Revision Of The American Species Of *Mimesa*

(Hymenoptera: Pemphredonidae: Psenínae)

By

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ABSTRACT

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Revision Of The American Species Of *Mimesa* (Hymenoptera: Pemphredonidae: Psenlnae)

Mimesa is a Holarctic genus of predatory sphecoid wasps of which 36 species are found in America. The present study is a revision of the American fauna presenting keys to species, standardized descriptions, distribution maps and biological information for each species.

Fourteen species are here described as new: *M. cahuilla, M. cheyenne, M. chiricahua, M. gabrieleno, M. ipai, M. jicarilla, M. klamath, M. miwoka, M. nisenan, M. senijextee, M. serrano, M. tequila, M. tolteca* and *M. zapoteca*. In addition one subspecies, *M. gregaria simplex*, has been raised to species rank and 7 previously recognized species have been synonymized as follows: *M. polita* with *M. dawsoni*, *M. atriventris* with *M. cressonii*, *M. iroquois* with *M. ezra*, *M. impressifrons* with *M. edentata* and *M. basirufa*, *M. nebrascensis* and *M. mallochi* with *M. lutaria*. A lectotype has been designated for *M. mexicana*.

A total of 365 illustrations are presented to supplement keys and descriptions.

RÉSUMÉ

Ph.D. Albert Theodore Finnamore Entomologie

Revision Des Espèces Américaines De *Mimesa* (Hymenoptera: Pemphredonidae: Pseninae)

En Amérique, le genre holarctique *Mimesa* comprend 36 espèces de guêpes prédatrices sphécoides. Cette étude est une revision de la faune Américaine comprenant des clés à l'espèce, des descriptions standards, des cartes de distribution et des informations biologiques pour chaque espèce.

Quatorze nouvelles espèces sont ici décrites: *M. cahuilla, M. cheyenne, M. chiricahua, M. gabrieleno, M. ipai, M. jicarilla, M. klamath, M. miwoka, M. nisenan, M. senijextee, M. serrano, M. tequila, M. tolteca,* et *M. zapoteca*. De plus, une sous-espèce, *M. gregaria simplex*, a été élevée au rang d'espèce et la synonymie de 7 espèces a été établie: *M. polita* devient *M. dawsoni*, *M. atriventris* devient *M. cressonii*, *M. iroquois* devient *M. ezra*, *M. impressifrons* devient *M. edentata*, et *M. basirufa*, *M. nebrascensis* et *M. mallochi* devient *M. lutaria*. On a désigné un lectotype pour *M. mexicana*.

Trois cent soixante cinq illustrations complitent les clés et les descriptions.

CLAIM TO ORIGINALITY

The work presented in this thesis is considered to be an original contribution to knowledge in the following respects:

1 This is the first treatment of the entire American fauna of *Mimesa*.

2 Fourteen species are described as new and one former subspecies has been raised to species rank.

3 A key to all 36 American species is presented for both males and females.

4 A study of all available American types and most European types has been conducted; this has resulted in 7 cases of new synonymy including one previously unrecognized Holarctic species and one lectotype designation.

5 Detailed and standardized descriptions incorporating a number of previously overlooked characters are provided for both males and females.

6 A detailed study of species characters has led to the identification and description of unknown or undescribed sexes of 8 previously existing species.

7 Eight species groups have been identified and 4 existing species complexes have been broken apart into species.

8 The American distribution of the genus and of each species have been presented in map form.

9 A total of 365 standardized illustrations are presented representing about 10 illustrations per species.

10 Mite fauna attached to dried specimens has been identified and considered for the first time in a possible non-phoretic parasitic association with the wasps.

11 Previously overlooked characters used in this study include the following:

Head: microsculpture and degree of punctation of the clypeus, vertex and posterior declivity of the vertex; degree of sculpture of the gena and development of the occipital carina.

Thorax: sculpture of the lateral area of the pronotum; microsculpture and degree of punctation of the scutum, scutellum and mesopleuron and punctation of the tegula.

Abdomen: punctation of the apical tergum in the male and the shape of the dorsal lamella of the penis valve.

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ABBREVIATIONS OF MUSEUMS

ANSP	Academy of Natural Sciences of Philadelphia, Philadelphia, Pennsylvania.
BMNH & BM	British Museum (Natural History), London, England.
CNC	Canadian National Collection, Biosystematics Research Institute, Agriculture Canada, Ottawa.
CUM	Cornell University, Ithaca, New York.
INHS	Illinois Natural History Survey, Urbana, Illinois.
KVK	K.V. Krombein personal collection.
LACNHM	Los Angeles County Natural History Museum, Los Angeles, California.
LEM	Lyman Entomological Museum and Research Laboratory, Macdonald College, Ste. Anne de Bellevue, Quebec.
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge, Mass.
MHN	Museum d'Histoire Naturelle, Genève, Switzerland.
MINN	University of Minnesota, St. Paul, Minnesota.
NMW	Naturhistorisches Museum Wien, Vienna, Austria.
RVNH	Rijksmuseum Van Natuurlijke Histoire, Leiden, The Netherlands.
SDNHM	San Diego Natural History Museum, San Diego, California.
SEM	Snow Entomological Museum, University of Kansas, Lawrence, Kansas.
UBC	University of British Columbia (Spencer Entomology Museum), Vancouver, British Columbia.
UCB	University of California, Berkeley, California.
UCD	University of California, Davis, California.
UCR	University of California, Riverside, California.
UOI	University of Idaho, Moscow, Idaho.
UON	University of Nebraska, Lincoln, Nebraska.
USNM	United States National Museum, Smithsonian Institution, Washington, D.C.
ZM	Zoologisk Museum, København, Danmark.

INTRODUCTION

Mimesa is a Holarctic genus of medium-small predaceous solitary wasps belonging to a group of sphecoids known as psenines. Species in the genus tend to be very similar exhibiting in many cases high degrees of morphological variation making them often very difficult to distinguish.

Bohart and Menke (1976) listed 53 species in the genus, these included 31 Palearctic, 1 Ethiopian and 21 Nearctic. During the course of this study, 3872 specimens of *Mimesa* have been examined (3079 from the Nearctic Region) and a total of 36 species have been found in the Nearctic Region, 14 of which are here described as new.

The American species range from central Alaska to central Mexico, are transcontinental south of the tree line in North America but are absent from the Gulf States (Map 1). Half of the 36 species (17) are restricted to the western and southwestern United States particularly Oregon, California, Nevada, New Mexico, Arizona, Utah, Colorado and Wyoming. Mexico on the other hand has 4 species, only one of which occurs in the United States. This suggests a lack of collecting in Mexico and illustrates the probability that further collecting in this area will yield at least several new species. Other areas worthy of further collecting, not so much for new species but in the interests of knowing the complete distribution of the genus and a number of species, are the States of Nevada, Oregon and Montana and in Canada, the entire Hudson Bay basin. These areas all appear empty on the generic distribution map (Map 1).

An interesting aspect of the world distribution of *Mimesa* is that all American species, with one Holarctic exception, *Mimesa lutaria* (Fabricius), belong to different species groups than the western Palearctic fauna again with another exception. *Mimesa equestris* (Fabricius), Eurasian in distribution appears to be more closely related to the American fauna than to the Palearctic fauna. The Ethiopian fauna including 2 species from North Africa and southern Europe form another species group which show the most derived characteristics of the genus. Unfortunately no specimens from the eastern Palearctic were available for study but it is likely that some of these species may also be related to the American fauna.

North America was colonized at least twice, once by the highly variable Holarctic *Mimesa lutaria* and secondly by a more derived species or

group of species which now form the bulk of the American fauna. A comparative study of the eastern Palearctic and the Nearctic fauna could provide more information and perhaps complete the picture suggested by the present data.

Biologically the genus is very poorly known. Observations are available for 3 species of the Nearctic fauna and 2 other species from Europe. Members of *Mimesa* construct their nests in loose sandy soil, often under tufts of grass, either on flat ground or sand banks. The nest has a characteristic turret at the entrance caused by an accumulation of sand excavated by the female wasp. The single unbranched burrow enters the ground perpendicular to the surface for 12 to 54 cm, where it bends parallel to the surface finally terminating in a single cell. Up to 4 cells have been found in a nest (Kurczewski and Lane, 1974), successive cells being constructed closer to the entrance along the burrow.

Prey consist of paralyzed nymphs and adults of the homopteran families Cicadellidae, Delphacidae and Psyllidae (Table 1); 2 to 9 prey are provisioned per cell depending on prey size. A few parasites have been recorded from the nests of *Mimesa*, Kurczewski and Lane (1974) found several larvae of miltogrammine sarcophagids in the cells and also observed one species of the cleptoparasitic sphecoid genus *Nysson* (Nyssonidae) and several mutillids investigating nest entrances. In Europe Morice (1903) and Berland and Bernard (1938) recorded 2 species of chrysidid wasps from nests of *Mimesa lutaria*.

Table 1. Families and genera of prey of *Mimesa*
(After Kurczewski and Lane, 1974 and Spooner, 1948)

Cicadellidae	Delphacidae	Psyllidae
Macropsis	*Delphacodes*	*Craspedolepta*
Empoasca	*Laccocera*	
Oncopsis	*Liburniella*	
Idiocerus		
Doratura		
Diplocolenus		
Athysanella		
Polyamia		
Laevicephalus		
Scaphytopius		

During the course of this study a number of mites were found attached to preserved specimens. These mites include members of the families Acaridae, Saproglyphidae, Anoetidae and Scutacaridae. The mites of the families Acaridae genera *Kuzinia* and *Sancassania* (=*Caloglyphus*), the saproglyphid genus *Vidia* and the anoetid genus *Bonomoia* were all hypopi and are here considered as an accidental phoretic association.

The scutacarid mites included 2 genera *Imparipes* and *Scutacarus* all collected as adults. According to Delfinado and Baker (1976) and Delfinado, Baker and Abbatiello (1976) these mites probably have a non phoretic association with the wasps. Scutacarids are found in a variety of habitats; compost, forest litter, soil, humus; manure, small bird and mammal nests, nests of bees and wasps, on other insects as well as on other mites. But these workers state that an increasing number of species are being found associated with Hymenoptera, especially bees and that the association is apparently harmless to the bees and wasps but information on the true relationship is lacking.

The text has been organized in terms of species groups. Although the species group has no nomenclatoral validity it is convenient for comparative purposes to use this arrangement which is also indicative of some relationships within the genus. The species within each group are arranged alphabetically. Each species heading is followed by its synonymy if any and a short diagnosis. The diagnosis consists of a set of characters; agreement with all characters in a diagnosis will in most cases provide a secondary check for separating a given species from all other American fauna.

Since virtually all descriptions of species have proved inadequate for identification, all species have been redescribed and the descriptions standardized with the inclusion of many previously overlooked characters. Following the description is a section dealing with biological information for each species and also a statement of distribution listed by state or province with reference to a map of collection localities.

In cases of new species a statement of types and their museums of deposition is also included. All holotypes selected are males since the male has more distinguishing features than the female and females are unknown in 6 species of the American fauna. With one exception all new species have been named after the nations or tribes of native American peoples in or near the distribution of the species. *Mimesa tequila* has been named after a

well known alcoholic beverage.

REVIEW OF LITERATURE

The genus *Mimesa* was first described in Europe by Shuckard (1837), it was not until the work of Cresson (1865b) that the first American species were described. The genus has often been treated as a subgenus of *Psen* by both American and European authors: Cresson (1865b), Packard (1867) and Cameron (1891) all considered *Mimesa* as a distinct genus. Fox (1893) expressed some doubt in his description of *Mimesa maculipes* and in 1898 in his work on the North American species of *Psen*, included 9 species of *Mimesa* in that genus. Smith (1908) followed the earlier authors and treated *Mimesa* as a genus but Rohwer (1910a, b) considered *Mimesa* as a subgenus of *Psen*. Mickel (1916) once again followed the earlier workers in using *Mimesa*. In a major work on the subfamily Pseninae of North America Malloch (1933) treated *Mimesa* as a subgenus of *Psen*. In Europe Beaumont (1937), van Lith (1959, 1965, 1974), Oehlke (1965) and Balthasar (1972) continued to treat *Mimesa* as a subgenus of *Psen*. The recent American workers, Gittins (1963 unpub., 1966, 1969), Bohart and Menke (1976) and Finnamore (1980) have all treated *Mimesa* as a genus.

The most important works on the American species of *Mimesa* are Malloch (1933) and an unpublished doctoral thesis by Gittins (1963). Both of these treatments deal with all the genera of the subfamily Pseninae in America north of Mexico. Malloch (1933) provided a key for 18 species and 2 subspecies of *Mimesa* but probably because of the comprehensive nature of the work and/or a lack of specimens did not break apart the species complexes existing within the genus. No biological data other than an occasional flower record was published. In general the work of Malloch (1933) is in agreement with the present study.

Gittins (1963 unpub.) treated 17 species of *Mimesa*, 4 of which were considered new and 3 of which were subsequently published (Gittins, 1966). Gittins (1963 unpub.) like Malloch (1933) did not break apart the several species complexes in *Mimesa* but did indicate 3 of them, the *Mimesa pauper* Packard, *M. unicincta* Cresson and *M. gregaria* (Fox) complexes. The present study differs in considering *M. gregaria* as a species in the *M. unicincta* species group rather than forming a separate species group. Gittins (1963 unpub.) recognized 2 other complexes or species groups which are the

M. agalena Gittins, *M. barri* Gittins group with which the present study agrees and a group composed of *M. basirufa* Packard, *M. coquilletti* (Rohwer), *M. ezra* (Pate), *M. pygidialis* (Malloch), *M. sabina* Gittins, *M. punctifrons* (Malloch) and *M. arizonensis* (Malloch). The present study does not at all agree with this arrangement and divides the above species into 5 groups, *M. basirufa* (synonymized under *M. lutaria*) forming one group, *M. coquilletti* and *M. pygidialis* another group (*M. granulosa* (Fox) group), *M. ezra* and *M. sabina* are placed in the *M. ezra* group, *M. punctifrons* falls in the *M. edentata* (Malloch) group and *M. arizonensis* is placed in the *M. unicincta* group.

This study also disagrees with some of the synonymy proposed by Gittins (1963 unpub.), for instance all species having acute pronotal angles and a tumid vertex are synonymized under *M. punctifrons*. The present study treats these species as a species group and describes several new species but does synonymize *M. impressifrons* (Malloch) under *M. edentata* rather than *M. punctifrons*. Gittins (1963 unpub.) also synonymized *M. proxima* Cresson under *M. unicincta* and *M. simplex* (Malloch) under *M. gregaria*; the present study recognizes these 4 names as those of species. Other synonymy proposed by Gittins (1963 unpub.) and in agreement with the present work is the placement of *M. polita* (Malloch) under *M. dawsoni* Mickel and *M. atriventris* (Malloch) under *M. cressonii* Packard. Since Gittins' work is unpublished, this synonymy in the present study is considered as new.

Gittins (1963 unpub.) also provides some biological information which is not presented in this study because of its unpublished nature.

CHARACTERS FOUND VALUABLE IN TAXONOMY OF *MIMESA*

This section is a summary of those characters which have proved to be of value in working with *Mimesa*.

Head

ANTENNAE: the antenna consists of 3 segments, a basal scape, a small pedicel and a terminal flagellum. The flagellum in the male is divided into 11 flagellomeres and in the female 10 flagellomeres. The male flagellum typically bears a linear series of welts or tyli; these vary in shape and number from none at all in *M. gabrieleno* new species to large rounded welts on flagellomeres II-IX in *M. lutaria* (Figs. 36-70). Within any species the apical tyli may be present or absent, for instance in *M. lutaria*,

flagellomeres II-VI always have tyli but these structures may be present or absent on flagellomeres VII-IX.

In both males and females the length/width ratio of the penultimate flagellomere is a useful character. The measurement must be standarized in terms of length because this flagellomere is longer on one side than the other. The easiest way to do this is to use the measurement from the same side as the tyli in the male and in the female the inside length as seen when the antennae are held anterior to the head. In most species the length is subequal to or shorter than the width but in several species such as *M. ezra* (Figs. 46,80), the penultimate flagellomere is clearly longer than wide (Figs. 36-100).

VERTEX: this structure for purposes of this study is divided into 3 regions; a dorsal area containing the ocelli, an area posterior to and between the lateral ocelli termed the postocellar area (POA) and a posterior declivity (PD) between the occipital carina and the dorsal area of the vertex (Figs. 5, 6). In all areas of the vertex both microsculpture and degree of punctation are important. Microsculpture or the fine sculpturing between punctures is described in this study as present or absent. The absence of microsculpture gives a surface a shiny appearance while its presence renders a surface dull. The degree of punctation is measured in terms of puncture diameters relative to each other within a species, for instance the vertex (meaning dorsal area of the vertex) may have punctures up to 2 puncture diameters apart in a givin species.

The ratio of postocellar distance (POD) to the ocellocular distance (OOD) has also been used; the POD can be less than, equal to or greater than the OOD (Figs. 4,5).

The postocellar area (POA) of the vertex (Fig. 5) is usually flat and continuous with the rest of the vertex but in a few species it is tumid and visible in a frontal profile above the ocelli (Fig. 15).

CLYPEUS: (Figs. 101-130) a number of characters exist particularly in the female on this structure. The apical margin bears 4 teeth in some degree of development; the truncate condition is caused by wear in the field and does not represent a character state (Figs. 13,14). Of particular value in the identification of females is the preapical tumidity (Fig. 4 PAT); it may be present or absent, protruding, or a low swelling which can be measured as a fraction of the distance between the median or lateral teeth

on the apical margin. Microsculpture, degree of punctation and degree of pilosity are also useful although many specimens show some amount of wear so degree of pilosity must be used with caution.

GENAE: in its normal state, microstriae are present on the lower half (Fig. 3) but in a few species microstriae may be continuous with those of the vertex (Figs. 2,18,23) or almost absent (Fig. 19).

OCCIPITAL CARINA: (Figs. 6,22) the occipital carina is usually complete to or almost to the hypostomal carina but in 3 species it is interrupted at the posterior dorsolateral angles of the head (Figs. 20,21).

Thorax

PRONOTUM: the lateral angles of the pronotum are usually rounded (Figs. 7, 8 LA, 27,28), however in a small number of species on the west coast the lateral angles are acute or dentate (Figs. 25,26,29). The sculpturing of the pronotum is fairly constant with one or a few short oblique striae laterally, in *M. serrano* new species however, these striae are well developed and vertical (Fig. 28).

SCUTUM, SCUTELLUM: characters used on these structures include both microsculpture and degree of punctation.

TEGULAE: (Figs. 7,8 T) the oval plate covering the base of the wing may be impunctate to completely and coarsely punctate (Figs. 131-165). The inner edge of the tegula is impunctate and normally so is the outer posterior 1/4. All figures represent the left tegula, the inner side or the side of the tegula adjacent to the thorax is on the right. The tegula is also variable in shape as viewed in a posterior profile, it is usually flattened, scale-like or shell-like but occasionally has an inverted U-shape with the inner and outer sides parallel or nearly so.

MESOPLEURON: (Fig. 8 MS, HP) this structure is divided into 2 areas, a dorsal hypoepimeral area and a ventral mesopleurosternum. Mesopleuron in the text refers to that area of the pleuron ventral to the hypoepimeral area. The mesopleuron is always striate anteriorly and posteriorly but usually without striae medially (Fig. 3); occasionally the entire surface is striate (Fig. 2). Microsculpture, degree of punctation and degree of pilosity are also used. Pilosity may be either appressed, outstanding or a combination of both. Appressed setae are flattened and tend to obscure the sculpture beneath. The hypoepimeral area is usually striate but in several species

is granular (coarsely microsculptured) without striae.

HIND COXAE: an inner ventral carina is usually present on the hind coxa, it may be complete from base to apex, incomplete and present only on the basal half or absent.

PROPODEUM: (Figs. 7,8,166-230) actually part of the abdomen the propodeum functionally is the last segment of the thorax. The sculpturing of the propodeum in *Mimesa* is highly variable ranging from almost none at all (shining) in *M. dawsoni* (Figs. 174,208) through degrees of microsculpture and macrosculpture to the coarsely rugosoreticulate sculpturing found in *M. maculipes* (Figs. 185, 218). The sculpturing may also be arranged in parallel striae or be irregular, it can also be partially obscured by appressed setae. The propodeum is divided into 2 areas, the propodeal enclosure (Fig. 7 PE) a dorsal triangular region which is usually separated by a carina from the lateral spheres (Fig. 7 LS). The carina separating the regions may be well developed and complete or more often partially developed and occasionally absent.

Abdomen

PETIOLE: (Figs. 7-9,231-295) the petiole or first abdominal sternum is usually more or less quadrate in cross-section with dorsolateral and ventrolateral carinae present to absent. The length of the petiole is variable within most species and must be used with caution, figures 11 and 12 show variation in the petiole length of *M. cressonii*. Dorsally the petiole is usually raised medially with a lateral piliferous sulcus along each side. If the sulci are absent the dorsal surface is evenly convex to flattened and if the sulci and lateral carinae are absent or poorly developed the petiole tends to be rounded.

APICAL TERGUM: in the male the punctation of the apical tergum is variable from small pinprick punctures to large coarse pits (Figs. 30-35). The male does not possess a pygidial plate (Fig. 7 PP) but in one species a small pseudopygidial plate has formed (Fig. 33). In the female the shape of the pygidial plate is useful (Figs. 331-360), it ranges from sides parallel to sides divergent.

MALE GENITALIA: (Figs. 10a,b) the genitalia are typical with large lateral gonostyles, median penis valves and volsellae divided into digitus and cuspis. The digitus and cuspis possess a number of pegs and spines which

are variable in number within species and sometimes within a specimen. The penis valve (Figs. 296-330) has a dorsal lamella visible in lateral view which when fully developed has a sail-like appearance.

Color

The antennae are black dorsally and usually orange-yellow ventrally, several species have the amount of yellowing reduced to the point where the antennae are almost completely black. The legs are often variable in the amount of yellowing, the tibia is most often yellowed on the inner side but can range from black to yellow depending on the species. Apices of femora and tarsomeres are often yellowed as well. The tegulae range from yellow to brown and black. The red coloration of the abdomen must be used with caution because of infraspecific variation. In species where large samples were available the color can be highly variable, for instance in *M cressonii* the color of the abdomen varys from almost completely red to completely black with all gradations in between.

GENUS *MIMESA* SHUCKARD

Mimesa Shuckard, 1837:228.
Aporia Wesmael, 1852:272. *Nec Aporia* Hübner, 1819.
Aporina Gussakovskij, 1937:665. New name for *Aporia* Wesmael, 1852.
Nec Aporina Fuhrmann, 1902.

DIAGNOSIS: hindwing media diverging before cu-a (Fig. 1). Omaulus, sometimes obscure ventrally, curving semicircularly forward toward prothorax, not curving posteriorly, ending ventrally or joined by an acetabular carina to the midline (Fig. 9). Occipital carina simple, not toothed near the hypostomal carina (Fig. 6). Hypoepimeral area striate or with microsculpture, not shining without microsculpture (Figs. 1-3). Bohart and Menke (1976) provide a more detailed generic diagnosis.

MALES: apical abdominal tergum without a fully developed pygidial plate.
Flagellum with 11 flagellomeres, a few usually with tyli.
Clypeus without a preapical tumidity.

FEMALES: apical abdominal tergum with a pygidial plate.
Flagellum with 10 flagellomeres, without tyli.
Clypeus usually with a preapical tumidity.

EXPLANATION OF SPECIES LIST

A species entry is followed by author and year of publication, a page reference is cited in the text, the sex and museum of deposition of the holotype are also indicated. Parentheses around an author name indicates a change of generic status, the original genus follows the year of publication. Synonyms are indented and use of *nec* preceeding an entry indicates homonymy. An asterisk indicates a type specimen was not seen in a given species.

LIST OF AMERICAN *MIMESA*
(* = type not seen)

agalena Gittins, 1966. ♀ UOI.
arizonensis (Malloch), 1933. *Psen.* ♂ USNM.
barri Gittins, 1966. ♀ UOI.
cahuilla new species. ♂ UCB.

cheyenne new species. ♂ CNC.
chiricahua new species. ♂ CUM.
coquilletti (Rohwer), 1910a. *Psen*. ♀ USNM.
cressonii Packard, 1867. ♂ ANSP.
denticulata Packard, 1867. ♂ ANSP.
conica H. Smith, 1908. ♂ UON.
cressonii atriventris (Malloch), 1933. *Psen*. ♂ USNM. New synonymy.
dawsoni Mickel, 1916. ♂ UON.
polita (Malloch), 1933. *Psen*. ♂ USNM. New synonymy.
edentata (Malloch), 1933. *Psen*. ♂ USNM.
impressifrons (Malloch), 1933. *Psen*. ♂ USNM. New synonymy.
ezra (Pate), 1944. *Psen*. New name for *Mimesa argentifrons* Cresson, 1865b.
argentifrons Cresson, 1865b. ♀ ANSP. *Nec Psen argentifrons* Cresson, 1865a.
iroquois Finnamore, 1980. ♀ LEM. New synonymy.
foxi Finnamore, 1980. ♀ LEM.
gabrieleno new species. ♂ UCR.
granulosa (Fox), 1898. *Psen*. ♂ ANSP.
gregaria (Fox), 1898. *Psen*. ♂ ANSP.
huron Finnamore, 1980. ♀ LEM.
ipai new species. ♂ UCD.
jicarilla new species. ♂ MCZ.
klamath new species. ♂ UCD.
lutaria (Fabricius), 1787. *Sphex*. ♀ ZM.
**shuckardi* Wesmael, 1852.
**basirufa* Packard, 1867. New synonymy.
**japonica* Pérez, 1905.
nebrascensis H. Smith, 1908. ♀ UON. New synonymy.
**dispar* (Gussakovskij), 1937. *Psen* (*Aporina*).
mallochi Finnamore, 1980. ♀ LEM. New synonymy.
maculipes Fox, 1893. ♂ ANSP.
nigrescens (Rohwer), 1910b. *Psen*. ♂ USNM.
perplexa (Rohwer), 1910b. *Psen*. ♀ USNM.
mexicana Cameron, 1891. ♀ BMNH.
miwoka new species. ♂ UCD.
nisenan new species. ♂ UCD.
pauper Packard, 1867. ♂ ANSP.
**cingulata* Packard, 1867.

proxima Cresson, 1865b. ♀ ANSP.
punctifrons (Malloch), 1933. *Paen.* ♂ USNM.
pygidialis (Malloch), 1933. *Paen.* ♂ USNM.
sabina Gittins, 1966. ♀ UCD.
senijextee new species. ♂ MCZ.
serrano new species. ♂ UCD.
simplex (Malloch), 1933. *Paen.* ♂ USNM. New status.
tequila new species. ♂ UCD.
tolteca new species. ♂ MCZ.
unicincta Cresson, 1865b. ♀ ANSP.
zapoteca new species. ♂ SEM.

KEY TO AMERICAN MALES OF *MIMESA*

1 Pronotal angles toothed laterally (Figs. 25,26).....2
1' Pronotal angles rounded laterally (Figs. 27,28).....6

2 (1) Abdominal tergum III red on at least basal half.....3
2' Abdominal tergum III black, slightly browned laterally.....4

3 (2) Scutum with microsculpture between punctation; usually a small coriaceous tumidity on postocellar area (Fig. 15); punctation of vertex sparse, punctures separated by one diameter or more ..... *edentata* (Malloch)
3' Scutum shining, without or with very faint microsculpture; postocellar area flat; punctation of vertex dense, punctures contiguous..... *punctifrons* (Malloch)

4 (2') Scutum and mesopleuron with microsculpture; vertex flat without postocellar tumidity; flagellum black or yellowed apically, flagellomeres III-V or VI with tyli (Fig. 41,68).....5
4' Scutum and mesopleuron shining, without microsculpture, at most very slightly evident on scutum; with a small postocellar tumidity; flagellum yellow beneath, flagellomeres II-V or VI with tyli (Fig. 52)..... *ipai* new species

5 (4) Flagellum black beneath, tyli oval, situated at middle of flagellomeres (Fig. 68); tarsi black..... *tolteca* new species
5' Flagellum yellowed apically beneath, tyli linear, situated at apical ends of flagellomeres (Fig. 41); tarsi with yellow.... ..... *chiricahua* new species

6 (1') Mesopleuron striate throughout (Fig. 2) OR occipital carina interrupted at dorsolateral angles of head (Figs. 20,21)....7

6' Mesopleuron not striate throughout (Fig. 3), punctate or granular medially; occipital carina complete to or almost to hypostomal carina (Fig. 22).....9

7 (6) Occipital carina interrupted at dorsolateral angles of head (Figs. 20,21).....8

7' Occipital carina complete (Fig. 22)..... *barri* Gittins

8 (7) Flagellum with tyli (Fig. 36); mesopleuron more shining..... ..... *agalena* Gittins

8' Flagellum without tyli (Fig. 48); mesopleuron closely punctate, uniformly granular, not at all shining..... ..... *gabrieleno* new species

9 (6') Apical tergum without lateral carinae, rounded, although sometimes with a terminal lobe simulating a small pygidial plate; hypoepimeral area variable, usually either granular or striate, rarely weakly striate.....10

9' Apical tergum with lateral carinae extending up to 1/4 length of tergum forming a small pygidial plate (Fig. 33); hypoepimeral area finely striate, appearing granular and often obscured by appressed setae..... *pygidialis* (Malloch)

10 (9) Area laterad of propodeal enclosure either granular or with macrosculpture (Figs. 166-173,175-200).....11

10' Area immediately laterad of propodeal enclosure shining or very weakly coriaceous, in any case not granular and without macrosculpture (Fig. 174)..... *dawsoni* Mickel

11 (10) Tyli of flagellomeres not denticulate in profile, if visible in profile then they are rounded; other characters variable usually not in following combination.....12

11' Tyli denticulate in profile, present on flagellomeres II-V or VI (Fig. 43); mesopleuron closely and coarsely punctate; scutum coarsely punctate although more sparsely than mesopleuron and without microsculpture; propodeum including enclosure usually with parallel striae (Fig. 173); petiole dorsally rounded (Fig. 238); abdominal coloration variable from black to red on terga I-III and part of IV; hind coxa with an inner

ventral carina..... *crassonii* Packard

12 (11) Penultimate flagellomere longer than wide (Figs. 46,53,62); petiole usually longer than first tergum OR petiole flat, often short (Fig. 249), if short then flagellomeres II-VI or more with broad oval tyli (Fig. 54).....13

12' Penultimate flagellomere wider than long or square (length subequal to width) (Figs. 36-45,47-52,55-61,63-70); petiole shorter or longer than first tergum; petiole never flat, either rounded or with a raised median area (Figs. 231-240, 242-247,250-256,258-265).....16

13 (12) Petiole usually much longer than first tergum, flat or nearly so (Figs. 241,248,257); mesopleuron finely punctate; tergum III with at least some red; basal flagellomeres with linear tyli (Figs. 46,53,62).....14

13' Petiole flat usually shorter than first tergum (Fig. 249); mesopleuron coarsely punctate; tergum III black; tyli broad, on flagellomeres II-VII or IX (Fig. 54)..... *lutaria* (Fabricius)

14 (13) Hypoepimeral area usually striate but may be rugosoreticulate; propodeal sculpture coarse (Figs. 176,192).....15

14' Hypoepimeral area coarsely granular; propodeal sculpture near enclosure fine (Fig. 183)..... *jicarilla* new species

15 (14) Postocellar area shining, punctures well separated, without transverse microstriae on posterior declivity.... *ezra* (Pate)

15' Postocellar area with contiguous punctation and transverse microstriae on posterior declivity..... *sabina* Gittins

16 (12') Apical tergum with at least a few but usually many large punctures, as large or larger than those of scutum (Figs. 30-32,34); costa of forewing often white; vertex usually with a small postocellar tumidity; abdomen with red; southwestern United States.....17

16' Apical tergum impunctate or with small pinprick punctures, not as large as those of scutum (Fig. 35); costa of forewing variable, white, yellow, brown or black; postocellar area sometimes with a tumidity; abdomen may be black.....21

17 (16) Costa of forewing white, yellow or brown, setae of wings white, brown or black; wing color hyaline or transparent yellow-

brown; tegula punctate with at least a few median punctures (Figs. 134,152,159); postocellar area impunctate or not....18

17' Costa of forewing white to or almost to stigma; setae of wings white; wing color translucent white; tegula impunctate or with few punctures anteriorly (Fig. 137); postocellar area impunctate at least in part..... *coquilletti* (Rohwer)

18 (17) Postocellar area and posterior declivity shining, without microsculpture (Fig. 24).....19

18' Postocellar area and posterior declivity with fine irregular microstriae (Fig. 23)..... *serrano* new species

19 (18) Tegula with many punctures (Fig. 152) and/or tergum III with red.. 20

19' Tegula impunctate or with a few punctures anteriorly; tergum III black..... *coquilletti* (Rohwer)

20 (19) Mesopleuron, scutum and vertex with normal punctation; tegula finely punctate (Fig. 134)..... *cahuilla* new species

20' Mesopleuron, scutum and vertex with large coarse punctation; tegula with sparse but coarse punctation (Fig. 152)..... ..... *miwoka* new species

21 (16') Abdomen usually with red; costa of forewing yellow, brown or black; setae of wings black; mesopleuron variable from granular to shining.....22

21' Abdomen black; costa of forewing white for most of its prestigmal length; setae of wings white; mesopleuron granular..... ..... *granulosa* (Fox)

22 (21) Basal 4 or more flagellomeres blackened beneath, tyli occasionally yellow; mid, hind and usually foretibia black (intermediates with slightly darkened flagellomeres, black mid and hindtibia can key here).....23

22' Flagellum yellow beneath to or almost to base; tibiae usually with extensive yellow.....32

23 (22') Tegula impunctate or with only a few punctures anteriorly (Figs. 136,151,164,165) OR pronotum with coarse vertical striae (Fig. 23).....24

23' Tegula punctate with large punctures, usually dense but at least

closely punctate on anterior and/or inner side (Figs. 135, 160); pronotum without coarse vertical striae, usually with short oblique striae.....28

24 (23) Pronotum laterally with only a few striae which are short and not usually vertical.....25

24' Pronotum laterally with many coarse vertical striae (Fig. 23); vertex densely punctate, punctures separated by one diameter or less..... *serrano* new species

25 (24) Abdomen with red on at least tergum II and usually III; apical 4 or more flagellomeres yellow beneath; mesopleuron with fine or coarse punctation.....26

25' Abdomen with black or red on tergum II; antenna black, apical flagellomeres only slightly yellowed beneath; mesopleuron with fine punctation..... *mexicana* Cameron

26 (25) Mesopleuron with large punctures; tergum III sometimes with red... 27

26' Mesopleuron finely punctate; red on tergum II only..... ..... *unicincta* Cresson

27 (26) Tergum III with red..... *zapoteca* new species

27' Tergum III black, only II with red..... *chiricahua* new species

28 (23') Apical flagellomere normal, symmetrical.....29

28' Apical flagellomere asymmetrical (Fig. 362)... *klamath* new species

29 (28) Tegula not as highly arched in posterior profile, not usually punctate throughout and/or postocellar area shining, microstriae if present usually widely interrupted at posterolateral angles of head; usually 4 or more apical flagellomeres yellowed; propodeal sculpture usually fine (Fig. 199).. 30

29' Tegula highly arched, inverted U-shape in posterior profile, densely punctate (Fig. 160); postocellar area with dense irregular microstriae continuing uninterrupted to mandibles; apical 4 or less flagellomeres yellow beneath; propodeum with irregular coarsely rugose sculpture (Fig. 195); California, Nevada border..... *nisenan* new species

30 (29) Tyli linear, usually short (Fig. 69); propodeal sculpture not as

fine (Fig. 199).....31

30' Tyli oval, broad (Fig. 40); propodeal sculpture adjacent to enclosure very fine (Fig. 170)..... *cheyenne* new species

31 (30) Basal 4 or more flagellomeres black; first abdominal tergum usually longer than wide (Fig. 264); petiole usually equal to or slightly shorter than first tergum; propodeum finely sculptured (Fig. 199) (*mexicana* may key here but its tegula is much less punctate; antennae are darker and the mesopleuron has evanescent microstriae)..... *unicincta* Cresson

31' Basal 3 or less flagellomeres black; first tergum sometimes wider than long (Fig. 245); petiole usually much shorter than first tergum; propodeum with moderately coarse rugosoreticulate sculpture (Fig. 180)..... *gregaria* (Fox)

32 (22') Abdomen with tergum III black (occasionally red laterally); petiole shorter than first tergum (Figs: 235,245,250,253,261) 33

32' Abdomen with red on tergum III (a complete band) or more and/or petiole longer than first tergum (Figs. 242,246,257,258)...37

33 (32) Flagellomeres with broadly rounded, oval or very low apparently absent tyli, sometimes appearing as a linear fold or angle but not abruptly raised from adjacent surface (Figs. 40,55, 58,66).....34

33' Flagellomeres with narrow linear raised tyli, sometimes short (Fig. 50) (some *huron* key here but tyli are not usually raised and first tergum is narrow)..... *gregaria* (Fox)

34 (33) Tyli present (Figs. 40,55,58) or sculpturing adjacent to propodeal enclosure coarse (Figs. 250,253).....35

34' Tyli absent or almost so (Fig. 66); sculpturing adjacent to propodeal enclosure fine to very fine (Fig. 196)..... ..... *simplex* (Malloch)

35 (34) Sculpturing adjacent to propodeal enclosure coarse (Figs. 185, 188); petiole usually longer (Figs. 250,253).....36

35' Sculpturing adjacent to propodeal enclosure fine (Fig. 170); petiole short (Fig. 235)..... *cheyenne* new species

36 (35) Abdomen with red; thorax usually with microsculpture; tyli present

on flagellomeres II-V or VI (Fig. 58)..... *pauper* Packard

36' Abdomen black; thorax without microsculpture; tyli present on flagellomeres II-VI or VII (Fig. 55)..... *maculipes* Fox

37 (32') Petiole shorter than tergum I, usually much shorter (Figs. 232, 245,252,262,264); tergum III with red, I with black.....38

37' Petiole equal to or longer than tergum I (Figs. 242,246,257,258) or tergum III black, I sometimes red.....43

38 (37) Propodeum with finer sculpture adjacent to enclosure (Figs. 167, 187,189,197,199); tyli of flagellomeres variable (Figs. 37, 57,59,67,69); mesopleuron granular, shining or with microsculpture; gena with or without striae.....39

38' Propodeum with coarse sculpture adjacent to enclosure (Fig. 180); tyli linear, not extending full length of flagellomeres (Fig. 50); mesopleuron not at all granular; genae with striae..... ..... *gregaria* (Fox)

39 (38) Gena with striae; thorax with microsculpture.....40

39' Gena without striae (Fig. 19); head and thorax shining without microsculpture..... *tequila* new species

40 (39) Mesopleuron shining with large punctures or with coriaceous microsculpture.....41

40' Mesopleuron coarsely granular between large punctures..... ..... *proxima* Cresson

41 (40) Mesopleuron with microsculpture and small punctures.....42

41' Mesopleuron shining with large punctures..... *miwoka* new species

42 (41) Tergum III red; tegula yellow..... *arizonensis* (Malloch)

42' Tergum III red basally; tegula medium to dark brown..... ..... *unicincta* Cresson

43 (37') First tergum usually red, at most not more than basal half black; terga II and all or most of III red (Figs. 257,258).....44

43' First tergum red apically; tergum II red and III black or red...45

44 (43) Tyli linear (Fig. 62)..... *sabina* Gittins

44' Tyli broad, rounded (Fig. 63)..... *senijextee* new species

45 (43') Mesopleuron appearing impunctate, punctures very fine, much smaller than those of scutum; tyli well developed, usually

visible in profile (Fig. 47); tergum III usually with red.... ..... *foxi* Finnamore

45' Mesopleuron with punctures subequal to those of scutum; tyli not well developed, not visible in profile (Fig. 51); tergum III black, occasionally red laterally..... *huron* Finnamore

KEY TO AMERICAN FEMALES OF *MIMESA*

(unknown females: *chiricahua, jicarilla, klamath, miwoka, tequila, tolteca*)

1 Vertex with a coriaceous tumidity posterior to ocelli which is visible in frontal profile (Fig. 15) OR pronotal angles acute (toothed) (Fig. 29); costa of forewing yellow to brown at base.....2

1' Vertex posterior to ocelli flat or slightly tumid; if slightly tumid then costa of forewing is white for most of its prestigmal length or tumidity is not visible in frontal profile; pronotal angles rounded (Fig. 28).....4

2 (1) Postocellar area with a coriaceous tumidity (Fig. 15).....3

2' Postocellar area flat; pronotal angles toothed (Fig. 29)..... ..... *punctifrons* (Malloch)

3 (2) Abdomen red on apex of tergum I, all of II, III and often part or all of IV..... *edentata* (Malloch)

3' Abdomen red on apex of tergum I, all of II and often basally on III..... *ipai* new species

4 (1') Mesopleuron striate (Fig. 2) or occipital carina interrupted at dorsolateral angles of head (Figs. 20,21); pygidial plate narrow, sides parallel (Figs. 331,333,342).....5

4' Mesopleuron not striate throughout, punctate medially (Fig. 3); occipital carina complete to or almost to hypostomal carina (Fig. 22); pygidial plate with sides diverging (Fig. 338)...7

5 (4) Propodeum finely striate (Figs.201,212); mesopleuron striate to striatopunctate.....6

5' Propodeum coarsely sculptured (Fig. 203) rugosoreticulate posterolaterally; mesopleuron striate (Fig. 2)..... *barri* Gittins

6 (5) Abdomen red on apex of tergum I, all of II and sometimes part or all of III; mesopleuron weakly striate and somewhat shining;

pilosity of propodeum sparse, not obscuring sculpture..... ..... *agalena* Gittins

6' Abdomen red on apex of tergum I, all of II, III and part of IV; mesopleuron dull and closely striatopunctate; pilosity of propodeal spheres dense, obscuring sculpture..... ..... *gabrielano* new species

7 (4') Lateral spheres of propodeum with parallel striae or granular to striatogranular or with fine low striae fading into finely and closely rugosoreticulate sculpture (Figs. 202,204-208, 213,219,221,223,226-230); petiole variable, never flat; first tergum usually with black.....8

7' Lateral spheres of propodeum usually coarsely rugosoreticulate often up to edges of enclosure (Figs. 210,211,214,215,217, 218,220,224,225) (if intermediate, take couplet 8); petiole variable, never round; first tergum sometimes red.....23

8 (7) Propodeum with sculpturing adjacent to enclosure (Fig. 229).....9

8' Propodeum shining, without microsculpture near enclosure (Fig. 208)..... *dawsoni* Mickel

9 (8) Pronotal collar laterally with only a few short striae and often only one vertical; clypeus either truncate or emarginate medially; hypoepimeral area granular to striate.....10

9' Pronotal collar laterally with several coarse parallel striae extending vertically from dorsal to ventral regions anterior to pronotal lobe (Fig. 28); apical margin of clypeus with a median rounded lobe in worn specimens, a bidentate lobe in unworn specimens; clypeus without a prominent subtriangular preapical tumidity (Fig. 126); hypoepimeral area weakly striate..... *serrano* new species

10 (9) Clypeus with a prominent subapical triangular or globular tumidity (Figs. 104,106); costa of forewing white at base and often to stigma; petiole round.....11

10' Clypeus at most with a broad subapical tumidity; costa of forewing yellow to brown at base; petiole variable.....12

11 (10) Tegula impunctate or nearly so; costa of forewing white to or almost to stigma; color of wings white hyaline but not so much as males; setae of wings white; posterior ocelli within

one ocellus diameter or less of posterior declivity (Fig. 16); pygidial plate with contiguous or nearly contiguous punctation..... *coquilletti* (Rohwer)

11' Tegula punctate or not; costa of forewing white at base and usually not more than halfway to stigma; wing color hyaline; setae white, brown or black; posterior ocelli usually more than one ocellus diameter from posterior declivity (Fig. 17); pygidial plate with punctures often more than one diameter apart on basal half..... *cahuilla* new species

12 (10') Hypoepimeral area granular (if striate under high magnification then propodeum is weakly granular-rugosoreticulate).....13

12' Hypoepimeral area striate.....16

13 (12) Costa of forewing yellow or brown basally.....14

13' Costa of forewing white for about half of its prestigmal length... ..... *granulosa* (Fox)

14 (13) Petiole shorter than first tergum (Figs. 286,295); length 7-8 mm.. 15

14' Petiole equal to or longer than first tergum (Fig. 288); length about 10 mm..... *pygidialis* (Malloch)

15 (14) Mesopleuron granular with small indistinct punctures; Mexico..... ..... *zapoteca* new species

15' Mesopleuron granular with larger more distinct punctures; Wyoming to Arizona and New Mexico..... *proxima* Cresson

16 (12') Petiole round or convex and longer than twice the width (Figs. 267,270,272,284,292,294).....17

16' Petiole convex, short, about twice longer than wide or less (Fig. 293)..... *simplex* (Malloch)

17 (16) Petiole round (Figs. 267,272); propodeum usually striate (Figs. 202,207).....18

17' Petiole convex (Figs. 270,284,292,294); propodeum usually with some low rugosoreticulate sculpture.....19

18 (17) Petiole longer than first tergum (Fig. 272); scutum with large punctures..... *cressonii* Packard

18' Petiole shorter than first tergum (Fig. 267); scutum with normal smaller punctation..... *arizonensis* (Malloch)

19 (17') Flagellomeres I to II or more black; propodeal enclosure not evident to poorly defined (Figs. 205,219,227,229); legs usually black.....20

19' Flagellomere I black, usually II- X yellow beneath; legs usually with yellow.....23

20 (19) Abdominal terga II and III red.....21

20' Abdominal tergum II red, III black..... *nisenan* new species

21 (20) With evident sculpture adjacent to propodeal enclosure (Figs. 219, 229).....22

21' Sculpture adjacent to propodeal enclosure very fine, almost microsculpture (Fig. 205)..... *cheyenne* new species

22 (21) Flagellomeres I-II or IV black, III or V-X yellow beneath..... ..... *unicincta* Cresson

22' Flagellomeres I-V black, at most VI-X yellow beneath..... ..... *mexicana* Cameron

23 (7',19') Petiole convex dorsally, shorter than first tergum (Figs. 279, 283,286,293); penultimate flagellomere wider than long (Figs. 84,88,90,98); first tergum with black.....24

23' Petiole convex or flat dorsally (Fig. 282); if convex then longer than first tergum (Figs. 275,276,280,289,290); penultimate flagellomere often longer than wide; first tergum sometimes red.....27

24 (23) Petiole usually more than twice longer than wide (Figs. 279,283, 286); propodeal enclosure well defined or not (Figs. 214,218, 220); lateral spheres finely or coarsely sculptured; foretibia black to yellow.....25

24' Petiole twice longer than wide or less (Fig. 293); propodeal enclosure poorly defined (Fig. 228); lateral spheres finely sculptured; foretibia usually yellow..... *simplex* (Malloch)

25 (24) Abdomen red or entirely black and with longitudinal striae on propodeum (Figs. 214,220); scutum, scutellum or mesopleuron usually with some degree of microsculpture.....26

25' Abdomen black; propodeum coarsely rugosoreticulate (Fig. 218), without longitudinal striae; scutum, scutellum and mesopleuron without microsculpture..... *maculipes* Fox

26 (25) Abdominal terga II and III red; vertex often with microstriae on postocellar area; propodeal sculpture more fine (Fig. 214) (if petiole is evenly convex without dorsolateral sulci and penultimate flagellomere is longer on at least one side than wide, see couplet 27)..... *gregaria* (Fox)

26' Abdominal terga II only or II and part of III red; punctation of vertex finer without microstriae; propodeal sculpture more coarse (Fig. 220)..... *pauper* Packard

27 (23') Petiole longer than first tergum, flat or convex dorsally (Figs. 275,276,280,289,290) (may also be shorter than first tergum and evenly convex); scutum more finely punctate with or without microsculpture; tergum III black or red.....28

27' Petiole flat, shorter than first tergum (Fig. 282); scutum coarsely punctate with coriaceous microsculpture; tergum III black..... *lutaria* (Fabricius)

28 (27) First tergum red.....29

28' First tergum with black.....30

29 (28) Preapical tumidity of clypeus subtriangular, not reaching lateral teeth (Fig. 124)..... *sabina* Gittins

29' Preapical tumidity of clypeus very broad, not subtriangularly protruding, reaching lateral teeth or almost so (Fig. 125)... ..... *senijextee* new species

30 (28') Petiole convex (Figs. 276,280).....31

30' Petiole flat (Fig. 275).....33

31 (30) Foretibia usually black or preapical tumidity of clypeus undeveloped; in any case without following combination.....32

31' Clypeus shining, punctures more separated, with a preapical tumidity (Fig. 111); foretibia yellow at least on inner side; punctation of scutum finer, microsculpture weaker..... ..... *foxi* Finnamore

32 (31) Clypeus usually without a preapical tumidity, closely punctate, not shining (Fig. 115); eastern North America..... ..... *huron* Finnamore

32' Clypeus with a protruding subtriangular preapical tumidity (Fig. 124); southwestern United States..... *sabina* Gittins

33 (30') Propodeum with coarsely rugosoreticulate sculpture (Fig. 210); vertex with finer punctation; east of Rockies.... *ezra* (Pate)

33' Propodeum with more finely rugosoreticulate sculpture (Fig. 224); vertex more coarsely and closely punctate; southwestern United States..... *sabina* Gittins

MIMESA LUTARIA GROUP

Petiole flat, tyli on male flagellomeres broadly rounded.

