.6 times as long as basal width of mandible; cheek almost as wide as eye; OOL almost 2.0 times as long as POL; anterior face of lateral ocellus about in line with posterior margin of eye; occiput margined on sides and medially behind.

Lobes of mesonotum polished, smooth; scutum entirely glabrous, lateral lobes with sparse, long hairs anteriorly and beside prescutal sutures; prescutal sutures finely, narrowly impressed with area of convergence rugulose, not large and without a median carina; propodeum 1.3 times as wide as long, posterior face abruptly declivous, relatively flat; mesepisternum mostly polished, glabrous, rounded, smooth except flat, diagonal punctulate depression below; stigma almost 3.0 times as long as wide; radial cell 0.5 times as long as stigma, 0.7 times as wide as long; first abscissa of radius very short, 0.2 times as long as width of stigma, emitted at basal 0.6 of hind margin of stigma; basella broken at about its middle; nervellus subequal to either abscissa of basella, inclinate, apex somewhat hook-like; marginal cilia of hind wing distinctly longer than nervellus.

Tergite 1 2.3 times as long as wide at apex, lateral margins lightly carinate except at base, postpetiole indistinctly aciculate; ovipositor sheath rather thick, 1.4 times as long as tergite 1, 0.8 times as long as posterior tibia, almost 1.3 times as long as posterior femur.

Remarks.—*M. cucumeridis* is placed with species closely related to *M. vittatae* in the key to species. It is recognized by a glabrous, smooth scutum and partly hairy lobes of the mesonotum, complete occipital carina, and long marginal cilia of the hind wing. The male is unknown. *M. cucumeridis* was erroneously reported as *M. epitricis* by Loan (1967b).

***Microctonus barri*, n. sp.**

Holotype.—Female (USNM 70683) 13-VI-1949, W. F. Barr, Deary, Idaho, U.S.A.

Length 2.7 mm. Reddish yellow; antennal flagellum dusky; propodeum dark reddish brown, sides lighter; postpetiole castaneous; ovipositor sheaths light dusky.

Head 1.6 times as wide as long, 1.5 times as wide as thorax; antenna broken; scape, pedicel, flagellar segments 2 and 3, 0.6, 0.5, 0.9, 0.7 times as long as flagellar segment 1; face nearly 1.3 times as wide as long, pubescence short, sparse; cheeks 0.8 times as wide as transverse diameter of eye; malar space subequal to basal width of mandible; POL 0.7 times as long as OOL; temple, upper cheek smooth, finely, sparsely hairy; occiput immargined medially by distance of width of an ocellus; anterior face of lateral ocellus in line with posterior margin of eye.

Scutum wrinkled or slightly roughened, sparsely hairy; lateral lobes of mesonotum glabrous, smooth; prescutal sutures wide, foveae somewhat carinate, area of convergence large, depressed, divided by a prominent carina; antescutellar groove separated by three carinae; propodeum hairy, marked by distinct carinae, about 1.5 times as wide as long, posterior face vertical, narrowly, moderately excavated; mesepisternum weakly punctate though superficially smooth, pronounced carinate diagonal foveolate depression below, sparsely hairy but thicker below carinate depression; stigma 3.0 times as wide as long; parastigma rather wide; radial cell 0.6 times as long as stigma, 0.7 times as wide as long; first abscissa of radius oblique, emitted at basal 0.6 of hind margin of stigma, almost 0.5 times width of stigma; basella broken slightly above middle, lower abscissa subequal to nervellus, marginal cilia of hind wing short.

Tergite 1 2.5 times as long as wide at apex, petiole at narrowest 0.2 as wide as apical margin of postpetiole, lateral margins carinate from apex almost to base, basal 0.5 relatively smooth; postpetiole rugulo-aciculate; ovipositor sheath 1.2 times as long as tergite 1, 0.7 times as long as posterior femur, subequal to posterior tibia, distinctly hairy, setae not appressed and almost 2.0 times as long as medial depth of sheath.

Paratypes.—2 ♀♀ (USNM); 2 ♀♀ (CNC), data as cited for holotype.

Variation.—Length 2.6–2.7 mm., mesonotum amber or reddish brown, POL as long as OOL, radial cell 0.5–0.7 times as long as stigma, first abscissa of radius 0.4–0.5 times stigma width, tergite 1 2.3–2.5 times as long as wide at apex, ovipositor sheath 1.2–1.3 times as long as tergite 1.

Remarks.—*M. barri* is most similar to *M. sitonae* as indicated in the key to species. Though there is color variation, as noted, *M. barri* is

recognized by its coarse prescutal sutures, carinate, foveolate depression of the mesepisternum, a rather short ovipositor sheath, and radial cell usually exceeding 0.5 times stigma length. The male is unknown.

***Microctonus alticae*, n. sp.**

Holotype.—Female (USNM 70684) reared 30-XI-1916, J. M. Miller, Hopk. US 13278bx, from adult *Altica bimarginata* Say feeding on *Alnus rubra* Bongard (= *oregonensis*).

Length 3.0 mm. Castaneous and yellow: head, scape, pedicel, legs, gaster behind tergite 1, yellowish; dorsum and sides of thorax, propodeum, castaneous; tergite 1 reddish yellow; flagellum, ovipositor sheath, dusky.

Head 1.3 times as wide as long, not quite 1.2 times as wide as thorax; antenna broken; scape, pedicel, flagellar segments 2 and 3, 0.8, 0.5, 1.0, 0.9 times as long as flagellar segment 1; occipital carina fine, indistinct medially; face almost as wide as long, finely pubescent, shining; temple 0.8 times, lower cheek 0.5 times as wide as eye; malar space not quite as long as basal width of mandible; anterior face of lateral ocellus in line with posterior margin of eye; OOL subequal to POL; genae, frons, vertex polished, smooth, generally glabrous.

Lateral lobes of mesonotum polished, smooth, entirely glabrous, scutum sparsely hairy; prescutal sutures finely impressed, area of convergence rugulose, separated by a median carina; mesepisternum polished, glabrous, smooth except narrow, rugulose somewhat vertical depression below; propodeum almost 2.0 times as wide as long, rugulose, posterior face abruptly declivous, shallowly excavated; stigma 3.6 times as long as wide; radial cell 0.6 times as long as stigma, 0.6 times as broad as long; first abscissa of stigma 0.5 times width of stigma, emitted at basal 0.6 of hind margin of stigma; basella broken slightly above its middle; nervellus 0.7 times as long as basal abscissa of basella, longer than marginal cilia of hind wing.

Tergite 1 2.5 times as long as wide at apex; petiole from base to spiracles smooth, postpetiole aciculate; ovipositor sheath 1.2 times as long as tergite 1 and posterior femur, almost 0.7 times as long as posterior tibia.

Remarks.—Superficially, *M. alticae* is similar to a large specimen of *M. loani*. Both attack flea beetles of the genus *Altica* Geoffroy. They are, however, distinct by characters indicated in the key to species. The type is the only known specimen.

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TWO NEW SPECIES OF APHAERETA WITH NOTES ON OTHER NEARCTIC SPECIES

(HYMENOPTERA: BRACONIDAE: ALYSIINAE)

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ABSTRACT—Two new species of reared *Aphaereta* are described: **muesebecki** from Mississippi, reared from *Fannia canicularis* and *Musca domestica*; and **colei** from Massachusetts and Connecticut, reared from *Aulacigaster leucopoeza*. New locality and host records are given for two other species.

The genus *Aphaereta* Foerster, the species of which are parasites of dipterous larvae, was revised for the Nearctic Region by Fischer (1966) who presented a key and descriptions of the nine species known

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