

NEW PARASITIC HYMENOPTERA BELONGING TO THE TRIBE XORIDINI.

By S. A. ROHWER,

Of the Bureau of Entomology, United States Department of Agriculture.

This paper, which is a contribution from the Branch of Forest Insects of the Bureau of Entomology, United States Department of Agriculture, contains descriptions of all the new species of parasitic Hymenoptera belonging to the tribe Xoridini which have been accumulated by the above-mentioned branch of the bureau, and also those which have been found in the collections of the National Museum. The types of all the species here described are in the collections of the United States National Museum. The paper is presented at the present time so the names of some of the species here described may be available for economic purposes.

Genus XYLONOMUS Gravenhorst.

According to the material at hand *Xylonomus* may be separated into three groups by the following table. These groups, as well as some others, are considered by Schmiedeknecht as subgenera. The recognition of subgenera on the position of the transverse median of the fore wings would necessitate the making of additional subgenera to include species in which the transverse median is squarely interstitial with the basal.

Table to subgenera of Xylonomus.

- Antennæ of both sexes hairy, the female only toward the apex (female antennæ ringed with white, male antennæ not banded; first dorsal abdominal segment with two complete carinæ; second dorsal abdominal segment wider than long; abdomen coarsely sculptured).....*Sterotrichus* Foester.
- Antennæ not hairy although female may have short bristles apically..... 1.
1. Second dorsal abdominal segment not as long as or subequal with its apical width.
Xylonomus Gravenhorst.
- Second dorsal abdominal segment much longer than its apical width.
Mærophora Foester.

XYLONOMUS (XYLONOMUS) PLESIUS, new species.

This species is related to *frigidus* Cresson, but it may be readily separated from that species by the longitudinal carinæ of the first abdominal segment being complete.

Female.—Length to the apex of the abdomen 12 mm., length of the ovipositor 12 mm. Face in the middle granular, laterally irregularly, transversely striate; the area between the ocelli and the antennæ with well-defined separate punctures; vertex and posterior orbits shining, practically impunctate; postocellar line distinctly longer than the ocellocular line; antennæ much longer than the head and thorax, the third and fourth antennal joints subequal; the anterior, lateral angles of the pronotum subtuberculate; prescutum long, well defined; notauli transversely foveolate; scutum and prescutum opaque with fine irregular punctures; mesepisternum shining, impunctate; propodeum opaque, obliquely striato-granular; basal area and areola confluent, areola heptagonal, about one-third longer than its apical width; the posterior legs of the sides one-third longer than the anterior legs and parallel; posterior lateral angles subdentate; first abdominal segment coarsely reticulato-granular, constricted at spiracles, with two longitudinal carinæ which originate slightly anterior to the constriction and extend to the posterior margin; these carinæ broaden anteriorly to the constriction, narrow at the constriction and slightly broaden posteriorly; second abdominal segment coarsely reticulato-granular with oblique furrows on the lateral anterior angles; the third and following abdominal segments aciculato-granular. Black; tarsi piceous; wings hyaline, venation dark brown.

Described from one female in the United States National Museum collection, labelled "Collection of C. V. Riley."

Type.—Cat. No. 15365, U.S.N.M.

XYLONOMUS (XYLONOMUS) RUFICOXIS, new species.

Superficially this species resembles in size and general appearance *humeralis* Say, but *humeralis* belongs to a different subgenus.

Female.—Length to the apex of the abdomen 16 mm., length of the ovipositor 14 mm. Face coarsely striato-punctate; head opaque with a number of widely scattered punctures; the lateral ocelli much below the supraorbital line, separated from each other by the distance almost twice as great as the ocellocular line; antennæ much longer than the head and thorax, the third joint slightly shorter than the fourth; anterior face of the pronotum shining, with a number of widely scattered, distinct punctures; dorsal lateral angles of the pronotum strongly, sharply tuberculate; prescutum long, posteriorly strongly, transversely striate, anteriorly shining, along the sides striato-punctate, in the middle with large distinct separate punctures;