Mimesa lutaria (Fabricius)
(Figs. 54, 87, 117, 149, 184, 217, 249, 282, 314, 347)

Sphex lutaria Fabricius, 1787:273. Lectotype designated by van der Vecht, 1961:27.

Mimesa shuckardi Wesmael, 1852:278.

Mimesa basirufa Packard, 1867:406. New synonymy.

Mimesa japonica Pérez, 1905:150.

Mimesa nebrascensis H. Smith, 1908:390. New synonymy.

Psen (Aporina) dispar Gussakovskij, 1937:670.

Mimesa mallochi Finnamore, 1980:299. New synonymy.

DIAGNOSIS: Petiole flat, shorter than first tergum.

DESCRIPTION: Male

Length 5.5-9 mm.

Head: Flagellomeres II-VII or IX with broad oval tyli, penultimate flagellomere longer than wide on outer side and often wider than long on inner side; OOD greater than POD; vertex with weak microsculpture, punctures usually less than one diameter apart; POA not tumid; posterior declivity with microstriae medially; gena striate to or almost to vertex; occipital carina complete, usually reaching hypostomal carina.

Thorax: Pronotal angle rounded, lateral area obliquely striate; scutum with at least weak microsculpture, punctures relatively large up to 3 diameters apart; scutellum usually without microsculpture, punctures rarely up to 3 diameters apart; mesopleuron with microsculpture, punctures up to one diameter apart, usually without striae ventral to hypoepimeral area; hypoepimeral area irregularly striate; pubescence of mesopleuron and

hypoepimeral area thin, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing brown to yellow brown at base; inner ventral carina of hindcoxa well developed on at least basal half.

Propodeum: Enclosure usually poorly defined, adjacent area sometimes with fine irregular striae, lateral spheres moderately rugoso-reticulate usually to enclosure.

Abdomen: Petiole flat to concave, equal to or usually shorter than first tergum; dorsolateral sulcus absent or poorly developed; dorsolateral and ventrolateral carinae well developed; apical tergum finely punctate.

Color: Yellow on underside of flagellomeres I-XI varying to underside of flagellomeres IX-XI, fore and midtarsomeres occasionally beyond basitarsi; brown on tegula; red usually on apex of tergum I and part or all of II, sternum I occasionally at apex, part or all of II; abdomen in some specimens particularly from the southwestern United States may be entirely black.

Female

Length: 7-10 mm.

Head: Penultimate flagellomere longer than wide on outer side, wider than long on inner side; clypeus shining medially or with weak microsculpture, apical edge with 4 well developed teeth, preapical tumidity subtriangular, protruding, almost reaching lateral teeth; facial pubescence dense ventrally from just above antennal sockets, obscuring sculpture; OOD greater than POD; vertex with at least weak microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity often with weak microstriae; gena striate to or almost to vertex; occipital carina complete, usually not reaching hypostomal carina.

Thorax: Pronotal angle rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 2 diameters apart; scutellum usually shining, sometimes with weak microsculpture, punctures up to 3 diameters apart; mesopleuron with microsculpture, punctures up to one diameter apart medially, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area sparse, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing light brown at base; inner ventral carina of hindcoxa present basally.

Propodeum: Enclosure well defined by a carina, adjacent area

striate, becoming moderately rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than first tergum, flat to concave, dorsolateral sulcus usually not well developed, dorsolateral and ventrolateral carinae well developed.

Color: Yellow on underside of flagellomeres II or III-X, fore and midtarsomeres occasionally beyond basitarsi; brown on tegula; red at most on all of tergum I, II and part or all of III, sternum I apically, II and III; abdomen may be entirely black.

BIOLOGY: Krombein (1961) and Kurczewski and Lane (1974) have provided observations on the American members of this species. The nest is constructed in sandy soil either on a flat area or a bank; the burrow containing several bends extends 7.5-25 cm into the soil and turning horizontal before terminating in a cell, successive cells being constructed closer to the entrance along the burrow. Prey consists of cicadellids provisioned at the rate of 2-6 per cell and include *Oncopsis variabilis* (Fitch), *O. sorbrius* (Walker) and *Idiocerus* sp. European observations were provided by Spooner (1948), the following cicadellid prey were reported: *Macropsis virescens* (Fabricius), *Oncopsis flavicollis* (Linnaeus), *O. rufusculus* Fieber and *Empoasca smaragdula* (Fallen). Morice (1903) and Berland and Bernard (1938) found the chrysidid wasps *Notozus constrictus* Förster and *N. spina* Lepeletier respectively parasitizing this species.

DISTRIBUTION: Georgia, North Carolina, Virginia, Pennsylvania, New York, Connecticut, Massachusetts, Vermont, New Hampshire, Maine, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland, Labrador, Quebec, Ontario, Michigan, Minnesota, Manitoba, North Dakota, South Dakota, Saskatchewan, Alberta, North West Territories, Yukon, Alaska, British Columbia, Washington, Oregon, California, Nevada, Idaho, Wyoming, Utah, Colorado, Arizona, New Mexico. This species is also known from Europe to Japan.

Map 2 139 males 113 females

MIMESA EQUESTRIS GROUP

Tyli on male flagellomeres rounded.

Mimesa cheyenne New Species

(Figs. 40, 75, 105, 135, 170, 205, 235, 270, 300, 335)

DIAGNOSIS: Male; sculpturing adjacent to propodeal enclosure very fine, almost microsculpture; flagellomeres with oval broad tyli; scutum and mesopleuron shining without microsculpture.

Female; flagellomere II black; tibiae black; sculpturing adjacent to propodeal enclosure very fine, almost microsculpture.

DESCRIPTION: Male

Length: 6.5-7.5 mm.

Head: Flagellomeres II-V or VI with broad oval tyli; penultimate flagellomere wider than long; OOD greater than POD; vertex with weak microsculpture, punctures up to 3 diameters apart in some specimens, usually up to 1.5 diameters apart; POA often slightly tumid; posterior declivity usually with microstriae; gena striate to dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with short oblique striae; scutum shining, without microsculpture, punctures up to 3 diameters apart; scutellum without or with weak microsculpture, punctures up to 4 diameters apart; mesopleuron without or occasionally with weak microsculpture, punctures up to 2 diameters apart, often with a few striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula with close relatively large punctures anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present at extreme base.

Propodeum: Enclosure poorly defined, adjacent area finely striate to nearly microstriate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than first tergum, convex, all sulci and carinae evanescent or absent; apical tergum finely punctate.

Color: Yellow on at most underside of flagellomeres II-XI, usually apical 4, inner side of foretibia, most or all of foretarsus and most of midtarsus; brown on tegula; red on apex of tergum I, all of II and sternum II.

Female

Length: 6.5-7.0 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture medially, punctures up to 0.5 diameters apart; apical margin with 4 broadly rounded teeth; preapical tumidity undeveloped; facial pubescence dense ventrally from just above antennal sockets, obscuring

sculpture beneath; OOD greater than POD; vertex with weak microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity without microstriae; gena striate almost to dorsolateral area of head; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded. lateral area with several oblique striae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures fine and obscure, up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area sparse, not obscuring sculpture; tegula usually punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure partly defined by a carina, adjacent area very finely striate, almost microstriate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than first tergum, dorsolateral sulcus, carina and ventrolateral carina weak or evanescent.

Color: Yellow on underside of flagellomeres III-X, partly on all tarsomeres; brown tegula; red on apex of tergum I, all of II and all or most of III, sternum II and III.

BIOLOGY: Unknown.

DISTRIBUTION: Wyoming, Colorado, New Mexico.

HOLOTYPE: ♂ CNC. Colorado, Nederland 8200' 29-VI-1961, J.R. Stainer.

ALLOTYPE: ♀ LACHNM. Colorado, s. base Blue Mtn., 8426' nr. Florissant, Teller Co. 1-VIII-1966, T. Emmel and M. Fosdick.

PARATYPES: 11 specimens.

Colorado: State Bridge 7000' nr. Bond 24-25-VI-1961, B.H. Poole
2 ♂♂ CNC.
1 ♂ CUM.
W.R.M. Mason 3 ♂♂ CNC.
1 ♂ LEM.
C.H. Mann 1 ♀ CNC.
no locality Baker 1 ♂ USNM.

Wyoming: Moran, Jackson Hole Biol. Sta. 19-VII-1964, H.E. & M.A. Evans
1 ♂ MCZ.

New Mexico: Jemez Spgs. 1-VII-1941, R.H. Beamer 1 ♂ SEM.

Map 6 11 males 2 females

Mimesa foxi Finnamore
(Figs. 47, 81, 111, 142, 177, 211, 242, 276, 307, 341)

Mimesa foxi Finnamore, 1980:293.

DIAGNOSIS: Male; tyli well developed, usually visible in profile, penultimate flagellomere square, length subequal to width; mesopleuron with fine punctation; propodeum coarsely rugosoreticulate; petiole convex longer than first tergum; tergum I red at apex.

Female; clypeus with a broad preapical tumidity; propodeum rugosoreticulate posterolaterally; petiole convex, longer than first tergum which is red at apex.

DESCRIPTION: Male

Length: 5.5-8.0 mm.

Head: Flagellomeres II-V or VI with oval tyli usually visible in profile, penultimate flagellomere square, length subequal to width; OOD greater than POD; vertex with very weak microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; gena with striae not reaching dorsolateral area of head; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with weak microsculpture, punctures up to 3 diameters apart; scutellum with or without microsculpture, punctures up to 3 diameters apart; mesopleuron with at least weak microsculpture, punctures very fine, appearing impunctate, up to 3 diameters apart; with or without striae ventral to hypoepimeral area; hypoepimeral area coarsely striate; pubescence of mesopleuron and hypoepimeral area thin, outstanding, not at all appressed and not obscuring sculpture; tegula finely punctate anteriorly and on inner side; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa present on basal half.

Propodeum: Enclosure well defined by a carina, adjacent area coarsely rugosoreticulate or striate becoming coarsely rugosoreticulate posterolaterally.

Abdomen: Petiole longer than first tergum, convex, dorsolateral sulcus weak to evanescent, dorsolateral carina weak, ventrolateral carina well developed; apical tergum finely punctate.

Color: Yellow on underside of flagellum except flagellomere I basally, usually apices of fore and midfemora, foretibia and tarsus, usually midtibia and tarsus, occasionally hindtibia and tarsus; yellow-brown on tegula; red on apex of tergum I, all of II and none to all of III, sternum II and sometimes III.

Female

Length: 6.5-10 mm.

Head: Penultimate flagellomere wider than long on inner side, longer than wide on outer side; clypeus shining without microsculpture, punctures up to 3 diameters apart medially, apical edge with 4 weak broadly rounded teeth, preapical tumidity well developed, broad, not extending to lateral teeth; facial pubescence dense ventrally from just above antennal sockets, obscuring sculpture; OOD greater than POD; vertex with weak microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; gena with striae not reaching dorsolateral area of head; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 4 diameters apart; scutellum shining with weak microsculpture, punctures up to 5 diameters apart; mesopleuron with microsculpture, punctures evanescent, up to 3 diameters apart; without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, outstanding, not obscuring sculpture; tegula finely punctate anteriorly and on inner side; costa of forewing at base yellow to brown; inner ventral carina of hindcoxa present at base.

Propodeum: Enclosure well defined by a carina, adjacent area coarsely striate becoming rugosoreticulate posterolaterally.

Abdomen: Petiole longer than first tergum, convex, dorsolateral sulcus, carina and ventrolateral carina usually well developed.

Color: Yellow on underside of flagellomeres II-X, inner side of foretibia, foretarsus, midtarsus beyond basitarsus, most of inner side of hindbasitarsus; tegula yellow to brown; red on apex of tergum I, all of II and part or all of III, sternum II and part or all of III.

BIOLOGY: Unknown.

DISTRIBUTION: New Jersey, New York, Connecticut, Massachusetts, Vermont, New Hampshire, Maine, Nova Scotia, Prince Edward Island, New Brunswick,

Quebec, Ontario, Michigan, Minnesota, Manitoba, Wyoming, Saskatchewan, Alberta, North West Territories.

Map 4 116 males 113 females

Mimesa maculipes Fox
(Figs. 55, 88, 118, 150, 185, 218, 250, 283, 315, 348)

Mimesa maculipes Fox, 1893:117.
Psen (Mimesa) nigrescens Rohwer, 1910b:168.
Psen (Mimesa) perplexa Rohwer, 1910b:169.

DIAGNOSIS: Abdomen black or almost so; propodeum coarsely rugosoreticulate; scutum, scutellum, mesopleuron and vertex shining, without microsculpture.

DESCRIPTION: Male

Length: 6.0-8.0 mm.

Head: Flagellomeres II-VII or VIII with broad oval tyli; penultimate flagellomere wider than long; OOD greater than POD; vertex shining, without microsculpture, punctures up to 4 diameters apart; POA not tumid; posterior declivity without microstriae; gena usually striate to dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum without microsculpture, punctures small, sparse, up to 7 diameters apart in some specimens; scutellum without microsculpture, punctures up to 4 diameters apart; mesopleuron without microsculpture, punctures up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area coarsely striate; pubescence of mesopleuron and hypoepimeral area sparse, sculpture not obscured; tegula finely punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present basally.

Propodeum: Enclosure well defined, lateral spheres coarsely rugosoreticulate.

Abdomen: Petiole shorter than first tergum, convex, dorsolateral sulcus, carina and ventrolateral carina well developed; apical tergum finely and closely punctate.

Color: Yellow on underside of flagellum, apex or apical half of forefemur, foretibia, midtibia entirely or in part, hindtibia entirely or at joints, fore, mid and hindtarsi in whole or in part, tegula; red

occasionally on lateral edges of first tergum.

Female

Length: 7.0-11.0 mm.

Head: Penultimate flagellomere wider than long; clypeus shining, without microsculpture, punctures less than 1/2 diameter apart; apical margin with 4 broadly rounded teeth, the median pair separated by a wide emargination; preapical tumidity absent to poorly developed; facial pubescence very dense ventrally from just above antennal sockets, obscuring sculpture, pubescence silver to bright orange-gold; OOD greater than POD; vertex shining, without microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; gena with striae not reaching dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum without or with very weak microsculpture, punctures up to 5 diameters apart; scutellum shining, without microsculpture, punctures up to 4 diameters apart; mesopleuron without microsculpture, punctures small, up to 4 diameters apart; without striae ventral to hypoepimeral area; hypoepimeral area coarsely striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula finely punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present basally.

Propodeum: Enclosure well defined by a carina, lateral spheres coarsely rugosoreticulate.

Abdomen: Petiole shorter than first tergum, convex, dorsolateral sulcus, carina and ventrolateral carina well developed.

Color: Yellow on underside of flagellum, foretibia entirely or on inner side, fore and midtarsi, hindtarsus ventrally; light brown on tegula; red occasionally on lateral edges of first tergum.

BIOLOGY: One male specimen from Virginia was collected on *Ceanothus*.

DISTRIBUTION: Florida, North Carolina, Virginia, Maryland, New Jersey, New York, Massachusetts, New Hampshire, Quebec, Ontario, Michigan.

Map 8 17 males 9 females

Mimesa pauper Packard
(Figs. 3, 58, 90, 120, 153, 188, 220, 253, 285, 318, 350)

Mimesa pauper Packard, 1867:409.
Mimesa cingulata Packard, 1867:410.

DIAGNOSIS: Male; flagellum yellow beneath, except basal flagellomere, with broad oval tyli; penultimate flagellomere wider than long; propodeum coarsely sculptured, rugosoreticulate; petiole shorter than first tergum; midtibia extensively yellow; tergum II with red.

Female; flagellum except basal flagellomere yellow beneath; penultimate flagellomere wider than long; tergum III usually black; vertex without microstriae; propodeal sculpture moderately coarse rugosoreticulate posterolaterally, enclosure defined by a carina; petiole shorter than tergum I, convex; hypoepimeral area striate.

DESCRIPTION: Male

Length: 4.5-7.0 mm.

Head: Flagellomeres II-V or VI with broad oval tyli, penultimate flagellomere wider than long; OOD greater than POD; vertex with very weak microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; gena striate to or almost to dorsolateral area of head; occipital carina complete, usually to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with at least weak microsculpture, punctures up to 3 diameters apart; scutellum with or without microsculpture, punctures up to 3 diameters apart; mesopleuron usually with microsculpture, punctures up to 3 diameters apart, usually with striae ventral to hypoepimeral area; hypoepimeral area usually coarsely striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula very finely punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present basally.

Propodeum: Enclosure usually well defined by a carina, adjacent area usually coarsely rugosoreticulate but may be striate, posterolateral areas coarsely rugosoreticulate.

Abdomen: Petiole shorter than first tergum, convex, dorsolateral carina, sulcus and ventrolateral carina usually well developed; apical tergum very finely punctate.

Color: Yellow on underside of at least flagellomeres IV-XI,

usually I or II-XI, apex of forefemur, fore and usually all of midtibia, fore and midtarsus, hindtibia basally and apically, hindtarsus entirely or at joints of tarsomeres, tegula; light brown sometimes on tegula; red on apex of tergum I, part or all of II, occasionally III basally and occasionally VI apically, sternum II and occasionally III, V and VI.

Female

Length: 5.0-8.0 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture at least medially, punctures up to 2 diameters apart, apical margin with 4 broadly rounded poorly developed teeth, preapical tumidity present to absent, if present then broad almost reaching lateral teeth; facial pubescence moderately dense ventrally from just above antennal sockets, partially obscuring sculpture; OOD greater than POD; vertex with at least weak microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; occipital carina complete but not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with or without microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 2 diameters apart, usually with several striae ventral to hypoepimeral area; hypoepimeral area coarsely striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula very finely punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa absent or present only at extreme base.

Propodeum: Enclosure well defined by a strong carina, adjacent area either coarsely striate or more often coarsely rugosoreticulate, lateral spheres coarsely rugosoreticulate.

Abdomen: Petiole shorter than tergum I, convex, dorsolateral sulcus, carina and ventrolateral carina well developed.

Color: Yellow on underside of flagellomeres II-X, foretibia occasionally on inner side, joints of mid and hindtibia, often apical tarsomeres, tegula; light to dark brown occasionally on tegula; red on apex of tergum I, part or all of II and sometimes part or rarely all of III, sternum II, part or all of III and sometimes IV.

BIOLOGY: A hypopus of a phoretic mite, *Kuzinia* (Acaridae), was taken from the eye of a male collected in Colebrook, Connecticut.

Floral records from the material examined included one female from New York on *Daucus carota* Linnaeus (Umbelliferae), one male from Vermont on *Spiraea latifolia* (Aiton) (Rosaceae) and one female from North Dakota on *Solidago canadensis* Linnaeus (Compositae).

DISTRIBUTION: Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Maine, New Hampshire, Vermont, Massachuesetts, Connecticut, New York, New Jersey, Pennsylvania, Maryland, North Carolina, Michigan, Illinois, Wisconsin, Ontario, Minnesota, Manitoba, North Dakota, South Dakota, Wyoming, Montana, Saskatchewan, Alberta, North West Territories, British Columbia, Washington, California.

Map 3 275 males 181 females

Mimesa proxima Cresson
(Figs. 59, 91, 121, 154, 189, 221, 254, 286, 319, 351)

Mimesa proxima Cresson, 1865b:488.

DIAGNOSIS: Male; mesopleuron with very coarse microsculpture (granular) between close relatively large punctures; propodeum finely sculptured; flagellum yellow beneath, tyli broad, oval; petiole shorter than first tergum; tergum III red.

Female; mesopleuron with coarse microsculpture (granular) between relatively large punctures; hypoepimeral area granular with evanescent striae; petiole shorter than first tergum; preapical tumidity of clypeus undeveloped; propodeum finely sculptured.

DESCRIPTION: Male

Length: 6 mm.

Head: Flagellomeres I-III with broad oval tyli, IV and V with more linear tyli; penultimate flagellomere wider than long; OOD less than POD; vertex with microsculpture, punctures up to 2 diameters apart; POA very slightly tumid; posterior declivity with microstriae; gena striate to vertex; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 3 diameters apart; mesopleuron with coarse microsculpture (granular), punctures, relative to other species, large, up to 2 diameters apart, without striae ventral to hypoepimeral area;

hypoepimeral area with coarse microsculpture; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing yellow-white at base; inner ventral carina of hindcoxa well developed from base to apex.

Propodeum: Enclosure defined by a fine carina, adjacent area finely striate, lateral spheres finely rugosoreticulate.

Abdomen: Petiole shorter than first tergum, somewhat rounded, dorsolateral sulcus absent, dorsolateral carina very weak, ventrolateral carina present apically; apical tergum finely punctate.

Color: Yellow on underside of flagellum, forefemur apically, foretibia, foretarsus and tegula; red on apex of tergum I, all of II, III and laterally on IV, sternum II, III and basally on IV.

Female

Length: 7 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture, punctures relative to other species large medially, up to 2 diameters apart; apical edge of clypeus with a lobe-like projection of 4 very broad weak teeth separated by slight emarginations; preapical tumidity evanescent; facial pubescence dense ventrally from just above antennal sockets, obscuring sculpture; OOD less than POD; vertex with microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; gena striate to vertex; occipital carina complete, reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 4 diameters apart; mesopleuron with coarse microsculpture (granular), punctures up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area irregularly densely punctatostriate with coarse microsculpture giving a coarsely granular or striatogranular appearance; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture (all specimens examined may have been worn and without pubescence); tegula punctate anteriorly and on inner side; costa of forewing yellow-white at base; inner ventral carina of hindcoxa present on basal half.

Propodeum: Enclosure not defined by a carina, adjacent area finely striate becoming irregularly striate or finely rugosoreticulate on lateral spheres.

Abdomen: Petiole shorter than tergum I, round, dorsolateral sulcus absent, dorsolateral carina and ventrolateral carina absent or evanescent.

Color: Yellow on underside of flagellomeres II-X; brown on tegula and legs; red on apical third of tergum I, all of II, III and IV, sternum II, III and IV.

BIOLOGY: Unknown.

DISTRIBUTION: Wyoming, Colorado, New Mexico.

Map 7 2 males 5 females

Mimesa tequila New Species
(Figs. 19, 67, 162, 197, 262, 327)

DIAGNOSIS: Male; scutum, scutellum, mesopleuron and vertex shining, without microsculpture; gena shining with striae greatly reduced, irregular and intermittent; petiole shorter than first tergum; abdomen with red.

Female; unknown.

DESCRIPTION: Male

Length: 8 mm.

Head: Flagellomeres II-VI with oval tyli (tyli were absent on one specimen from Riverside, California), penultimate flagellomere wider than long; OOD greater than POD (equal in one specimen); vertex without microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity often with evanescent microstriae; gena with striae greatly reduced, irregular and intermittent; occipital carina complete, not meeting hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum without microsculpture, punctures up to 2 diameters apart; scutellum without microsculpture, punctures up to 3 diameters apart; mesopleuron without microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area very thin, not obscuring sculpture; tegula finely punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa well developed.

Propodeum: Enclosure defined by a carina, adjacent area with fine irregular striae becoming finely rugosoreticulate on lateral spheres.

Abdomen: Petiole shorter than tergum I, somewhat rounded, dorso-

lateral sulcus, carina and ventrolateral carina poorly developed; apical tergum with moderately fine punctation.

Color: Yellow on underside of flagellum, foretibia at least on inner side, foretarsus, midtibia at joints and occasionally midtarsus; light brown on tegula; red on apex of tergum I, all of II and part or all of III, sternum II and part or all of III.

Female

Unknown.

BIOLOGY: Unknown.

DISTRIBUTION: California.

HOLOTYPE: ♂ UCD. California, Alameda Co., Oakland 27-V-1953, C.D. MacNeill.

PARATYPES: 4 specimens.

California: Alameda Co., Oakland 27-V-1953, C.D. MacNeill 1 ♂ CNC.
Lake Co., n. fork, Cache Crk., Hwy.20, 14-V-1961, M.E. Irwin 1 ♂ UCD.
Yoho Co., Putah Canyon 30-IV-1963, F.D. Parker 1 ♂ UCD.
Riverside Timberlake 1 ♂ UCR.

Map 5 5 males

MIMESA GRANULOSA GROUP

Apical tergum of males coarsely punctate.

Mimesa cahuilla New Species
(Figs. 17, 30, 39, 74, 104, 134, 169, 204, 234, 269, 299, 334)

DIAGNOSIS: Male; apical tergum with punctures as large or larger than those of scutum; tegula punctate at least on inner side.

Female; costa of forewing white at base; clypeus with a prominent subtriangular tumidity; posterior ocelli more than one ocellus diameter from posterior declivity of vertex.

DESCRIPTION: Male

Length: 6.0-10.0 mm.

Head: Flagellomeres III and IV occasionally with evanescent broad low tyli, penultimate flagellomere wider than long; OOD subequal to POD;

vertex usually without microsculpture, if present then very weak, punctures large, up to 2 diameters apart; POA very slightly tumid, without microstriae; posterior ocelli about one ocellus diameter from posterior declivity of vertex; gena usually striate to dorsolateral angles of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded laterally, lateral area with vertical striae well developed or not; scutum without or with very weak microsculpture, punctures up to 3 diameters apart; scutellum without microsculpture, punctures up to 4 diameters apart; mesopleuron with or without microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area irregularly striatopunctate to striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula usually with many large punctures but sometimes with only a few on inner half; costa of forewing white on basal half; inner ventral carina of hindcoxa present but weak.

Propodeum: Enclosure poorly defined, sculpture on lateral spheres irregular, finely striate becoming somewhat rugosoreticulate posterolaterally, pubescence not obscuring sculpture.

Abdomen: Petiole shorter than first tergum, rounded, dorsolateral sulcus absent, dorsolateral carina and ventrolateral carina absent to evanescent; apical tergum coarsely punctate, punctures as large or larger than those of scutum.

Color; Yellow on underside of flagellum, usually all of foretibia and tarsus, midtibia and hindtibia at joints; brown on tegula; red on apex of tergum I, part or all of II, at most all of III and IV laterally, sternum II in whole or in part and at most all of III.

Female

Length: 6.0-10.5 mm.

Head: Penultimate flagellomere wider than long; clypeus with microsculpture, punctures up to one diameter apart; apical edge of clypeus with 4 teeth, median pair broadly rounded, lateral pair more acute; preapical tumidity a very prominent subtriangular projection but not reaching lateral teeth; facial pubescence dense ventrally from midocellus obscuring sculpture; OOD subequal (slightly greater) to POD; vertex with very weak microsculpture, punctures up to 2 diameters apart; POA broadly tumid, without microstriae; posterior ocelli more than one ocellus diameter from posterior declivity; striae of gena not reaching vertex; occipital carina complete to or almost

to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area often with coarse vertical striae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with weak microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures small, up to 2 diameters apart medially, without striae ventral to hypoepimeral area; hypoepimeral area finely striatogranular to moderately striate; pubescence of mesopleuron and hypoepimeral area, thin, not obscuring sculpture; tegula with at least a few punctures on inner half; costa of forewing white on basal half; inner ventral carina of hindcoxa present on basal half.

Propodeum: Enclosure not or poorly defined; lateral spheres striate, pubescence thin, not, or only partially obscuring sculpture.

Abdomen: Petiole shorter than tergum I, rounded, all sulci and carinae absent or evanescent.

Color: Yellow on underside of flagellum, inner side of foretibia, foretarsus; brown on tegula; red on apex of tergum I, all of II, part or all of III and at most all of IV, sternum II, part or all of III and at most all of IV.

BIOLOGY: Floral records from the material examined included *Helianthus* (Compositae) and *Eriogonum* (Polygonaceae).

DISTRIBUTION: California; Mexico: Sonora.

HOLOTYPE: ♂ UCB. California, Marin Co., Pt. Reyes Nat. Seashore, n. bch. 4-VI-1977, Powell. Collected on sandstone alluvium above beach 1000-1030 PDT.

ALLOTYPE: ♀ UCB. Same data as holotype.

PARATYPES: 216 specimens.

California:	Claremont, Baker	26 ♂♂ 10 ♀♀ UCD.
		1 ♂ CNC.
		1 ♂ CUM.
	Lobos Creek, San Francisco 16-V-1960, J. Powell	2 ♂♂ UCD.
	Santa Maria, 22 mi. e. 20-VI-1952, R.H. & L.D. Beamer, C. Weiner, A. Wolf, C. Liang, W. LaBerge	1 ♂ SEM.
	Santa Maria, 38 mi. e. 20-VI-1952, R.H. & L.D. Beamer, C. Weiner, A. Wolf, C. Liang, W. LaBerge	11 ♂♂ 3 ♀♀ SEM.
	Riverside 7-V-1926, Timberlake	1 ♂ UCR.
	2-VI-1926, Timberlake	1 ♀ UCR.

California: Riverside 30-IV-1928, Timberlake 1 ♂ UCR.
12-V-1930, Timberlake 1 ♂ UCR.
19-IV-1932, Timberlake 1 ♀ UCR.
1950, Timberlake 1 ♀ UCR.
Laguna Mts. 7-6-1929, R.H. Beamer 1 ♂ SEM.
San Francisco, Marine Hospital 11-V-1960, J. Powell 2 ♂♂ UCD.
Sacramento 16-V-1961, R.M. Bohart 1 ♂ UCD.
16-V-1961, F.D. Parker 1 ♀ UCD.
19-V-1961, F.D. Parker 2 ♂♂ 1 ♀ UCD.
24-V-1961, F.D. Parker 2 ♀♀ UCD.
29-V-1963, F.D. Parker 5 ♂♂ 2 ♀♀ UCD.
Red Mountain 16-V-1955, J.E.H. Martin 1 ♂ 1 ♀ CNC.
Verdemont 22-V-1945, A.L. Melander 1 ♂ UCR.
25-V-1945, A.L. Melander 1 ♀ UCR.
Mira Loma 29-VI-1952, R.H. & L.D. Beamer, W. LaBerge, A. Wolf, C. Liang, C. Weiner 1 ♀ SEM.
Ballona Wetlands nr. Playa Del Rey 8-V-1981, R.R. Snelling 1 ♀ LACNHM.
8-V-1981, C. Nagano 1 ♀ LACNHM.
23-V-1981, C. Nagano 1 ♂ LACNHM.
9-VI-1981, R.R. Snelling 2 ♂♂ LACNHM.
Monterey 19-V-1964, F.D. Parker 1 ♀ UCD.
Pine Meadow 9-IX-1959, Timberlake 1 ♀ UCR.
Los Angeles 9-VI-1917, R. May 1 ♀ LACNHM.
Morro Dunes 6/9/45, A.L. Melander 1 ♀ UCR.
Santa Barbara Co.: Goleta 22-VI-1959, P.E. Paige 1 ♂ UCD.
Goleta 23-VI-1959, F.D. Parker 1 ♂ UCD.
26-VI-1965, M.R. Gardner 1 ♂ UCD.
10-VII-1965, M.R. Gardner 1 ♀ UCD.
17-VII-1965, M.R. Gardner 2 ♂♂ UCD.
J.S. Buckett 1 ♂ UCD.
J. Powell 1 ♀ UCD.
Zaca Pk. 4300', 3 mi. se. 1-VII-1965, J.S. Huckell 1 ♂ UCD.
Los Prietos, 4 mi. e. 20-VI-1965, J.S. Buckett 1 ♀ UCD.
25-VI-1965, J. Powell 1 ♀ UCD.

California:

Santa Barbara Co.: Sta. Cruz Is., Christi Beach 5-V-1968, M.E. Irwin 1 ♀ UCR.

Ventura Co.: Point Mugu N.A.S., Mugu Lagoon 5-VI-1979, C.D. Nagano 6 ♂♂ LACNHM.

San Nicolas Is. 13-IV-1940, C. Henne 1 ♂ LACNHM.
16-IV-1940, C. Henne 1 ♀ LACNHM.
17-IV-1940, C. Henne 1 ♀ LACNHM.
18-IV-1940, C. Henne 3 ♂♂ 3 ♀♀ LACNHM.
19-IV-1940, C. Henne 1 ♂ 2 ♀♀ LACNHM.

Tapo Canyon, Santa Susana 3-V-1964, M.E. Irwin 1 ♂ UCR.

Monterey Co.: Soledad 15-V-1973, C. Goodpasture 6 ♂♂ 1 ♀ UCD.
R.M. Bohart 1 ♀ UCD.

Marin Co.: Pt. Reyes Nat. Seashore, n. bch. 4-VI-1977, Powell
Collected on sandstone alluvium above beach 1000-1030 PDT
31 ♂♂ UCB.
2 ♂♂ USNM.
2 ♂♂ LEM.
2 ♂♂ CNC.

Los Angeles Co.: El Segundo 17-VII-1965, J. Powell 1 ♂ UCB.
Liano 2-VII-1958, J.C. Hall 1 ♂ UCD.
Lancaster, 5 mi. s. 15-V-1956, E.G. Linsley, J.W. MacSwain 1 ♂ 2 ♀♀ UCD.
Long Beach 26-VII-1968, R.J. Hamton 1 ♀ LACNHM.

Contra Costa Co.: Antioch 6-8-1933 1 ♂ MCZ.
15-IX-1935 1 ♂ MCZ.
IX-1936 1 ♂ UCR.
9-VIII-1947, U.N. Lanham 1 ♂ KVK.
12-X-1947, U.N. Lanham 1 ♀ KVK.
19-X-1947, U.N. Lanham 1 ♀ KVK.

Orange Co.: 14-VII-1929, R.H. Beamer 1 ♂ SEM.
Balboals 29-IV-1917, R. May 1 ♂ LACNHM.

San Bernadino Co.: Apple Valley 9-V-1955, J.E.H. Martin 1 ♂ CNC.
9-V-1958, P.D. Hurd 2 ♂♂ UCD.
Cajon Jct. 5-VIII-1963, E.I. Schlinger 1 ♂ UCR.
Colton 27-IV-1975, J.C. & E.M. Hall 2 ♂♂ UCR.
Hesperia 18-V-1958, J.F. Freeman 1 ♂ UCR.

California:

San Bernadino Co.: Mentone 22-V-1955, H.S. McGill 1 ♀ UCR.
Riverside Co.: Temecula 24-IV-1951, W.J. Wall 1 ♂ UCD.
Mira Loma, 1 mi. n. 16-V-1965, M.E. Irwin 3 ♂♂ UCR.
20-VI-1967, M.E. Irwin 2 ♂♂ UCR.
Garner Valley, 3 mi. e. L. Hemet 28-VIII-1965, M.E. Irwin 1 ♀ UCR.
San Diego Co.: Julian 19-VI-1962, J.A. Froebe 1 ♀ UCD.
Point Loma VII-1952 1 ♀ SDNHM.
Pala 10-VI-1965, J.C. Hall 1 ♀ UCR.
Aguanga, 10 mi. w. 2-IV-1962, E.I. Schlinger 1 ♀ UCR.
Fallbrook, Santa Margarita Riv. 19-V-1936 1 ♀ SDNHM.
San Luis Obispo Co.: Oceano 26-VI-1966, D.R. Miller 1 ♀ UCD.
Dunes Lakes, 7 mi. s. Oceano 4-5-VI-1971, J.D. Pinto 1 ♀ UCR.
Shandon, 7 mi. s. 24-IV-1960, J.W. MacSwain 1 ♀ UCD.
Morro Bay 30-IV-1962, R.L. Langston 1 ♀ UCD.
San Mateo Co.: San Bruno Mts. 5-V-1961, J. Powell 1 ♀ UCD.
Sacramento Co.: Grand Is. sand dunes nr. Isleton 2-V-1963, J.E. Slansky 1 ♀ UCD.
Humboldt Co.: Weott 16-VII-1969, J.W. Pearson 1 ♀ UCD.
San Benito Co.: San Benito Riv. & U.S. 101 23-VI-1967, M.E. Irwin 2 ♀♀ UCR.
Kern Co.: Red Rock Cyn. 2-V-1928, J. Doyen 1 ♀ UCB.

Mexico:

Sonora: Punta Piedra, 30 mi. n. Ensenada 1-IX-1965, S.I. & S.L. Frommer 1 ♀ UCR.

Map 12 155 males 70 females

Mimesa coquilletti (Rohwer)

(Figs. 16, 24, 31, 42, 76, 106, 137, 172, 206, 237, 271, 302, 336)

Psen (*Mimesa*) *coquilletti* Rohwer, 1910a:103.

DIAGNOSIS: Male; apical tergum with punctures as large or larger than those of scutum; tegula impunctate or almost so; wings usually milky white transparent.

Female; costa of forewing white; clypeus with a prominent preapical subtriangular tumidity; posterior ocelli within one ocellus diameter or less of posterior declivity.

DESCRIPTION: Male

Length: 6.0-8.5 mm.

Head: Flagellomeres II-IV with very obscure broad low tyli, penultimate flagellomere wider than long; OOD less than POD; vertex with or without microsculpture, punctures up to 3 diameters apart; POA usually with a small tumidity; posterior ocelli within one ocellus diameter or less of posterior declivity; gena striate to dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotum with lateral angles rounded, lateral area with moderate to weak vertical striae; scutum shining or with weak microsculpture, punctures up to 4 diameters apart; scutellum shining or with weak microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area granular with fine somewhat irregular striae; mesopleuron and hypoepimeral area with thin outstanding pubescence, sculpture clearly visible; tegula impunctate or very nearly so; costa of forewing white; wings usually translucent milky white; inner ventral carina of hindcoxa present and complete.

Propodeum: Enclosure not or poorly defined, lateral spheres with fine usually regular parallel striae becoming finely rugosoreticulate posterolaterally; pubescence thin on posterolateral areas, partially obscuring sculpture.

Abdomen: Petiole shorter than tergum I, somewhat rounded, dorsolateral sulcus absent, dorsolateral carina and ventrolateral carina absent to evanescent; apical tergum with large usually contiguous punctures, larger than those of scutum.

Color: Yellow on underside of flagellum, foretibia occasionally at joints; light brown on tegula; red on apex of tergum I, some or all of II and at most all of III, sternum II in whole or in part and at most all of III.

Female

Length: 6.5-9.0 mm.

