

NEW SPECIES OF *MIMESA* FROM NORTH AMERICA
(HYMENOPTERA: PEMPREDONIDAE: PSENINI)

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Abstract

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Four new species are described: *Mimesa foxi*, *M. huron*, *M. iroquois*, and *M. mallochi*. Diagnostic characters are listed for each species and each species is compared with other closely related species in the genus.

Introduction

In the course of a study on the sphecoid wasps of Quebec four new species of *Mimesa* have been found. These species are described here in order to make the names available for a revision of the genus now in progress and to avoid voluminous descriptions of new species in such a revision.

The format adopted includes a section of diagnostic characters before the description. This section is a set of key characters which will facilitate determination of a specimen. Agreement with all characters in the diagnosis is a good indication that a specimen in question belongs to the species involved.

Holotypes and allotypes are deposited in the Lyman Entomological Museum and Research Laboratory, Macdonald College, Ste. Anne de Bellevue, Quebec H9X 1C0. Paratypes are deposited either in the Lyman Museum (LEM) or in the Canadian National Collection (CNC) in Ottawa.

I take great pleasure in naming two of these species after W. J. Fox and J. R. Malloch both former workers on predatory wasps who have substantially contributed to the knowledge of Nearctic psenine wasps. The other two species are named after the Native Indian nations Huron and Iroquois.

***Mimesa foxi* new species**

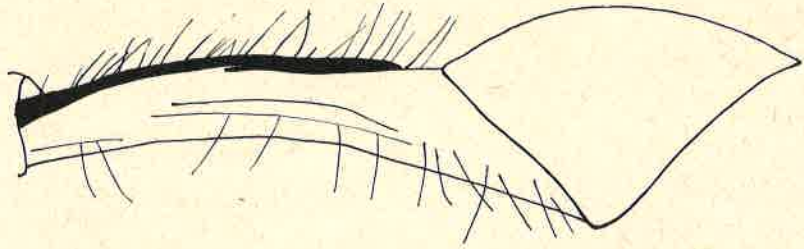
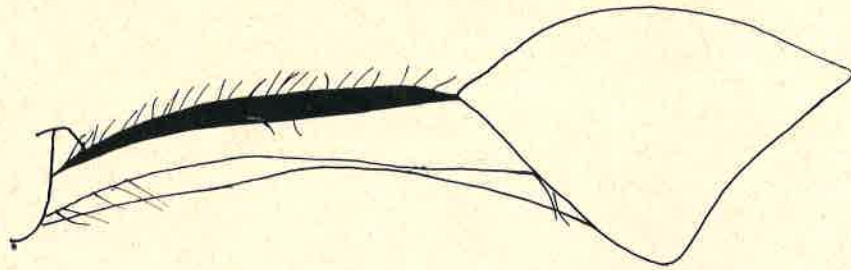
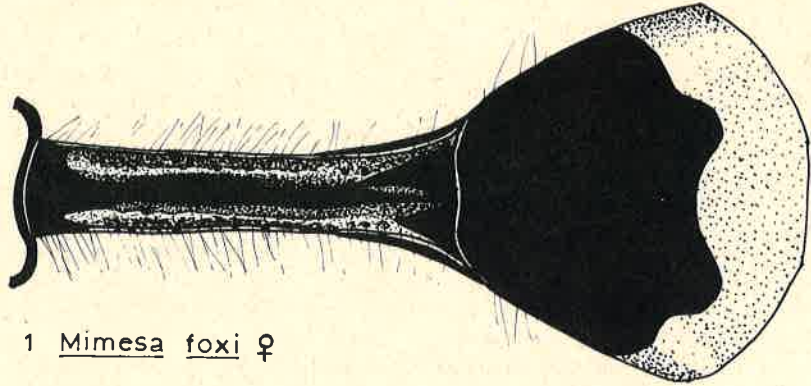
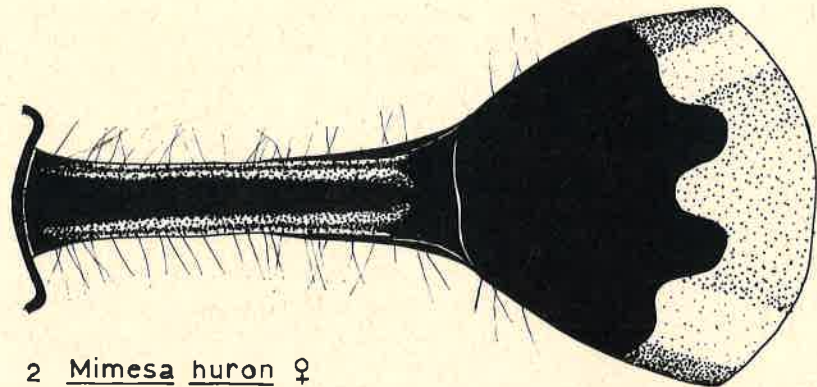
DIAGNOSIS. Abdomen with red on apex of first, all of second, and part or all of third terga; petiole convex dorsally with a shallow piliferous sulcus along each dorsolateral edge (Fig. 1); propodeum with reticulate sculpture laterally and posteriorly, with quite distinguishable sculpture immediately laterad of enclosure; hypopimeral area of mesopleuron longitudinally striate.