scutum medianly transversely striate, laterally with a few large punctures; mesepisternum shining, practically impunctate; propodeum coarsely punctured; basal area separated from the areola by a short longitudinal furrow; basal area triangular in outline, sides but little shorter than its basal width; areola heptagonal, the posterior part of the lateral defining carina slightly longer than the anterior part, areola coarsely reticulate; lateral areas of dorsal aspect of the propodeum transversely wrinkled; propodeum not dentate laterally but sharply angulate; first abdominal segment punctato-striate, basally with poorly defined longitudinal carinæ; the second abdominal segment transversely striato-punctate; third abdominal segment transversely striato-punctate but more finely so than the second; the third and following segments finely, transversely aciculate; transverse median of the fore wings almost squarely interstitial with the basal but really slightly beyond. Black; a white annulus on the antennæ beyond the middle; posterior coxæ rufous; wings hyaline; venation dark brown.

Apalachicola, Florida. Described from two females collected by W. F. Fiske and recorded under the Bureau of Entomology No. Hopk. U. S. 3381a.

Type.—Cat. No. 15366, U.S.N.M.

XYLONOMUS (MAEROPHORA) YUKONENSIS, new species.

This species is related to the foregoing one, but may be separated by the areola being but little longer than its greatest width and the posterior portion converging posteriorly.

Female.—Length to the apex of the abdomen 10 mm., length of the ovipositor 8 mm. Face transversely, irregularly striate; a faint tubercle between the bases of the antennæ; area between the antennæ and the ocelli shining, practically impunctate; posterior orbits shining, practically impunctate; anterior face of the pronotum finely striate on a granular surface, ventrally and posteriorly foveolate; dorsal lateral angles of the pronotum subdentate; scutum and prescutum shining, impunctate; notauli transversely striate; posteriorly the apex of the scutum is rather coarsely reticulate; mesepisternum shining, practically impunctate; propodeum opaque, obliquely irregularly striate; areola and basal area separated by a transverse carina; basal area trapezoidal in outline, about twice as wide anteriorly as posteriorly; areola about one and one-third times longer than broad, hexagonal in outline, greatest width occurring at the anterior third, posteriorly converging; dorsal lateral angles of the propodeum subdentate; first abdominal segment finely granular basally, posteriorly reticulato-granular with two faint but complete longitudinal carinæ; second and following abdominal segments opaque, finely reticulate; transverse median of the fore wings a little

beyond the basal vein. Black; four anterior legs and the posterior coxæ rufous; wings hyaline; venation dark brown.

Fort Yukon, Alaska. Described from one female collected by L. M. Turner.

Type.—Cat. No. 15367, U.S.N.M.

XYLONOMUS (MAEROPHORA) EASTONI, new species.

Female.—Length to the apex of the abdomen 10 mm., length of the ovipositor 10 mm. Face transversely striato-punctate; area between the antennæ and the ocelli punctate, more sparsely so above; posterior orbits longitudinally striate; postocellar line almost twice as long as the ocellocular line; anterior face of the pronotum with distinct separated punctures, lateral margin of the pronotum with an elongate, small tubercule; prescutum poorly defined, anteriorly finely granular, laterally rather coarsely reticulate, posteriorly transversely, irregularly striate; scutum transversely, irregularly striate; scutellum with distinct separate punctures; mesepisternum shining, irregularly striato-punctate; sides of the propodeum reticulate, dorsally the propodeum is punctato-reticulate; basal area and the areola separated by a transverse carina; basal area trapezoidal in outline, about four times as wide basally as apically; areola hexagonal in outline, more than twice as long as its greatest width, narrowing at the anterior third, subparallel posteriorly; propodeum not dentate laterally; abdomen finely granular; first abdominal segment without carinæ or depressions, subdentate at the spiracles; transverse median of the fore wings distinctly beyond the basal vein; third antennal joint slightly shorter than the fourth. Black; four anterior legs and the posterior coxæ rufous; wings hyaline; venation dark brown.

Fall River, Massachusetts. Described from one female collected May 31, 1910, by N. S. Easton, for whom the species is named.

Type.—Cat. No. 15368, U.S.N.M.

XYLONOMUS (MAEROPHORA) DUPLICATUS, new species.