Head: Penultimate flagellomere wider than long; clypeus shining

medially, with microsculpture elsewhere, punctures fine up to 3 diameters apart medially; apical edge of clypeus with 4 teeth, median pair broadly rounded and closely approximated, lateral teeth acute, widely separated; preapical tumidity prominent, subtriangular, but not extending to lateral teeth; facial pubescence dense ventrally from median ocellus; OOD less than POD; vertex with weak microsculpture, punctures up to 4 diameters apart; POA with a small tumidity; posterior ocelli within one ocellus diameter or less of posterior declivity; gena with striae not reaching dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with several to many somewhat irregular vertical striae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area with coarse microsculpture, obscure punctures and evanescent striae; pubescence of mesopleuron and hypoepimeral area thin, partially obscuring sculpture; tegula impunctate or nearly so; costa of forewing white; inner ventral carina of hindcoxa present on basal half.

Propodeum: Enclosure poorly defined, lateral spheres striate and partially obscured by pubescence.

Abdomen: Petiole shorter than tergum I, somewhat rounded, dorsolateral sulcus absent, dorsolateral carina absent to evanescent, ventrolateral carina present or absent.

Color: Yellow on underside of flagellum, inner side of foretibia; light brown on tegula; red on apex of tergum I, all of II and part or all of III, sternum II and III.

BIOLOGY: One specimen from the material examined was collected on *Cleome* (Capparidaceae).

DISTRIBUTION: California, Arizona, Nevada, Utah, New Mexico.

Map 11 78 males 61 females

Mimesa granulosa (Fox)

(Figs. 49, 83, 113, 144, 179, 213, 244, 278, 309, 343)

Psen granulosus Fox, 1898:15.

DIAGNOSIS: Male; abdomen black, costa of forewing white.

Female; hypoepimeral area granular; costa of forewing white; preapical tumidity of clypeus absent or greatly reduced.

DESCRIPTION: Male

Length: 5.0-7.0 mm.

Head: Flagellomeres without tyli or at most an obscure angulation on flagellomeres II and III, penultimate flagellomere wider than long; OOD equal to POD; vertex with weak microsculpture, punctures up to 3 diameters apart; POA flat without microstriae; gena striate to dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area granular with irregular microstriae; scutum with microsculpture, punctures 1-3 diameters apart; scutellum with microsculpture, punctures 2-4 diameters apart medially; mesopleuron with microsculpture, punctures 1-2 diameters apart, without striae ventral to hyopepimeral area and obscured by dense appressed pubescence; hypoepimeral area granular to finely striate, sculpture visible beneath pubescence; tegula punctate on inner side; costa of forewing white; inner ventral carina of hindcoxa absent or present at extreme base.

Propodeum: Enclosure poorly defined, finely striate but somewhat rugosoreticulate posterolaterally on spheres which are obscured by dense pubescence.

Abdomen: Petiole shorter than tergum I, round, all carinae and sulci absent; apical tergum with punctures about as large as those of scutum.

Color: Yellow on underside of flagellum, inner side of foretibia and sometimes ranging to inner side of forefemur and all tibiae and tarsi; brown on tegula; red occasionally on extreme lateral edges of tergum I and II.

Female

Length: 7.0-8.0 mm.

Head: Penultimate flagellomere wider than long; clypeus shining apically, weak microsculpture over most of surface, punctures up to 3 diameters apart medially; apical edge of clypeus with a median emargination and 2 widely separated weak lateral teeth; preapical tumidity usually absent but if present then small, confined to median area and not approaching lateral teeth; facial pubescence ventral to median ocellus moderately dense; OOD equal to POD; vertex with microsculpture, punctures up to 4 diameters apart; POA not tumid, without microstriae; gena striate to dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area granular with some striae or microstriae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 4 diameters apart medially; mesopleuron with microsculpture, punctures up to 3 diameters apart, with only thin appressed pubescence and without striae ventral to hypoepimeral area; hypoepimeral area granular and at most very finely striate; tegula with a few punctures on inner side; costa of forewing white; inner ventral carina of hindcoxa present at extreme base.

Propodeum: Enclosure poorly defined, adjacent area striate, spheres becoming granular laterally.

Abdomen: Petiole shorter than tergum I, round, sulci absent, carinae absent to evanescent.

Color: Yellow on underside of flagellum, except occasionally basal flagellomere, foretibia and tarsus variable to completely black; brown on tegula; red on apex of tergum I, all of II and III, sternum II and usually III.

BIOLOGY: Unknown.

DISTRIBUTION: North Dakota, Wyoming, Nebraska, Colorado, Utah, New Mexico.

Map 10 10 males 5 females

Mimesa miwoka New Species
(Figs. 57, 152, 187, 252, 317)

DIAGNOSIS: Male; mesopleuron shining with very weak microsculpture and large punctures relative to other species; petiole shorter than first tergum, somewhat rounded; flagellum yellow beneath, tyli not well developed, broadly linear on flagellomeres II-IV; costa of forewing white at base; tegula coarsely but sparsely punctured; apical tergum was absent on single observed specimen but it may be coarsely punctate.

Female; unknown.

DESCRIPTION: Male

Length: 6 mm, probably 7.5 mm since apical 2 terga were absent.

Head: Flagellomeres II-IV with low broadly linear, poorly developed tyli, penultimate flagellomere wider than long; OOD less than POD; vertex shining without microsculpture, coarsely punctate, punctatostriate on ocellar triangle, punctures up to 2 diameters apart; POA very slightly tumid;

posterior declivity without microstriae; gena striate to dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum without microsculpture, punctures up to 4 diameters apart; scutellum without microsculpture, punctures up to 4 diameters apart; mesopleuron shining with very fine microsculpture, punctures large relative to those of scutum, scutellum and other species, up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area very thin, not obscuring sculpture; tegula with large scattered punctures; costa of forewing at base white; inner ventral carina of hindcoxa well developed from base to apex.

Propodeum: Enclosure undefined by a carina, adjacent area striate becoming rugosoreticulate on lateral spheres.

Abdomen: Petiole shorter than tergum I, rounded, dorsolateral sulcus absent, dorsolateral and ventrolateral carinae evanescent; apical tergum absent from single known specimen but may be coarsely punctate since this species appears closely related to *M. cahuilla*.

Color: Yellow on underside of flagellomeres II-XI and I apically, foretibia at joints particularly on inner side; brown on tegula; red on apex of tergum I, all of II and base of III, sternum II and base of III.

Female

Unknown.

BIOLOGY: Unknown.

DISTRIBUTION: California.

HOLOTYPE: ♂ UCD. California, Sacramento 29-V-1963, F.D. Parker.

Map 14 1 male

Mimesa pygidialis (Malloch)

(Figs. 33, 61, 93, 123, 156, 191, 223, 256, 288, 321, 353)

Psen (*Mimesa*) *pygidialis* Malloch, 1933:39.

DIAGNOSIS: Male; tergum VI with lateral carinae on apical 1/4 or less simulating a small pygidial plate; tergum VI with punctures as large or larger than those of scutum.

Female; hypoepimeral area granular; petiole as long or longer

than tergum I; propodeum with sculpturing adjacent to enclosure; costa of forewing brown to yellow-brown; pronotum laterally without coarse vertical striae.

DESCRIPTION: Male

Length: 7.0-9.0 mm.

Head: Flagellomeres II-IV with broad, oval, very low tyli (tyli are very slightly elevated and distinguished primarily on the basis of their deeper orange color); penultimate flagellomere wider than long; OOD equal to POD; vertex with faint microsculpture, punctures 1-2 diameters apart; POA flat without microstriae; gena striate almost to dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area usually with several oblique striae; scutum with fine microsculpture, punctures up to 3 diameters apart; scutellum without microsculpture, punctures up to 3 diameters apart; mesopleuron with weak microsculpture, punctures about 2 diameters apart, with several irregular striae ventral to hypoepimeral area; hypoepimeral area finely striate to finely striatogranular; mesopleuron and hypoepimeral area obscured by dense appressed pubescence; tegula with some punctures on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure not defined by a distinct carina, adjacent area usually finely striate becoming moderately rugosoreticulate laterally and posteriorly; in one specimen from Illinois the area adjacent to enclosure is coarsely granular without macrosculpture, but not at all shining.

Abdomen: Petiole usually longer than first tergum (sometimes slightly shorter), evenly convex without dorsolateral sulci, dorsolateral carina and ventrolateral carina present; apical tergum usually carinate laterally for apical 1/4 or less and with punctures as large or larger than those of scutum.

Color: Yellow on underside of flagellum, tibiae, tarsi and fore-femur apically; brown on tegula and hindtibia apically; red on apex of tergum I, II and all or most of III, sternum II and at most all of III.

Female

Length: 8.5-11.0 mm.

Head: Penultimate flagellomere wider than long; clypeus with weak

microsculpture, punctures up to 2 diameters apart, apical edge emarginate medially with a truncate lateral tooth, preapical tumidity present or absent, if present then tending toward a bituberculate tumidity; face ventrally from a point midway between antennal sockets and median ocellus with dense appressed pubescence; OOD equal to POD; vertex with very fine microsculpture, punctures up to 3 diameters apart, usually much closer; POA not tumid and without microstriae; striae of gena not reaching dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with several oblique striae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum without microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area very finely striatogranular; mesopleuron and hypoepimeral area with dense appressed pubescence; tegula punctate on inner side; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure not defined by a carina, posterolateral areas striate to granular near metapleuron.

Abdomen: Petiole usually longer than tergum I, sometimes slightly shorter, evenly convex without dorsolateral sulci, dorsolateral and ventrolateral carinae present.

Color: Yellow on underside of flagellum, except first flagellomere, foretarsus, inner side of foretibia; brown on tegula and midtarsus; red on apex of tergum I, II and most or all of III, sternum II and most or all of III.

BIOLOGY: A larva of the mite *Suidasia medanensis* Oudemans (Acaridae) was taken from the scutellum of a female wasp collected from Mason Co., Illinois. This mite, according to correspondance with Dr. E.E. Lindquist of the Biosystematics Research Institute in Ottawa, is probably an artifical association since larvae of these mites are not phoretic but are found infesting stored proteinaceous materials including pinned insects.

DISTRIBUTION: Michigan, Illinois, Wisconsin, Manitoba, Saskatchewan.

Map 9 22 males 32 females

Mimesa serrano New Species

(Figs. 23, 28, 34, 64, 96, 126, 159, 194, 226, 259, 291, 324, 356)

DIAGNOSIS: Male; basal four flagellomeres black beneath; vertex including posterior declivity, densely microstriate; pronotum laterally with coarse vertical striae.

Female; pronotal collar laterally with coarse vertical striae; clypeus without a prominent preapical tumidity.

DESCRIPTION: Male

Length: 6.0-8.0 mm.

Head: Flagellomeres II-IV with evanescent somewhat linear tyli, penultimate flagellomere wider than long; OOD greater than POD; vertex with microsculpture, punctures less than one diameter apart; posterior declivity of vertex densely microstriate; POA not tumid; posterior ocelli about one ocellus diameter or less from posterior declivity; gena striate to vertex and continuous with microstriae of vertex; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with coarse vertical striae; scutum with microsculpture, punctures up to 4 diameters apart; scutellum without or with weak microsculpture, punctures up to 6 diameters apart; mesopleuron with microsculpture, punctures weak, up to one diameter apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, sculpture not obscured; tegula often appearing impunctate but with fine punctures on inner half; costa of forewing yellow at base; inner ventral carina of hindcoxa present basally.

Propodeum: Enclosure poorly defined, adjacent area striate becoming rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than first tergum, convex without dorsolateral sulci, dorsolateral carina absent or evanescent, ventrolateral carina present; apical tergum with punctures about equal to or smaller than those of scutum.

Color: Yellow on underside of at most apical 7 flagellomeres (often completely black), fore, mid, and hindtibiae at joints; light brown on tegula; red on apex of tergum I, part or all of II, sternum II.

Female

Length: 6.0-9.5 mm.

Head: Penultimate flagellomere wider than long; clypeus with fine microsculpture over most of its surface; apical margin with a median lobe

bearing 2 broadly rounded teeth which protrude further ventrally than the small lateral teeth; preapical tumidity reduced, bituberculate and extending almost to lateral teeth; facial pubescence thin, not obscuring sculpture; OOD greater than POD; vertex with microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity without microstriae; posterior ocelli more than one ocellus diameter from posterior declivity; striae of gena not reaching dorsolateral area of head; occipital carina complete but not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with coarse vertical striae; scutum with microsculpture, punctures up to 4 diameters apart; scutellum shining, often with weak microsculpture, punctures up to 6 diameters apart; mesopleuron with microsculpture, punctures up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area very finely striatogranular; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula usually with a few punctures on inner half; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure undefined, lateral spheres with parallel, regular striae, area near metapleuron with microsculpture only.

Abdomen: Petiole shorter than tergum I, evenly convex, dorsolateral sulci absent, dorsolateral carina absent to evanescent, ventrolateral carina present.

Color: Yellow on underside of flagellomeres II-X; light brown on tegula; red on apex of tergum I, all of II and part or all of III, sternum II and part or all of III.

BIOLOGY: An adult female scutacarid mite (*Imparipes* sp.) was taken from the propodeal apex above the petiole insertion on a male wasp from Giant Forest, California. This mite may have a parasitic association with this species.

One specimen from the material examined included the floral record *Euphorbia serpyllifolia* Pers (Euphorbiaceae).

DISTRIBUTION: California, Nevada.

HOLOTYPE: ♂ UCD. Calfornia, Nevada Co., Jackson Lake 15-VII-1961, A.S. Menke.

ALLOTYPE: ♀ UCD. California, Mono Co., Sonora Pass 10-VIII, G.W. Colliver.

PARATYPES: 91 specimens

California: Yosemite N. Pk. 1-VIII-1940, L.J. Lipovsky 1 ♂ SEM.

California: Yosemite N. PK. VIII-1940, E.E. Kenaga 1 ♂ SEM.
Yosemite Park, Crane Flat 22-VII-1948, H.M.G.D. & J. Townes 1 ♀ KVK.
24-VII-1948, H.M.G.D. & J. Townes 1 ♂ USNM.
1 ♀ KVK.
Cisco 31-VII-1948 H.M.G. & J. Townes 1 ♂ KVK.
Giant Forest 6400'-7000' 9-13-VIII-1927, J.C. Bradley 1 ♀ CUM.
28-VII-1929, R.H. Beamer 2 ♂♂ SEM.
Fish Camp 19-VII-1948, H.M.G. & D. Townes 1 ♂ KVK.
Donner Pass 1-VIII-1948, H.M.G. & D. Townes 1 ♂ USNM.
Up. Sta. Ana Riv. 6-VII-1948, A.L. Melander 1 ♀ UCR.
Sumitt Lake 24-VIII-1957, A.L. Melander 1 ♀ USNM.
Nevada Co.: Jackson Lake 15-VII-1961, A.S. Menke 3 ♂♂ UCD.
L.A. Stange 1 ♂ UCD.
Sagehen Creek, nr. Hobart Mills 26-VIII-1952, Smith 1 ♀ UCD.
29-VI-1962, M.E. Irwin 1 ♀ UCD.
8-VII-1964, A. Gillogly 2 ♀♀ UCR.
15-VII-1964, R.M. Bohart 2 ♂♂ UCD.
5-VII-1966, R.M. Bohart 1 ♀ UCD.
15-VII-1966, R.L. Brumley 1 ♀ UCD.
Boca 11-VII-1961, R.M. Bohart 1 ♂ UCD.
10-VII-1962, R.M. Bohart 1 ♂ UCD.
Fuller Lake 15-VII-1961, A.S. Menke 1 ♂ 1 ♀ UCD.
L.A. Stange 2 ♂♂ UCD.
2 ♂♂ CNC.
Placer Co.: Carnelian Bay, L. Tahoe 17-VI-1964, R.M. Bohart 1 ♂ 2 ♀♀ UCD.
8-VII-1964, R.M. Bohart 1 ♂ UCD.
1 ♂ LEM.
F.D. Parker 1 ♂ 1 ♀ UCD.
1 ♀ CNC.
J.E. Slansky 1 ♂ 1 ♀ UCD.
R.E. Scott 1 ♂ UCR.
6-IX-1964, R.M. Bohart 2 ♀♀ UCD.
El Dorado Co.: 6 mi. on Ice House Rd. 5-VII-1973, B. Villegas 2 ♂♂ UCD.

California:

El Dorado Co.: Fallen Leaf, 6500' 13-VII-1961, J.G. Chillcott 1 ♂ CNC.
Strawberry 29-VII-1965, J.W. MacSwain 1 ♀ UCD.
25-IX-1965, P. Welles 1 ♀ UCD.
Trinity Co.: Carrville, 2400'-2500' 15-VI-1934, B.J. Hall 1 ♂ UCR.
Fresno Co.: 7000' Huntington Lake 10-VII-1919 1 ♂ LACNHM.
San Bernadino Co.: Boulder Bay, Big Bear Lake 14-VII-1965, M.E. Irwin 2 ♂♂ UCR.
5 mi. e., Wildwood Cyn., Calimesa 14-V-1969, M.E. Irwin 1 ♀ UCR.
Granite Pass 3800'-4320' 27-IV-1968, E.I. Schlinger 1 ♀ UCR.
Big Bear Lake 14-VII-1965, P.A. Rauch 1 ♀ UCR.
Siskiyou Co.: 2-15 mi. e. Weed 5-VII-1947, U.N. Lanham 1 ♂ 1 ♀ KVK.
Plumas Co.: Johnsville 20-VIII-1964, H. Pini 3 ♀♀ UCD.
2 ♀♀ LEM.
23-VIII-1964, H. Pini 2 ♀♀ UCD.
24-VIII-1964, H. Pini 1 ♂ 1 ♀ UCD.
1-IX-1964, H. Pini 1 ♀ UCD.
Mono Co.: Saddlebag 1 mi. s. 15-VII-1961, D.R. Miller 1 ♂ UCD.
Toms Place, 18.7 mi. n. 1-IX-1965, A.J. Slater 1 ♀ UCD.
Sierra Co.: Independence Lk. 23-VII-1966, R.L. Brumley 1 ♂ UCD.
Yuba Pass 30-VII-1958, A.A. Grigarick 1 ♀ UCD.
5-VII-1972, Goodpasture 1 ♀ UCD.
Kern Co.: Frazier Park 11 mi. w. 3-VII-1962, J.F. Lawrence 1 ♂ UCD.
Shasta Co.: 6 mi. s. Hat Crk. 26-VI-1963, V.L. Vesterby 1 ♂ RVNH.
Tuolumne Co.: Strawberry 4-VII-1957, D.L. Flaherty 1 ♀ UCR.
7-VIII-1960, C.A. Toschi 3 ♀♀ UCD.
27-VIII-1960, P.D. Hurd 1 ♀ UCD.
Leland Mdw. 5-VIII-1960, J.W. MacSwain 4 ♀♀ UCD.
M.E. Irwin 1 ♀ UCD.
Alpine Co.: Hope Vly. 22-VII-1955, E.E. Gilbert & N.A. Walker 1 ♀ UCD.

Nevada: Morrison VII-1880 1 ♀ NMW.

Nevada:

Ormsby Co.: VII, Baker 2 ♂♂ UCD.

Map 13 42 males 51 females

MIMESA CRESSONII GROUP

Petiole round, longer than first tergum; propodeum sculptured with parallel striae.

Mimesa cressonii Packard

(Figs. 11-14, 43, 77, 107, 138, 173, 207, 238, 272, 303, 337)

Mimesa cressonii Packard, 1867:405.
Mimesa denticulata Packard, 1867:407.
Mimesa conica H. Smith, 1908:389.
Psen (Mimesa) cressonii atriventris Malloch, 1933:31. New synonymy.

DIAGNOSIS: Male; basal flagellomeres with denticulate tyli; petiole round; mesopleuron with large close punctation.

Female; petiole round, longer than first tergum; scutum coarsely punctate; hypoepimeral area striate; propodeum striate.

DESCRIPTION: Male

Length: 5.0-8.0 mm.

Head: Flagellomeres II-VI with well elevated denticulate tyli, penultimate flagellomere wider than long; OOD less than POD; vertex with weak microsculpture, punctures up to 3 diameters apart; POA not tumid, without microstriae; gena striate to vertex; occipital carina complete to hypostomal carina.

Thorax: Lateral angles of pronotum rounded, lateral area with microsculpture and irregular oblique striae; scutum without microsculpture, punctures large, up to 4 diameters apart; scutellum without microsculpture, punctures smaller, up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area dense, obscuring sculpture; tegula impunctate or almost so; costa of forewing yellow-brown; inner ventral carina of hindcoxa present on at least basal half.

Propodeum: Enclosure not or poorly defined, lateral spheres striate, sometimes very finely.

Abdomen: Petiole longer than tergum I, round, all carinae and sulci absent; punctures of apical tergum smaller than those of scutum.

Color: Yellow on underside of flagellum, fore and midtibia and tarsi, hindtibia basally and hindbasitarsus; brown on tegula; red on abdomen highly variable from entirely black to red on all of tergum I, II, III and basally on IV as well as sternum I apically, all of II, III and most of IV.

Female

Length: 6.0-10.0 mm.

Head: Penultimate flagellomere wider than long; clypeus shining, punctures up to 3 diameters apart; apical edge with 4 poorly developed teeth, emarginate medially and submedially; preapical tumidity absent to poorly developed; facial pubescence present ventrally from median ocellus, partially obscuring sculpture; OOD variable, usually shorter than POD; vertex with microsculpture, punctures up to 4 diameters apart; POA not tumid, without microstriae; striae of gena not reaching dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with several oblique striae and microsculpture; scutum with or without microsculpture, punctures up to 4 diameters apart; scutellum without microsculpture, punctures up to 4 diameters apart; mesopleuron with or without microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, appressed, not obscuring sculpture; tegula impunctate or almost so; inner ventral carina of hindcoxa well developed, at most absent on apical 1/4.

Propodeum: Enclosure undefined, lateral spheres with parallel striae, sometimes very fine; pubescence of lateral spheres partially obscuring sculpture.

Abdomen: Petiole usually longer than tergum I, length variable, from 2.5 to 6 times longer than its basal width, round, all dorsal carinae and sulci absent, ventrolateral carina evanescent.

Color: Yellow on underside of flagellum, inner side of foretibia, joints of all tarsomeres; brown on tegula; red on abdomen variable from completely black to having terga I-IV red and sternum I apically, all of II, III and IV.

BIOLOGY: Kurczewski and Lane (1974) have observed this species nesting in a sandy field. They reported the nest entrance was surrounded by a turret caused by the female pushing sand out of the entrance. Cells were found between 12 and 54 cm below the surface, each cell being constructed progressively closer to the nest entrance along the single burrow. Cells were provisioned with 9-17 prey mostly adult cicadellids but delphacids and a psyllid were also recorded. The following prey were reported: Cicadellidae: *Doratura stylata* (Boheman), *Diplocolenus configuratus* (Uhler), *Athysanella longicauda* Beirne, *Polyamia compacta* (Osborn & Ball), *Laevicephalus melsheimeri* (Fitch) and *Scaphytopius* sp.? Delphacidae: *Delphacodes campestris* Van Duzee, *Laccocera vittipennis* Van Duzee and *Liburniella ornata* (Stål). Psyllidae: *Craspedolepta* sp. The authors also reared the miltogrammine sarcophagid fly *Senotainia trilineata* (Wulp) from one of the cells.

Mites were found on 2 specimens from the material examined, one hypopus of the genus *Kuzinia* (Acaridae) on the clypeus of a male from Mandan, North Dakota and an adult female of *Scutacarus* near *acarorum* (Goeze) (Scutacaridae) on the metapleuron of a male wasp from London, Ontario. The acarid record is probably phoretic and its occurrence on the wasp accidental but the scutacarid mite may have a non-phoretic association with the wasp (Delfinado and Baker, 1976; Delfinado, Baker and Abbatiello, 1976).

Floral records from the material examined were *Daucus carota* Linnaeus (Umbelliferae); *Helianthus petiolaris* Nuttall, *Solidago canadensis* Linnaeus and *Gutierrezia* (Compositae); *Hypericum* (Guttiferae); *Cleome serrulata* Pursh (Capparidaceae); *Rorippa sinnata* (Nuttall) (Cruciferae) and *Melilotus alba* Desrousseaux (Leguminosae).

DISTRIBUTION: North Carolina, Virginia, Maryland, New Jersey, Pennsylvania, New York, Connecticut, Massachusetts, New Hampshire, Quebec, Ontario, Michigan, Ohio, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Texas, New Mexico, Arizona, California, Colorado, Utah, Wyoming, Idaho, Montana, Saskatchewan, Alberta, British Columbia.

Map 15 278 males 148 females

Mimesa dawsoni Mickel

(Figs. 44, 78, 108, 139, 174, 208, 239, 273, 304, 338)

Mimesa dawsoni Mickel, 1916:420.

Psen (*Mimesa*) *politus* Malloch, 1933:35. New synonymy.

DIAGNOSIS: Area adjacent to propodeal enclosure shining, without macrosculpture and usually without microsculpture, if microsculpture is present then it is very weak.

DESCRIPTION: Male

Length: 6.0-8.0 mm.

Head: Flagellomeres II-IV or V with obscure broad tyli; penultimate flagellomere wider than long; OOD less than POD; vertex without microsculpture or microstriae, punctures up to 3 diameters apart; POA not tumid; striae of gena not reaching dorsolateral area of head; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with microsculpture and a few vertical striae; scutum, except anterolateral regions, without microsculpture, punctures up to 4 diameters apart; scutellum without microsculpture, punctures up to 6 diameters apart; mesopleuron shining with weak microsculpture, punctures up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area granular to finely striatogranular; pubescence of mesopleuron and hypoepimeral area dense, obscuring sculpture; tegula punctate on inner side; costa of forewing white to yellow at base; inner ventral carina of hindcoxa present at extreme base.

Propodeum: Enclosure not defined by a carina, adjacent area without macrosculpture but occasionally with fine microsculpture; posterolateral region densely punctate, punctures less than one diameter apart and obscured by dense pubescence.

Abdomen: Petiole subequal in length to tergum I, round, all carinae and sulci evanescent or absent; apical tergum finely punctate.

Color: Yellow on underside of flagellum, fore and midtibia and tarsi, hindtibia at base and joints of hindtarsomeres; tegula hyaline; red on apex of tergum I, part or all of II and at most all of III, at most all of sternum II and III.

Female

Length: 6.5-10.0 mm.

Head: Penultimate flagellomere wider than long; clypeus shining between punctures less than one diameter apart; apical edge with 4 weak teeth and a median emargination; preapical tumidity usually well developed and often abruptly protruding; facial pubescence ventral to posterior ocelli dense, partially or totally obscuring sculpture; OOD less than POD; vertex

shining, usually without microsculpture and microstriae, punctures up to 4 diameters apart; POA not tumid; striae of gena not reaching dorsolateral area of head; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with several vertical striae; scutum with microsculpture, punctures up to 4 diameters apart; scutellum without microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area granular to finely striatogranular; pubescence of mesopleuron and hypoepimeral area dense, obscuring sculpture; tegula punctate on inner side; costa of forewing white to yellow at base; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure not defined by a carina, adjacent area shining, without macrosculpture and usually without microsculpture, posterolateral regions finely punctate, obscured by dense appressed pubescence.

Abdomen: Petiole slightly longer or shorter than tergum I (occasionally very short), round, all carinae and sulci evanescent or absent.

Color: Yellow on underside of flagellum, fore and midtibia and tarsi, hindtibia at base and apex, hindbasitarsus; tegula hyaline; red on at least apex of tergum I, all of II and part of III or at most all of tergum I, II, III and IV, sternum I apically, all of II, III and IV.

BIOLOGY: Malloch (1933) recorded the type of *politus* on *Salsola kali* var. *tenuifolia* Tausch (Chenopodiaceae). Floral records from the material examined include *Cleome serrulata* Pursh (Capparidaceae) and *Helianthus petiolaris* Nuttall (Compositae).

DISTRIBUTION: North Carolina, New Jersey, New York, Massachusetts, Ontario, Michigan, Illinois, Iowa, Minnesota, Manitoba, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Alberta, Montana, Utah.

Map 16 68 males 27 females

MIMESA EZRA GROUP

Penultimate flagellomere longer than wide; petiole flattened, evenly convex, longer than first tergum.

Mimesa ezra (Pate)

(Figs. 46, 80, 110, 141, 176, 210, 241, 275, 306, 340)

Mimesa argentifrons Cresson, 1865b:487. *Nec Psen argentifrons* Cresson, 1865a:152 (now in *Pluto*).

Psen (*Mimesa*) *ezra* Pate, 1944:133. New name for *Mimesa argentifrons* Cresson, 1865b.

Mimesa iroquois Finnamore, 1980:297. New synonymy.

DIAGNOSIS: Male; penultimate flagellomere longer than wide; hypoepimeral area striate to rugosoreticulate; petiole much longer than tergum I; vertex shining with very weak microsculpture, punctures up to 2 diameters apart, posterior declivity without microstriae.

Female; clypeus with a well developed preapical tumidity which does not reach beyond median teeth; propodeum coarsely rugosoreticulate; petiole flat, longer than first tergum; east of Rockies.

DESCRIPTION: Male

Length: 6.5-8.0 mm.

Head: Flagellomeres II-V with narrow linear tyli; penultimate flagellomere longer than wide; OOD greater than POD; vertex with weak microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity without microstriae; gena striate almost to vertex; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with or without microsculpture, punctures up to 3 diameters apart; scutellum with or without microsculpture, punctures up to 3 diameters apart; mesopleuron with microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate to rugosoreticulate; pubescence of mesopleuron and hypoepimeral area, thin, both outstanding and appressed, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing at base yellow-brown; inner ventral carina of hindcoxa present basally.

Propodeum: Enclosure usually well defined by a carina, adjacent area and lateral spheres coarsely rugosoreticulate.

Abdomen: Petiole longer than tergum I, evenly convex, nearly flat, dorsolateral sulcus absent, dorsolateral and ventrolateral carinae well developed; apical tergum finely punctate.

Color: Yellow on underside of flagellum, apices of fore and midfemur, fore and midtibia, hindtibia on inner side, fore and midtarsus, hindtarsus somewhat ventrally; yellow-brown on tegula; red on apex of tergum I, all of II and part or all of III, sternum II, III and part or all of IV.

Female

Length: 8.0-10.5 mm.

Head: Penultimate flagellomere square on inner side, longer than wide on outer side; clypeus with fine microsculpture, punctures less than one diameter apart; apical margin with 4 well developed, broadly rounded teeth; preapical tumidity usually well developed, not reaching beyond median teeth; facial pubescence densely appressed ventrally from just above antennal sockets, obscuring sculpture; OOD greater than POD; vertex with microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity without microstriae; gena not striate to vertex; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with or without weak microsculpture, punctures up to 3 diameters apart; mesopleuron with microsculpture, punctures up to 1.5 diameters apart, usually without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, both outstanding and appressed, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing at base yellow-brown; inner ventral carina of hindcoxa present at base.

Propodeum: Enclosure usually defined by a carina, adjacent area and lateral spheres rugosoreticulate.

Abdomen: Petiole longer than tergum I, flat or almost so, dorsolateral sulcus absent, dorsolateral carina and ventrolateral carina well developed.

Color: Yellow on underside of flagellum, usually inner side of foretibia and foretarsus; red on all or at least apex of tergum I, all of II, III and part or all of IV and sometimes laterally on V, sternum I occasionally at apex, all of II, III, IV and sometimes V.

BIOLOGY: Williams (1913) reported this species nesting in sandy soil at the base of a tree. The nest entrance was surrounded by a turret of sand, the tunnel extended 20 cm vertically into the soil ending in a single cell containing several cicadellids, *Exitianus obscurinervis* (Stål).

DISTRIBUTION: New York, Maine, New Brunswick, Quebec, Ontario, Michigan, Illinois, Wisconsin, Minnesota, South Dakota, Colorado, Alberta.

Map 17 10 males 29 females

Mimesa huron Finnamore
(Figs. 1, 51, 85, 115, 146, 181, 215, 246, 280, 311, 345)

Mimesa huron Finnamore, 1980:296.

DIAGNOSIS: Male; tyli poorly developed, not visible in profile; penultimate flagellomere square, length subequal to width (occasionally slightly greater than width); mesopleuron with punctures smaller than those of scutum but not very fine and not appearing impunctate; propodeum coarsely rugosoreticulate posterolaterally; petiole convex, usually longer than tergum I which is red only at apex.

Female; preapical tumidity of clypeus absent or poorly developed; propodeum striate adjacent to enclosure becoming rugosoreticulate posterolaterally; petiole evenly convex, longer or shorter than tergum I which is red on apical half or less.

DESCRIPTION: Male

Length: 6.0-8.5 mm.

Head: Flagellomeres II-V on larger specimens with broadly linear very low tyli, smaller specimens with tyli absent or evanescent; penultimate flagellomere length subequal to width in small specimens, length slightly longer than width in larger specimens; OOD greater than POD; vertex with weak microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; gena striate to or almost to vertex; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 3 diameters apart; mesopleuron with microsculpture absent to weak, punctures smaller than those of scutum but not very fine, up to 2 diameters apart, usually without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, outstanding, not obscuring sculpture; tegula finely punctured anteriorly and on inner side; costa of forewing at base light brown; inner ventral carina of hindcoxa present on basal half or less.

Propodeum: Enclosure well defined by a carina, lateral spheres coarsely rugosoreticulate.

Abdomen: Petiole subequal to or longer than tergum I, convex, dorsolateral sulcus well developed to weak or absent, dorsolateral carina weak, ventrolateral carina well developed; apical tergum finely punctate.

Color: Yellow on underside of flagellum, usually apex of forefemur, foretibia, and foretarsus, usually midtibia, midtarsus, occasionally hindtibia and hindtarsus; tegula yellow to light brown; red on apex of tergum I, part or all of II and occasionally all of III, sternum II in part or all, occasionally part or all of III.

Female

Length: 7.0-9.5 mm.

Head: Penultimate flagellomere longer than wide on outer side, wider than long on inner side; clypeus without microsculpture medially (appearing dull because of close punctation), punctures up to one diameter apart, usually much less; apical edge with 4 weak broadly rounded teeth; preapical tumidity absent to weakly developed; facial pubescence dense ventrally from just above antennal sockets, obscuring sculpture; OOD greater than POD; vertex with weak microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity without microstriae; striae of gena not reaching vertex; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 3 diameters apart; mesopleuron with microsculpture, punctures up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, outstanding, not obscuring sculpture; tegula finely punctate anteriorly and on inner side; costa of forewing at base brown; inner ventral carina of hindcoxa present at base.

Propodeum: Enclosure well defined by a carina, adjacent area coarsely striate becoming rugosoreticulate posterolaterally.

Abdomen: Petiole equal to or shorter than tergum I, evenly convex, dorsolateral sulcus absent, dorsolateral carina weak, ventrolateral carina absent.

Color: Yellow on underside of apex of flagellomere I and II-X, inner side of foretibia, occasionally forebasitarsus apically and foretarsomeres II-V, occasionally midtarsomeres II-V; brown on tegula; red on at most apical half of tergum I, all of II and part or all of III, sternum II and part or all of III.

BIOLOGY: Two females from New York and New Hampshire and one male from Iowa

were collected on *Solidago* (Compositae).

DISTRIBUTION: West Virginia, Pennsylvania, New York, Connecticut, Massachusetts, New Hampshire, Maine, Nova Scotia, New Brunswick, Quebec, Ontario, Illinois, Iowa.

Map 19 53 males 58 females

Mimesa jicarilla New Species
(Figs. 53, 148, 183, 248, 313)

DIAGNOSIS: Male; penultimate flagellomere longer than wide; tyli linear; hypoepimeral area coarsely granular, obscured by pubescence.

Female; unknown.

DESCRIPTION: Male

Length: 7.0-9.0 mm.

Head: Flagellomeres II-V with narrow linear tyli, penultimate flagellomere longer than wide; OOD greater than POD; vertex with microsculpture, punctures up to one diameter apart; POA not tumid; posterior declivity without microstriae; striae of gena not reaching vertex; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with at least weak microsculpture, punctures up to 2 diameters apart; scutellum with weak microsculpture, punctures up to 2 diameters apart; mesopleuron with microsculpture, punctures up to one diameter apart, without striae ventral to hypoepimeral area; hypoepimeral area appearing granular but very fine striae are present; pubescence of mesopleuron and hypoepimeral area dense, appressed, obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present for most of coxal length.

Propodeum: Enclosure at most partly defined by a carina, adjacent area finely striate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole equal to or longer than tergum I, evenly convex, dorsolateral sulcus absent, dorsolateral carina and ventrolateral carina well developed; apical tergum finely punctate.

Color: Yellow on underside of flagellum, apically on forefemur and midfemur, all of foretibia, foretarsus, midtibia and usually midtarsus and tegula; red on apex of tergum I, all of II and usually most of III,

sternum II and III.

BIOLOGY: Unknown.

DISTRIBUTION: Colorado.

HOLOTYPE: ♂ MCZ. Colorado, Alamosa Co., Great Sand Dunes 24-28-VIII-1961, 8000', H.E. & M.A. Evans.

PARATYPES: 5 specimens.

Colorado: Alamosa Co., Great Sand Dunes 24-28-VIII-1961, 8000', H.E. & M.A. Evans 2 ♂♂ MCZ.
1 ♂ CNC.
1 ♂ USNM.

Fort Garland, Mountain Home Lake 8300' 20-25-VII-1932
1 ♂ CUM.

Map 20 6 males

Mimesa sabina Gittins
(Figs. 62, 94, 124, 157, 192, 224, 257, 289, 322, 354)

Mimesa sabina Gittins, 1966:247.

DIAGNOSIS: Male; tyli linear, penultimate flagellomere longer than wide; vertex with nearly contiguous punctation; posterior declivity microstriate; hypoepimeral area striate; petiole longer than tergum I.

Female; preapical tumidity of clypeus subtriangularly protruding, not reaching lateral teeth; flagellomeres II-X yellow beneath; vertex with punctures usually much less than one diameter apart; propodeum finely rugosoreticulate on lateral spheres; petiole convex, longer than tergum I.

DESCRIPTION: Male

Length: 6.5-9.0 mm.

Head: Flagellomeres II-IV or V with narrow linear tyli; penultimate flagellomere longer than wide; OOD greater than POD; vertex with microsculpture, punctures less than one diameter apart; POA not tumid; posterior declivity with microstriae; gena striate to or almost to vertex; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with or without microsculpture, punctures up to 3 diameters apart; scutellum without or with weak microsculpture, punctures up to 4 diameters

apart; mesopleuron with or without microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, both appressed and outstanding, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa well developed.

Propodeum: Enclosure at least partially defined by a carina, lateral spheres rugosoreticulate.

Abdomen: Petiole longer than tergum I, evenly convex, occasionally nearly flat, dorsolateral sulcus absent, dorsolateral carina weak, ventrolateral carina more developed than dorsolateral carina; apical tergum finely punctate.

Color: Yellow on underside of flagellum, foretibia at least on inner side, foretarsus, inner base of midtibia, base of hindtibia; brown on tegula; red on at most apical half of tergum I, part or all of II, and at most all of III and basally on IV, sternum I occasionally on apex, II, III and at most all of IV and V basally,

Female

Length: 7.5-10.0 mm.

Head: Penultimate flagellomere longer than wide on outer side, wider than long on inner side; clypeus shining, with or without microsculpture, punctures less than one diameter apart; apical edge with 4 broadly rounded teeth well separated by emarginations; preapical tumidity protruding, subtriangular, not reaching lateral teeth; facial pubescence dense ventrally from just above antennal sockets, obscuring sculpture; OOD greater than POD; vertex with microsculpture, punctures usually less than one diameter apart; POA not tumid; posterior declivity not microstriate; striae of gena not reaching vertex; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 2 diameters apart; scutellum without or with weak microsculpture, punctures up to 3 diameters apart; mesopleuron with microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, both outstanding and appressed, not obscuring sculpture; tegula finely punctate anteriorly and on inner side; costa of forewing at base yellow to yellow-brown; inner ventral carina

of hindcoxa present on basal half.

Propodeum: Enclosure at most partially defined by a carina, adjacent area striate becoming moderately rugosoreticulate posterolaterally.

Abdomen: Petiole equal to or longer than tergum I, evenly convex, dorsolateral sulcus absent, dorsolateral carina and ventrolateral carina well developed.

Color: Yellow on underside of flagellomere I apically and II-X, occasionally inner side of foretibia, occasionally foretarsus; tegula brown to yellow; red at most on tergum I, II, III and occasionally all of IV and base of V, at most apical 1/3 of sternum I, all of II, III and occasionally IV and V.

BIOLOGY: Unknown.

DISTRIBUTION: California, Nevada, Utah, Colorado.

Map 21 29 males 32 females

Mimesa senijextee New Species
(Figs. 63, 95, 125, 158, 193, 225, 258, 290, 323, 355)

DIAGNOSIS: Male; tyli rounded, penultimate flagellomere wider than long; petiole convex, longer than tergum I which is red on apical half or more.

Female; preapical tumidity of clypeus well developed, very broad, almost reaching lateral teeth which are more developed than median teeth; hypoepimeral area striate; propodeum coarsely rugosoreticulate; petiole convex, longer than tergum I which is red.

DESCRIPTION: Male

Length: 6.0-9.0 mm.

Head: Flagellomeres II-V with broad oval tyli; penultimate flagellomere wider than long; OOD equal to or greater than POD; vertex with microsculpture, punctures less than one diameter apart; POA not tumid; posterior declivity usually with fine microstriae medially; striae of gena not reaching vertex; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with at least weak microsculpture, punctures up to 2 diameters apart; scutellum usually without microsculpture, punctures up to 2 diameters apart; mesopleuron with microsculpture, punctures up to one diameter apart, with

striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, both outstanding and appressed, not obscuring sculpture; tegula finely punctate anteriorly and on inner side; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa well developed on basal half.

Propodeum: Enclosure well defined by a carina, adjacent area and lateral spheres coarsely rugosoreticulate.

Abdomen: Petiole longer than tergum I, convex, dorsolateral sulcus very weak, dorsolateral carina and ventrolateral carina well developed; apical tergum finely punctate.

Color: Yellow on underside of flagellum except sometimes flagellomeres I and II, apices of femora, foretibia and midtibia, hindtibia on inner side, foretarsus, sometimes partially on midtarsus and hindtarsus, tegula; red on usually all but at least apical half of tergum I, all of II, part or all of III, sternum I sometimes apically, all of II and usually III.

Female

Length: 8.0-9.0 mm.

Head: penultimate flagellomere wider than long; clypeus without microsculpture medially, punctures less than one diameter apart; apical edge with well developed lateral teeth which are more prominent than the very weak median teeth; preapical tumidity well developed, broad, almost reaching lateral teeth; facial pubescence thin, not obscuring sculpture; OOD greater than POD; vertex with microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity without microstriae; striae of gena not reaching vertex; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum without microsculpture, punctures up to 3 diameters apart; mesopleuron with microsculpture, punctures up to one diameter apart, without striae ventral to hypoepimeral area; hypoepimeral area coarsely striate; pubescence of mesopleuron and hypoepimeral area thin, both outstanding and appressed, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure well defined by a carina, adjacent area and lateral spheres coarsely rugosoreticulate.

Abdomen: Petiole equal to or longer than tergum I, convex, dorsolateral sulcus weak, dorsolateral carina and ventrolateral carina well developed.

Color: Yellow on underside of flagellomeres II-X, foretibia on inner side, foretarsus beyond basitarsus, occasionally midtarsus apically; yellow-brown on tegula; red on all of tergum I, II, part or all of III, at most apical 1/3 of sternum I, all of II, III and occasionally part or all of IV.

BIOLOGY: Unknown.

DISTRIBUTION: North West Territories, British Columbia, Washington, Saskatchewan, Montana, Wyoming, Colorado.

HOLOTYPE: ♂ MCZ. Wyoming, s. gate, Yellowstone Nat. Pk. 19-31-VII-1961 6900', H.E. Evans.

ALLOTYPE: ♀ CNC. British Columbia, Minniel 4-VIII-1942, E.R. Buckell.