Male: antennal flagellum swollen apically and bright orange-yellow on entire length of underside except basal segment which is mostly black; length, not more than 7 mm; apical abdominal tergum without raised lines which simulate a pygidial plate; pronotum without toothed lateral angles.

Female: outer half of foretibia orange-yellow; pubescence of face silver with sculpture visible beneath.

In the key presented by Malloch (1933) both male and female of *M. foxi* key to *M. borealis* F. Smith which is actually a *Mimumesa* and does not belong in the key.

DESCRIPTION. Female. Length 7-8 mm. Pubescence of face and clypeus silver; clypeus fully twice as wide as long, convex with preapical swelling at anterior margin, punctation more widely spaced than on rest of head, anterior margin with a slight median emargination. Punctation on frons and vertex close and fine. Posterior ocelli closer to each other than to eyes. Antenna with flagellum gradually thickened toward apex, underside yellow except first segment which is entirely or predominantly black.

1 *Mimesa foxi* ♀2 *Mimesa huron* ♀FIGS. 1-2. Lateral and dorsal view of petiole and first abdominal tergum of *Mimesa* spp.

Scutum and scutellum sparsely punctate with distinct microsculpture. Mesopleuron with hypoepimeral area distinctly longitudinally striate. Lower area of mesopleuron almost impunctate with distinct microsculpture and longitudinal striations toward posterior edge. Metapleuron more shining with less distinct microsculpture and some longitudinal striations medially.

Legs black, foretarsi and outer half of foretibia yellowish, midtarsi and hindtarsi yellow-brown to brown.

Tegula yellowish. Anterior veinlet of second submarginal cell one third to one half as long as posterior veinlet.

Propodeal enclosure with longitudinal ridges laterally and several transverse ridges apicomediaally. Longitudinal ridges of enclosure often extend beyond enclosure for a short distance to posterior and lateral faces. Posterior face of propodeum with a channel-like depression medially and coarsely reticulate. Reticulate sculpture can extend to or almost to propodeal enclosure.

Petiole (Fig. 1) convex on dorsal surface with a shallow piliferous sulcus along each dorsolateral edge, length variable, usually longer or about equal to first abdominal tergum (as measured dorsally) but shorter than hindfemur, sides of petiole are parallel along entire length.

Abdomen black with red on apex of first, all of second, and part or all of third terga. Pygidial plate about twice as long as basal width with close deep punctation and often with a small area of red at the apex.

Male. Length 5.5-6.5 mm. Pubescence of face and clypeus silver. Clypeus convex, about twice as wide as long, without preapical swelling at anterior margin, more closely and evenly punctate than female, anterior margin with a median emargination. Punctation of frons and vertex close and fine. Posterior ocelli closer to each other than to eyes. Antenna with flagellum gradually thickened toward apex, segments 2-5 or 6 of flagellum with a slight linear elevation on one side, more often weak on 5th and non-existent on 6th segment. Underside of flagellum yellow, except first segment which is predominantly black.