Superficially this species is like *albopictus* Cresson, but may be readily separated from that species by the areola and the basal area of the propodeum being separated by a transverse carina (in *albopictus* the areola and the basal area are separated by a longitudinal carina).

Male.—Length 10 mm. Slender. Entire head shining, practically impunctate; anterior face of the pronotum finely punctured, ventrally and posteriorly foveolate; dorsal lateral angles subdentate; prescutum long; the notauli foveolate posteriorly; scutum and prescutum with distinct, well separated punctures; mesepisternum shining with a few widely separated punctures; propodeum shining; areola and basal area separated by a transverse carina; areola hexagonal

in outline, two and one-half times as long as its greatest width which occurs basad of the middle, posteriorly the areola slightly converges; basal area trapezoidal in outline, about twice as wide basally as apically; posterior lateral angles of the propodeum strongly dentate; first abdominal segment transversely striate, with two complete longitudinal nearly parallel carinæ; second, third, fourth, and fifth abdominal segments coarsely, irregularly reticulato-granular, the apical segments shining, finely aciculate; transverse median of the fore wings beyond the basal vein. Black, variegated with white; the following parts white: clypeus, face except a small median spot, inner orbits above the antennæ, scape beneath, posterior orbits, spot on dorsal and ventral margins of the pronotum, prepectus above, tegulæ, metapleuræ, scutellum, metanotum, apex of the propodeum, sides of the dorsal lateral apical margin of the abdominal segments; the four anterior legs rufous, coxæ beneath white; posterior legs, except the trochanters and base of the tibiæ which are white, black to piceous on the tarsi; wings hyaline; venation dark brown.

Clark Station, Missouri (near St. Louis). Described from one male collected by A. D. Hopkins and recorded under the Bureau of Entomology No. Hopk. U. S. 2848e.

Type.—Cat. No. 15369, U.S.N.M.

XYLONOMUS (MAEROPHORA) PICEATUS, new species.

Xylonomus stigmapterus SAY, Howard, Insect Book, 1904, pl. 9, fig. 2.

This species is related to *humeralis* Say, but may be separated from it by the dark ferruginous color, and the different proportions of the sides of the areolation of the propodeum.

Female.—Length to the apex of the abdomen 17 mm., length of the ovipositor 15 mm. Face irregularly reticulate; a strong carina projecting between the bases of the antennæ; the area between the ocelli and the antennæ closely, distinctly punctured; dorsad and ventrad of the anterior ocellus is a deep furrow; postocellar line about two and one-half times as long as the ocellocular line; posterior orbits strongly striate; pronotum densely punctured, with the dorsal lateral angles strongly, sharply tuberculate; prescutum long, well defined, with a shallow median depression, anteriorly densely (some places confluent) punctured, posteriorly transversely striate; scutum strongly punctured, anteriorly the punctures are confluent so there is a transverse striation; mesepisternum with close punctures; propodeum closely punctato-reticulate; basal area triangular in outline, separated from the areola by a longitudinal carina; areola heptagonal in outline, with sides of the areola one-fourth shorter than the anterior carina; propodeum not dentate laterally; first three abdominal segments coarsely reticulate, the following finely reticulate; first abdominal segment longitudinally depressed basally, slightly dentate

at the spiracles; transverse median slightly beyond the basal vein. Dark rufo-ferruginous; antennæ beyond the middle with a broad white annulus; legs ferruginous, paler at the knees; tarsi and wings strongly dusky; venation dark brown.

Dade County, Florida. Described from one female collected by E. A. Schwarz.

Type.—Cat. No. 15370, U.S.N.M.

XYLONOMUS (MAEROPHORA) MODESTUS, new species.