PARATYPES: 61 specimens.

North West Territories: Fort Smith 15-VII-1950, J.B. Wallis 1 ♀ CNC.
British Columbia: Kamloops 19-VII-1937, G.J. Spencer 1 ♂ UBC.
25-VII-1937, G.J. Spencer 24 ♂♂ UBC.
1 ♂ UCB.
1 ♂ LEM.
Agassiz 29-VIII-1920 1 ♂ CNC.
1-VIII-1921, R. Glendenning 5 ♂♂ CNC.
7-VIII-1921, R. Glendenning 1 ♂ CNC.
15-VIII-1921, R. Glendenning 1 ♂ 1 ♀ CNC.
1 ♀ CUM.
27-VIII-1926, R. Glendenning 1 ♀ LEM.
MacGillivary Creek Game Reserve, nr. Chilliwac 22-VII-1953, W.R.M. Mason 1 ♂ CNC.
Hatzic Lake 16-VII-1953, G.J. Spencer 1 ♂ CNC.
Minniel 4-VIII-1942, E.R. Buckell 1 ♀ CNC.
Saskatchewan: Waskesiu 22-VII-1938 1 ♂ CNC.
Neilburg 24-VIII-1957, A.R. & J.E. Brooks 1 ♀ CNC.
Wyoming: s. Gate, Yellowstone Nat. Pk. 6900' 19-31-VII-1961, H.E. Evans 2 ♂♂ MCZ.
6900' 2-15-VIII-1961, H.E. Evans 5 ♂♂ MCZ.
1 ♂ USNM.

Wyoming: Teton Nat. Forest, Huckleberry Hot Spr. 7000' 17-30-VII-1964, H.E. & M.A. Evans 1 ♂ MCZ.
Washington: Evans 3-VIII-1965, G. Jamieson 1 ♂ LEM.
Colorado: Hartzel 5-VIII-1943, H.H. Ross 6 ♂♂ INHS.
Saguache 4-VIII-1938, M.T. James & U. Lanham 1 ♀ KVK.
Montana: Hangan 8-IX-1931, L.D. Anderson 1 ♂ SEM.

Map 18 55 males 9 females

MIMESA AGALENA GROUP

Mesopleuron striate and/or occipital carina interrupted at dorsolateral angles of head.

Mimesa agalena Gittins
(Figs. 20, 36, 71, 101, 131, 166, 201, 231, 266, 296, 331)

Mimesa agalena Gittins, 1966:251.

DIAGNOSIS: Occipital carina interrupted at dorsolateral angles of head; mesopleuron shining, either striate or striatopunctate.

DESCRIPTION: Male

Length: 5.0-6.0 mm.

Head: Flagellomeres II-V with small obscure linear tyli; penultimate flagellomere wider than long; OOD greater than POD; vertex shining, without microsculpture, punctures up to one diameter apart, weakly striatopunctate between lateral ocellus and compound eye; POA not tumid; gena densely striate to vertex; occipital carina incomplete, broadly interrupted at dorsolateral angles of head and continued ventrally to or almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area granular with microstriae; scutum without microsculpture, punctures less than one diameter apart; scutellum without microsculpture, punctures up to 3 diameters apart anteriorly, less than one diameter apart posteriorly; mesopleuron without microsculpture, punctures less than one diameter apart, without striae over most of surface including region ventral to hypoepimeral area; hypoepimeral area granular with microstriae and a small amount of pubescence; tegula punctate on inner side; costa of forewing brown; inner ventral carina of hindcoxa present.

Propodeum: Enclosure undefined by a carina, finely rugosoreticulate in area of enclosure, adjacent area granular to finely striatogranular on lateral spheres.

Abdomen: Petiole short, about twice longer than wide, dorsolateral sulcus, carina and ventrolateral carina not well developed; apical tergum finely punctate.

Color: Yellow on underside of flagellomeres II-XI, all tarsi and joints of tibiae; red on apex of tergum I, all of II and up to most of III, sternum II and occasionally part of III; abdomen of allotype is black.

Female

Length: 5.5-6.0 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture, punctures less than .5 diameter apart; apical edge with 2 teeth separated by a slight emargination; preapical tumidity absent; facial pubescence thin, not obscuring sculpture; OOD greater than POD; vertex with weak microsculpture, punctures up to 2 diameters apart; POA not tumid but with some microstriae; gena densely striate to vertex; occipital carina incomplete, broadly interrupted at dorsolateral angles of head, continued ventrally but not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area granular with microstriae; scutum with weak microsculpture, punctures up to one diameter apart; scutellum without microsculpture, punctures up to 2 diameters apart; mesopleuron without microsculpture, punctures about one diameter apart, striatopunctate or striate over most of surface; hypoepimeral area coarsely granular with microstriae and little pubescence; tegula with microsculpture, punctate on inner side; costa of forewing brown; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure undefined by a carina, entire propodeum with fine parallel striae which curve around lateral spheres to metapleuron.

Abdomen: Petiole short, less than twice longer than wide, dorsolateral carina present, dorsolateral sulcus and ventrolateral carina weak to absent.

Color: Yellow on underside of flagellum except basal flagellomeres, all tarsi and tibiae at joints; brown on tegula; red on apex of tergum I, all or most of II and sometimes most of III, sternum II, part or all of III and occasionally basally on IV.

BIOLOGY: Unknown.

DISTRIBUTION: California.

Map 22 3 males 4 females

Mimesa barri Gittins
(Figs. 2, 22, 38, 73, 103, 133, 168, 203, 233, 268, 298, 333)

Mimesa barri Gittins, 1966:249.

DIAGNOSIS: Mesopleuron striate; occipital carina complete, not interrupted at dorsolateral angles of head.

DESCRIPTION: Male

Length: 6.0-7.0 mm.

Head: Flagellomeres II-V with low somewhat linear tyli; penultimate flagellomere wider than long; OOD less than POD; vertex with microsculpture, punctures up to 2 diameters apart; POA not tumid; gena striate to vertex; occipital carina complete to or almost to hypostomal carina although weak at dorsolateral angles of head.

Thorax: Pronotal angles rounded, lateral area with fine vertical to oblique striae; scutum with microsculpture, punctures up to 2 diameters apart; scutellum without microsculpture, punctures up to 3 diameters apart; mesopleuron striate, punctures between striae contiguous or nearly so giving a striatogranular appearance; hypoepimeral area striatogranular, similar to mesopleuron but without punctures medially and without appressed pubescence; tegula punctate on inner half; costa of forewing yellow at base; inner ventral carina of hindcoxa well developed on basal half or more.

Propodeum: Enclosure evident but not well defined, adjacent area striate becoming moderately or finely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, usually with a median raised flattened area, dorsolateral sulcus, carina and ventrolateral carina well developed; apical tergum finely punctate.

Color: Yellow on underside of flagellomeres II-XI, foretibia on inner side, midtibia at joints, hindtibia basally and apically, tarsi except occasionally hindtarsus; brown on tegula; red on apex of tergum I, all of II and occasionally basally on III, sternum II and part or all of III.

Female

Length: 8.0-9.5 mm.

Head: Penultimate flagellomere square or wider than long; clypeus with 4 broadly rounded teeth on apical margin each separated by a slight emargination; preapical tumidity absent or poorly developed; clypeus without microsculpture, punctures less than one diameter apart; pubescence of face thin, sculpture visible; OOD less than POD; vertex with microsculpture, punctures up to one diameter apart; POA not tumid but with microstriae; gena striate almost to vertex; occipital carina usually interrupted at dorsolateral angles of head, continued ventrally , not reaching hypostomal carina

Thorax: Pronotal angles rounded, lateral area with fine vertical to oblique striae; scutum with microsculpture, punctures up to one diameter apart; scutellum without microsculpture, punctures up to 3 diameters apart; mesopleuron striate with microsculpture, punctures about one diameter apart; hypoepimeral area poorly differentiated from mesopleuron with similar sculpture although punctures are absent medially and without appressed pubescence; tegula punctate on inner side; costa of forewing yellow-brown; inner ventral carina of hindcoxa poorly developed on basal half.

Propodeum: Enclosure well defined by a carina, adjacent area striate becoming rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, with a raised median convexity, dorsolateral sulcus, carina and ventrolateral carina well developed.

Color: Yellow on underside of flagellum except first flagellomere basally, foretibia on most of inner side, midtibia and hindtibia at joints, foretarsus, midtarsus, hindtarsus ventrally, tegula; red on apex of tergum I, all of II and part or all of III, sternum II and part or all of III.

BIOLOGY: Gittins (1966) reported this species on flowers of *Helianthus, Grindelia* (Compositae) and *Daucus* (Umbelliferae). One specimen from the material examined was collected on *Foeniculum vulgare* Miller (Umbelliferae).

DISTRIBUTION: California, Oregon, Idaho, Washington.

Map 23 13 males 5 females

Mimesa gabrieleno New Species

(Figs. 21, 27, 48, 82, 112, 143, 178, 212, 243, 277, 308, 342)

DIAGNOSIS: Occipital carina interrupted at dorsolateral angles of head;

mesopleuron with microsculpture, densely punctate to striatopunctate.

DESCRIPTION: Male

Length: 4.5-6.0 mm.

Head: Flagellomeres apparently without tyli; penultimate flagellomere wider than long; OOD greater than POD; vertex without microsculpture, punctures up to 2 diameters apart; POA not tumid, with fine microstriae; gena striate to or almost to vertex; occipital carina incomplete, broadly interrupted at dorsolateral angles of head, continued ventrally to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with microsculpture and fine microstriae; scutum without microsculpture, punctures less than one diameter apart; scutellum without microsculpture, punctures about one diameter apart medially; mesopleuron with microsculpture, closely punctate to striatopunctate or weakly striate; hypoepimeral area finely striate; pubescence of mesopleuron and hypoepimeral area dense, appressed, obscuring sculpture; tegula punctate on inner side; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure not defined by a carina, adjacent area granular to striatogranular, lateral spheres obscured by dense appressed pubescence.

Abdomen: Petiole short, about twice longer than wide, round, carinae and sulci absent; terga and sterna with more than usual amount of short appressed pubescence; apical tergum finely punctate.

Color: Yellow on underside of flagellum except basal flagellomere, basitarsi, joints of tibiae; brown on tarsomeres II-V and tegula; red on apex of tergum I, all of II and part or all of III, sternum II and part or all of III.

Female

Length: 5.0-6.0 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture, punctures up to one diameter apart; apical edge broadly truncate, without teeth (all specimens examined may have been worn); preapical tumidity poorly developed; facial pubescence thin medially but dense near eyes; OOD greater than POD; vertex without microsculpture, punctures up to one diameter apart; POA not tumid, with some microstriae; gena with striae nearly reaching dorsolateral area of head; occipital

carina incomplete, broadly interrupted at dorsolateral angles of head, continued ventrally almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area granular with fine microstriae dorsally and oblique striae ventrally; scutum with weak microsculpture, punctures less than one diameter apart; scutellum without microsculpture, punctures up to 2 diameters apart; mesopleuron striatopunctate, punctures less than one diameter apart; hypoepimeral area coarsely granular with very faint striae ventrally; pubescence of mesopleuron and hypoepimeral area dense, obscuring sculpture; tegula punctate on inner side; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa present at extreme base.

Propodeum: Enclosure undefined by a carina, lateral spheres coarsely granular to striatogranular and obscured by dense appressed pubescence.

Abdomen: Petiole short, about 1.5 times longer than wide, dorsolateral sulcus weak, dorsolateral carina present, ventrolateral carina absent.

Color: Yellow on underside of flagellum except basal flagellomere, tarsi, tibiae at joints; brown on tegula; red on apex of tergum I, II, III and apical 2/3 of pygidial plate, sternum II and III.

BIOLOGY: One specimen from Riverside, California was collected on *Euphorbia* (Euphorbiaceae).

DISTRIBUTION: California.

HOLOTYPE: ♂ UCR. California, Bavilan (sic?) 14-IV-1940, Timberlake.

ALLOTYPE: ♀ UCR. California, Bavilan (sic?) 30-IV-1940, Timberlake.

PARATYPES: 19 specimens

California: Bavilan (sic?) 14-IV-1940, Timberlake	8 ♂♂ UCR.
	1 ♂ LEM.
	1 ♂ USNM.
30-IV-1940, Timberlake	2 ♀♀ UCR.
6-IV-1950, Timberlake	1 ♂ UCR.
10-IV-1950, Timberlake	2 ♂♂ UCR.
Riverside 19-IV-1932, Timberlake	1 ♂ UCR.
Apple Valley 8-V-1955, W.R. Richards	2 ♂♂ CNC.
Napa Co.: Berryessa 12-V-1961, F.D. Parker	1 ♂ UCD.

Map 24 18 males 3 females

MIMESA EDENTATA GROUP

Pronotal angles toothed.

Mimesa chiricahua New Species
(Figs. 41, 136, 171, 236, 301)

DIAGNOSIS: Male; basal 7 flagellomeres black, tegula finely punctate on inner half; mesopleuron with large punctures; tergum II red; hypoepimeral area coarsely striate.

Female; unknown.

DESCRIPTION: Male

Length: 5.5 mm.

Head: Flagellomeres II-V with narrow linear tyli which do not extend full length of flagellomeres; penultimate flagellomere wider than long; OOD greater than POD; vertex with microsculpture, punctures large, up to 2 diameters apart; POA slightly tumid; posterior declivity without microstriae; striae of gena extending most of distance to dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles slightly toothed, lateral area obliquely striate; scutum with microsculpture, punctures up to 4 diameters apart; scutellum with fine microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 2.5 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area with coarse irregular striae; pubescence of mesopleuron and hypoepimeral area long and outstanding, not obscuring sculpture; tegula finely punctate on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present on basal half.

Propodeum: Enclosure partially defined by a carina, adjacent area finely and irregularly striate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, rounded, dorsolateral sulcus and carina absent, ventrolateral carina evanescent; apical tergum finely punctate.

Color: Yellow on underside of apical 4 flagellomeres and more or less on apical 4 tarsomeres of all legs; brown on tegula; red on apex of tergum I and all of II, sternum II.

Female

Unknown.

BIOLOGY: Unknown.

DISTRIBUTION: Arizona, Colorado.

HOLOTYPE: ♂ CUM. Arizona, sw. Res. Sta., 5 mi. w. Portal 30-VIII-1959, 5400', H.E. Evans.

PARATYPE: 1 specimen.

Colorado: C.F. Baker 1 ♂ USNM.

Map 29 2 males

Mimesa edentata (Malloch)

(Figs. 15, 45, 79, 109, 140, 175, 209, 240, 274, 305, 339)

Psen (*Mimesa*) *edentatus* Malloch, 1933:37.

Psen (*Mimesa*) *impressifrons* Malloch, 1933:38. New synonymy.

DIAGNOSIS: Male; vertex without contiguous punctation; pronotal angles toothed; scutum with microsculpture; all or most of tergum III red.

Female; POA strongly tumid with microsculpture; pronotal angles slightly toothed; costa of forewing yellow-brown at base; tergum III red.

DESCRIPTION: Male

Length: 7.0-8.0 mm.

Head: Flagellomeres II-V with low linear tyli; penultimate flagellomere wider than long; OOD subequal (slightly shorter) to POD; vertex with fine microsculpture, punctures not contiguous but less than one diameter apart; POA tumid with microsculpture and visible in frontal profile; striae of gena not reaching dorsolateral area of head; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles toothed, lateral area with short oblique striae; scutum with microsculpture, punctures up to 2 diameters apart; scutellum with fine microsculpture, punctures up to 3 diameters apart; mesopleuron with microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striatogranular with appressed pubescence; tegula finely punctate on inner side; costa of forewing yellow-brown; inner ventral carina of hindcoxa present.

Propodeum: Enclosure well defined by a carina, adjacent area

striate becoming rugosoreticulate posterolaterally.

Abdomen: Petiole longer than tergum I, evenly convex without dorsolateral sulcus, dorsolateral carina not well developed, ventrolateral carina present; apical tergum finely punctate.

Color: Yellow on underside of flagellum, tibiae and tarsi; yellow-brown on tegula; red on apex of tergum I, all of II, III, sternum II and III.

Female

Length: 7.0-9.5 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture, punctures less then one diameter apart; apical edge with 2 broad lobes separated by a median emargination; preapical tumidity not well developed, broad but not extending to lateral limits of clypeal lobes; facial pubescence dense ventral to median ocellus, partially or completely obscuring sculpture; OOD equal to POD; vertex with microsculpture, punctures up to 2 diameters apart; POA tumid with microsculpture and visible in frontal profile; striae of gena not reaching dorsolateral area of head; occipital carina complete almost to hypostomal carina.

Thorax: Pronotal angles somewhat toothed, lateral area with several short oblique striae; scutum with microsculpture, punctures up to 2 diameters apart; scutellum more shining, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 4 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area weakly striate with appressed pubescence; tegula finely punctate on inner side; costa of forewing yellow-brown basally; inner ventral carina of hindcoxa weak or absent.

Propodeum: Enclosure well defined by a carina, adjacent area striate becoming rugosoreticulate posterolaterally.

Abdomen: Petiole length variable, usually subequal to length of tergum I but may be slightly longer or considerably shorter (about 1/2 length of tergum I), evenly convex, dorsolateral sulcus absent, dorsolateral carina poorly developed, ventrolateral carina well developed.

Color: Yellow on underside of flagellum except occasionally basal flagellomere, tegula; red-brown on legs; red on apical 2/3 or less of tergum I, all of II, III and up to 2/3 of IV, apex of sternum I, all of II, III and part or all of IV.

BIOLOGY: One specimen of a mite, a hypopus of the genus *Vidia*? (Saproglyphidae),

was taken from the frons of a male from Lewiston, Idaho. This mite is probably phoretic and its occurrence on the wasp accidental.

DISTRIBUTION: California, New Mexico, Utah, Idaho, Washington, British Columbia.

Map 25 18 males 27 females

Mimesa ipai New Species

(Figs. 52, 86, 116, 147, 182, 216, 247, 281, 312, 346)

DIAGNOSIS: Male; vertex without microsculpture, POA with a small tumidity; flagellum yellow on underside; pronotal angles toothed; scutum and mesopleuron without microsculpture; tergum III black.

Female; POA tumid with microsculpture, visible in frontal profile; pronotal angles sharp but not toothed; costa of forewing brown; tergum III usually black, at most red basally.

DESCRIPTION: Male

Length: 7.0-8.0 mm.

Head: Flagellomeres II-V or VI with linear tyli; penultimate flagellomere wider than long; OOD greater than POD; vertex without microsculpture, punctures about one diameter apart; POA tumid with microsculpture; gena striate to dorsolateral area of head; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles toothed, lateral area with several short oblique striae; scutum shining, sometimes with weak microsculpture, punctures up to 4 diameters apart; scutellum without microsculpture, punctures up to 4 diameters apart; mesopleuron without microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area moderately striate with fine outstanding pubescence; tegula punctate on inner side; costa of forewing brown; inner ventral carina of hindcoxa present on basal half.

Propodeum: Enclosure partially defined by a carina, adjacent area moderately rugosoreticulate or striate becoming rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, usually rounded, dorsolateral sulcus and carina usually absent, ventrolateral carina often poorly developed; apical tergum finely punctate.

Color: Yellow-red on underside of flagellum except occasionally basal flagellomere; brown on tegula; red on apex of tergum I, part or all of II and part or all of sternum II.

Female

Length: 7.0-8.0 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture, punctures both large and small less than one diameter apart; clypeus with a subapical transverse furrow, apical edge with 4 broadly rounded teeth, median pair larger than lateral pair; preapical tumidity poorly developed, not reaching lateral teeth; facial pubescence sparse, not obscuring sculpture; OOD greater than POD; vertex with microsculpture, punctures one diameter or less apart; POA tumid with microsculpture, visible in frontal profile; striae of gena not reaching dorsolateral area of head; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles sharp but not toothed, lateral area with short oblique striae; scutum with microsculpture, punctures up to 2 diameters apart; scutellum with weak microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, large punctures up to 4 diameters apart interspersed with smaller punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area finely striate; tegula punctate on inner side; costa of forewing yellow-brown basally; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure partially defined by a carina, adjacent area finely striate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I; evenly convex, rounded, all sulci and carinae evanescent to absent.

Color: Yellow on underside of flagellomeres II-X; brown on tegula; red on apex of tergum I, all of II and occasionally laterally on III, sternum II and often part of III.

BIOLOGY: One specimen of a mite, a hypopus of the genus *Sancassania* (=*Caloglyphus*) (Acaridae), was found on the scutellum of a female from mountains near Claremont, California. This mite is probably phoretic and its occurrence on this wasp accidental.

DISTRIBUTION: California.

HOLOTYPE: ♂ UCD. California, Modoc Co., Cederville 14-VI-1964, R.P. Allen.

ALLOTYPE: ♀ UCD. California, Sierra Co., Yuba Pass 5-VII-1966, R.M. Bohart.

PARATYPES: 21 specimens.

California: Camp Angelus 22-VIII-1953, A.L. Melander 1 ♂ USNM.
1 ♂ LEM.
25-VIII-1953, A.L.Melander 1 ♂ 1 ♀ USNM.
1 ♂ CNC.
15-IX-1956, A.L. Melander 1 ♀ USNM.
Santa An. R., S. Bernadino Mts. 22-VIII-1952, Timberlake
1 ♂ UCR.
Mill Creek, S. Bernadino Mts. 1-VIII-1942, Timberlake
1 ♀ UCR.
1 ♀ LEM.
Up. Sta. Ana. Riv. 6-VII-1948, A.L.Melander 1 ♂ UCR.
1-VIII-1953, A.L. Melander 1 ♂ 1 ♀ USNM.
15-VIII-1949, A.L. Melander 1 ♂ UCR.
3-VIII-1946, G. & J. Sperry 1 ♂ SEM.
Laguna Mts. 7-VI-1929, R.H. Beamer 1 ♂ SEM.
Mts. nr. Claremont, Baker 1 ♀ UCD.
1 ♀ CNC.
Barton Flat, so. Fork Camp 11-IX-1944, A.L. Melander
1 ♀ UCR.
Nevada Co.: Boca 25-VI-1961 2 ♂♂ 1 ♀ UCD.

Map 27 13 males 10 females

Mimesa punctifrons (Malloch)
(Figs. 25, 29, 60, 92, 122, 155, 190, 222, 255, 287, 320, 352)

Psen (*Mimesa*) *punctifrons* Malloch, 1933:36.

DIAGNOSIS: Male; vertex with contiguous punctation; pronotal angles toothed; scutum without microsculpture; tergum III red at least basally.

Female; pronotal angles toothed; POA not tumid.

DESCRIPTION: Male

Length: 6.5-8.5 mm.

Head: Flagellomeres II-V with linear tyli; penultimate flagellomere as long as wide or longer than wide; OOD greater than POD; vertex for the most part with contiguous punctation; POA not tumid but with microstriae;

striae of gena not reaching dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles toothed, lateral area with many fine oblique striae; scutum shining, without or with weak microsculpture, punctures up to 3 diameters apart; scutellum without microsculpture, punctures up to 6 diameters apart; mesopleuron shining without or with weak microsculpture, punctures up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area coarsely striate without appressed pubescence; tegula finely punctate on inner side; costa of forewing brown; inner ventral carina of hindcoxa present.

Propodeum: Enclosure poorly defined, adjacent area and lateral spheres moderately rugosoreticulate, dorsoposterior area somewhat transversely striate.

Abdomen: Petiole equal to or longer than tergum I, evenly convex in smaller specimens, with poorly developed dorsolateral sulci in larger specimens, dorsolateral carina not well developed, ventrolateral carina well developed in larger specimens, poorly developed in smaller specimens; apical tergum finely punctate.

Color: Yellow on underside of flagellum although sometimes blackened on basal flagellomeres, foretibia at least on inner side, foretarsus and midtarsus; brown on tegula; red on apex of tergum I, all of II and at least basally on III, sternum II and part or all of III.

Female

Length: 8.5-9.5 mm.

Head: Penultimate flagellomere longer than wide on outer side, wider than long on inner side; clypeus shining with or without weak microsculpture, punctures up to 4 diameters apart, apical edge with 4 broadly rounded teeth, the median pair larger than the lateral pair; preapical tumidity well developed, subtriangular, not extending to lateral teeth; facial pubescence dense ventrally from antennal sockets, obscuring sculpture; OOD greater than POD; vertex with microsculpture, punctures one diameter or less apart; POA not tumid and without microstriae; striae of gena not reaching dorsolateral area of head; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles toothed, lateral area with fine oblique striae; scutum with microsculpture, punctures up to 4 diameters apart; scutellum with or without fine microsculpture, punctures up to 3 diameters

apart; mesopleuron with microsculpture and fine obscure punctation up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area finely to moderately striate; tegula punctate on inner side; costa of forewing brown; inner ventral carina of hindcoxa present.

Propodeum: Enclosure poorly defined with fine rugosoreticulate sculpture on lateral areas and transversely striate posteriorly.

Abdomen: Petiole slightly longer or slightly shorter than tergum I, evenly convex without dorsolateral sulcus, dorsolateral carina weak, ventrolateral carina present.

Color: Yellow on underside of flagellum; brown on apical tarsomeres and tegula; red on apex of tergum I, all of II, usually all of III and rarely basally on IV, sternum I apically, all of II, usually all of III and occasionally all of IV.

BIOLOGY: Unknown.

DISTRIBUTION: California.

Map 26 12 males 7 females

Mimesa tolteca New Species
(Figs. 26, 68, 163, 198, 263, 328)

DIAGNOSIS: Male; pronotal angles toothed; flagellum black.

Female; unknown.

DESCRIPTION: Male

Length: 6.0-7.0 mm.

Head: Flagellomeres II-V with oval tyli; penultimate flagellomere wider than long; OOD greater than POD; vertex shining with weak microsculpture, punctures up to 3 diameters apart; POA not tumid with microsculpture; gena striate on ventral half; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles toothed, lateral area with a few short oblique striae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 3 diameters apart; mesopleuron with microsculpture, punctures about one diameter apart, without striae ventral to hypoepimeral area; hypoepimeral area irregularly striate; tegula punctate on inner side; costa of forewing dark brown; inner ventral carina of hindcoxa present on basal half.

Propodeum: Enclosure poorly defined, adjacent area finely striate becoming finely rugosoreticulate laterally and finely transversely striate posteriorly.

Abdomen: Petiole shorter than tergum I, evenly convex with dorsolateral sulci, carinae and ventrolateral carinae evanescent to absent; apical tergum finely punctate.

Color: Brown on tegula; red on apex of tergum I, all or most of II and sternum II.

Female

Unknown.

BIOLOGY: Unknown.

DISTRIBUTION: Mexico; Mexico.

HOLOTYPE: ♂ MCZ. Mexico; Mexico, 10 km ne. Agua Bendita, 10000' 4-VIII-1962, H.E. Evans.

PARATYPES: 2 specimens.

Mexico: Angang, C^n de Saussure 2 ♂♂ MHN.

Map 28 3 males

MIMESA UNICINCTA GROUP

Tyli of male flagellomeres linear.

Mimesa arizonensis (Malloch)

(Figs. 37, 72, 102, 132, 167, 202, 232, 267, 297, 332)

Psen (Mimesa) arizonensis Malloch, 1933:36.

DIAGNOSIS: Male; petiole shorter than tergum I; tergum III red; mesopleuron with moderately coarse punctation and microsculpture; propodeum finely sculptured; flagellum yellow beneath, tyli linear, penultimate flagellomere wider than long; apical tergum finely punctate.

Female; petiole round, shorter than tergum I; punctures of scutum normal, not large; hypoepimeral area very finely striate; propodeum striate throughout.

DESCRIPTION: Male

Length: 7.0–8.0 mm.

Head: Flagellomeres II-V with narrow linear tyli extending full length of flagellomeres; penultimate flagellomere wider than long; OOD subequal to POD; vertex with weak microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; gena striate to dorsolateral area of head; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles rounded or forming a right angle, but not at all toothed, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum without microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral thin, not obscuring sculpture; tegula finely and sparsely punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa well developed from base to apex.

Propodeum: Enclosure defined by a fine carina, adjacent area finely striate to finely rugosoreticulate, lateral spheres finely rugosoreticulate.

Abdomen: Petiole shorter than tergum I, round, dorsolateral sulcus and carina absent, ventrolateral carina evanescent to absent; apical tergum finely punctate.

Color: Yellow on underside of flagellum, inner side of foretibia and occasionally foretarsus in part or entirely, tegula; red on occasionally all but usually apical 1/2 to 1/3 of tergum I, all of II, III, occasionally apex of sternum I, all of II and III.

Female

Length: 8.5 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture, punctures up to 2 diameters apart; apical margin with 4 broadly rounded teeth; preapical tumidity broad but not reaching beyond median teeth; facial pubescence dense ventrally from just above antennal sockets, obscuring sculpture; OOD equal to POD; vertex with weak microsculpture, punctures up to 3 diameters apart; POA slightly tumid; posterior declivity without microstriae; striae of gena not reaching dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum without microsculpture, punctures up to 4 diameters apart; mesopleuron with

microsculpture, punctures up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area very finely striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula finely punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa well developed from base to apex.

Propodeum: Enclosure poorly defined, lateral spheres striate.

Abdomen: Petiole shorter than tergum I, round, dorsolateral sulcus absent, dorsolateral and ventrolateral carinae evanescent.

Color: Yellow on underside of flagellum, inner side of foretibia, foretarsus ventrally, tegula; red on terga I-III, apex of sternum I, all of II and III.

BIOLOGY: Unknown.

DISTRIBUTION: California, Arizona.

Map 35 7 males 1 female

Mimesa gregaria (Fox)

(Figs. 18, 50, 84, 114, 145, 180, 214, 245, 279, 310, 344)

Psen gregarius Fox, 1898:16.

DIAGNOSIS: Male; flagellomeres with narrow linear tyli which are at least slightly raised from surface of flagellomeres; penultimate flagellomere wider than long; petiole shorter than tergum I; propodeal sculpture moderately coarse, rugosoreticulate posterolaterally; tegula not punctate throughout.

Female; penultimate flagellomere wider than long; petiole convex, shorter than tergum I; preapical tumidity of clypeus absent or present but not well developed; tergum III red; propodeum with moderately coarse rugoso-reticulate sculpture posterolaterally.

DESCRIPTION: Male

Length: 5.0-7.5 mm.

Head: Flagellomeres II-IV or V with narrow linear slightly raised tyli; penultimate flagellomere wider than long; OOD greater than POD; vertex with at least weak microsculoture, punctures up to 2 diameters apart; POA not tumid; posterior declivity with or without microstriae; gena striate to or almost to dorsolateral area of head; occipital carina complete, usually not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate;

scutum with or without microsculpture, punctures up to 3 diameters apart; scutellum with or without microsculpture, punctures up to 4 diameters apart; mesopleuron with or without microsculpture, punctures up to 2 diameters apart, with or without striae ventral to hypoepimeral area; hypoepimeral area coarsely striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula usually closely punctate anteriorly and on inner side; costa of forewing yellow to light brown at base; inner ventral carina of hindcoxa present to absent.

Propodeum: Enclosure partially or completely defined by a carina, adjacent area either striate or rugospreticulate, lateral spheres with moderately coarse rugosoreticulate sculpture.

Abdomen: Petiole shorter than tergum I, convex, dorsolateral sulcus, carina and ventrolateral carina usually well developed; apical tergum finely punctate.

Color: Yellow on underside of at least flagellomeres III-XI, legs occasionally black or with yellow on at most apices of femora, tibiae and tarsi; tegula yellow to dark brown; red on at least apex of tergum I, most of II, sternum II and at most red on all of tergum II, III, sternum II and III.

Female

Length: 6.5-9.0 mm.

Head: Penultimate flagellomere wider than long; clypeus shining, at least medially without microsculpture, punctures up to one diameter apart; apical margin with 4 broadly rounded teeth; preapical tumidity present or absent but if present then not well developed; facial pubescence dense ventrally from just above antennal sockets, partially or totally obscuring sculpture; OOD greater than POD; vertex with microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity usually without microstriae; gena with striae usually reaching dorsolateral area of head; occipital carina complete , not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 5 diameters apart; scutellum with at least weak microsculpture, punctures up to 5 diameters apart; mesopleuron with weak microsculpture, punctures small, up to 3 diameters apart, with or without striae ventral to hypoepimeral area; hypoepimeral area coarsely striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of

forewing yellow at base; inner ventral carina of hindcoxa present at extreme base or absent.

Propodeum: Enclosure partially or completely defined by a carina, adjacent area coarsely and usually irregularly striate becoming coarsely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, convex, dorsolateral sulcus, carina and ventrolateral carina usually well developed.

Color: Yellow on underside of flagellomeres I or II-X, occasionally entire foretibia but more often on inner side, midtibia and hindtibia occasionally at joints, tarsi variable; light to dark brown on tegula; red on at most apical half of tergum I, all of II, III and laterally on IV, sternum II, III and base of IV.

BIOLOGY: Floral records from the material examined include one female from Minnesota on *Solidago* (Compositae) and 2 males from Wyoming on *Perideridia* (Umbelliferae).

DISTRIBUTION: Alaska, Yukon, North West Territories, British Columbia, Alberta, Oregon, Idaho, Nevada, Utah, California, Colorado, Wyoming, Montana, Saskatchewan, Manitoba, North Dakota, South Dakota, Kansas, Minnesota, Wisconsin, Illinois, Michigan, Ontario, Quebec, Labrador, New Brunswick, Nova Scotia, Vermont, Massachuesetts, New York.

Map 30 175 males 135 females

Mimesa klamath New Species
(Figs. 361-366)

DIAGNOSIS: Male; apical flagellomere assymmetrical.

Female; unknown.

DESCRIPTION: Male

Length: 6.5 mm.

Head: Flagellomeres II-V with narrow linear tyli; penultimate flagellomere wider than long; apical flagellomere assymmetrical; OOD greater than POD; vertex with microsculpture, punctures less than one diameter apart; POA not tumid, microstriate; posterior declivity microstriate and continuous with microstriae of gena; occipital carina complete almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with short oblique

striae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum without microsculpture, punctures up to 2 diameters apart; mesopleuron with microsculpture, fine punctures up to 2 diameters apart, striae ventral to hypoepimeral area evanescent; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area long and outstanding, not obscuring sculpture; tegula strongly arched in posterior profile, closely punctate except outer posterior 1/4, punctures slightly smaller than those of scutum; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa poorly developed on basal half.

Propodeum: Enclosure well defined by a carina, adjacent area striate becoming rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, convex, dorsolateral sulcus, carina and ventrolateral carina poorly developed; apical tergum finely punctate.

Color: Yellow on underside of flagellomeres VI-XI, apically on foretibia and midtibia; brown on tegula; red on apex of tergum I, all of II and sternum II.

Female

Unknown.

BIOLOGY: Unknown.

DISTRIBUTION: Oregon.

HOLOTYPE: ♂ UCD. Oregon; Klamath Co., Gearhart Mt. 7500' 5-VIII-1966, J. Schuh.

Map 34 1 male

Mimesa mexicana Cameron

(Figs. 56, 89, 119, 151, 186, 219, 251, 284, 316, 349)

Mimesa mexicana Cameron, 1891:134, pl. VIII, fig. 15.

DIAGNOSIS: Male; tegula with very fine scattered punctures anteriorly and on inner side; flagellomeres black, occasionally slightly yellowed on apical 2 flagellomeres; abdomen black with red on tergum II; mesopleuron with microsculpture.

Female; flagellomeres I-V or VI black; tergum II with red.

DESCRIPTION: Male

Length: 5.0-6.5 mm.

Head: Flagellomeres II-V with narrow linear tyli which do not extend full length of flagellomeres; penultimate flagellomere wider than long; OOD greater than POD; vertex with microsculpture, punctures up to 1.5 diameters apart; POA not tumid; posterior declivity usually without microstriae; striae of gena usually not reaching dorsolateral area of head; occipital carina complete to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with short transverse and oblique striae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with weaker microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture and evanescent microstriae, punctures up to 2 diameters apart, with striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula with scattered punctures anteriorly and on inner side; costa of forewing brown; inner ventral carina of hind-coxa present basally but obscure.

Propodeum: Enclosure poorly defined, adjacent area finely striate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, rounded, dorsolateral sulcus, carina and ventrolateral carina evanescent or absent; apical tergum finely punctate.

Color: Yellow occasionally on underside of apical 2 or 3 flagellomeres and occasionally apical tarsomeres; brown on tegula; red occasionally on apex of tergum I and at most part of II, sternum II in part; abdomen usually black.

Female

Length: 7 mm.

Head: Penultimate flagellomere wider than long; clypeus with microsculpture, punctures up to one diameter apart; apical edge with 4 broadly rounded teeth, the median pair protruding further than the lateral pair; preapical tumidity poorly developed; facial pubescence dense ventrally from just above antennal sockets, partially obscuring sculpture; OOD greater than POD; vertex with microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity without microstriae; striae of gena not reaching dorsolateral area of head; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate;

scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area finely striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula with a few punctures anteriorly and on inner side; costa of forewing brown; inner ventral carina of hindcoxa present at extreme base.

Propodeum: Enclosure not defined by a carina, adjacent area coarsely granular or finely striate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, somewhat rounded, dorsolateral sulcus and carina absent to evanescent, ventrolateral carina absent.

Color: Yellow on underside of flagellomeres V-X or less; brown on tegula; red on apex of tergum I, all of II and part or all of III, sternum II and part or all of III.

BIOLOGY: Unknown.

DISTRIBUTION: Mexico: Durango.

LECTOTYPE DESIGNATION: ♀ BM. Milpas, Mex. 5900 ft. Forrer.

One damaged syntype from the same locality bears an apparently unpublished BM type Hym. 21.829 label. This specimen is headless and very difficult to recognize as *mexicana*. The single other specimen observed by Cameron is in good condition, easily recognized as *mexicana* and here designated as lectotype.

Map 36 6 males 3 females

Mimesa nisenan New Species

(Figs. 65, 97, 127, 160, 195, 227, 260, 292, 325, 357)

DIAGNOSIS: Male; tegula with relatively large punctures throughout, although not as large as those of scutum; posterior declivity of vertex coarsely microstriate; basal 7 flagellomeres black.

Female; flagellomeres I-III or V black; hypoepimeral area finely striate; tegula closely punctate on inner side; tergum III black.

DESCRIPTION: Male

Length: 5.0-7.5 mm.

Head: Flagellomeres II-V or VI with narrow linear tyli; penultimate

flagellomere wider than long; OOD greater than POD; vertex with weak microsculpture, punctures up to 2 diameters apart; POA not tumid, coarsely microstriate; posterior declivity coarsely microstriate; gena striate to dorsolateral area of vertex, striae usually continuous with microstriae of posterior declivity; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles rounded; lateral area with short oblique striae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum without or with weak microsculpture, punctures up to 3 diameters apart; mesopleuron with coarse microsculpture, punctures obscure, up to one diameter apart, with one or 2 striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area sparse, long and outstanding, not obscuring sculpture; tegula strongly arched in posterior profile, closely punctate throughout or almost so, occasionally somewhat sparse on outer 1/4, punctures almost as large as those of scutum; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure partially defined by a carina, adjacent area moderately striate becoming moderately rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, convex, dorsolateral sulcus, carina and ventrolateral carina weak, evanescent or absent; apical tergum finely punctate.

Color: Yellow on at most underside of flagellomeres VII-XI; brown to dark brown on tegula; red on apex of tergum I, all or most of II and sternum II.

Female

Length: 6.5-8.0 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture over most of its surface, punctures up to one diameter apart; apical edge with 4 weak teeth, median pair larger than lateral pair; preapical tumidity absent to poorly developed but if present then broad, nearly reaching lateral teeth; facial pubescence moderately dense ventrally from anterior ocellus, partially obscuring sculpture; OOD greater than POD; vertex with weak microsculpture, punctures up to 2 diameters apart; POA not tumid; posterior declivity often with very fine evanescent microstriae; gena striate to dorsolateral area of head; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with several short oblique striae; scutum with microsculpture, punctures up to 6 diameters apart; scutellum with microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures obscure, up to 2 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area sparse, long and outstanding, not obscuring sculpture; tegula with close large punctures on inner half; costa of forewing yellow-brown at base; inner ventral carina of hindcoxa absent.

Propodeum: Enclosure partially defined by a carina, adjacent area striate becoming somewhat rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, convex, dorsolateral sulcus, carina and ventrolateral carina weak to evanescent.

Color: Yellow on underside of apical 5 or 6 flagellomeres; brown to dark brown on tegula; red on apex of tergum I, all or most of II and at most laterally on III, sternum II and at most basally on III.

BIOLOGY: Unknown.

DISTRIBUTION: California, Nevada.

HOLOTYPE: ♂ UCD. California; Mono Co., Sonora Pass 10-VIII-1960, C.A. Toschi.

ALLOTYPE: ♀ UCD. California; Mono Co., Sonora Pass 13-VIII-1960, W. Steffan.

PARATYPES: 45 specimens.

California: Donner Pass 1-VIII-1948, H.M.G. & D. Townes 2 ♂♂ USNM.
Devils Basin 8200' 19-VII-1931, E.O. Essig 1 ♂ USNM.
Sagehen Cr., nr. Hobart Mills 6500' 13-VII-1961, J.G. Chillcott 1 ♀ CNC.
Angora Peak 8625' 19-VII-1931, E.O. Essig 1 ♀ USNM.
Mono Co.: Sonora Pass 10-VIII-1960, C.A. Toschi 1 ♂ UCD.
1 ♂ 1 ♀ LEM.
13-VIII-1960, W.A. Steffan 1 ♂ 1 ♀ UCD.
J.F. Lawrence 1 ♀ UCD.
10-VIII-1960, M.E. Irwin 1 ♀ UCD.
T. Gantenbein 2 ♂♂ UCD.
Sonora Pass, McKay Creek 18-VIII-1960, E. Jessen 1 ♀ UCD.
Fale's Hot Spr. 7120' 20-VII-1967, M.E. Irwin 1 ♂ UCR.
Leavitt Creek 8600' 10-VIII-1960, E. Jessen 1 ♂ UCD.
C.A. Toschi 1 ♂ UCD.

California:

Mono Co.: Pickel Mdw. 11-VIII-1960, A. Panasenko		1 ♀ MCZ.
Mammoth Lk. 5-VIII-1936		1 ♀ MCZ.
29-VII-1940, L.J. Lipovsky		1 ♀ SEM.
Nevada Co.: Fuller Lake 15-VII-1961, A.S. Menke		2 ♂♂ UCD.
Boca 15-VII-1973, R.M. Bohart		1 ♂ UCD.
Jackson Lake 15-VII-1961, L.A. Stange	2 ♂♂	1 ♀ UCD.
Eldorado Co.: Fallen Leaf 6500' 13-VII-1961, H.B. Poole		1 ♂ CNC.
Alpine Co.: Hope Valley 12-VII-1966, R.L. Brumley		1 ♀ UCD.
Nevada: Ormsby Co.: VII, Baker	15 ♂♂	1 ♀ UCD.

Map 33 33 males 14 females

Mimesa simplex (Malloch) New Status
(Figs. 66, 98, 128, 161, 196, 228, 261, 293, 326, 358)

Psen (*Mimesa*) *gregarius simplex* Malloch, 1933:42.

DIAGNOSIS: Male; tyli absent or very poorly developed; flagellum yellow beneath; foretibia yellow; tegula yellow; petiole shorter than tergum I.

Female; petiole short, about twice longer than wide or less; occipital carina complete.

DESCRIPTION: Male

Length: 5.0-7.0 mm.

Head: Flagellomeres II-IV occasionally with evanescent linear tyli, tyli are usually absent; penultimate flagellomere wider than long; OOD larger or smaller than POD; vertex with weak microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity usually without microstriae; gena striate to or almost to dorsolateral area of head; occipital carina complete to or almost to hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum without or with weak microsculpture, punctures up to 3 diameters apart; scutellum without or with weak microsculpture, punctures up to 4 diameters apart; mesopleuron usually with microsculpture, punctures up to 3 diameters apart, usually with several striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present

at base.