Scutum and scutellum sparsely punctate with distinct microsculpture. Mesopleuron with hypoepimeral area distinctly longitudinally striate. Lower area of mesopleuron with sparse punctation, distinct microsculpture and longitudinal striations toward posterior edge or weakly striate throughout. Metapleuron more shining with less distinct microsculpture and some longitudinal striations medially.

Femora of legs black, except apices of fore and middle femora which are yellowish like the rest of these legs. Hindleg beyond femur is brown.

Tegula yellowish. Anterior veinlet of second submarginal cell equal to half or less than half the length of posterior veinlet.

Propodeal enclosure with longitudinal ridges laterally and several transverse ridges apicomediaally. Posterior face of propodeum depressed medially and coarsely reticulate to edge of enclosure.

Petiole convex on dorsal surface, with a shallow piliferous sulcus along each dorsolateral edge, length (as measured dorsally) longer than first abdominal tergum but shorter than or equal to length of hindfemur, sides of petiole parallel along entire length.

Abdomen black with red on apex of first, all of second, and part or all of third terga.

TYPES. Holotype: Female; Canada, Québec, Terrebonne Co., Lac Carré, Lot 31, Range 8 19-23-VIII-1968 W. Boyle and R. Lalonde. Allotype: Male; same data as holotype.

BIOLOGY. Unknown.

DISTRIBUTION. Canada, east of Rockies from Alberta to Prince Edward Island; north to Candle Lake, Saskatchewan and Edmonton, Alberta; south to Toronto, Ontario and probably the northeastern United States.

MATERIAL EXAMINED. Paratypes: 24 males, 32 females. **Prince Edward Island:** Dalvay House Can. Nat. Park 7-VIII-1940 G. S. Walley 2M (CNC). **New Brunswick:**

Campbellton 17-IX-1947 D. F. Hardwick 1F (CNC). **Québec:** Aylmer (Queens Park) 9-VIII-1922 C. B. Hutchings 1M (CNC); Kazabazua 18-VIII-1931 G. S. Walley 1F (CNC); New Richmond, Gaspé 6-VIII-1954 J. E. H. Martin 1M 1F (CNC); Parke Reserve Kam. Co. 950' 13-VIII-1957 W. R. M. Mason 1M (CNC), 24-VIII-1957 W. R. M. Mason 6M (CNC); Ste. Agathe des M. (Ste. Agathe-des-Monts) 4-VIII-1937 G. S. Walley 1F (CNC); Ste. Anne de Bellevue 3-VIII-1964 A. Campbell 1M (LEM), 1-IX-1966 W. Boyle 1F (LEM), 12-IX-1966 W. Boyle 3M (LEM), 23-VIII-1967 R. Lalonde 1M (LEM), 25-VIII-1967 R. Lalonde 2F (LEM), 1-IX-1967 R. Lalonde 1M (LEM), 5-IX-1967 W. Boyle 4F (LEM); St. Hilaire 7-VIII-1929 J. W. Buckle 1F (LEM); Shawbridge 13-VIII-1929 A. F. Winn 1F (LEM), 16-VIII-1929 A. F. Winn 1F (LEM); Terrebonne Co., Lac Carré, Lot 31, Range 8 19-23-VIII-1968 W. Boyle and R. Lalonde 1M 1F (CNC), 5M 12F (LEM). **Ontario:** Bancroft 11-VIII-1955 J. C. Martin 1F (CNC); Toronto 16-IX-1891 1F (CNC). **Manitoba:** Cowan 18-VIII-1958 A. and J. Brooks 1F (CNC). **Saskatchewan:** Candle Lake 19-VIII-1959 A. and J. Brooks 1F (CNC). **Alberta:** Edmonton 26-VIII-1938 W. R. M. Mason 1F (CNC), 24-VII-1941 E. H. Strickland 1M (LEM).