Male.—Length 14 mm. Antennæ 11 mm. Face transversely striato-punctate; no tubercle between the bases of the antennæ; area between the antennæ and the ocelli punctate, which laterally becomes striato-punctate; posterior orbits finely longitudinally striate; vertex punctate in the middle, laterally striato-punctate; postocellar line slightly longer than the ocellocular line; anterior face of the pronotum finely punctured; scutum and prescutum shining, punctured, the punctures become confluent so in some places striato-punctate; mesepisternum shining, with distinct, regular, well separated punctures; propodeum shining, laterally reticulate, dorsally practically impunctate; basal area and areola separated by a transverse carina; basal area trapezoidal in outline, the basal width two and one-half times as great as the apical width; areola hexagonal in outline, but laterally the angulation is very poor, about two and one-half times as long as its greatest width; first abdominal segment transversely irregularly striato-granular, distinctly angulate at the spiracles, with two complete longitudinal carinæ which terminate as a rounded tubercle at the middle of the first apical abdominal segment; second, third, and fourth abdominal segments opaque, transversely irregularly striate; transverse median of the fore wings slightly beyond the basal vein. Black; anterior legs ferruginous, the femora basally piceous; intermediate legs piceous; posterior legs, except the second to fourth joints of the tarsi, black; venation black; wings hyaline.

Skykomish, Washington. Described from one male collected June 23, 1892.

Type.—Cat. No. 15371, U.S.N.M.

Genus ODONTOMERUS Gravenhorst.

ODONTOMERUS ATRIPES, new species.

This species may, in the female, be readily distinguished by the red abdomen and black legs.

Female.—Length to the apex of the abdomen 11 mm., length of the ovipositor 11 mm. Face shining with irregular, well defined, rather

close punctures; head above the antennæ shining with a few scattered, irregular punctures; cheeks more densely punctured; a deep furrow between the lateral ocelli; postocellar line about one-sixth shorter than the ocellocular line; antennæ much longer than the head and thorax, the third antennal joint one-fifth longer than the fourth; anterior face of the pronotum practically impunctate, ventrally foveolate as it is also posteriorly; thorax shining with a few well scattered punctures; prescutum long, well defined; notauli not foveolate; basal area and areola confluent; areola about twice as long as its greatest width, hexagonal in outline, rather sharply angulate in the middle; the posterior face, as seen from above, deeply emarginate anteriorly; tubercles on the propodeum rounded, placed on the lateral dorsal angle; first abdominal segment transversely striate in the middle, apically shining; faintly tuberculate at the spiracles; anteriorly impressed by a longitudinal furrow; most of the second abdominal segment and all of the following shining, impunctate; propodeum and femora with sparse white hair. Black; abdomen beyond the second segment red; wings rather strongly dusky; venation black.

Male.—According to the description of the male of this species it is related to *æthiops* Cresson but differs from the original description in having the second and following abdominal segments nearly impunctate (not rather densely punctured).

Length 9 mm. Length of the antennæ 10 mm. Face shining with regular, well defined, separate punctures; head above the antennæ shining, practically impunctate; cheeks with a number of fine punctures; area between the lateral ocelli not separated by a furrow; postocellar line a trifle shorter than the ocellocular line; anterior face of the propodeum shining, almost impunctate, ventrally and posteriorly foveolate; prescutum long, well defined; notauli not foveolate; thorax shining, practically impunctate; basal area and areola confluent; the areola transversely, irregularly rugose, hexagonal in outline, about two and one-fourth times as long as its greatest width which occurs at the anterior third; the posterior face, as seen from above, deeply emarginate anteriorly, tubercles on the lateral dorsal margin; dorsal aspect of the first abdominal segment in the middle longitudinally reticulate, slightly tuberculate at the spiracles, anteriorly with a longitudinal furrow; base of the second abdominal segment irregularly reticulate, the apex of the second and all of the following segments shining, impunctate; head and thorax with rather dense gray hair; wings dusky hyaline; venation black.

Described from one female collected at Franconia, New Hampshire, and one male, the male collected at Princeton, Maine, July 12, 1904, by C. W. Johnson.

Type.—Cat. No. 15372, U.S.N.M.

ODONTOMERUS ALASKENSIS, new species.

Colored like *mellipes*, but may be separated from it as well as from all other species in North America by the obsolete carinæ of the propodeum and by the short prescutum.