Propodeum: Enclosure completely or partially defined by a carina, adjacent area striate becoming rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, convex, dorsolateral sulcus, carina and ventrolateral carina usually well developed; apical tergum finely punctate.

Color: Yellow on underside of flagellum, femora apically, tibiae except occasionally outer hindtibia, tarsi and tegula; red on apex of tergum I, all of II and sternum II.

Female

Length: 6.0-8.5 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture medially, punctures up to 1.5 diameters apart; apical edge with 4 weak broadly rounded teeth; preapical tumidity absent; facial pubescence dense ventrally from anterior ocellus, partially or completely obscuring sculpture; OOD subequal to POD; vertex with microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; striae of gena reaching to or almost to dorsolateral area of head; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area obliquely striate; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures fine, obscure, up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula finely punctate anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present at base.

Propodeum: Enclosure undefined by a carina, adjacent area striate, lateral spheres either striate or with a small amount of rugosoreticulate sculpture.

Abdomen: Petiole shorter than tergum I, about twice longer than wide, convex, dorsolateral carina, sulcus and ventrolateral carina all well developed.

Color: Yellow on underside of flagellum except basal flagellomere, foretibia on inner side, joints of midtibia and hindtibia, tarsi except basitarsi, tegula; red on part or all of tergum I, part or all of II, occasionally all of III, IV and basally on V, sternum I occasionally on

apex, II and up to III and IV.

BIOLOGY: Floral records from the material examined included 2 males from Alberta collected on *Agropyron* and *Elymus* (Gramineae).

DISTRIBUTION: British Columbia, Alberta, Saskatchewan, Manitoba, Wyoming, Colorado, Utah, Nevada, Arizona, California.

Map 31 58 males 49 females

Mimesa unicincta Cresson
(figs. 35, 69, 99, 129, 164, 199, 229, 264, 294, 329, 359)

Mimesa unicincta Cresson, 1865b:488.

DIAGNOSIS: Male; flagellomeres black on basal 4 or more, tyli linear; mid-tibia and hindtibia black; tegula brown, with close relatively large punctures anteriorly and on inner side; mesopleuron finely punctate without microstriae medially; propodeum finely sculptured.

Female; flagellomeres I-II or III black; tergum III with red; legs black; hypoepimeral area striate; petiole convex, more than twice longer than wide.

DESCRIPTION: Male

Length: 4.5-7.0 mm.

Head: Flagellomeres II-V with narrow linear tyli; penultimate flagellomere wider than long; OOD greater than POD; vertex with weak micro-sculpture, punctures up to 1.5 diameters apart; POA not tumid; posterior declivity occasionally with fine microstriae; striae of gena reaching to or almost to dorsolateral area of head; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with several oblique striae; scutum with or without microsculpture, punctures up to 3 diameters apart; scutellum with or without microsculpture, punctures up to 4 diameters apart; mesopleuron with or without microsculpture, punctures up to 2 diameters apart, usually with a few striae ventral to hypoepimeral area; hypoepimeral area striate; pubescence of mesopleuron and hypoepimeral area of medium density, appressed and outstanding, partially obscuring sculpture; tegula with relatively large close punctures anteriorly and on inner side; costa of forewing yellow-brown; inner ventral carina of hindcoxa occasionally present basally.

Propodeum: Enclosure partially defined by a carina, adjacent area finely striate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole equal to or slightly shorter than tergum I, convex, dorsolateral sulcus moderate to evanescent, dorsolateral carina weak to evanescent, ventrolateral carina weak to absent; apical tergum finely punctate.

Color: Yellow on at most underside of flagellomeres II-XI, usually V-XI, foretibia occasionally on inner side, usually apical tarsomeres; brown on tegula; red on apex of tergum I, most or all of II and sometimes basally on III, sternum II and occasionally part of III.

Female

Length: 6.0-8.5 mm.

Head: Penultimate flagellomere wider than long; clypeus without microsculpture medially, punctures up to one diameter apart; apical edge with 4 broadly rounded teeth; preapical tumidity not well developed, not reaching lateral teeth; facial pubescence dense ventrally from just above antennal sockets, obscuring sculpture; OOD greater than POD; vertex with microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; gena striate almost to dorsolateral area of head; occipital carina complete but not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with oblique striae; scutum with microsculpture, punctures up to 4 diameters apart; scutellum with microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures small, obscure, up to 3 diameters apart, without striae ventral to hypoepimeral area; hypoepimeral area finely striate; pubescence of mesopleuron and hypoepimeral area thin, both appressed and outstanding, not obscuring sculpture; tegula punctate anteriorly and on inner side; costa of forewing yellow-brown; inner ventral carina of hind-coxa present basally.

Propodeum: Enclosure partially defined by a carina, adjacent area finely striate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, convex, dorsolateral sulcus weak to absent, dorsolateral carina weak to evanescent, ventrolateral carina weak.

Color: Yellow on underside of flagellomeres III-X; brown on tegula; red on apex of tergum I, all of II and part or all of III, sternum II and III.

BIOLOGY: One specimen from the material examined was taken on *Cleome serrulata* Pursh (Capparidaceae).

DISTRIBUTION: California, Arizona, Nevada, Utah, Colorado, Wyoming, Oregon, Washington, British Columbia, Alberta.

Map 32 56 males 40 females

Mimesa zapoteca New Species
(Figs. 70, 100, 130, 165, 200, 230, 265, 295, 330, 360)

DIAGNOSIS: Male; tegula with at most a few punctures anteriorly and on inner side; at least basal 4, usually basal 6 flagellomeres black; tergum III red.

Female; hypoepimeral area granular with very fine evanescent striae; clypeus without a preapical tumidity; lateral area of pronotum without vertical striae; propodeum finely rugosoreticulate; petiole shorter than tergum I; punctures of mesopleuron small, indistinct.

DESCRIPTION: Male

Length: 6.0-6.5 mm.

Head: Flagellomeres II-V and very slightly on VI with narrow linear tyli; penultimate flagellomere wider than long; OOD subequal to POD; vertex with weak microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; striae of gena reaching to or almost to dorsolateral area of head; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with a few short oblique striae; scutum with microsculpture, punctures up to 3 diameters apart; scutellum with microsculpture, punctures up to 4 diameters apart; mesopleuron with microsculpture, punctures up to one diameter apart, without striae ventral to hypoepimeral area; hypoepimeral area granular with evanescent striae; pubescence of mesopleuron and hypoepimeral area moderate, not obscuring sculpture; tegula with a few scattered punctures anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present at extreme base.

Propodeum: Enclosure defined by a fine carina, lateral spheres finely rugosoreticulate.

Abdomen: Petiole shorter than tergum I, rounded, dorsolateral sulcus

absent, dorsolateral and ventrolateral carinae absent or evanescent; apical tergum finely punctate.

Color: Yellow on underside of flagellomeres VI-XI or less; brown on tegula; red on apex of tergum I, all of II, part or all of III, occasionally extreme base of IV, sternum II and part or all of III.

Female

Length: 7.0-7.5 mm.

Head: Penultimate flagellomere wider than long; clypeus with weak microsculpture, punctures up to one diameter apart; apical edge with 4 broadly rounded teeth on a wide median lobe (material examined may be worn); preapical tumidity undeveloped; facial pubescence dense ventrally fron just above antennal sockets, partially obscuring sculpture; OOD subequal to POD; vertex with weak microsculpture, punctures up to 3 diameters apart; POA not tumid; posterior declivity without microstriae; striae of gena reaching dorsolateral area of head; occipital carina complete, not reaching hypostomal carina.

Thorax: Pronotal angles rounded, lateral area with several short oblique striae; scutum with microsculpture, punctures up to 2 diameters apart; scutellum with microsculpture, punctures up to 3 diameters apart; mesopleuron with coarse microsculpture, punctures fine, up to one diameter apart, without striae ventral to hypoepimeral area; hypoepimeral area granular with evanescent striae; pubescence of mesopleuron and hypoepimeral area thin, not obscuring sculpture; tegula with at most a few punctures anteriorly and on inner side; costa of forewing yellow at base; inner ventral carina of hindcoxa present at extreme base.

Propodeum: Enclosure not defined by a carina, adjacent area irregularly striate becoming finely rugosoreticulate posterolaterally.

Abdomen: Petiole shorter than tergum I, evenly convex, dorsolateral sulcus absent, dorsolateral carina and ventrolateral carina weak.

Color: Yellow on underside of flagellomeres II-X; brown on tegula; red on apex of tergum I, all of II, III, usually extreme base of IV, sternum II; III and part of IV.

BIOLOGY: One specimen of a mite, a hypopus of the genus *Bonomoia* (Anoetidae), was found on the forefemur of a male from Pachuca, Mexico (7300'). This mite is probably phoretic and its occurrence on this wasp accidental.

DISTRIBUTION: Mexico: Hidalgo, Mexico.

HOLOTYPE: ♂ SEM. Mexico; Hidalgo, Pachuca 28-VII-1954 7300', Univ. Kansas Mex. Expedition.

ALLOTYPE: ♀ CNC. Mexico; Mexico, Texcoco 12-VIII-1954 7000', J.G. Chillcott.

PARATYPES: 4 specimens.

Mexico:

Hidalgo: Pachuca 28-VII-1954, Univ. Kansas Mex. Expedition — 2 ♂♂ SEM.

Mexico: Teotihuacan 1-VII-1965, O.S. Flint — 1 ♂ USNM.

Xochimilco 31-VIII-1947, H.E. Milliron — 1 ♀ MINN.

Map 37 4 males 2 females

DISCUSSION

Based on a study of 3872 specimens representing 46 species from the Palearctic, Ethiopian and Nearctic Regions, evidence suggests *Mimesa* radiated from Siberia to Europe, North Africa and North America in 3 separate invasions. The North African fauna are the most apomorphic of the genus exhibiting extreme reduction of both macro and microsculpture; the western Palearctic fauna for the most part are among the most coarsely sculptured in the genus while the American fauna fall in between these two extremes.

Aside from one Holarctic species, *Mimesa lutaria*, the American fauna appear to form a coherent group, however, at least one transpalearctic species, *Mimesa equestris*, is more closely allied to the American group than to the western Palearctic or North African fauna. Unfortunately no specimens from the eastern Palearctic were available for study. It is possible that *Mimesa equestris* secondarily invaded the Palearctic from North America but a study of eastern Palearctic material may well provide further evidence of a Siberian invasion into North America.

In North America the genus has spread across the continent but is conspicuously absent from the Gulf States and the Hudson Bay basin in Canada although the latter may represent lack of collecting. The reason for the absence is not due to lack of prey or nesting sites since cicadellids and at least sand pockets occur in both regions. In the south the limiting factor may be a minimum cold requirement and in the north a minimum heat requirement at some stage in the life cycle. Hudson Bay has a considerable cooling influence over the northeastern part of the continent and may explain the dip in the northeastern continental distribution. At the same time the Gulf States receive only intermittent frosts and lack a prolonged unbroken cold period. In any case the result is a restriction in the Great Lakes region before the genus expands in its distribution along the east coast.

By far the greatest amount of speciation has occurred in the mountains with some species apparently being tied to very specific habitats. This is particularly evident in California where some species are restricted to coastal areas while others seem to follow inland valleys. A detailed analysis of distribution in California would provide valuable data for future taxonomic studies.

Further research is needed in a number of areas with respect to *Mimesa*. First of all a study of the eastern Palearctic fauna is essential to an understanding of the American fauna. Detailed distributional studies within North America focusing on the reasons for the many restricted distributions as well as the generic limits are needed. Finally, information is lacking or scanty on all aspects of the biology of these wasps and in particular on the mite-wasp association.

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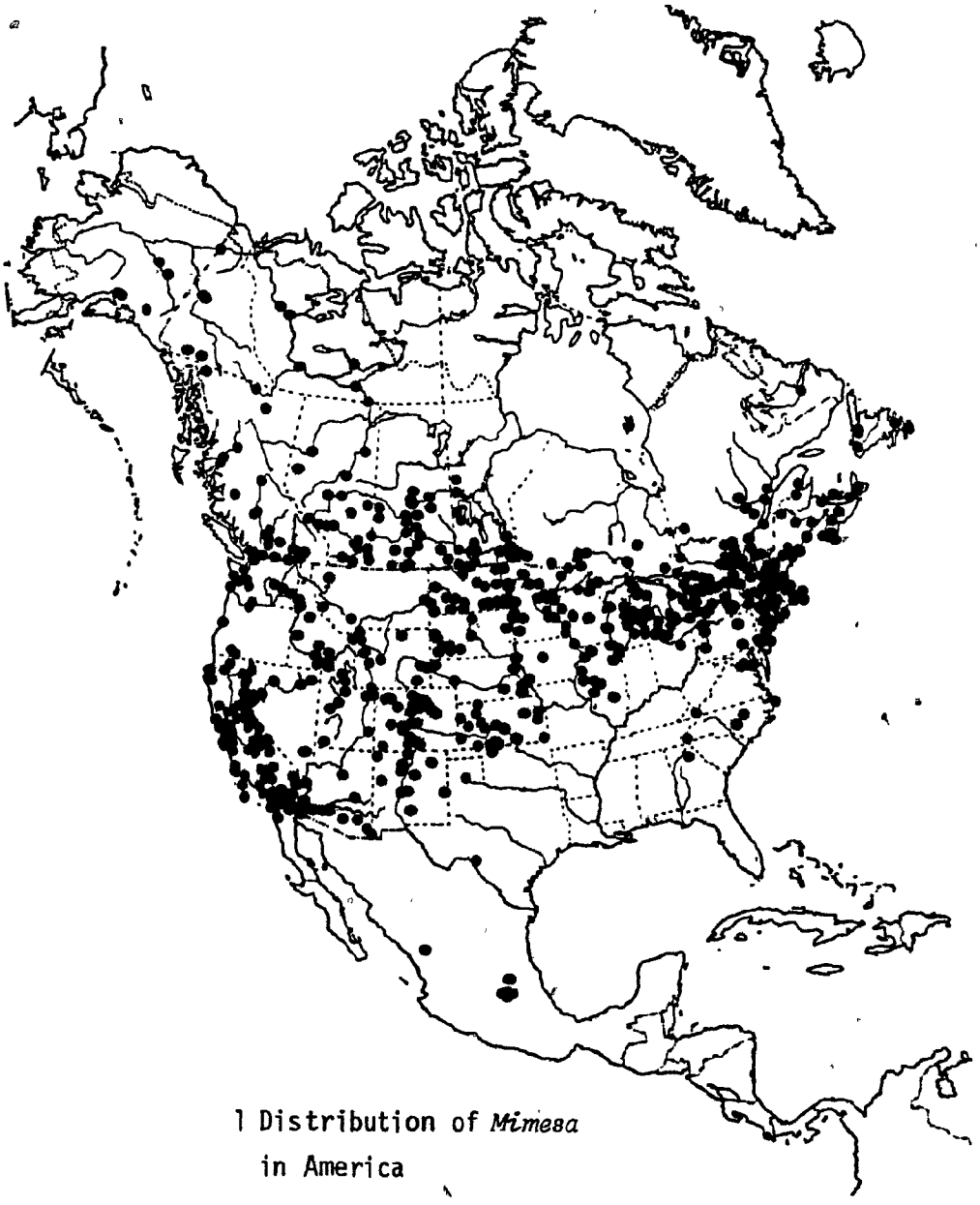
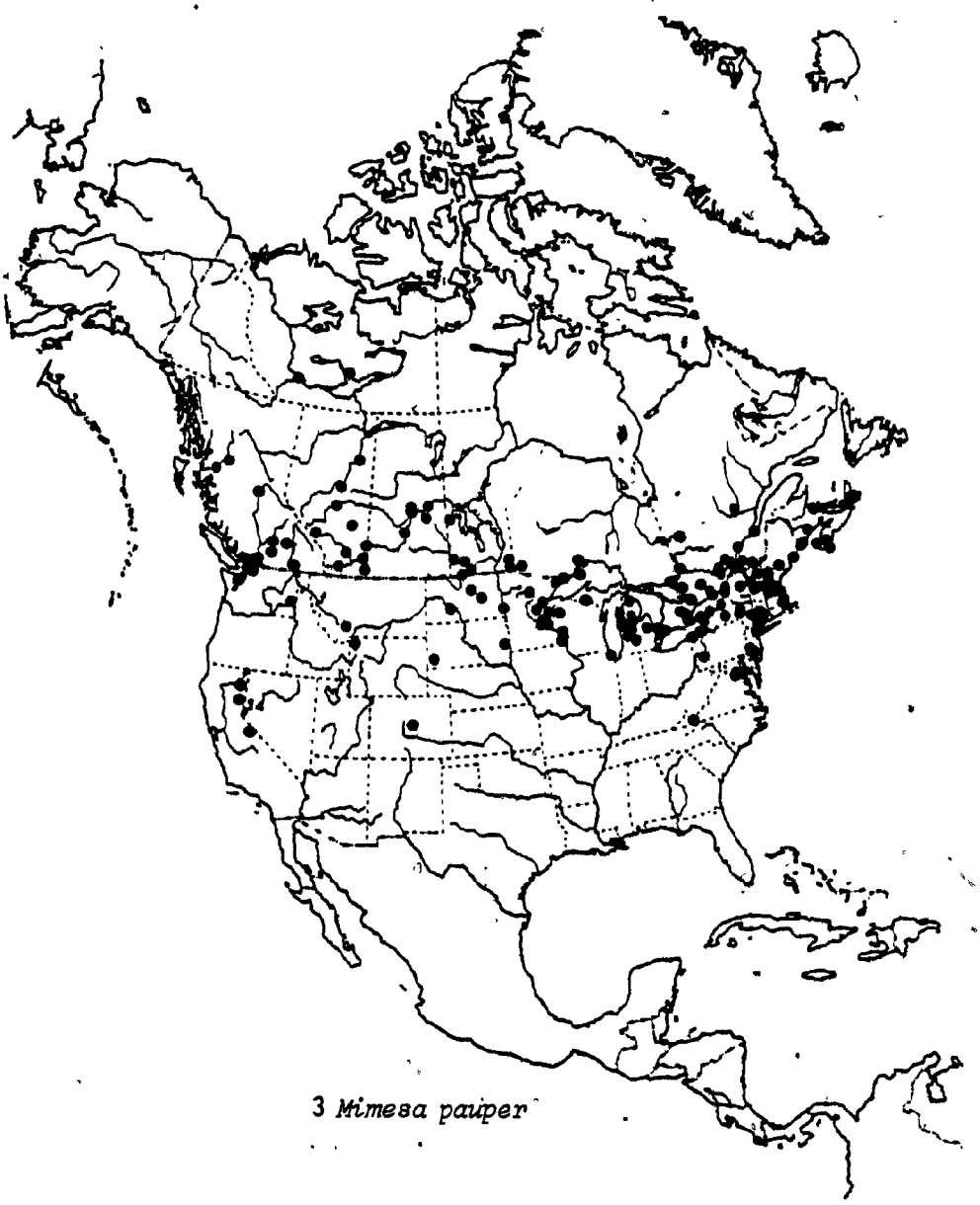


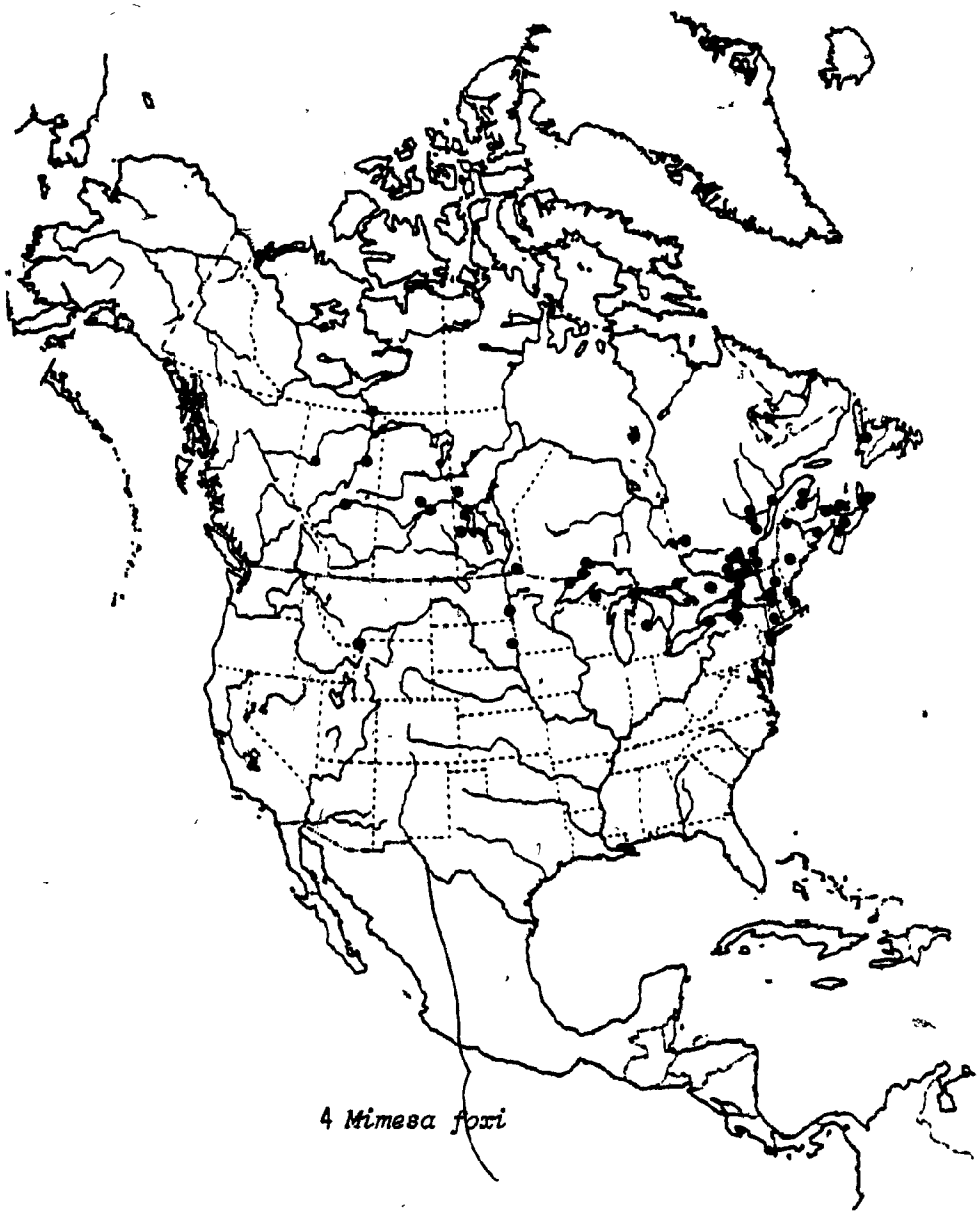
1 Distribution of *Mimesa* in America

Open circles are used to indicate the collection of a specimen in a state or province where no other locality data was available or where a locality could not be found.