Mimesa huron new species

DIAGNOSIS. Abdomen with red on apex of first, all of second, and all or most of third terga; petiole (Fig. 2) convex dorsally with a shallow almost obsolescent piliferous sulcus along each dorsolateral edge; propodeum with reticulate sculpture posterolaterally, with quite distinct sculpture immediately laterad of enclosure; hypoepimeral area of mesopleuron longitudinally striate; foretibia black; pubescence of face dense golden, obscuring sculpture beneath.

In the key presented by Malloch (1933) the female of *M. huron* will key to *borealis* Smith which is actually a *Mimemesa* and does not belong in the key. The male is unknown. This species is distinguished from *M. foxi* by the black foretibia and the dense golden pubescence of the face. *M. foxi* has the outer half of the foretibia yellow and thinner silvery facial pubescence.

DESCRIPTION. Female. Length 7-8 mm. Pubescence of face and clypeus dense golden; clypeus a little less than twice as wide as long, convex with a slight preapical swelling at anterior margin, punctation more coarse than on rest of head, anterior margin with a slight median emargination. Punctation of frons close, punctures less than one diameter apart; punctation laterad of hindocelli becoming sparse with punctures separated by 2-3 puncture diameters. Hindocelli posteriorly with a sometimes obsolete but usually evident transverse impressed line running tangent to and between the hindocelli. Hindocelli closer to each other than to eyes. Antenna with flagellum gradually thickened toward apex, underside yellow except first segment which is entirely or predominantly black.

Scutum and scutellum sparsely punctate with distinct microsculpture. Mesopleuron with hypoepimeral area longitudinally striate. Lower area of mesopleuron almost impunctate with distinct microsculpture and longitudinal ridges toward posterior edge. Metapleuron more shining with less distinct microsculpture ventrad and some longitudinal striations medially.

Legs black, foretarsus except basitarsus yellow, midtarsus except basitarsus and fifth tarsomere yellow, hindtarsus with each tarsomere yellow apically.

Tegula yellow to brown, stigma black, veins black except basally where they are yellow. Anterior veinlet of second submarginal cell one third to one half as long as posterior veinlet.

Propodeal enclosure with longitudinal striations laterally and several irregularly transverse ridges apicomediaally. Longitudinal ridges extend beyond enclosure for at least a short distance but usually extend over entire dorsolateral areas and in a few cases the ridges extend well onto the posterior and lateral propodeal surfaces. Posterior face of propodeum with a channel-like depression medially. Reticulate sculpture can extend over posterior and most of lateral faces and dorsally to the dorsolateral areas which are always for the most part ridged.

Petiole (Fig. 2) convex dorsally with a very shallow almost obsolescent piliferous sulcus along each dorsolateral edge; length (as measured dorsally) equal to or longer than first abdominal tergum and equal to or shorter than hindfemur; sides of petiole are parallel along entire length.

Abdomen black with red on apex of first, all of second and all or most of third terga. Pygidial plate about twice as long as basal width with close deep punctation, without apical red area.

Male. Unknown.

TYPE. Holotype: Female; Canada, Québec, Mt. St. Hilaire 2-5-VIII-1977 A. T. Finnamore.

BIOLOGY. Unknown.

DISTRIBUTION. Southwestern Quebec.

MATERIAL EXAMINED. Paratypes: 5 females (LEM). Québec: Mt. St. Hilaire 2-5-VIII-1977, A. T. Finnamore 1F, 5-9-VIII-1977 A. T. Finnamore 1F; Terrebonne Co., Lac Carré, Lot 31, Range 8 19-23-VIII-1968 W. Boyle and R. Lalonde 3F.

Mimesa iroquois new species

DIAGNOSIS. Abdomen with red on apex of first, all of second, third, and laterally on the fourth terga; petiole (Fig. 3) flat dorsally; propodeum with reticulate sculpture posterolaterally, with quite distinct sculpture immediately laterad of enclosure; hypopimeral area of mesopleuron longitudinally striate.

In the key presented by Malloch (1933) the female of *M. iroquois* will key to *borealis* Smith which is actually a *Mimumesa* and does not belong in the key. The male is not known. This species is closest to *basirufa* Packard and can be immediately distinguished from both *foxi* and *huron* by the flat petiole; *foxi* and *huron* have convex petioles dorsally. *M. iroquois* is also easily distinguished from *basirufa* and *mallochi* by its larger size, the presence of black basally on the first tergum, and the much greater extent of red on the abdomen.