Female.—Length to the apex of the abdomen 8 mm., length of the ovipositor 8 mm. Face shining with a few distinct scattered punctures; cheeks and head above the antennæ practically impunctate; postocellar line one-third shorter than the ocellocular line; area between lateral ocelli separated by a furrow; antennæ much longer than the head and thorax, third and fourth joints subequal; anterior face of the pronotum coarsely punctured, in the middle the punctures become confluent so as to give a striate appearance; mesepisternum shining, practically impunctate; prescutum short, as wide as long, not sharply defined posteriorly, it and the scutum shining, very sparsely punctured; propodeum opaque, finely punctured or punctato-reticulate; carina practically obsolete but indicated under high power when the areolation is as in *mellipes*; first abdominal segment longitudinally striato-granular, faintly dentate at the spiracles with a broad longitudinal depression; the apex of the second and the entire following segments shining, practically impunctate; propodeum with sparse gray hairs. Black; palpi piceous; legs entirely rufous; wings dusky hyaline, iridescent; venation dark brown.

Sitka, Alaska. Described from two females collected by T. Kincaid. The paratype is 6½ mm. long, and slightly piceous; otherwise it seems to be the same. This species was determined as *mellipes* by Ashmead.

Type.—Cat. No. 15373, U.S.N.M.

ODONTOMERUS ERRANS, new species.

Related to *mellipes* (Say), but may be readily separated from that species by having the basal area of the areola separated by a transverse carina (in *mellipes* the basal area and the areola are confluent).

Female.—Length to the apex of the abdomen 12 mm.; length of the ovipositor 12 mm. Face closely, finely punctured; head above the antennæ shining with a few irregular punctures; lower part of cheeks with large, widely scattered punctures; the postocellar line much shorter than the ocellocular line; no furrow between the lateral ocelli; antennæ a little longer than the head and thorax, the third antennal joint one-third longer than the fourth; thorax densely pubescent, subopaque with a few widely scattered punctures; notauli complete, not foveolate; anterior face of the pronotum transversely irregularly striate; sides of the propodeum shining, dentation of the propodeum occurring below the dorsal lateral angle; basal area trapezoidal in outline, about four times as wide basally as apically;

areola separated from the basal area by a transverse carina, about two and one-fourth times as long as its greatest width, apically rounded, roundedly dentate by the arched carina separating the two faces; first abdominal segment shining, apically with a few irregular, fine striations, faintly dentate at the spiracles; the base of the second abdominal segment irregularly, transversely striate; apex of the second and the following segments with faint granulations. Black; palpi and legs rufous; wings hyaline, faintly dusky; venation dark brown.

South Dakota. Described from one female without further data.

Type.—Cat. No. 15374, U.S.N.M.

ODONTOMERUS DICHROUS, new species.

This species is related to *bicolor* Cresson, but may be separated by having the sides of the propodeum finely punctured, the notauli finely, irregularly foveolate, the propodeal tooth on the dorsal lateral angle, the areola of the propodeum not three times as long as the basal width and sharply angulate, as well as other minor characters.

Female.—Length to the apex of the abdomen 13 mm.; length of the ovipositor 17 mm. Face with distinct, well-defined punctures which are closer in the middle; head above the antennæ polished, with a few irregular scattered punctures; the lower portion of the cheeks finely, irregularly punctured; ocelli in a low triangle; the postocellar line much shorter than the ocellocular line; a deep furrow between the lateral ocelli; antennæ much longer than the head and thorax, the third joint about one-third longer than the fourth; thorax shining, polished; scutum with a few irregular punctures; notauli finely, irregularly foveolate posteriorly; scutellum rather more densely punctured than the scutum; the anterior face of the pronotum punctate; the mesepisternum nearly impunctate; sides of the propodeum finely punctured, below the longitudinal carina striato-punctate; basal area and the areola confluent, the areola about two and one-half times as long as its greatest width, broadened near the middle where it is sharply angulate; posterior face of the propodeum transversely and obliquely rugose; dentation of the propodeum on the dorsal lateral angle; first abdominal segment longitudinally striato-granular, tuberculate at the spiracles; base of the second abdominal segment transversely striato-reticulate, apex of the second and the following abdominal segments impunctate; legs and venation of the normal type. Black; legs and abdomen entirely rufous; wings dusky hyaline, vitreous; venation black.

Longmires, Washington. Described from one female collected by H. E. Burke, August 2, 1905.

Type.—Cat. No. 15375, U.S.N.M.