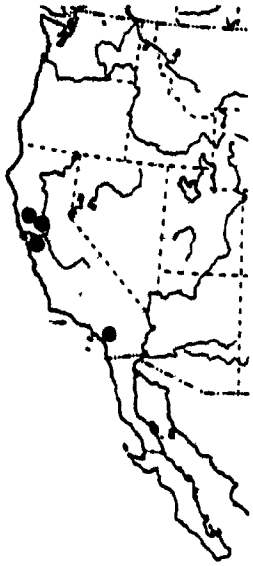
2 Mimesa lutaria



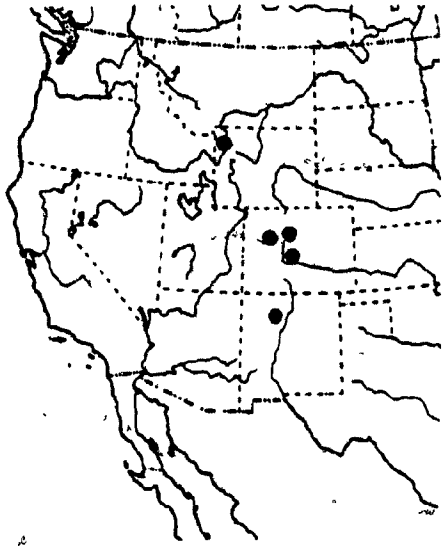
3 *Mimesa pauper*



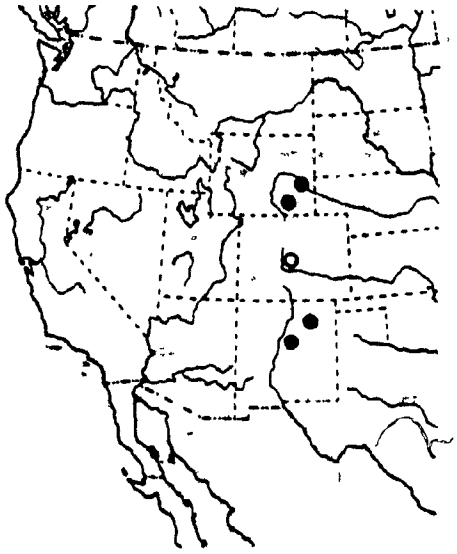
4 Mimesa foxi



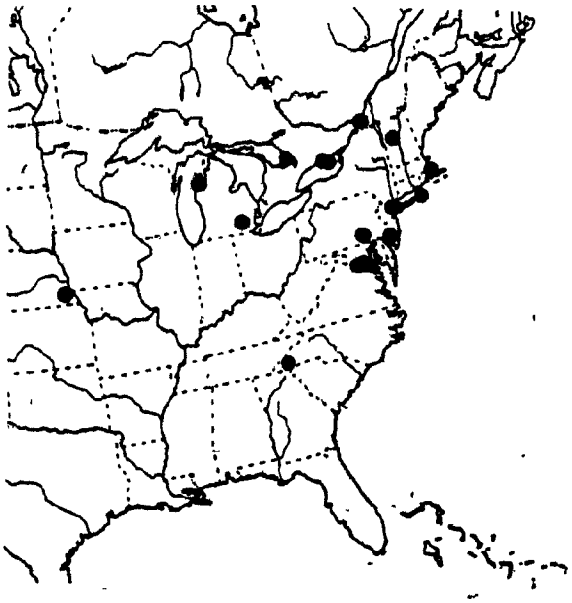
5 *Mimesa tequila*



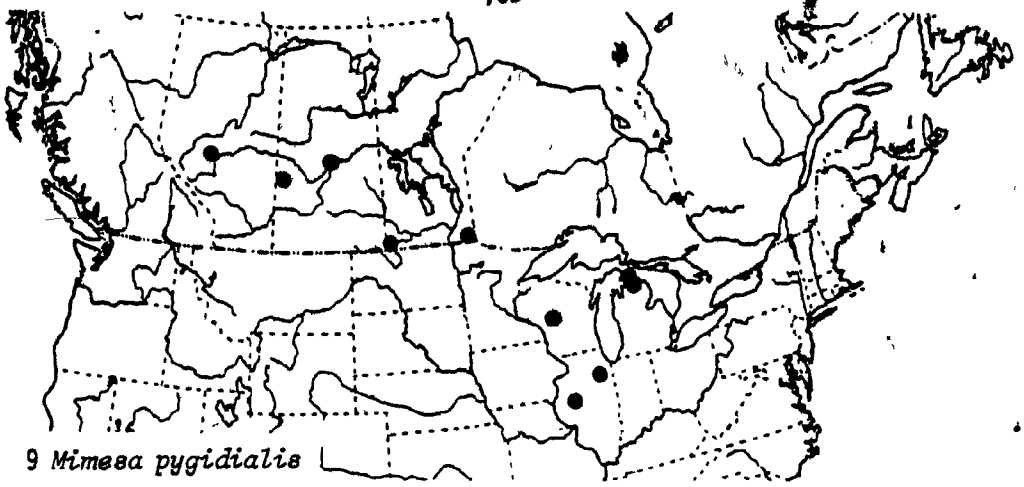
6 *Mimesa cheyenne*



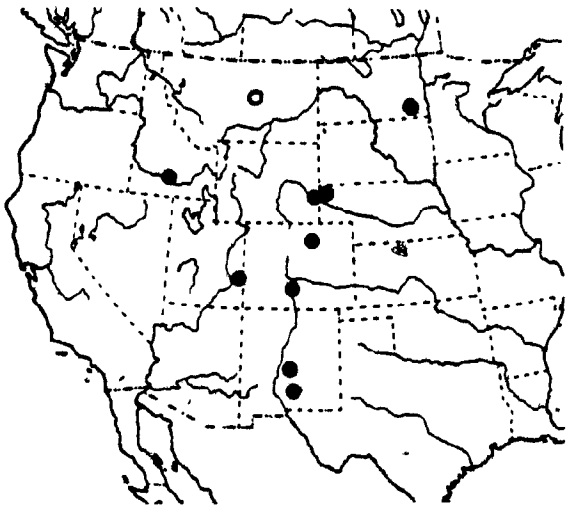
7 *Mimesa proxima*



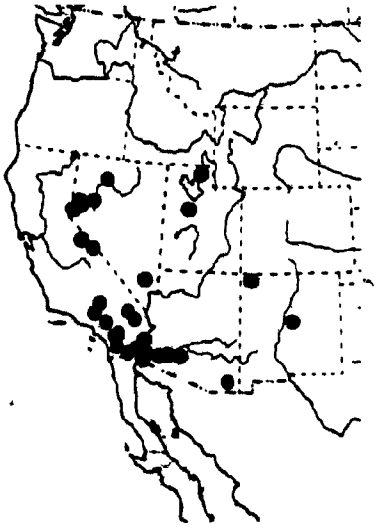
8 *Mimesa maculipes*



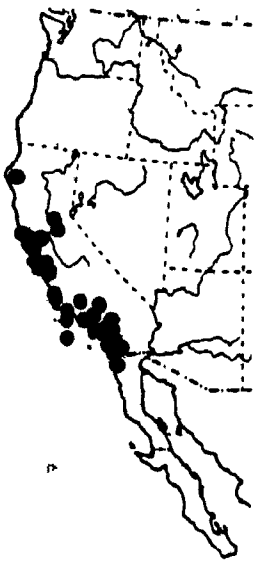
9 *Mimesa pygidialis*



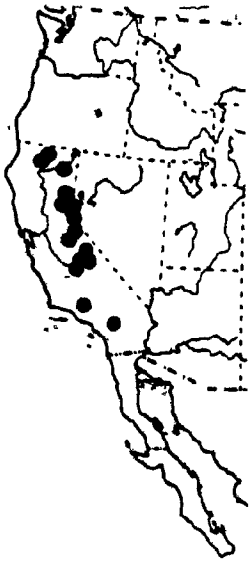
10 *Mimesa granulosa*



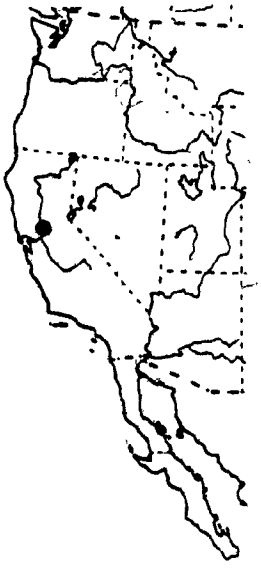
11 *Mimesa coquilletti*



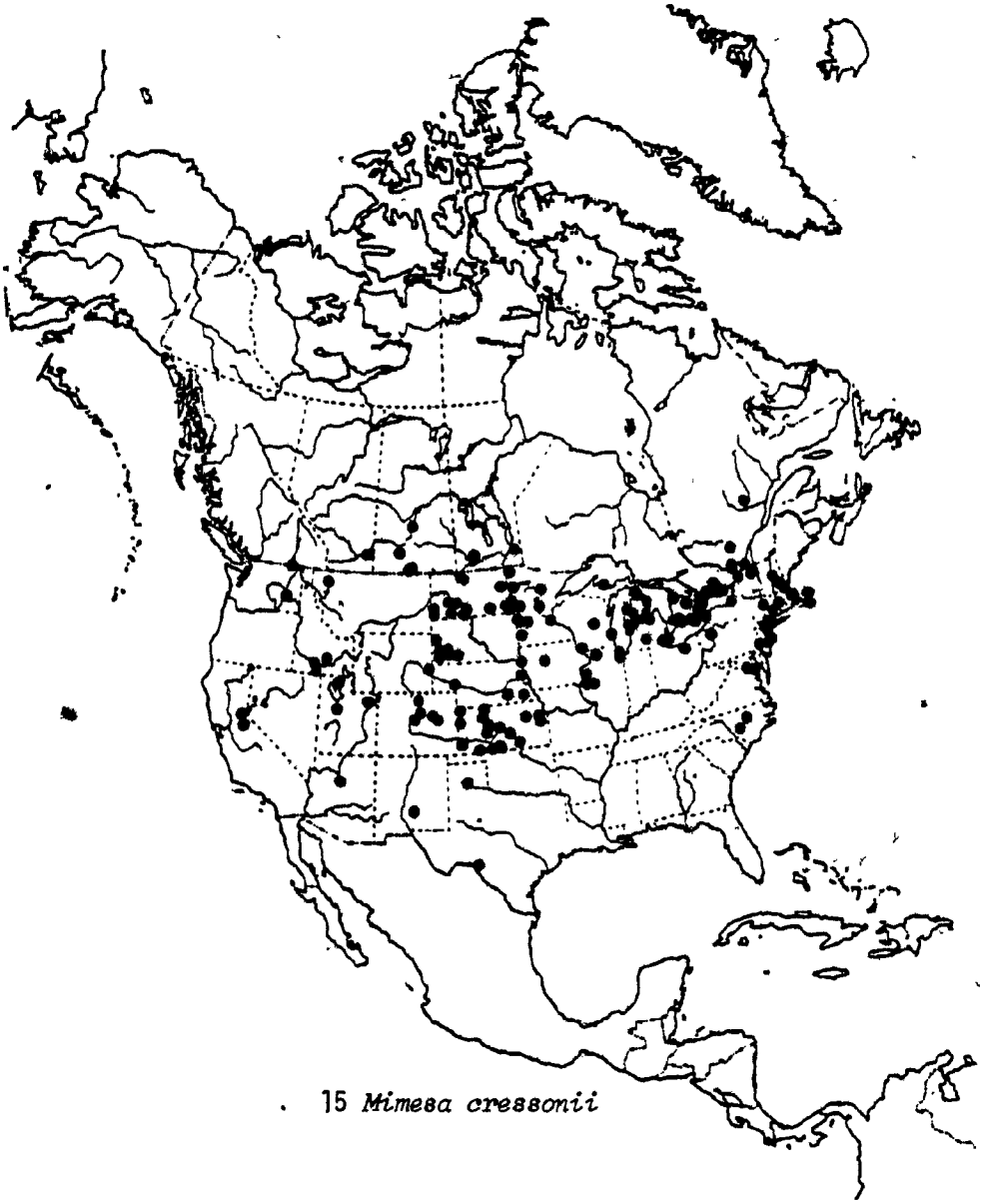
12 *Mimesa cahuilla*



13 *Mimesa serrano*



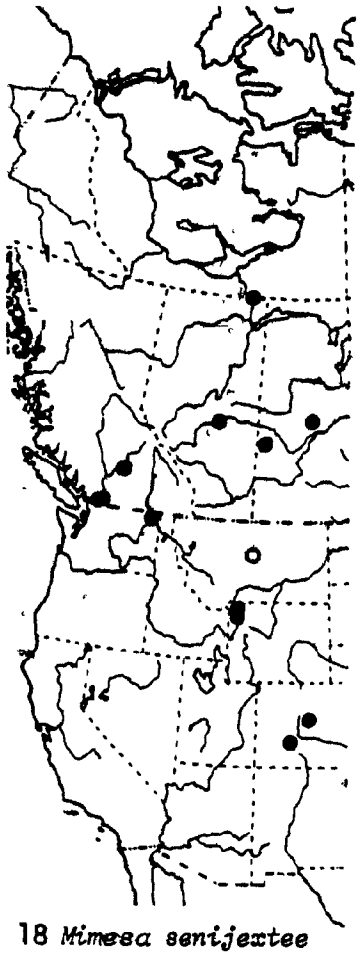
14 *Mimesa miwoka*



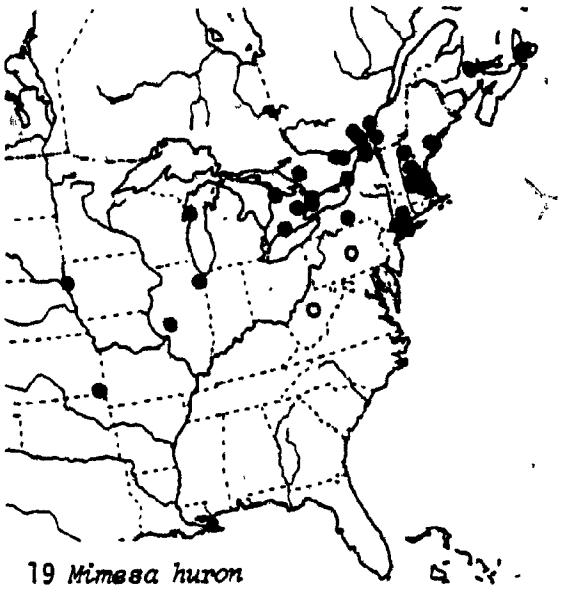
15 *Mimesa cressonii*

16 *Mimeoa dawsoni*

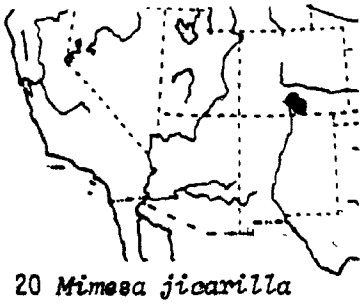
17 *Mimesa ezra*



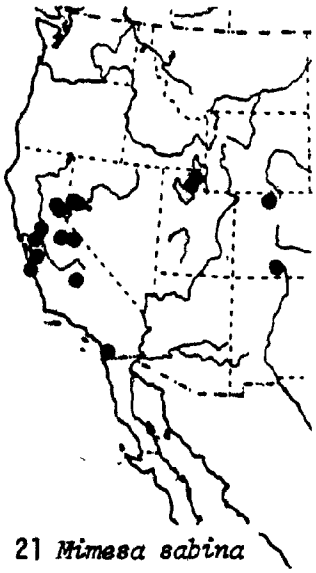
18 *Mimesa senijextee*



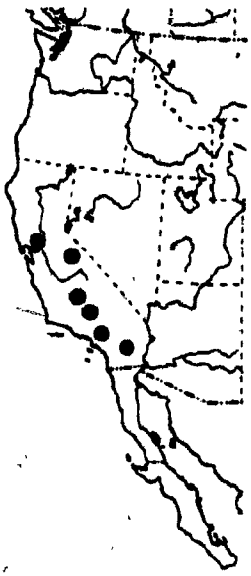
19 *Mimesa huron*



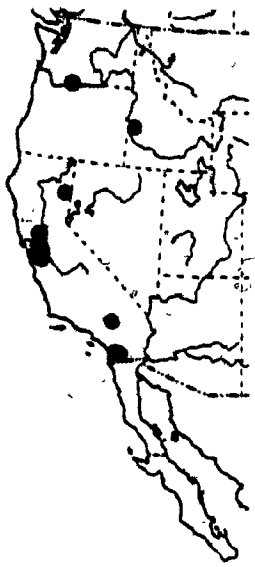
20 *Mimesa jicarilla*



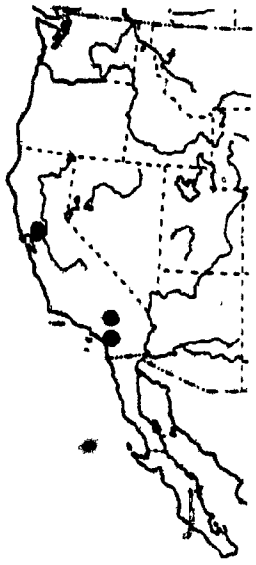
21 *Mimesa sabina*



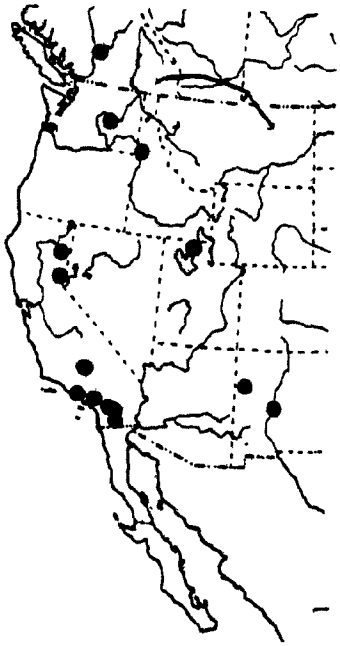
22 *Mimesa agalena*



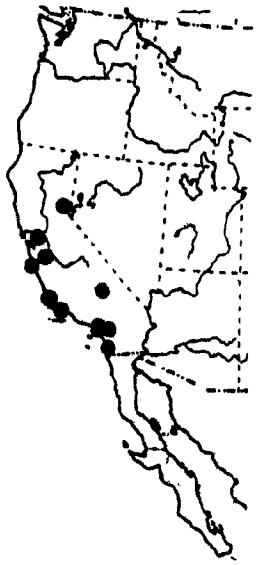
23 *Mimesa barri*



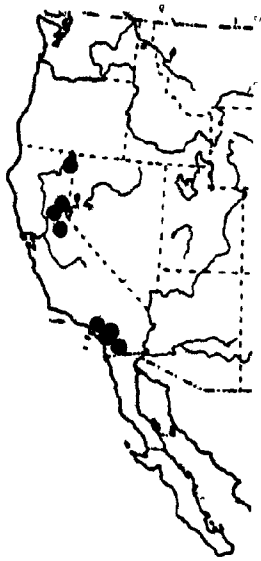
24 *Mimesa gabrieleno*



25 *Mimesa edentata*

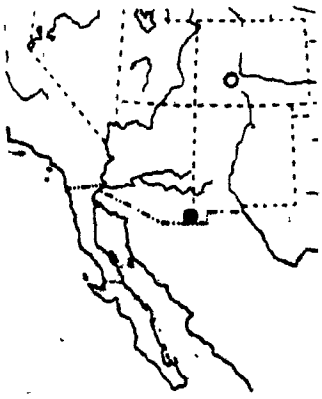


26 *Mimesa punctifrons*

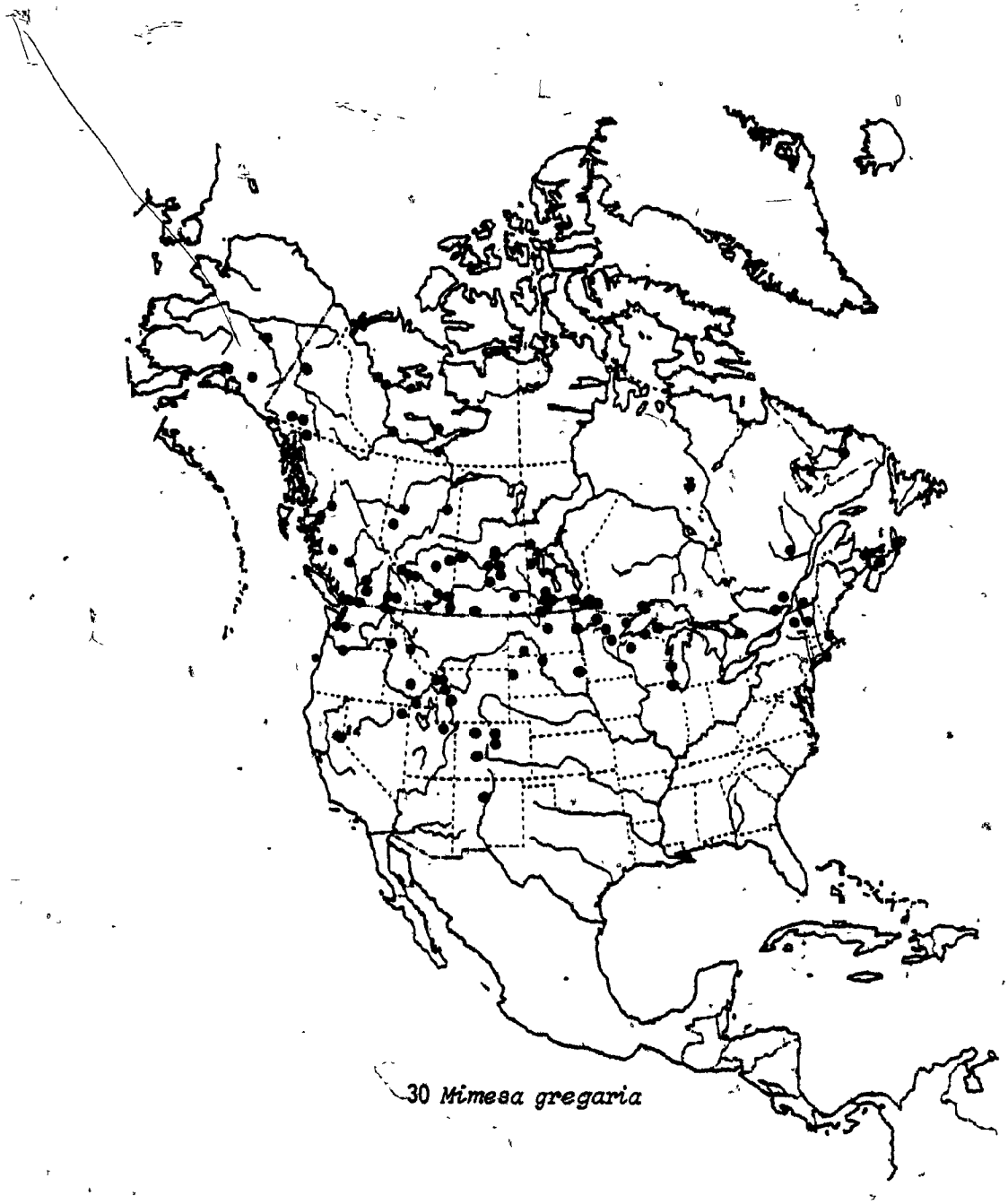


27 *Mimesa ipai*

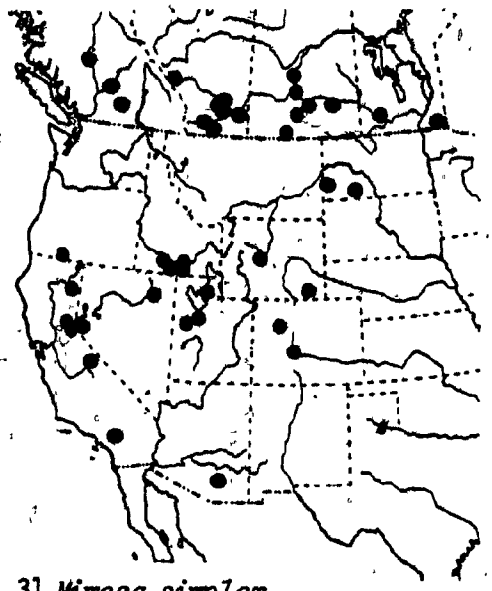
28 *Mimesa tolteca*



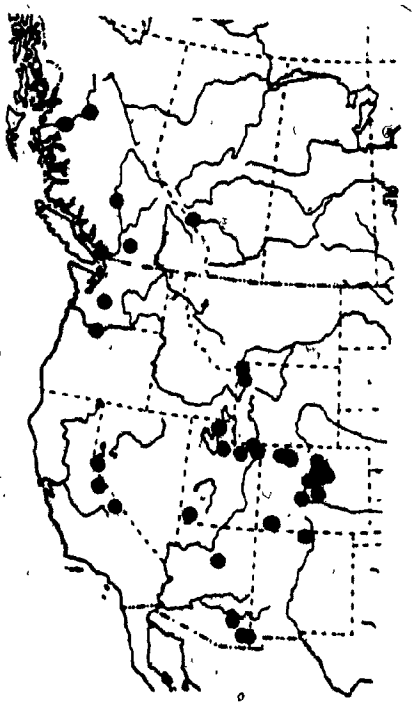
29 *Mimesa chiricahua*



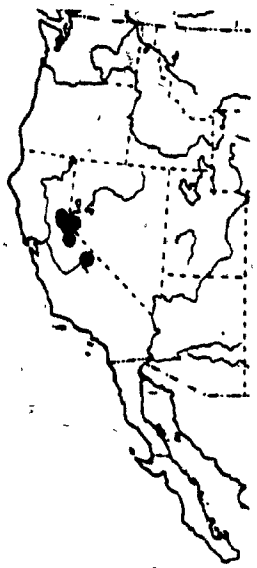
30 *Mimesa gregaria*



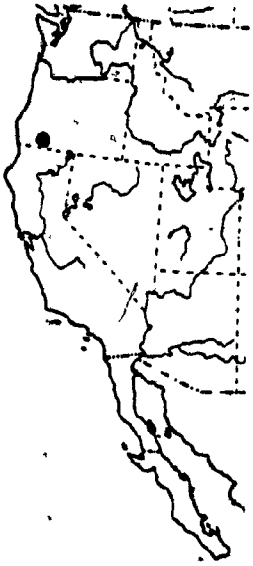
31 *Mimesa simplex*



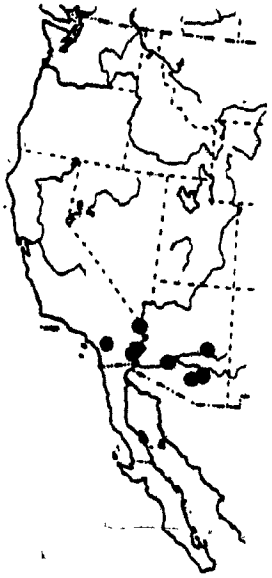
32 *Mimesa unicincta*



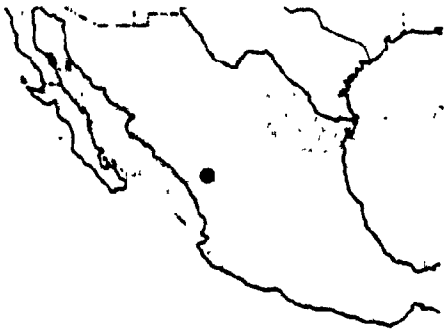
33 *Mimesa nisenan*



34 *Mimesa klamath*



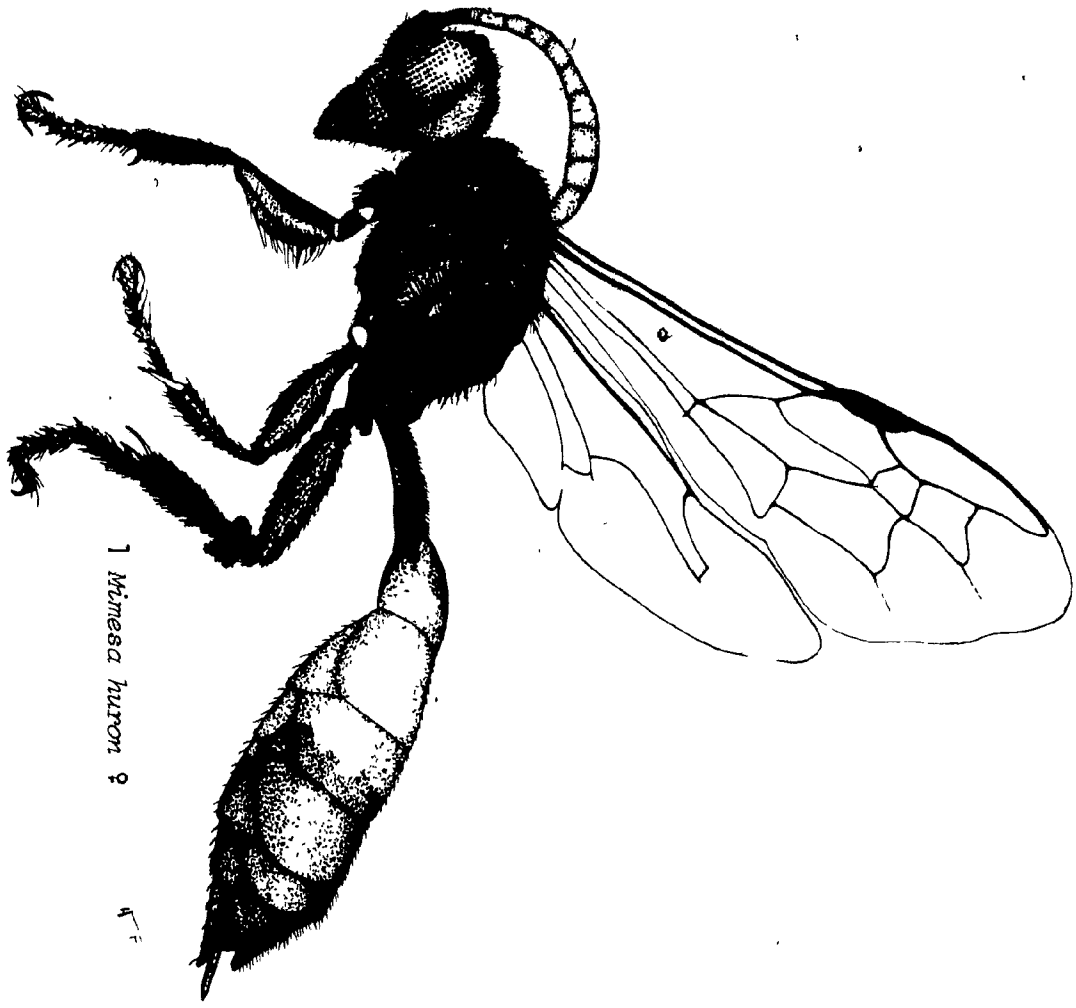
35 *Mimesa arizonensis*



36 *Mimesa mexicana*

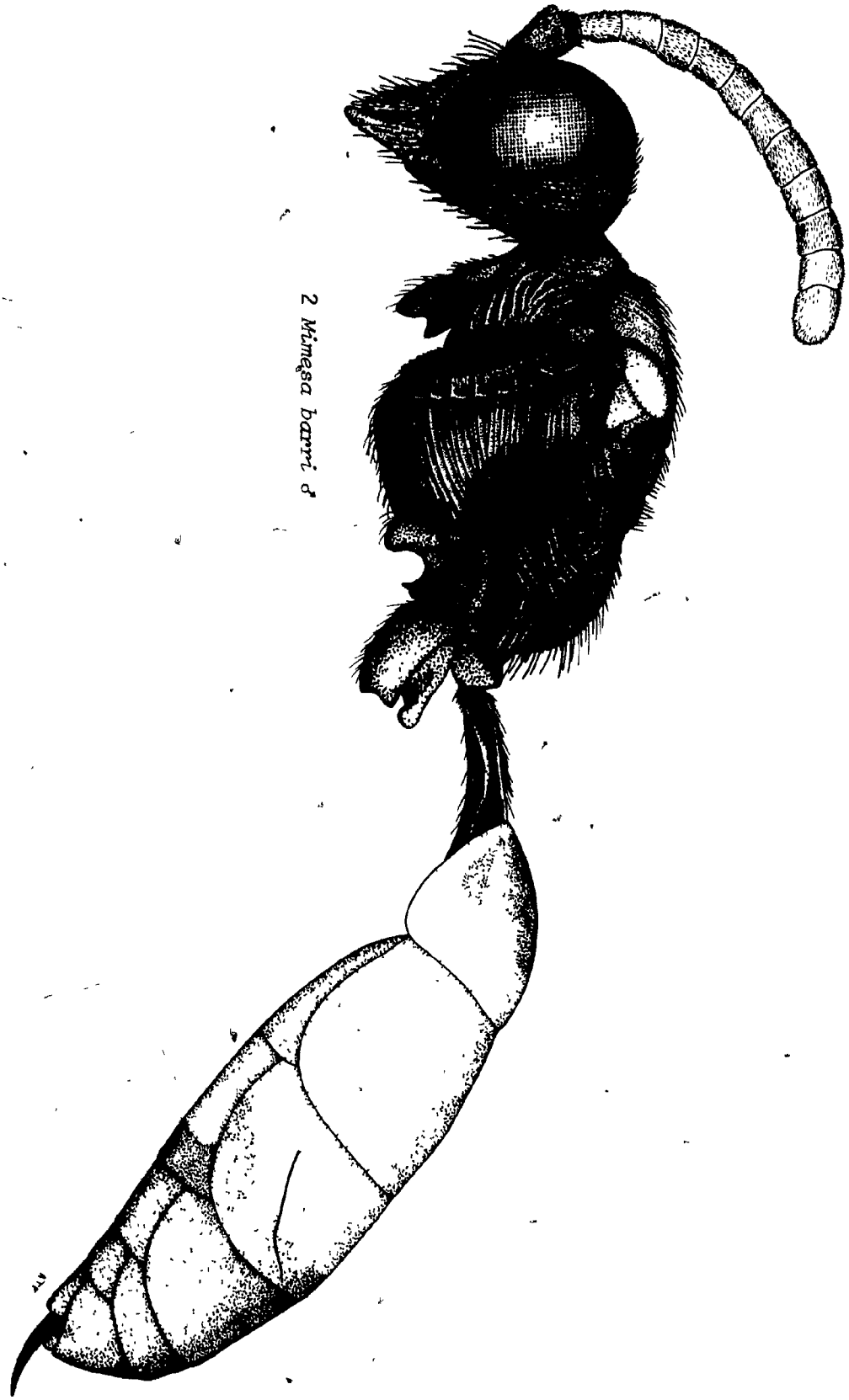
37 *Mimesa zapoteca*

1 *Mimesa huron* ♀, lateral view.



1 *Mimesa huron* ♀

2. *Mimesa barri* ♂, lateral view with legs, wings and most thoracic pubescence removed to show sculpture.



2 *Mimęsa barri* ♂

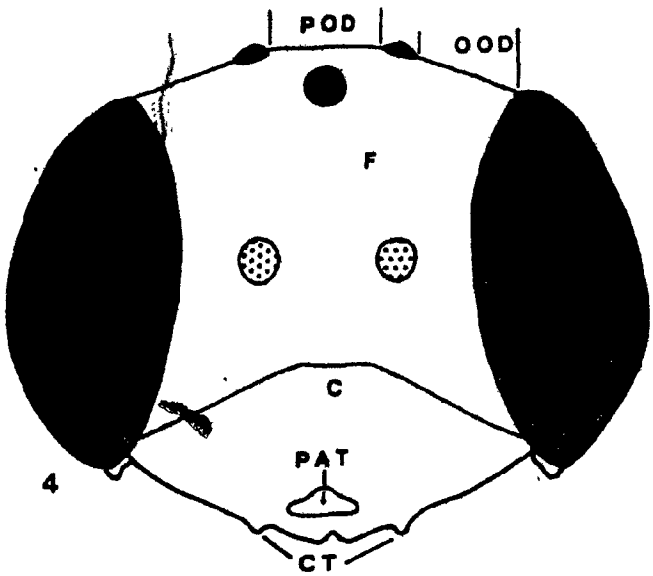
3 *Mimesa pauper* ♀, lateral view with legs, wings and thoracic pubescence removed to show sculpture.

3. *Mimesa pauper* ♀

4 Head, anterior. C, clypeus; CT, clypeal teeth; F, frons; OOD, ocellocular distance; PAT, preapical tumidity; POD, post ocellar distance.

5 Head, dorsal. OOD, ocellocular distance; PD, posterior declivity of vertex; POA, post ocellar area of vertex; POD, post ocellar distance.

6 Head, posterior. G, gena; HSL, hypostomal carina; OC, occipital carina; PD, posterior declivity of vertex.



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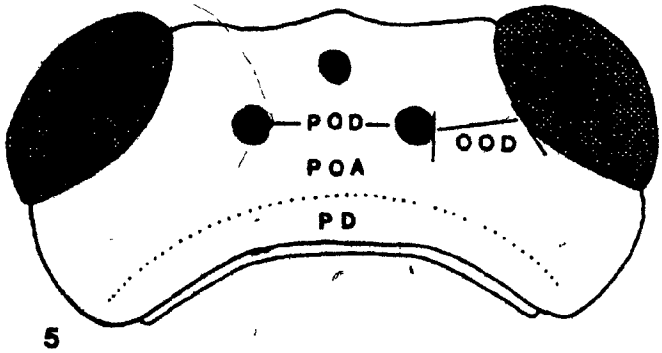

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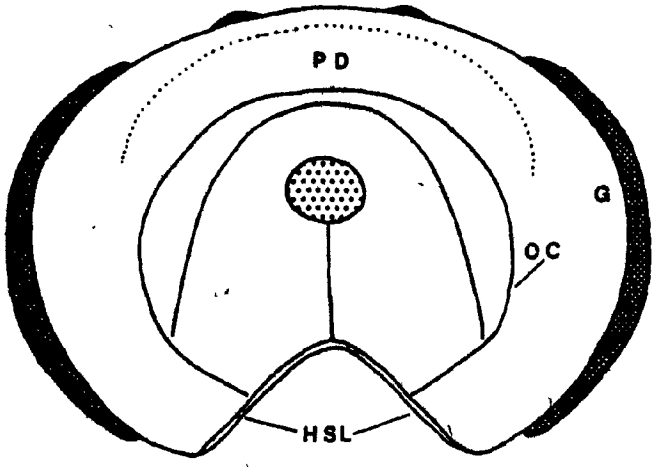
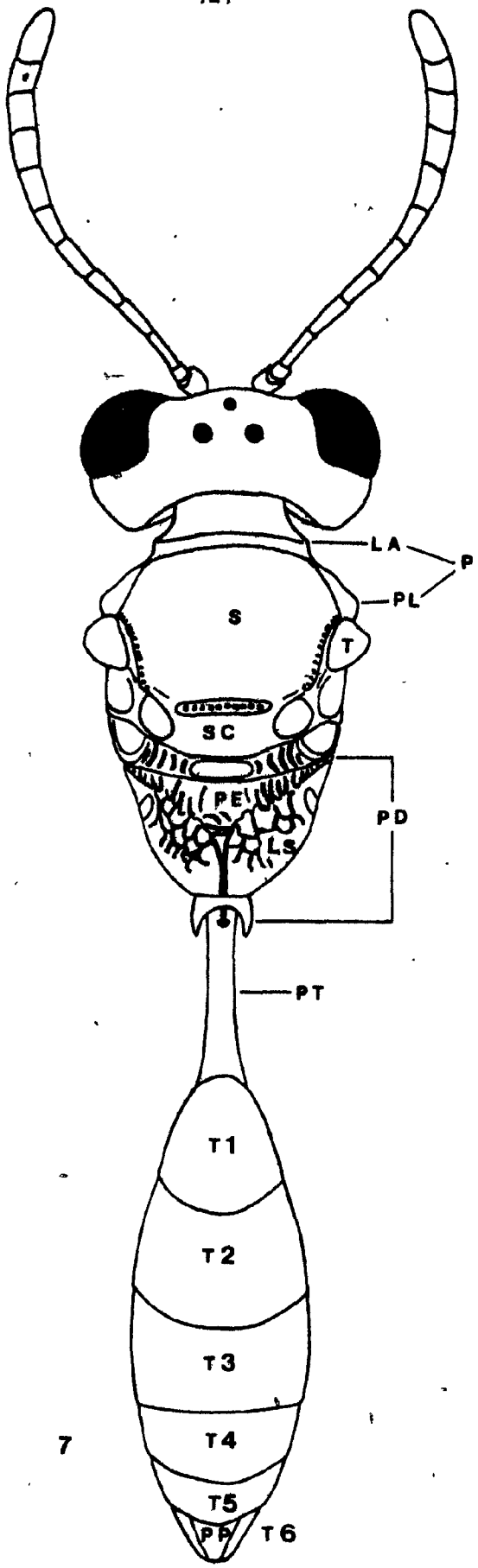
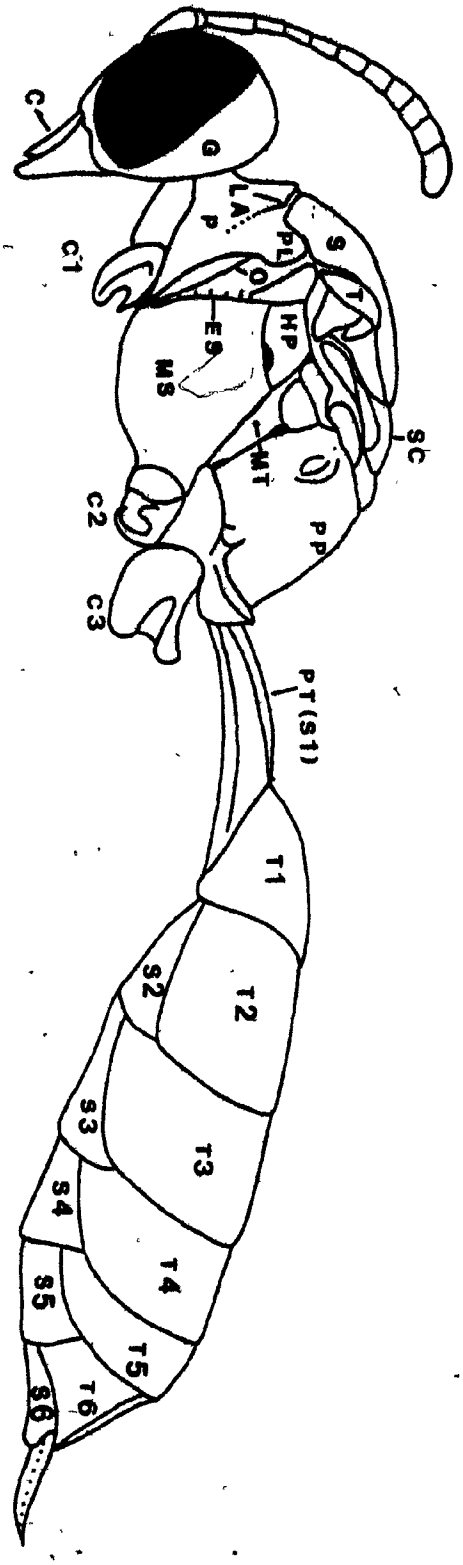


6

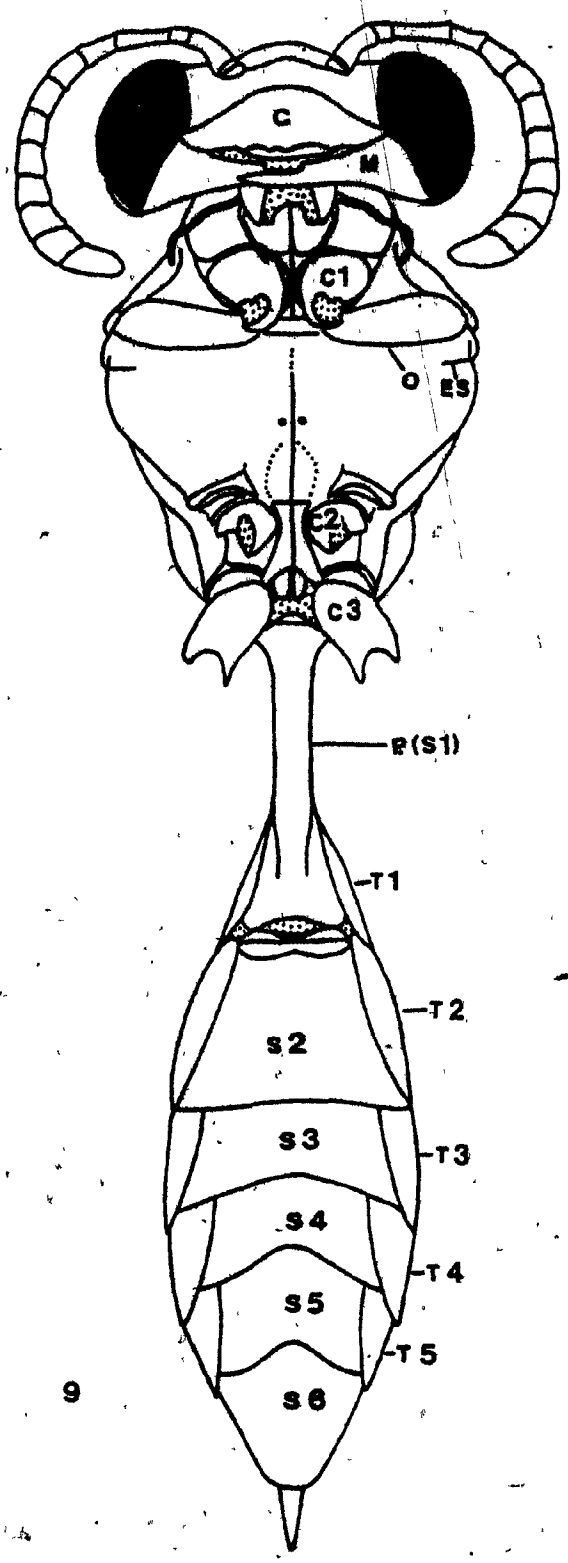
7 Body, dorsal. LA, lateral angle of pronotum; LS, lateral sphere of propodeum; P, pronotum; PE, propodeal enclosure; PD, propodeum; PL, pronotal lobe; PP, pygidial plate; PT, petiole; S, scutum, SC, scutellum; T, tegula; T1-T6, terga I-VI.


LA
P
PL
S
T
SC
PE
LS
PD
PT
T1
T2
T3
T4
T5
PP
T6

8 Body, lateral. C, clypeus; C1-C3, coxa 1-3; ES, episternal sulcus; G, gena; HP, hypoepimeral area of mesopleuron; LA, lateral angle of pronotum; MS, mesopleuron; MT, metapleuron; O, omaulus; P, pronotum; PL, pronotal lobe; PP, propodeum; PT, petiole; S, scutum; SC, scutellum; S1-S6, sterna I-VI; T, tegula; T1-T6, terga I-VI.

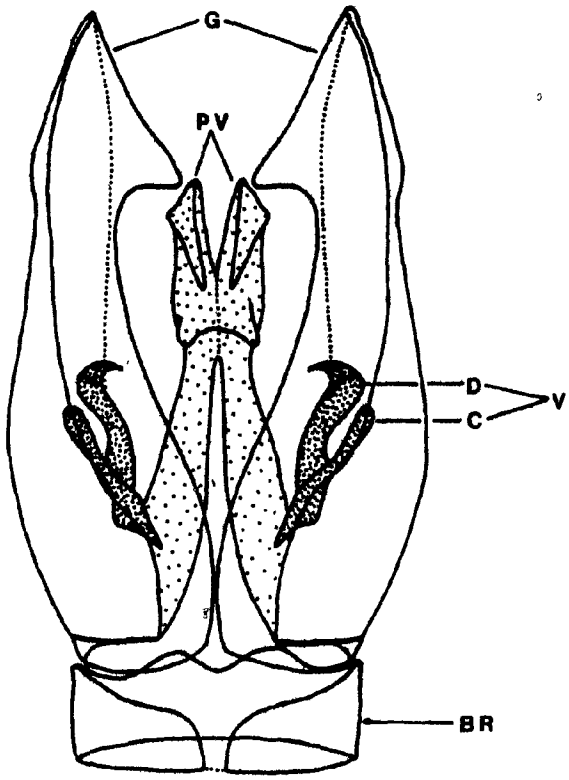

C
G
LA
P
PL
O
S
T
C1
HP
EP
MS
SC
MT
C2
PP
C3
PT(S1)
T1
S2
T2
S3
T3
S4
T4
S5
T5
S6
T6

9 Body, ventral. C, clypeus; C1-C3, coxa 1-3; ES, episternal sulcus; M, mandible; O, omaulus; P, petiole; S1-S6, sterna I-VI; T1-T5, terga I-V.

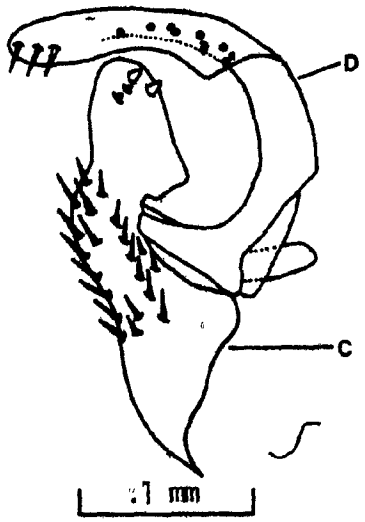

C
M
C1
O
ES
C2
C3
R(S1)
T1
T2
S2
S3
T3
S4
T4
S5
T5
S6

10a Genitalia ♂, ventral. BR, basal ring; C, cuspis; D, digitus; G, gonostyles; PV, penis valves; V, volsella.

10b Volsella, ventral. C, cuspis; D, digitus (scale applies to 10b only).



A



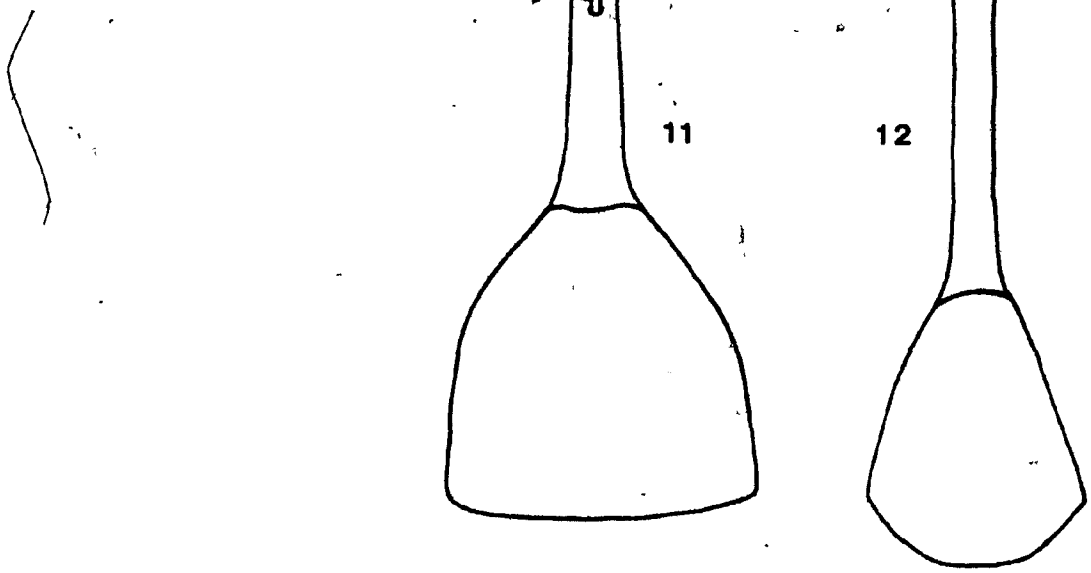
B

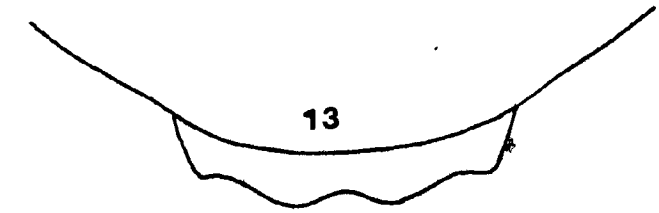
10

11, 12 *Mimesa cressonii*, variation in the length of the petiole and first tergum.

13, 14 *Mimesa cressonii* ♀, variation in the apical edge of the clypeus showing clypeal teeth of a fresh specimen and the truncate condition of a worn specimen respectively.

15 *Mimesa edentata* ♀, head, anterior.


11
12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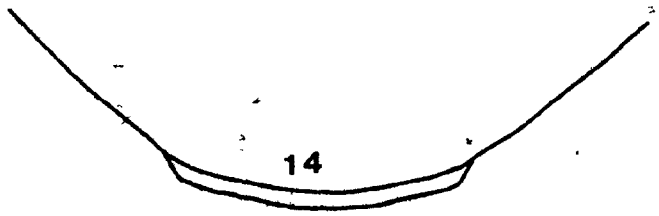
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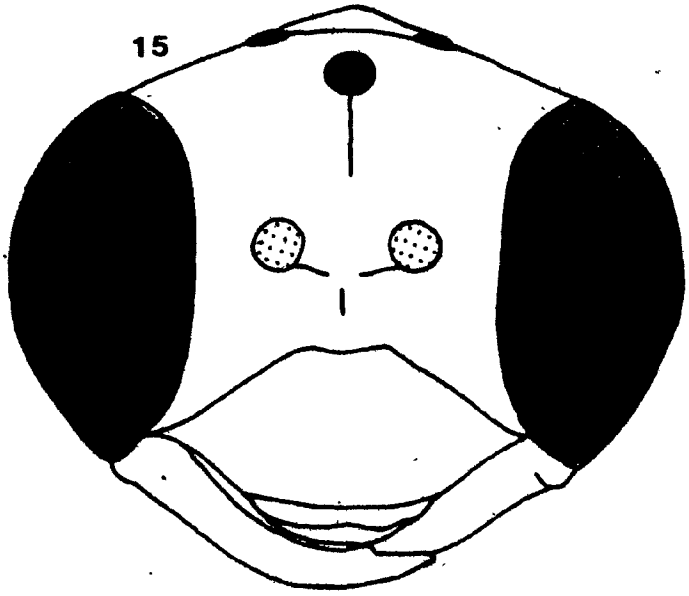

15

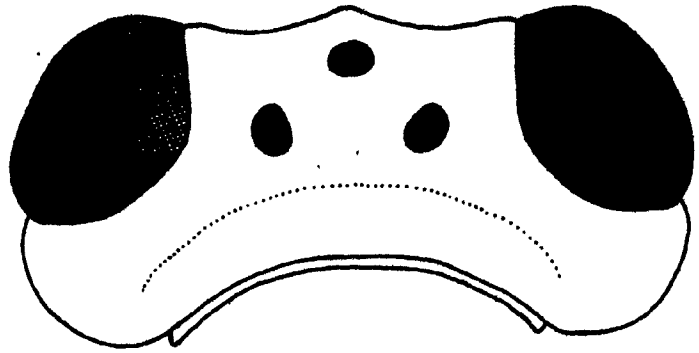
16 *Mimesa coquilletti* ♀, head, dorsal.

17 *Mimesa cahuilla* ♀, head, dorsal.

18 *Mimesa gregaria* ♂, head, lateral.

19 *Mimesa tequila* ♂, head, lateral.

16



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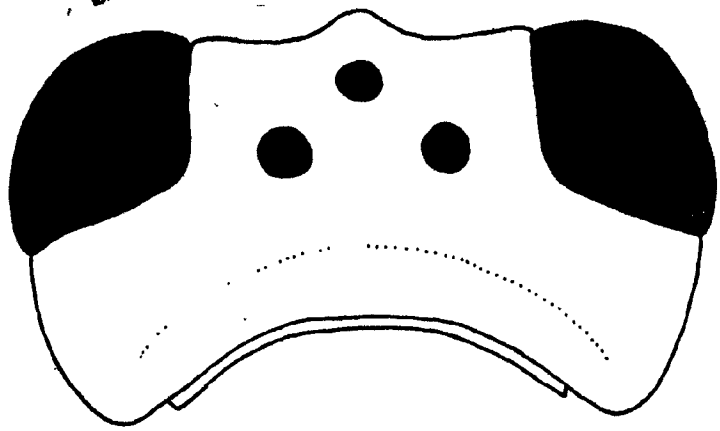

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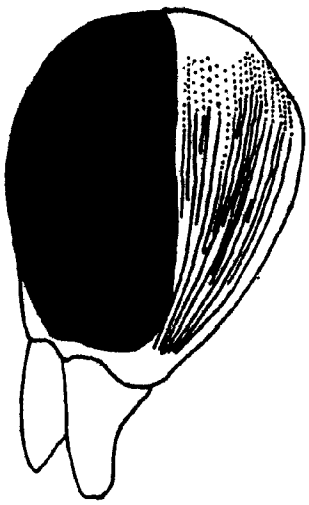

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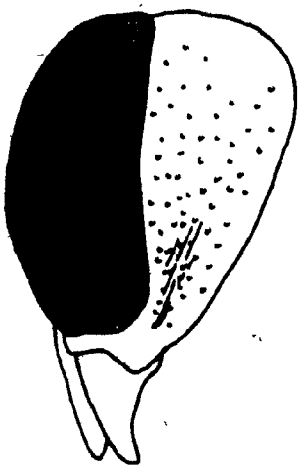
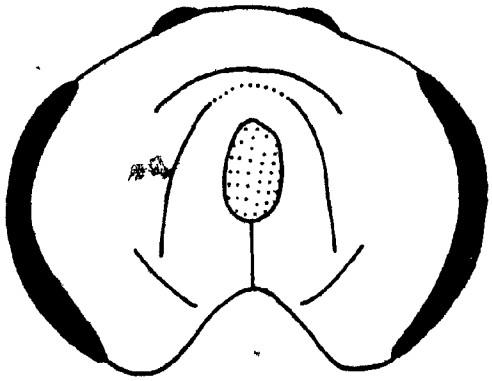


20-23 Head, posterior ♂. 20 *Mimesa agalena*, 21 *Mimesa gabrieleno*, 22 *Mimesa barri*, 23 *Mimesa serrano*.



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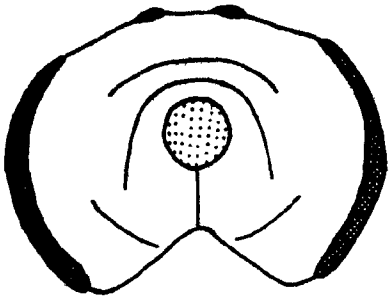

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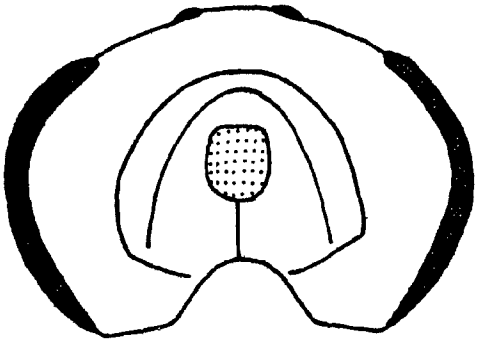

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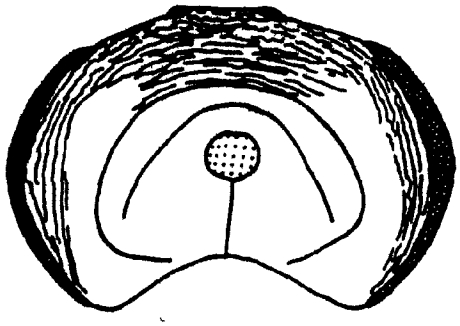
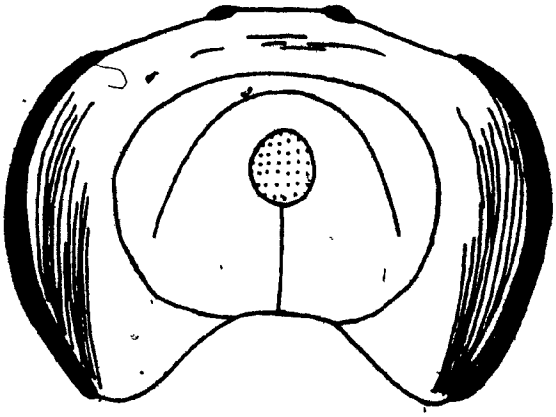


23

24 Head, posterior ♂, *Mimesa coquillettii*.

25-27 Thorax, anterior, head removed ♂. 25 *Mimesa punctifrons*, 26 *Mimesa tolteca*, 27 *Mimesa gabrieleno*.



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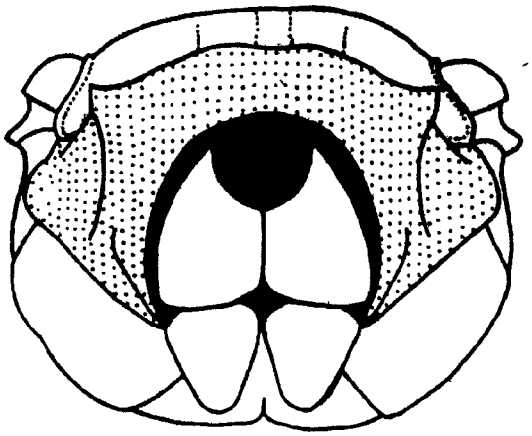

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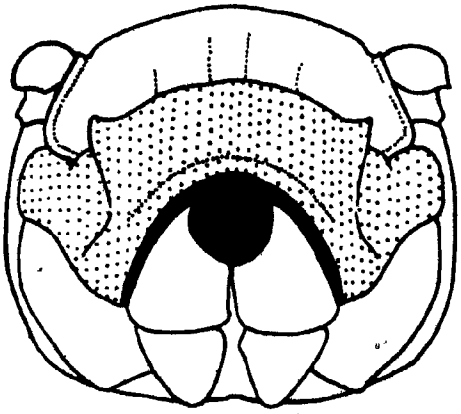

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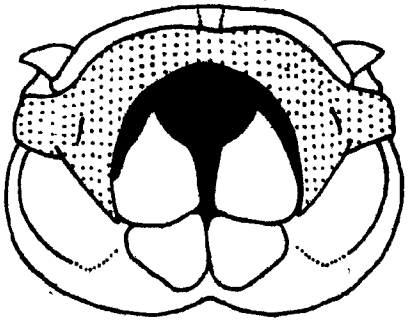
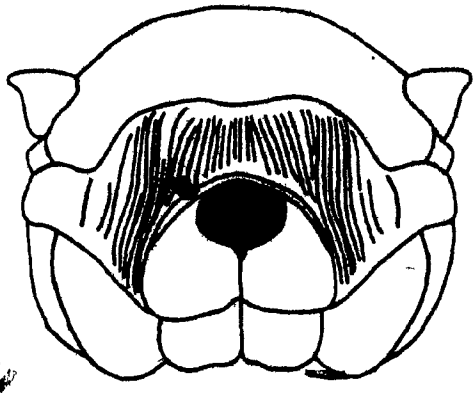


27

28, 29 Thorax, anterior, head removed. 28 *Mimesa serrano* ♂, 29 *Mimesa punctifrons* ♀.

30, 31 Apical tergum ♂. 30 *Mimesa cahuilla*, 31 *Mimesa coquilletti*.



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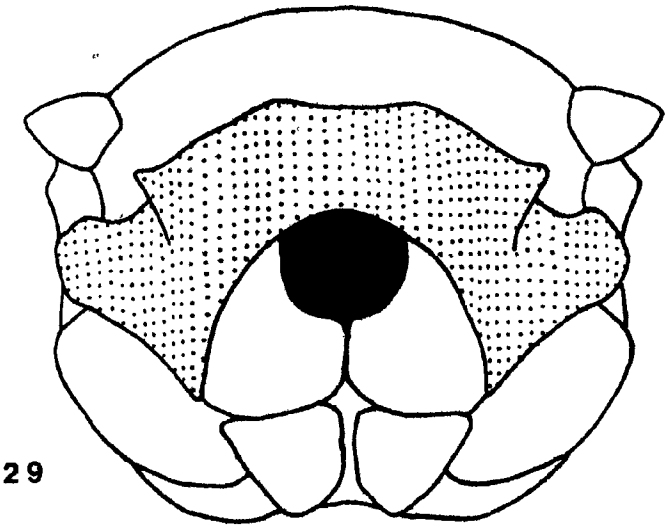

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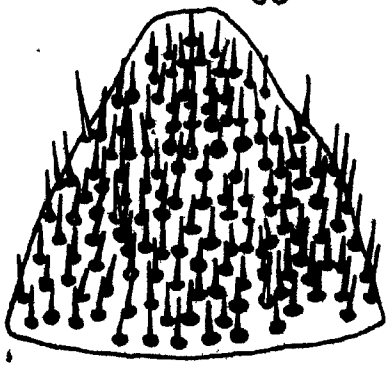

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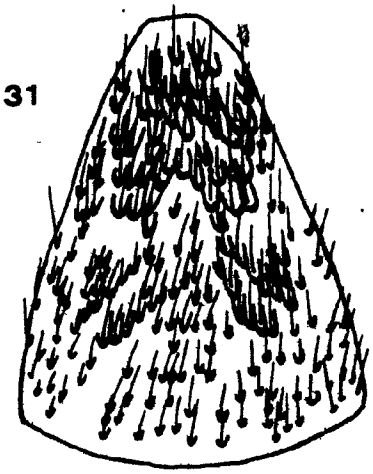

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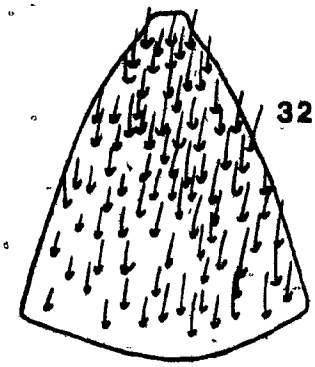
32-35 Apical tergum ♂. 32 *Mimesa cahuilla*, 33 *Mimesa pygidialis*, 34 *Mimesa serrano*, 35 *Mimesa unicincta*.