DESCRIPTION. Female. Length 8-10.5 mm. Pubescence of face and clypeus dense silvery-golden; clypeus a little more than twice as wide as long, convex with a distinct preapical swelling along anterior margin; punctures on clypeus only slightly more separated than those on frons; anterior margin of clypeus with a median emargination. Punctation of frons with very close almost contiguous punctures; punctation laterad of ocelli becoming more sparse with 1-2 diameters between punctures. Punctures also evident inside ocellar triangle. Hind-ocelli closer to each other than to eyes. Antenna with flagellum gradually thickened toward apex, underside entirely yellow or with first segment dark basally.

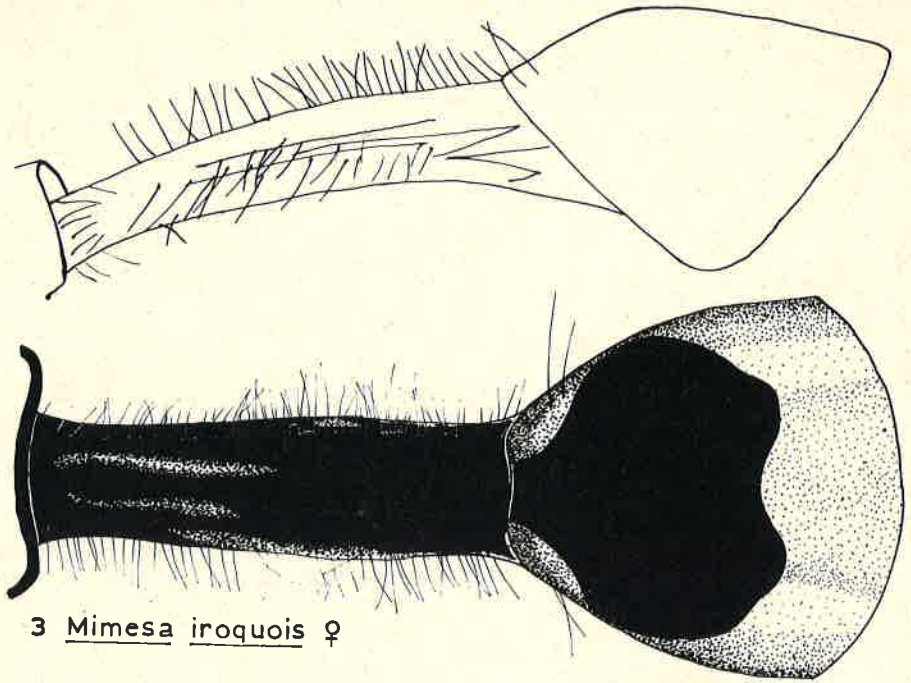
Scutum and scutellum sparsely punctate with distinct microsculpture on scutum and less distinct microsculpture on scutellum. Mesopleuron with hypopimeral area finely longitudinally striate. Lower area of mesopleuron with sparse punctation, distinct microsculpture, and longitudinal striations posteriorly. Metapleuron more shining with less distinct microsculpture ventrad and some longitudinal striations medially.

Legs black, foretarsus and midtarsus except basitarsi yellow. Hindtarsal segments yellow apically.