36-38 Flagellum of antenna with tyli in profile, ♂. 36 *Mimesa agalena*, 37 *Mimesa arizonensis*, 38 *Mimesa barri*.



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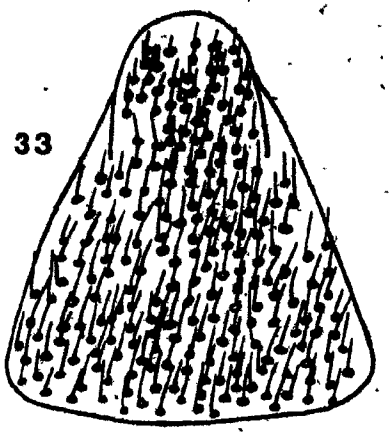

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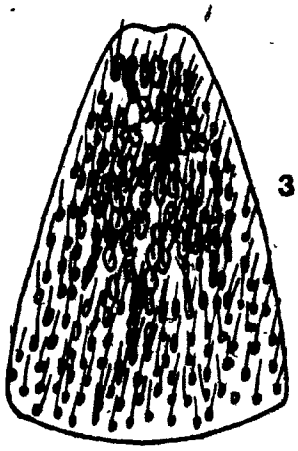

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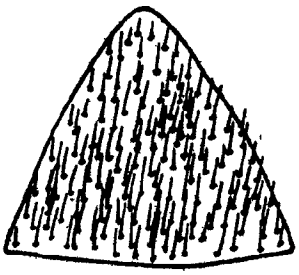

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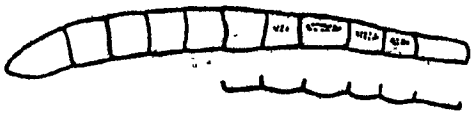

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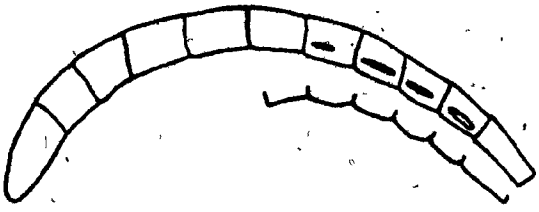

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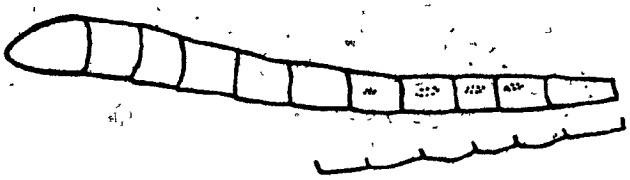

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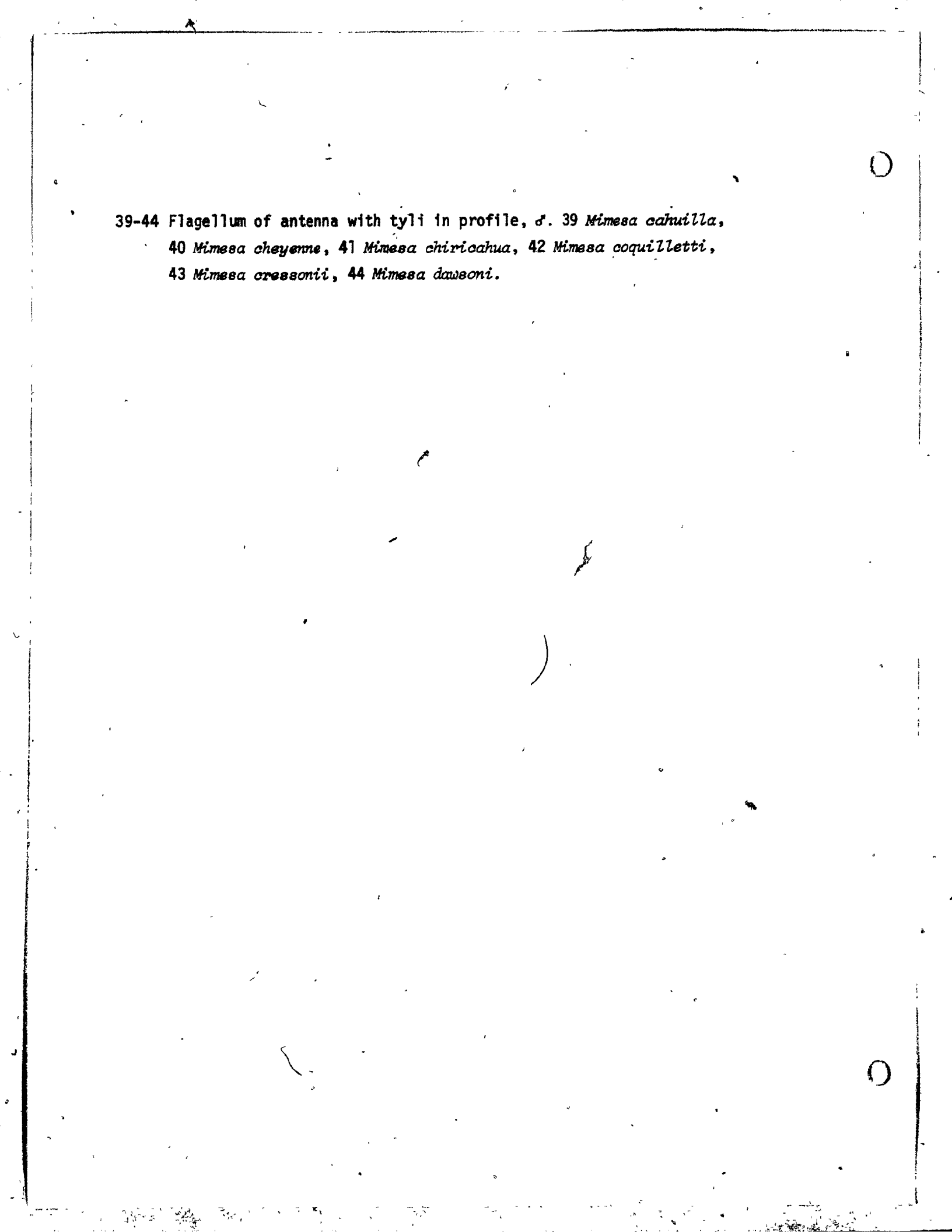
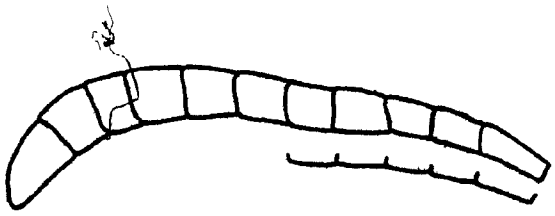


39-44 Flagellum of antenna with tyli in profile, ♂. 39 *Mimesa cahuilla*, 40 *Mimesa cheyenne*, 41 *Mimesa chiricahua*, 42 *Mimesa coquilletti*, 43 *Mimesa cressonii*, 44 *Mimesa dawsoni*.



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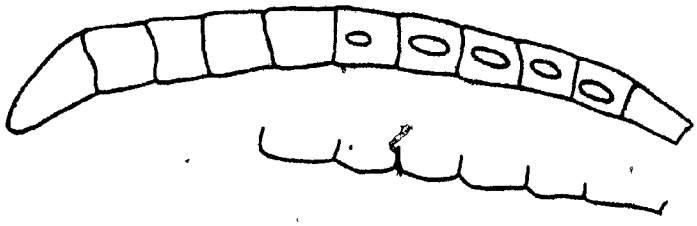

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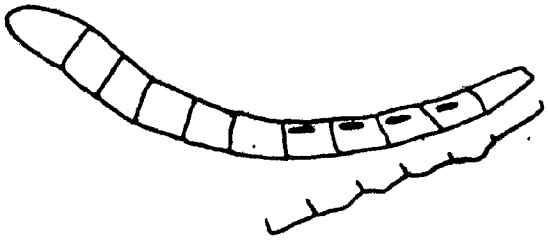

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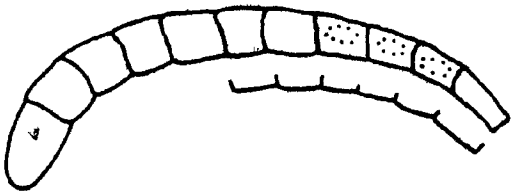

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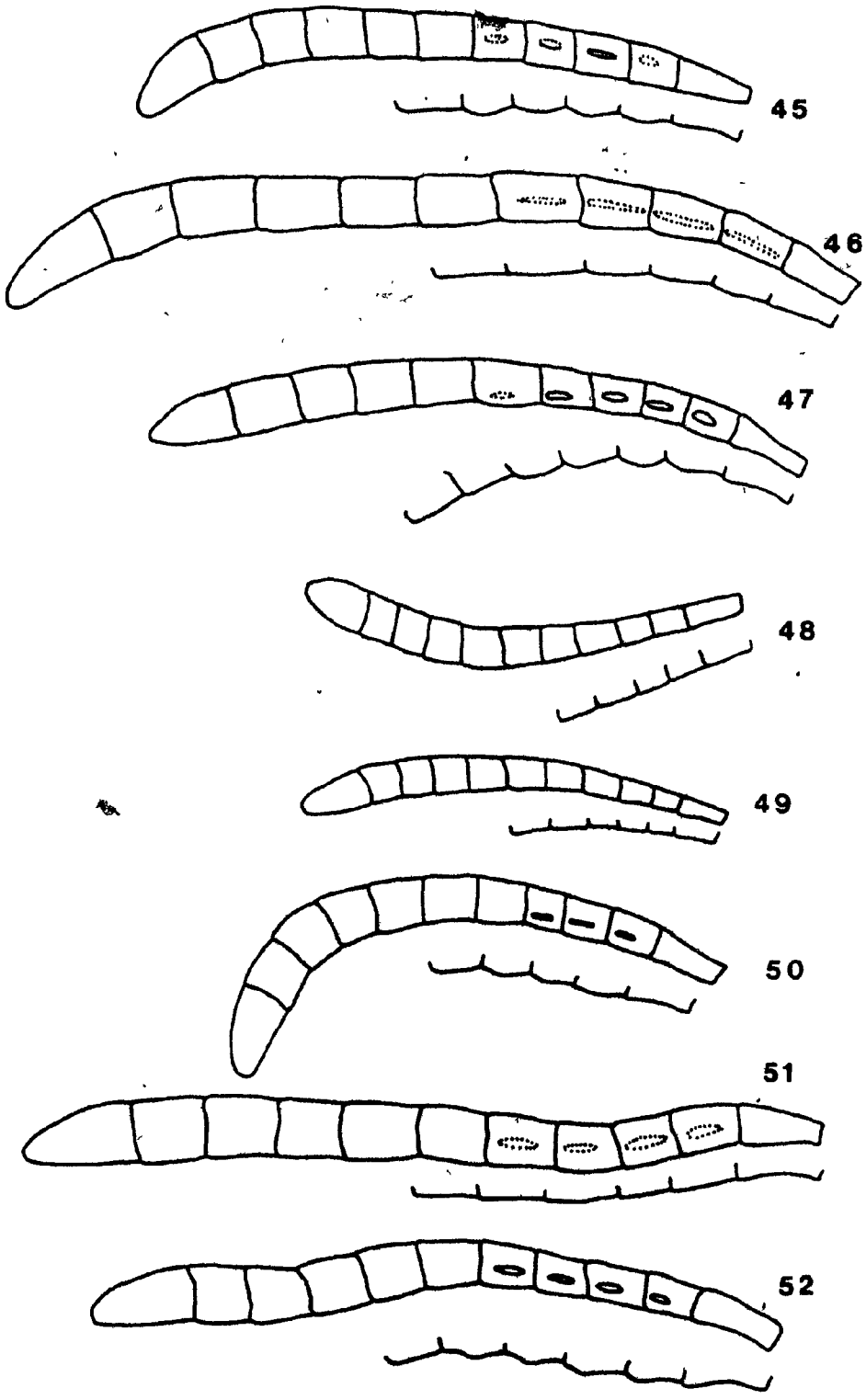
45-52 Flagellum of antenna with tyli in profile, ♂. 45 *Mimesa edentata*, 46 *Mimesa ezra*, 47 *Mimesa foxi*, 48 *Mimesa gabrieleno*, 49 *Mimesa granulosa*, 50 *Mimesa gregaria*, 51 *Mimesa huron*, 52 *Mimesa ipai*.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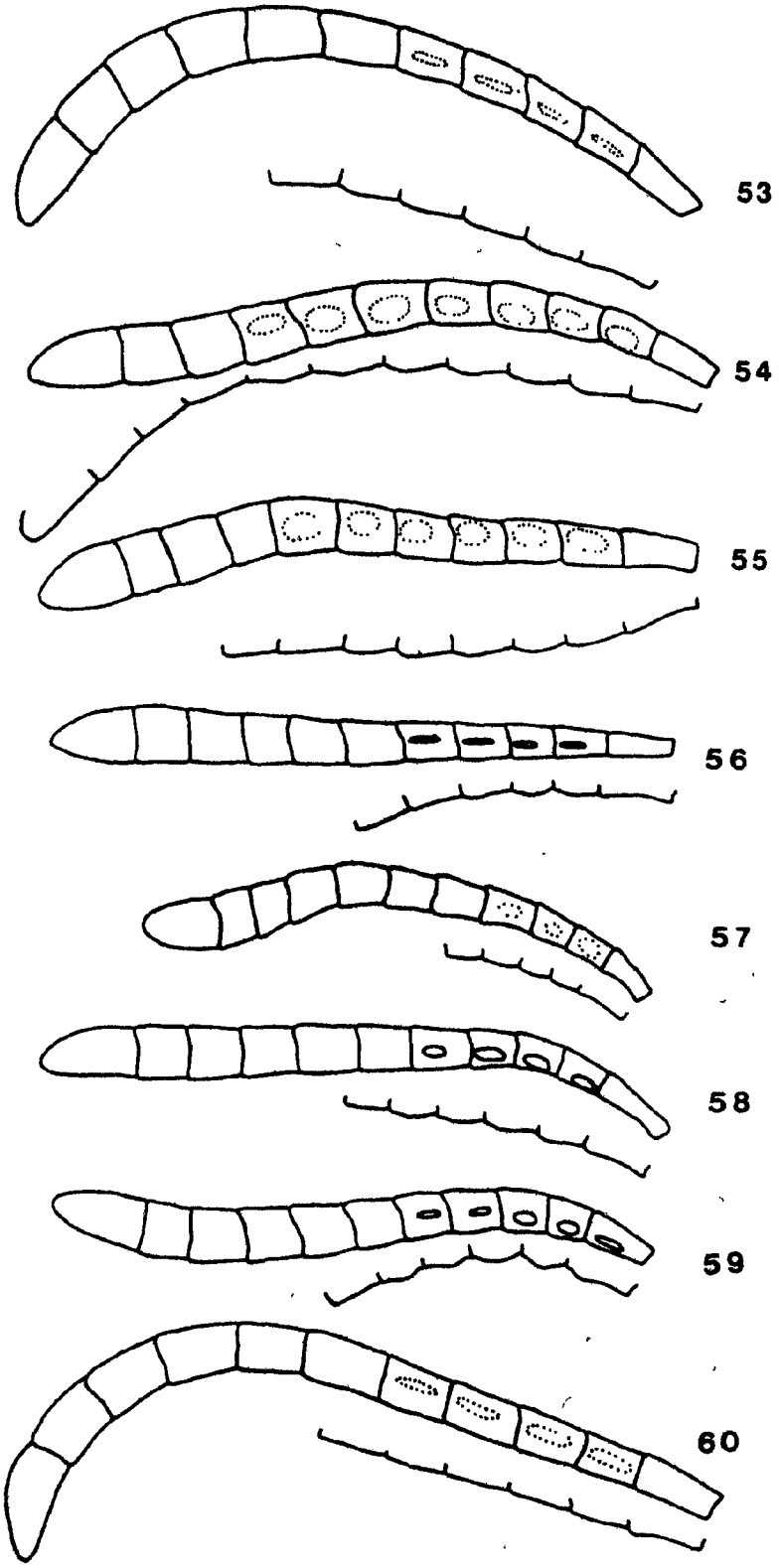
53-60 Flagellum of antenna with tyli in profile, ♂. 53 *Mimesa jicarilla*, 54 *Mimesa lutaria*, 55 *Mimesa maculipes*, 56 *Mimesa mexicana*, 57 *Mimesa miwoka*, 58 *Mimesa pauper*, 59 *Mimesa proxima*, 60 *Mimesa punctifrons*.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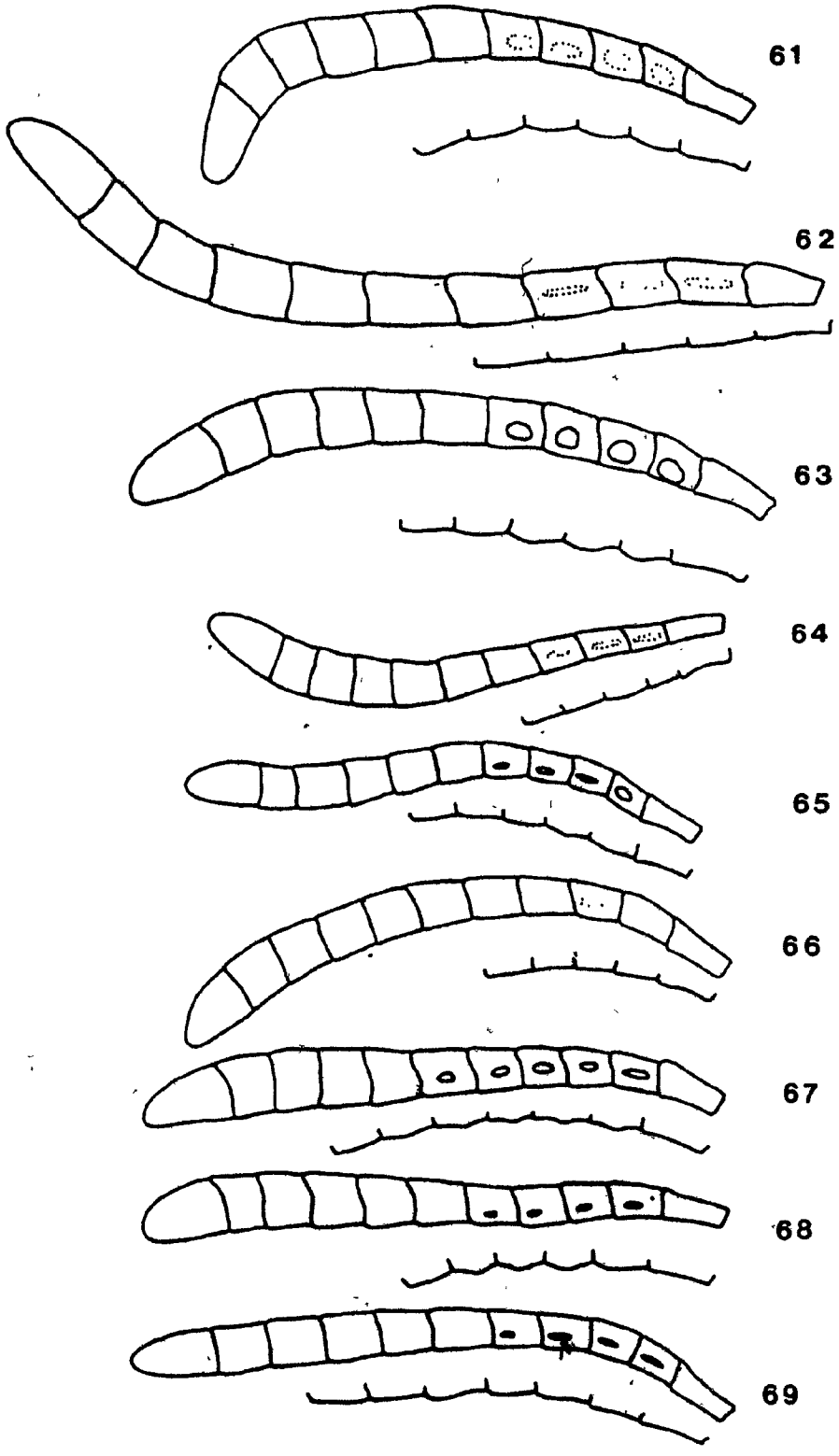
61-69 Flagellum of antenna with tyli in profile, ♂. 61 *Mimesa pygidialis*, 62 *Mimesa sabina*, 63 *Mimesa senijextee*, 64 *Mimesa serrano*, 65 *Mimesa nisenan*, 66 *Mimesa simplex*, 67 *Mimesa tequila*, 68 *Mimesa tolteca*, 69 *Mimesa unicincta*.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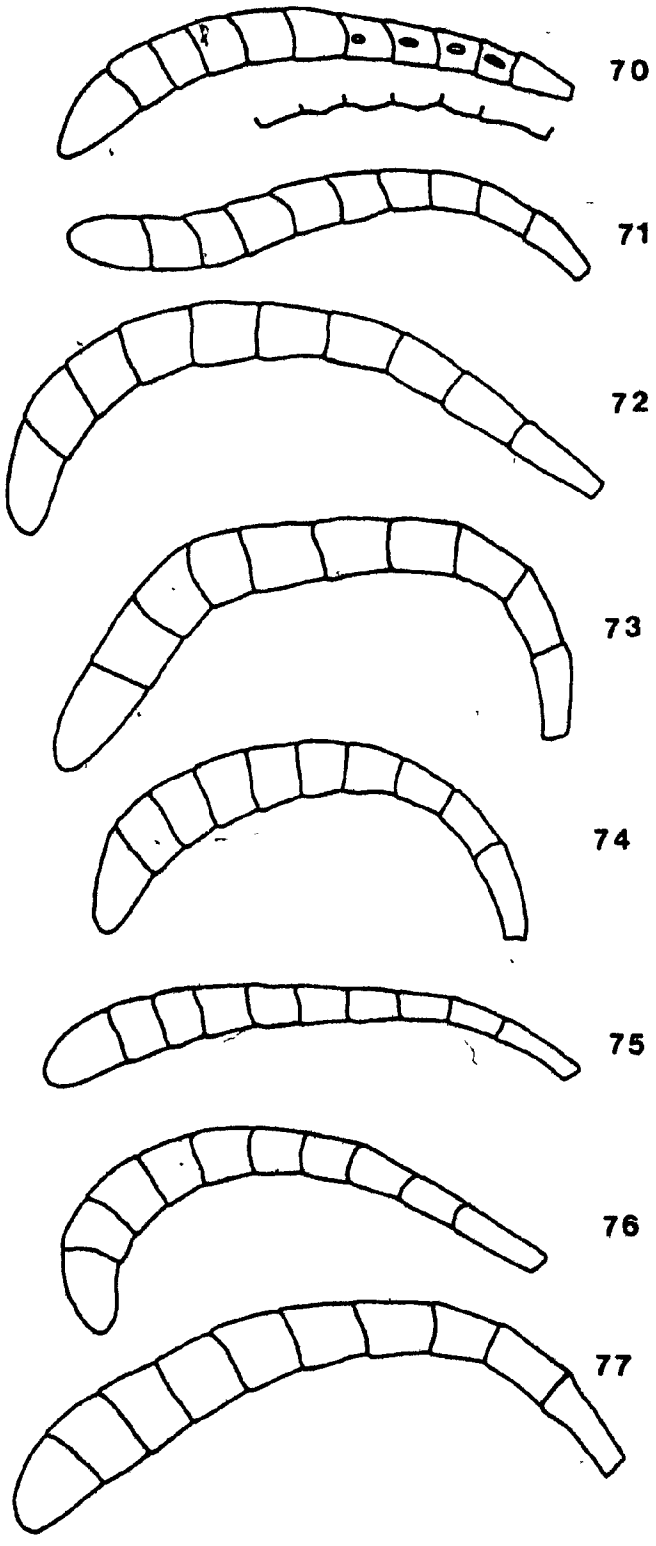
70 Flagellum of antenna with tyli in profile, *Mimesa zapoteca* ♂.

71-77 Flagellum of antenna, ♀. 71 *Mimesa agalena*, 72 *Mimesa arizonensis*, 73 *Mimesa barri*, 74 *Mimesa cahuilla*, 75 *Mimesa cheyenne*, 76 *Mimesa coquilletti*, 77 *Mimesa cressonii*.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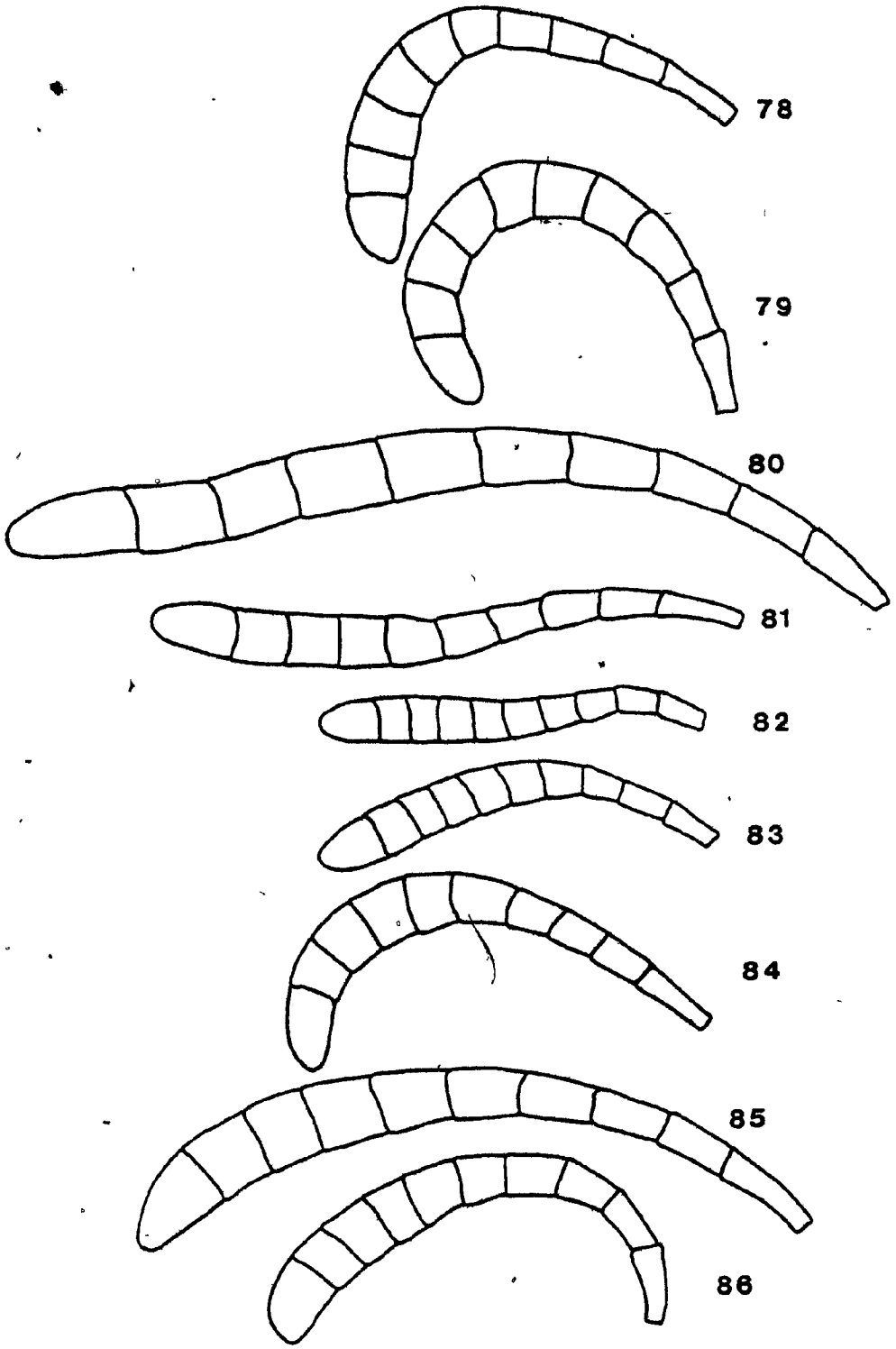
78-86 Flagellum of antenna, ♀. 78 *Mimesa dawsoni*, 79 *Mimesa edentata*, 80 *Mimesa ezra*, 81 *Mimesa foxi*, 82 *Mimesa gabrielena*, 83 *Mimesa granulosa*, 84 *Mimesa gregaria*, 85 *Mimesa huron*, 86 *Mimesa ipai*.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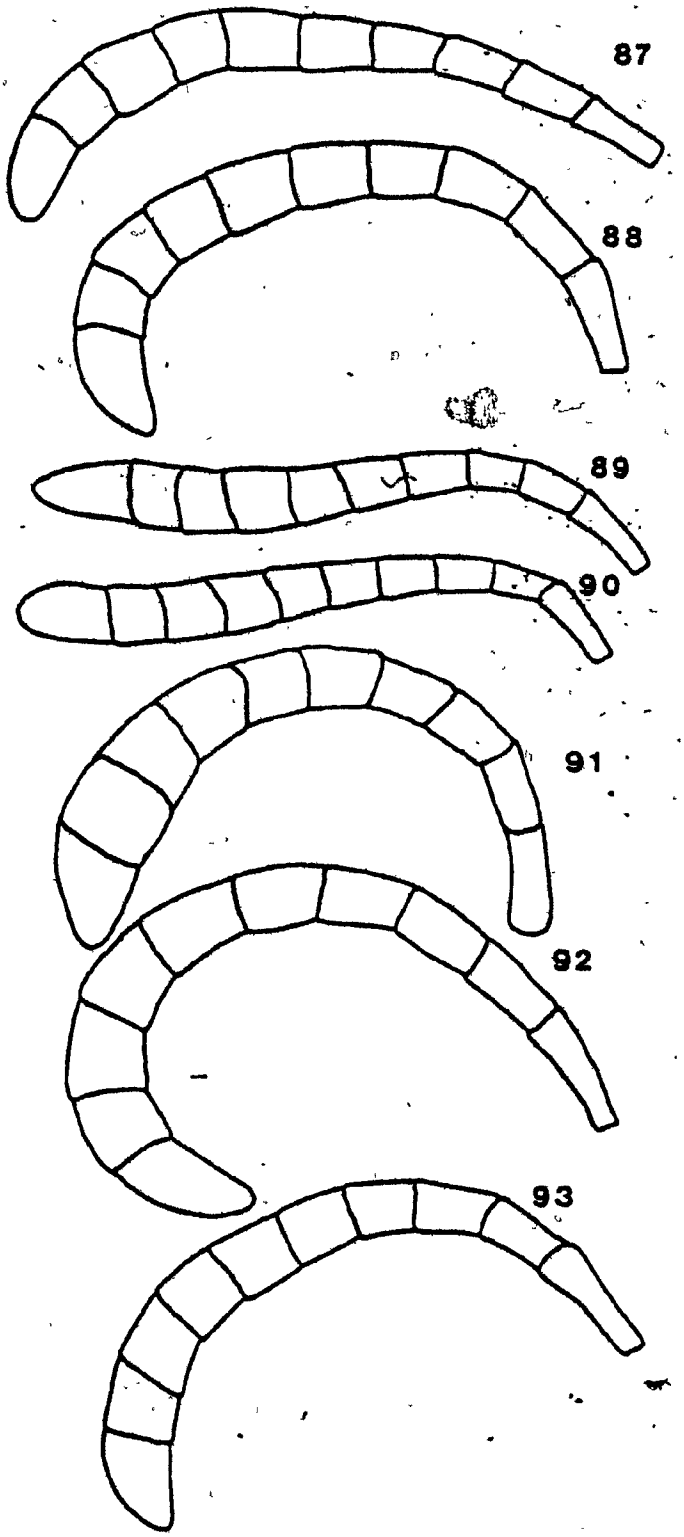
87-93 Flagellum of antenna, ♀. 87 *Mimesa lutaria*, 88 *Mimesa maculipes*, 89 *Mimesa mexicana*, 90 *Mimesa pauper*, 91 *Mimesa proxima*, 92 *Mimesa punctifrons*, 93 *Mimesa pygidialis*.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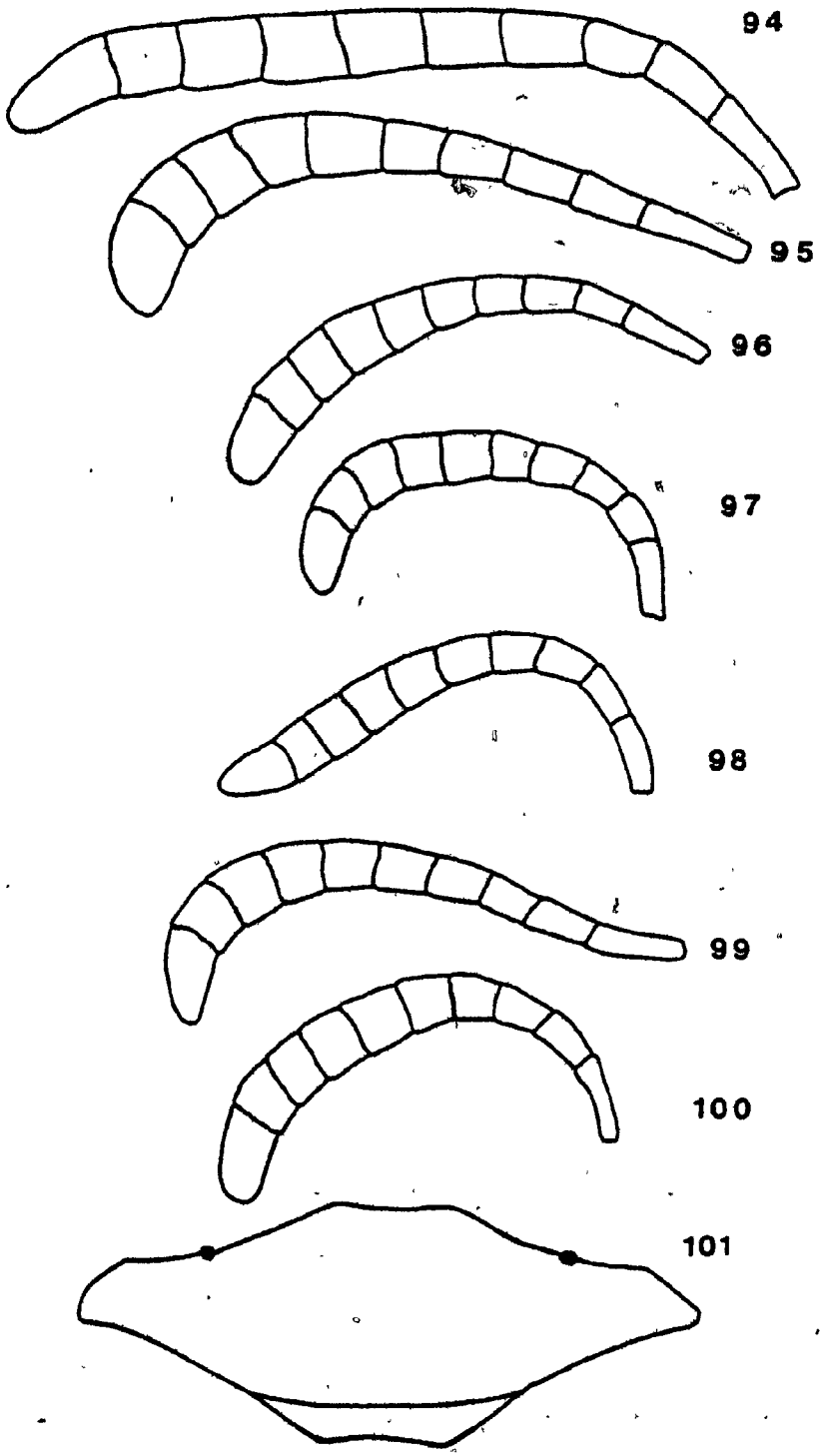
94-100 Flagellum of antenna, ♀. 94 *Mimesa sabina*, 95 *Mimesa senijextee*, 96 *Mimesa serrano*, 97 *Mimesa nisenan*, 98 *Mimesa simplex*, 99 *Mimesa unicincta*, 100 *Mimesa zapoteca*.