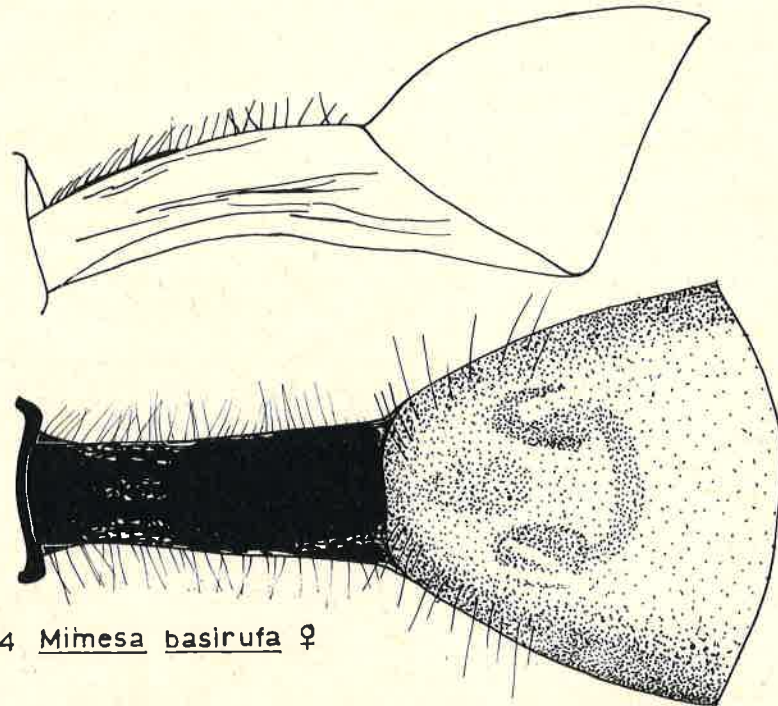
Tegula brown, stigma black, veins black except basally where they are brown. Anterior veinlet of second submarginal cell one half to three quarters as long as posterior veinlet.

Propodeal enclosure with longitudinal ridges laterally and several irregularly transverse ridges apicomediaally; longitudinal ridges not, or only slightly extending beyond enclosure. Posterior face of propodeum with a median channel-like depression. Propodeum coarsely reticulate to or almost to enclosure.

Petiole flat (Fig. 3) with a wide shallow piliferous sulcus along each dorsolateral edge and a short medial sulcus apically toward first tergum. Length (as measured dorsally) subequal



3 *Mimesa iroquois* ♀



4 *Mimesa basirufa* ♀

FIGS. 3-4. Lateral and dorsal view of petiole and first abdominal tergum of *Mimesa* spp.

to length of first tergum and subequal to length of hindfemur. Sides of petiole not parallel; petiole slightly wider apically than basally.

Abdomen black with red on apex of first, all of second, third and laterally on fourth terga. Pygidial plate about twice as long as basal width, with close deep punctation and apical red area present or absent.

Male. Unknown.

TYPE. Holotype: Female; Canada, Québec, Mt. St. Hilaire 26-30-VIII-1977 A. T. Finnamore.

BIOLOGY. Unknown.

DISTRIBUTION. Southern Quebec.

MATERIAL EXAMINED. Paratypes: 4 females (LEM). **Québec:** Mt. St. Hilaire 19-23-VIII-1977 A. T. Finnamore 2F; Tadoussac 23-VIII-1932 A. F. Winn 1F; Terrebonne Co., Lac Carré, Lot 31, Range 8 19-23-VIII-1968 W. Boyle and R. Lalonde 1F.

Mimesa mallochi new species

DIAGNOSIS. Petiole flat dorsally, sides parallel; propodeum with reticulate sculpture, with quite evident sculpture immediately laterad of enclosure; hypoepimeral area of mesopleuron longitudinally striate or striatopunctate.

Male. Abdomen red on apex of first and most of second terga.

Female. Abdomen with red on apical half of first and all or most of second terga.

In the key presented by Malloch (1933) the male *M. mallochi* will key to *M. pauper* Packard from which it differs by the dorsally flat petiole and black fore and midtibia; *pauper* has a convex petiole and yellow fore and midtibia. The female of *mallochi* will key either to *basirufa* or to *pauper*. The flat petiole will readily separate *mallochi* from *pauper*.

This species is very close to *basirufa*. The male of *mallochi* can be distinguished by the entirely yellow underside of the flagellum; *basirufa* has only the apical six flagellomeres yellow on the underside. The female of *mallochi* can be distinguished from *basirufa* by the presence of black basally on the first tergum and the parallel sides of the petiole, *basirufa* has the first tergum entirely red and the petiole is distinctly wider apically than basally (Fig. 4). *M. mallochi* differs from *iroquois* by the lesser amount of red on the abdomen.

DESCRIPTION. Female. Length 7.5-8 mm. Pubescence of face and clypeus silver-gold to golden; clypeus more than twice as wide as long, convex with a distinct transverse preapical swelling along anterior margin; punctures of clypeus not as deep or as close as those of frons; anterior margin of clypeus with a slight median emargination. Frons with contiguous punctures; area laterad of hindocelli with punctures separated by 1-2 diameters. Ocellar triangle with punctures. Hindocelli closer to each other than to eyes. Antenna with flagellum gradually thickened toward apex, underside yellow except basal segment which is black.

Scutum and scutellum sparsely punctate with distinct microsculpture on scutum and less distinct microsculpture on scutellum. Hypoepimeral area of mesopleuron with several somewhat irregular longitudinal striations; lower area of mesopleuron sparsely but distinctly punctate, with distinct microsculpture and fine longitudinal striations posteriorly. Metapleuron with less distinct microsculpture and several longitudinal striations medially.

Legs black except apical tarsal segments on fore and midtarsi which are yellowish, apical hindtarsal segments are brown.

Tegula black; stigma black; veins black, brown basally. Anterior veinlet of second submarginal cell about half as long as posterior veinlet.

Propodeal enclosure with longitudinal ridges basally, several reticulations medially on posterolateral borders inside enclosure and several transverse ridges apicomediaally. Dorsolateral

areas of propodeum outside enclosure with short somewhat finer longitudinal ridges; posterior face and posterolateral areas with coarse reticulate sculpture. Posterior face with a median channel-like depression.

Petiole flat dorsally with a very shallow piliferous sulcus along each dorsolateral edge. Length (as measured dorsally) shorter than first tergum, shorter than hindfemur. Sides of petiole parallel, not distinctly wider apically than basally.

Abdomen black with red on apical half of first and all or most of second terga. Pygidial plate more than twice as long as basal width, with close deep punctation and without apical red area.

Male. Length 7.5 mm. Pubescence of face and clypeus silver. Clypeus convex, more than twice as wide as long with a very slight preapical swelling along anterior margin. Punctation of clypeus finer than that of frons, very close, appearing granular beneath pubescence. Anterior margin of clypeus with a median U-shaped notch. Punctation of frons more coarse, somewhat contiguous punctures; area laterad of hindocelli with punctures separated by about one diameter. Antenna with flagellum gradually thickened toward apex; flagellomeres 3-6 very slightly rounded on one side, underside of flagellum entirely yellow.

Scutum and scutellum not as sparsely punctate as the female, microsculpture indistinct. Hypoepimeral area of mesopleuron with several longitudinal striations. Lower area of mesopleuron distinctly punctate, with distinct microsculpture and fine longitudinal striations posteriorly. Metapleuron with less distinct microsculpture and several longitudinal striations medially.

Legs black except tarsi which are yellow-brown to brown.

Tegula brown; stigma black; veins black, brown basally. Anterior veinlet of second submarginal cell about one third the length of posterior veinlet.

Propodeum identical with female.

Petiole flat dorsally with a very shallow piliferous sulcus along each dorsolateral edge. Length (as measured dorsally) shorter than first tergum and shorter than hindfemur. Sides of petiole parallel, not distinctly wider apically than basally.

Abdomen black with red apically on the first and most of second terga.

TYPES. Holotype: Female; Canada, Québec, Mt. St. Hilaire 26-30-VIII-1977 A. T. Finnamore. Allotype: Male; Canada, Québec, Montréal 19-VII-1928 J. W. Buckle.

BIOLOGY. Unknown.

DISTRIBUTION. Southwestern Quebec.

MATERIAL EXAMINED. Paratypes: 2 females (LEM). Québec: Mt. St. Hilaire 23-26-VIII-1977 A. T. Finnamore 1F, 26-30-VIII-1977 A. T. Finnamore 1F.

Acknowledgments

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Reference

Malloch, J. R. 1933. Review of the wasps of the subfamily Pseninae of North America. *Proc. U.S. natn. Mus.* 82(26): 1-60.

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