101 Clypeus, ♀, *Mimesa agalena*.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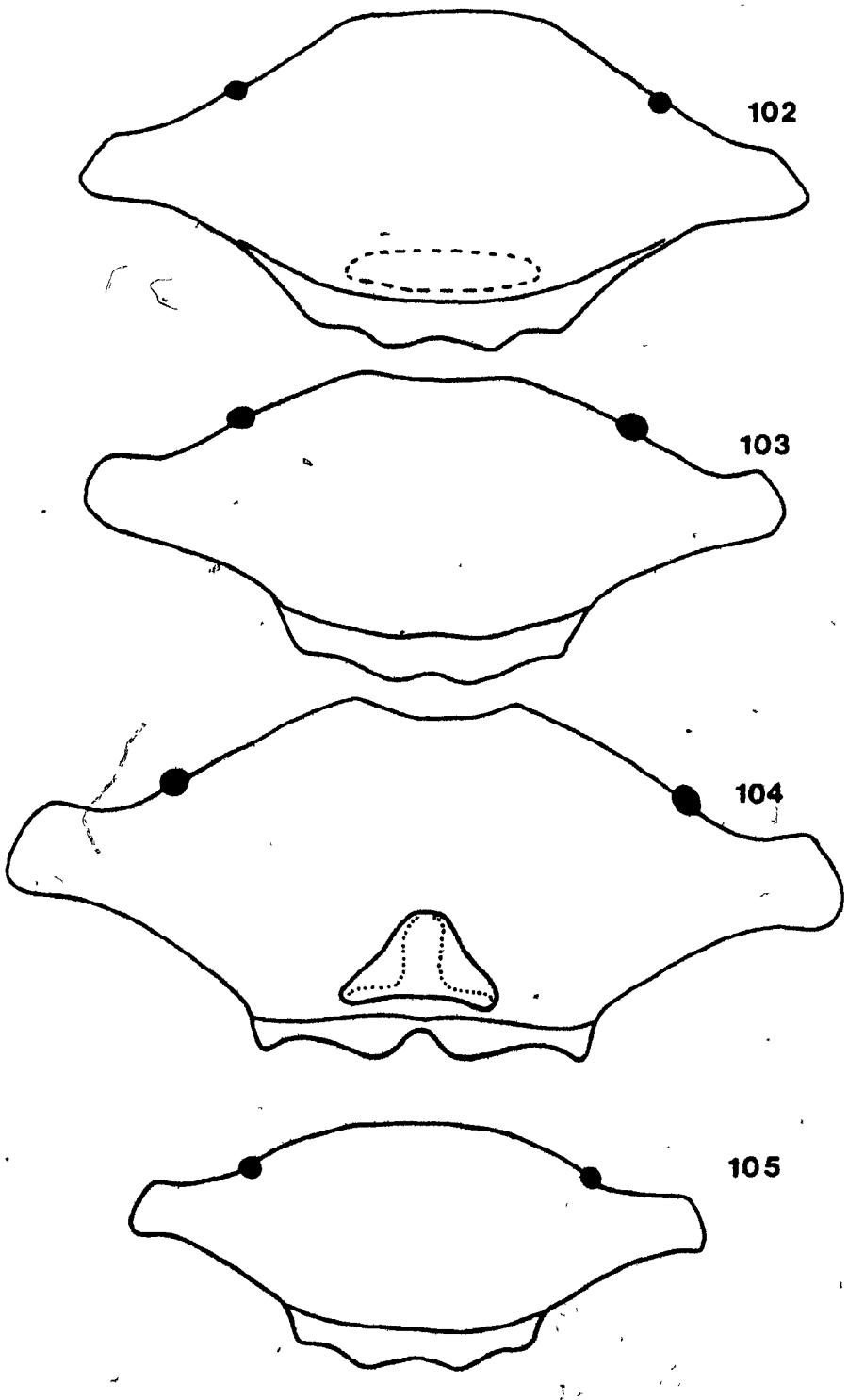
102-105 Clypeus, ♀. 102 *Mimesa arizonensis*, 103 *Mimesa barri*, 104 *Mimesa cahuilla*, 105 *Mimesa cheyenne*.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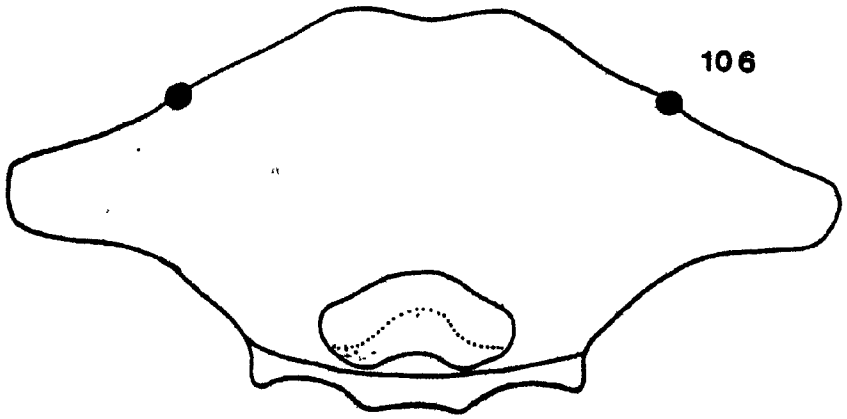
106-109 Clypeus, ♀. 106 *Mimesa coquilletti*, 107 *Mimesa cressonii*; 108 *Mimesa dawsoni*, 109 *Mimesa edentata*.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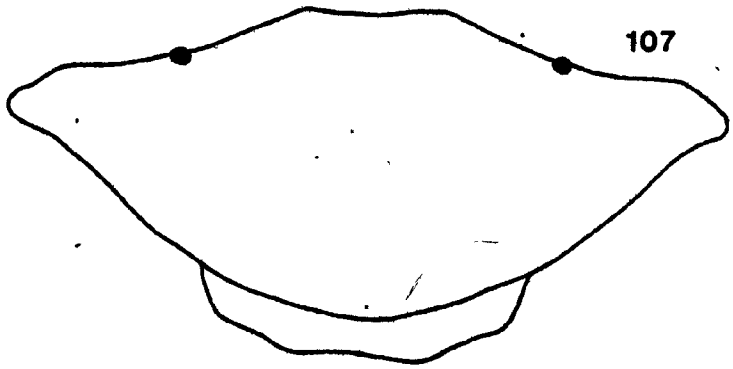
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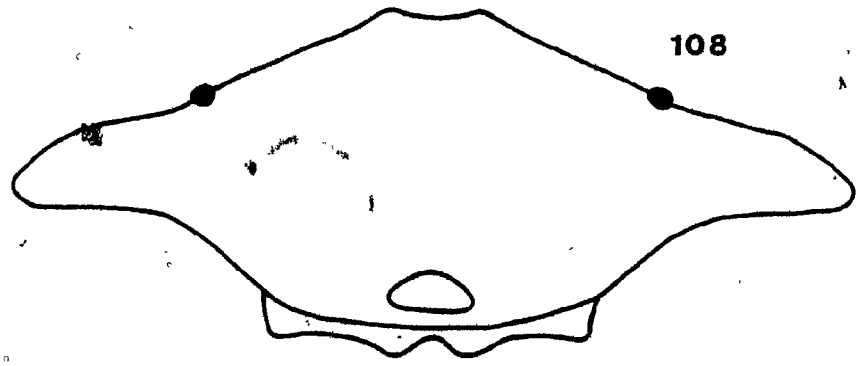
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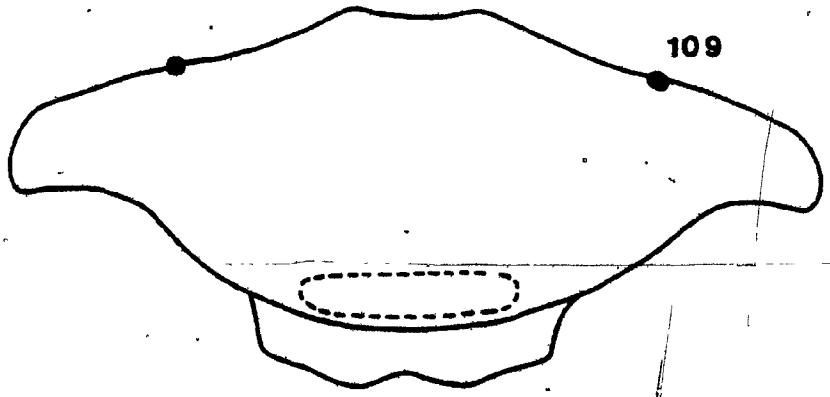
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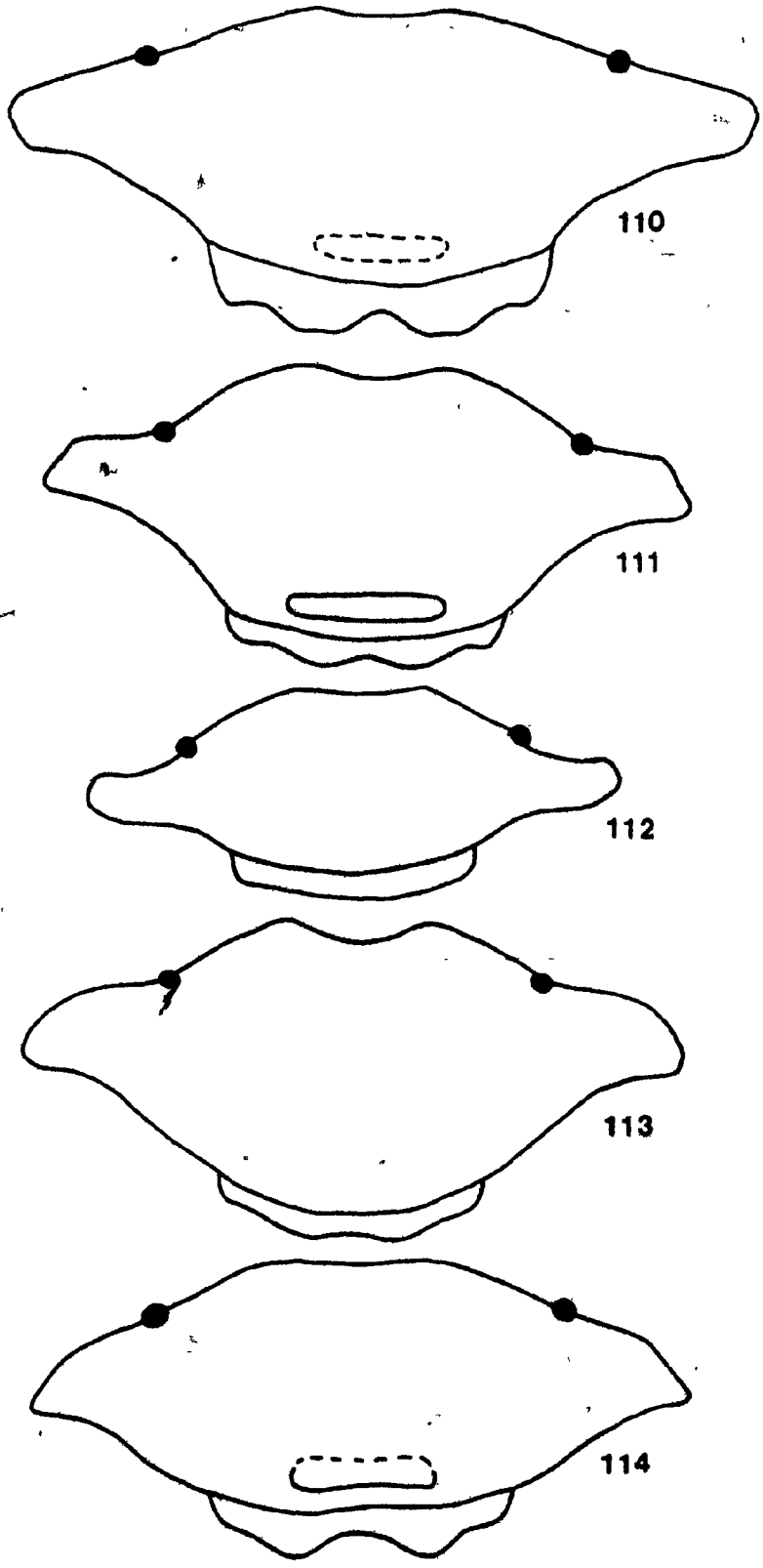
110-114 Clypeus, ♀. 110 *Mimesa ezra*, 111 *Mimesa foxi*, 112 *Mimesa gabrieleno*, 113 *Mimesa granulosa*, 114 *Mimesa gregaria*.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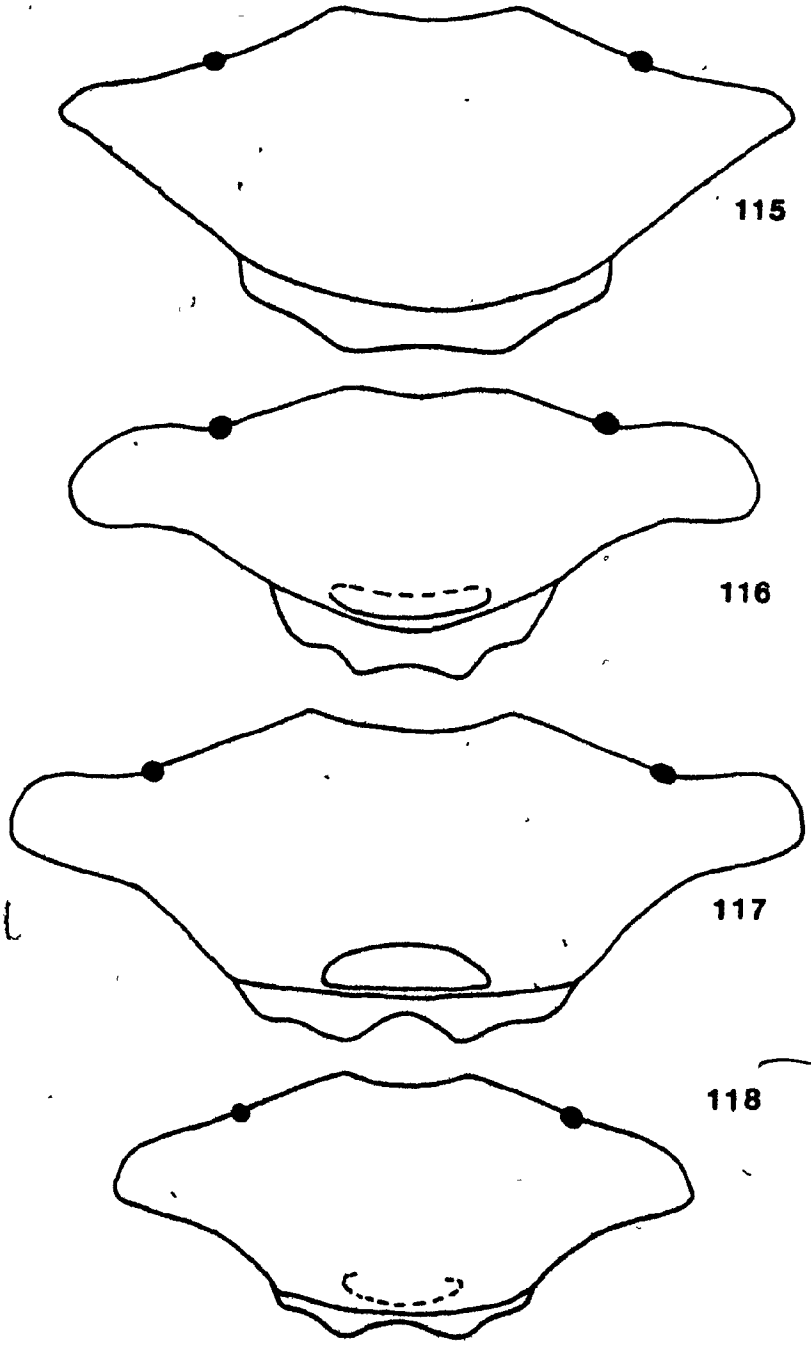
115-118 Clypeus, ♀. 115 *Mimesa huron*, 116 *Mimesa ipai*, 117 *Mimesa lutaria*, 118 *Mimesa maculipes*.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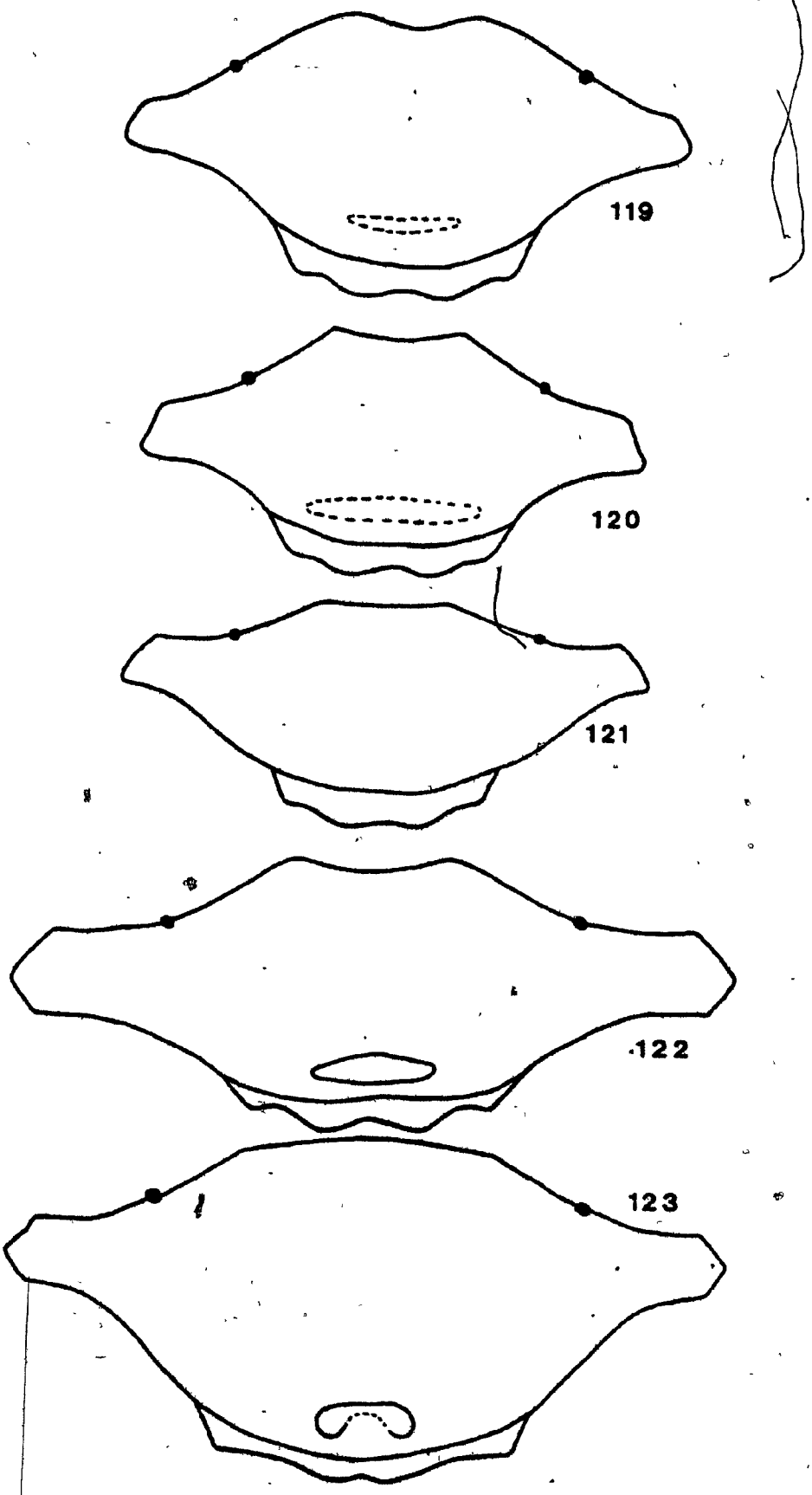
119-123 Clypeus, ♀. 119 *Mimesa mexicana*, 120 *Mimesa pauper*, 121 *Mimesa proxima*, 122 *Mimesa punctifrons*, 123 *Mimesa pygidialis*.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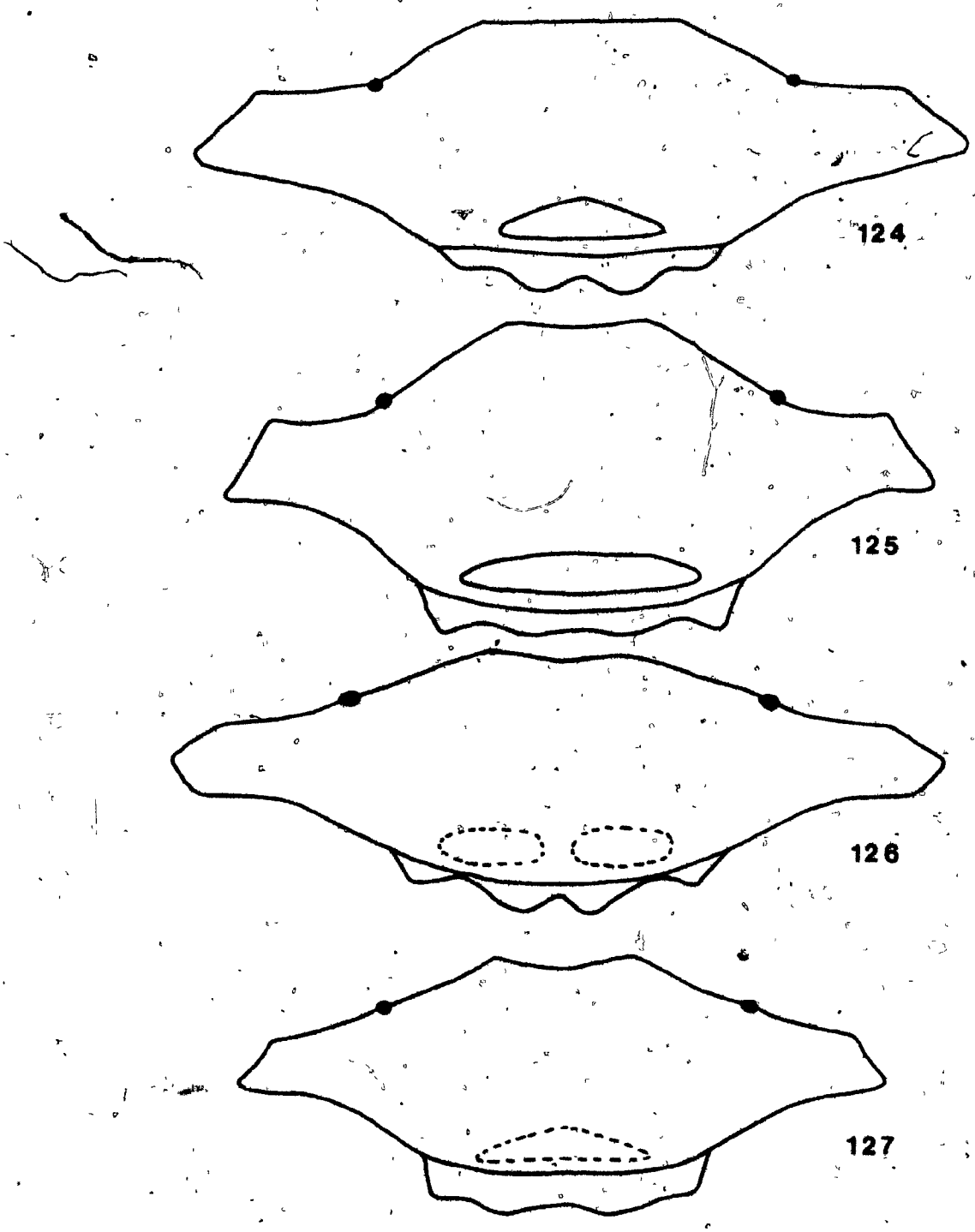
124-127 Clypeus, ♀. 124 *Mimesa sabina*, 125 *Mimesa senijextee*, 126 *Mimesa serrano*, 127 *Mimesa nisenan*.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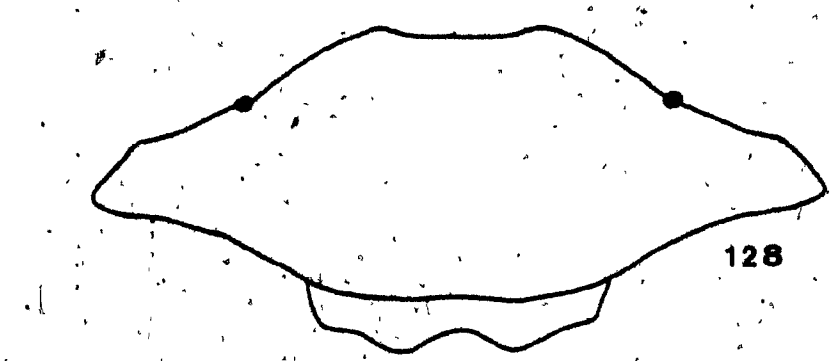
128-130 Clypeus, ♀. 128 *Mimesa simplex*, 129 *Mimesa unicinota*, 130 *Mimesa zapoteca*.

131-138 Tegula, left side of thorax, ♂. 131 *Mimesa agalena*, 132 *Mimesa arizonensis*, 133 *Mimesa barri*, 134 *Mimesa cahuilla*, 135 *Mimesa cheyenne*, 136 *Mimesa chiricahua*, 137 *Mimesa coquilletti*, 138 *Mimesa cressonii*.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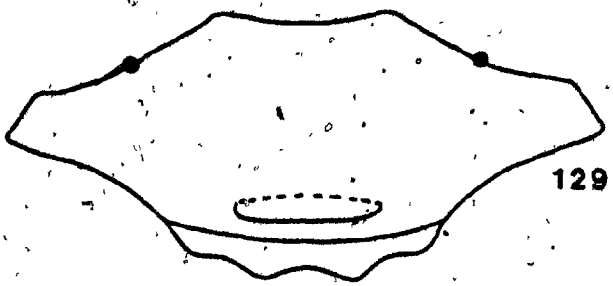
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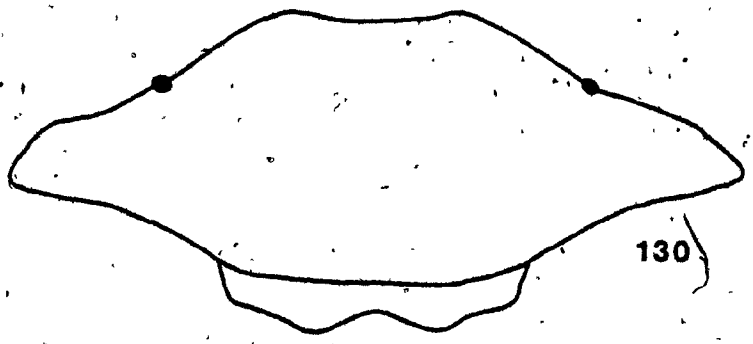
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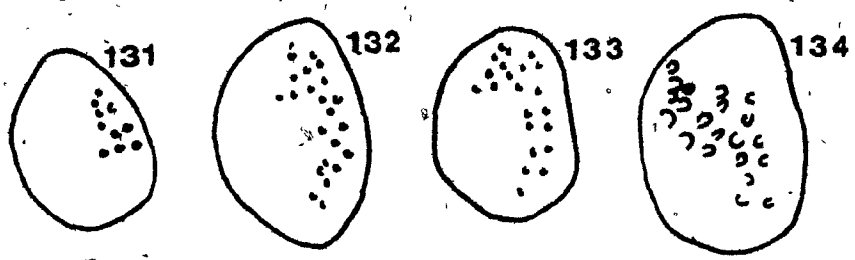
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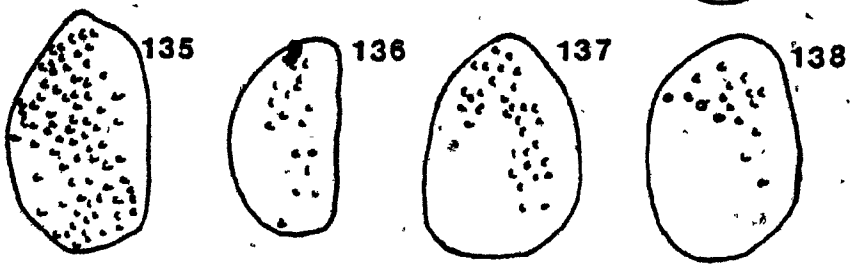
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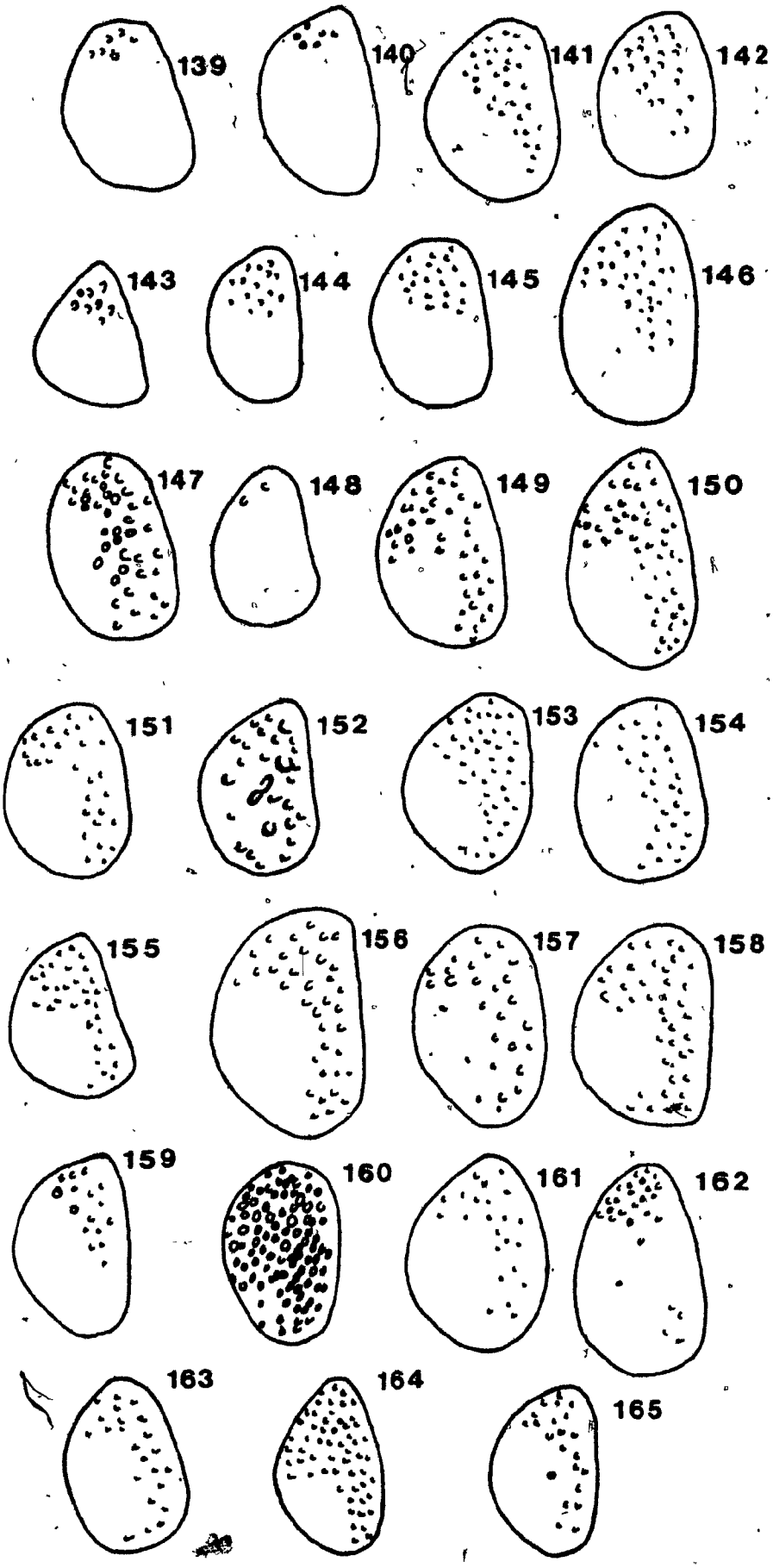
139-165 Tegula, left side of thorax, ♂. 139 *Mimesa dawsoni*, 140 *Mimesa edentata*, 141 *Mimesa ezra*, 142 *Mimesa foxi*, 143 *Mimesa gabriel*ano, 144 *Mimesa granulosa*, 145 *Mimesa gregaria*, 146 *Mimesa huron*, 147 *Mimesa ipai*, 148 *Mimesa jicarilla*, 149 *Mimesa lutaria*, 150 *Mimesa maculipes*, 151 *Mimesa mexicana*, 152 *Mimesa miwoka*, 153 *Mimesa pauper*, 154 *Mimesa proxima*, 155 *Mimesa punctifrons*, 156 *Mimesa pygidialis*, 157 *Mimesa sabina*, 158 *Mimesa senijextee*, 159 *Mimesa serrano*, 160 *Mimesa nisenan*, 161 *Mimesa simplex*, 162 *Mimesa tequila*, 163 *Mimesa tolteca*, 164 *Mimesa unicincta*, 165 *Mimesa zapoteca*.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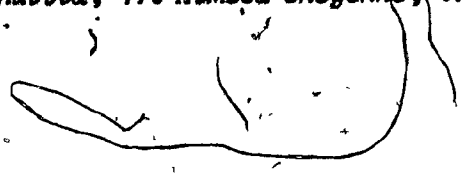
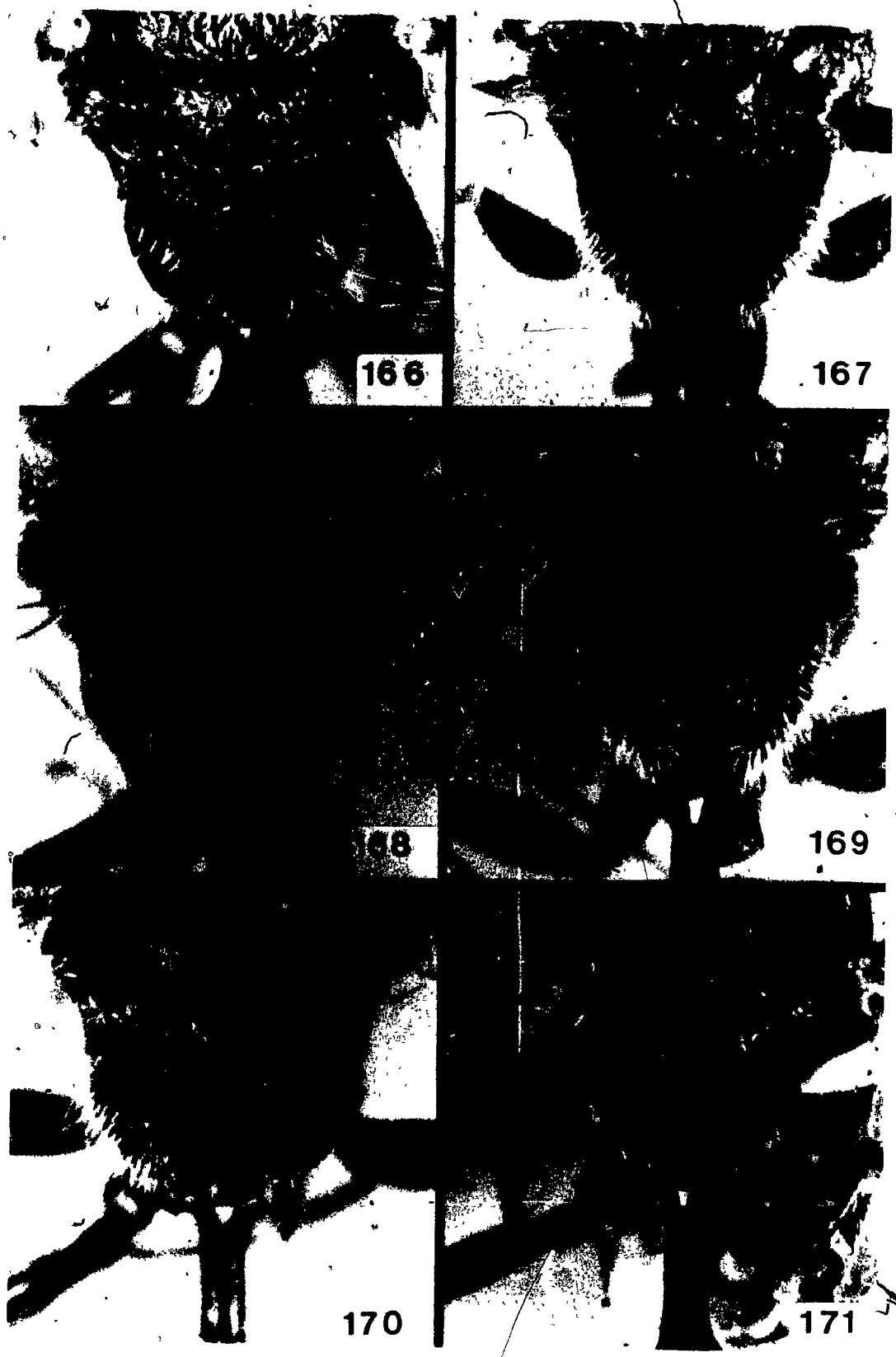
166-171 Propodeum, dorsal, ♂. 166 *Mimesa agalena*, 167 *Mimesa arizonensis*, 168 *Mimesa barri*, 169 *Mimesa cahuilla*, 170 *Mimesa cheyenne*, 171 *Mimesa chiricahua*.

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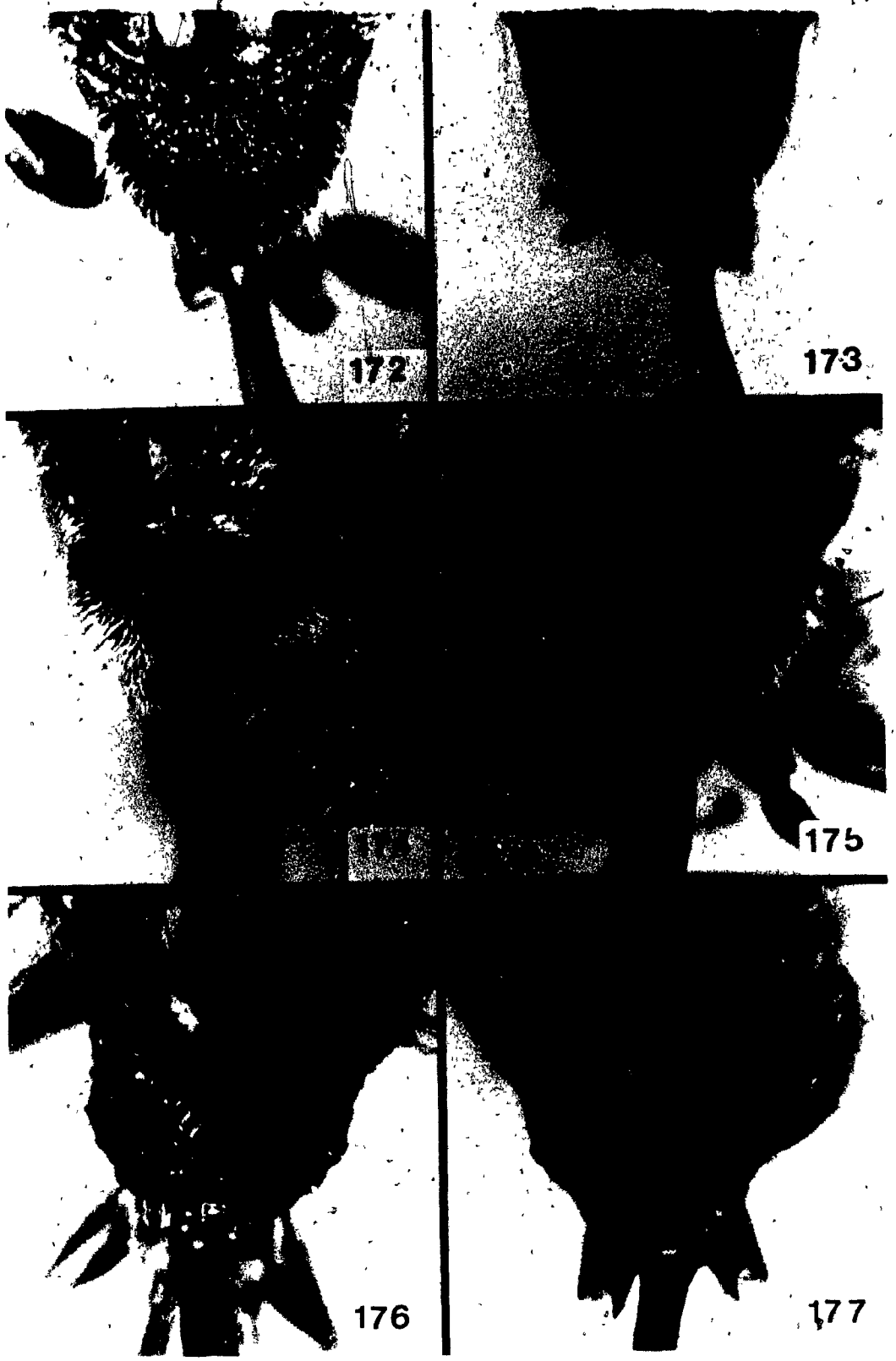
172-177 Propodeum, dorsal, ♂. 172 *Mimesa coquilletti*, 173 *Mimesa cressonii*, 174 *Mimesa dawsoni*, 175 *Mimesa edentata*, 176 *Mimesa ezra*, 177 *Mimesa foxi*.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178-183 Propodeum, dorsal, ♂. 178 *Mimesa gabrielano*, 179 *Mimesa granulosa*, 180 *Mimesa gregaria*, 181 *Mimesa huron*, 182 *Mimesa ipai*, 183 *Mimesa jicarilla*.


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184-189 Propodeum, dorsal, ♂. 184 *Mimesa lutaria*, 185 *Mimesa maculipes*, 186 *Mimesa mexicana*, 187 *Mimesa miwoka*, 188 *Mimesa pauper*, 189 *Mimesa proxima*.


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190-195 Propodeum, dorsal, ♂. 190 *Mimesa punctifrons*, 191 *Mimesa pygidialis*, 192 *Mimesa sabina*, 193 *Mimesa senijextee*, 194 *Mimesa serrano*, 195 *Mimesa nisenan*.


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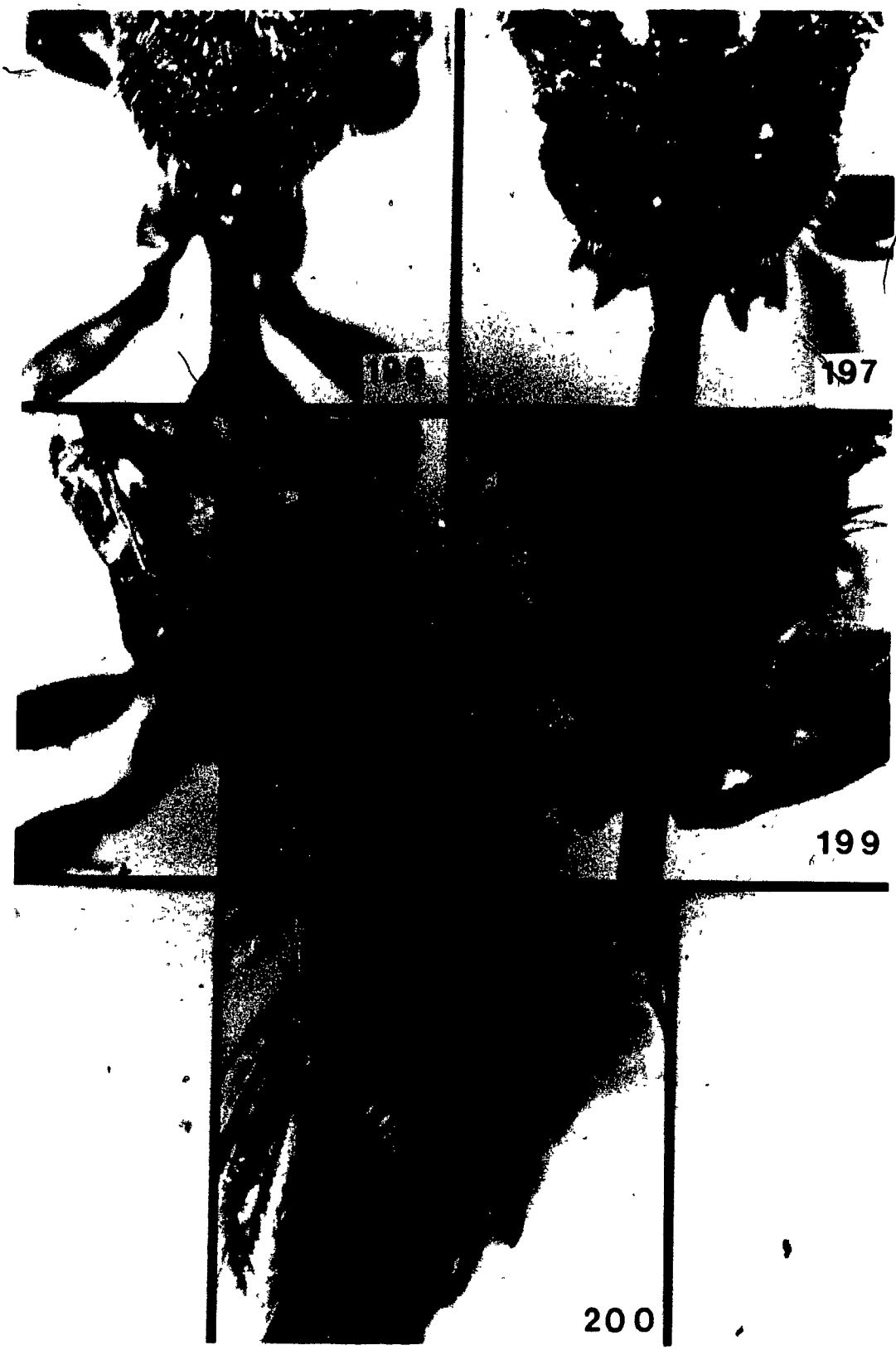
196-200 Propodeum, dorsal, ♂. 196 *Mimesa simplex*, 197 *Mimesa tequila*, 198 *Mimesa tolteca*, 199 *Mimesa unicincta*, 200 *Mimesa zapoteca*.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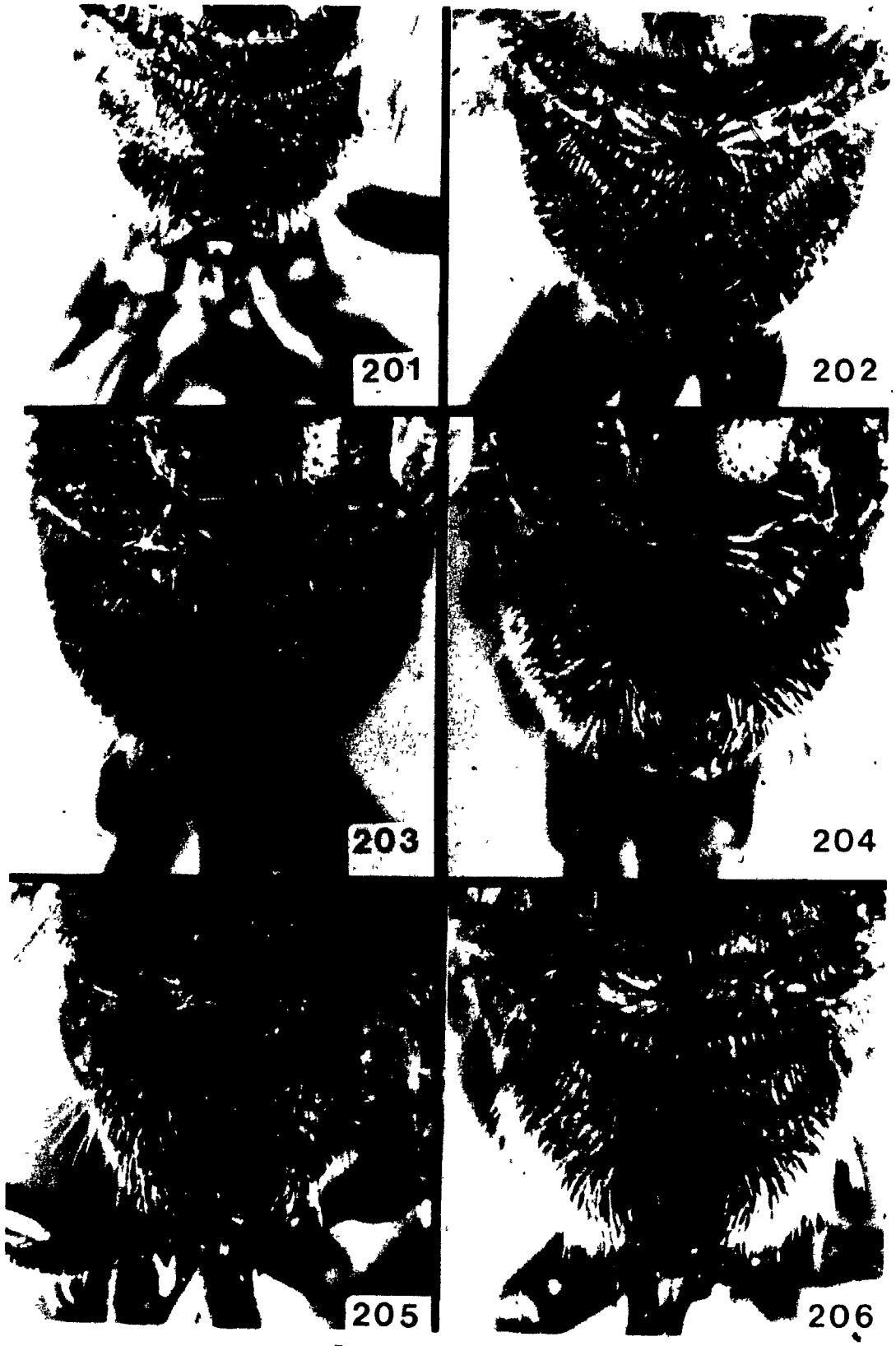
201-206 Propodeum, dorsal, ♀. 201 *Mimesa agalena*, 202 *Mimesa arizonensis*, 203 *Mimesa barri*, 204 *Mimesa cahuilla*, 205 *Mimesa cheyenne*, 206 *Mimesa coquilletti*.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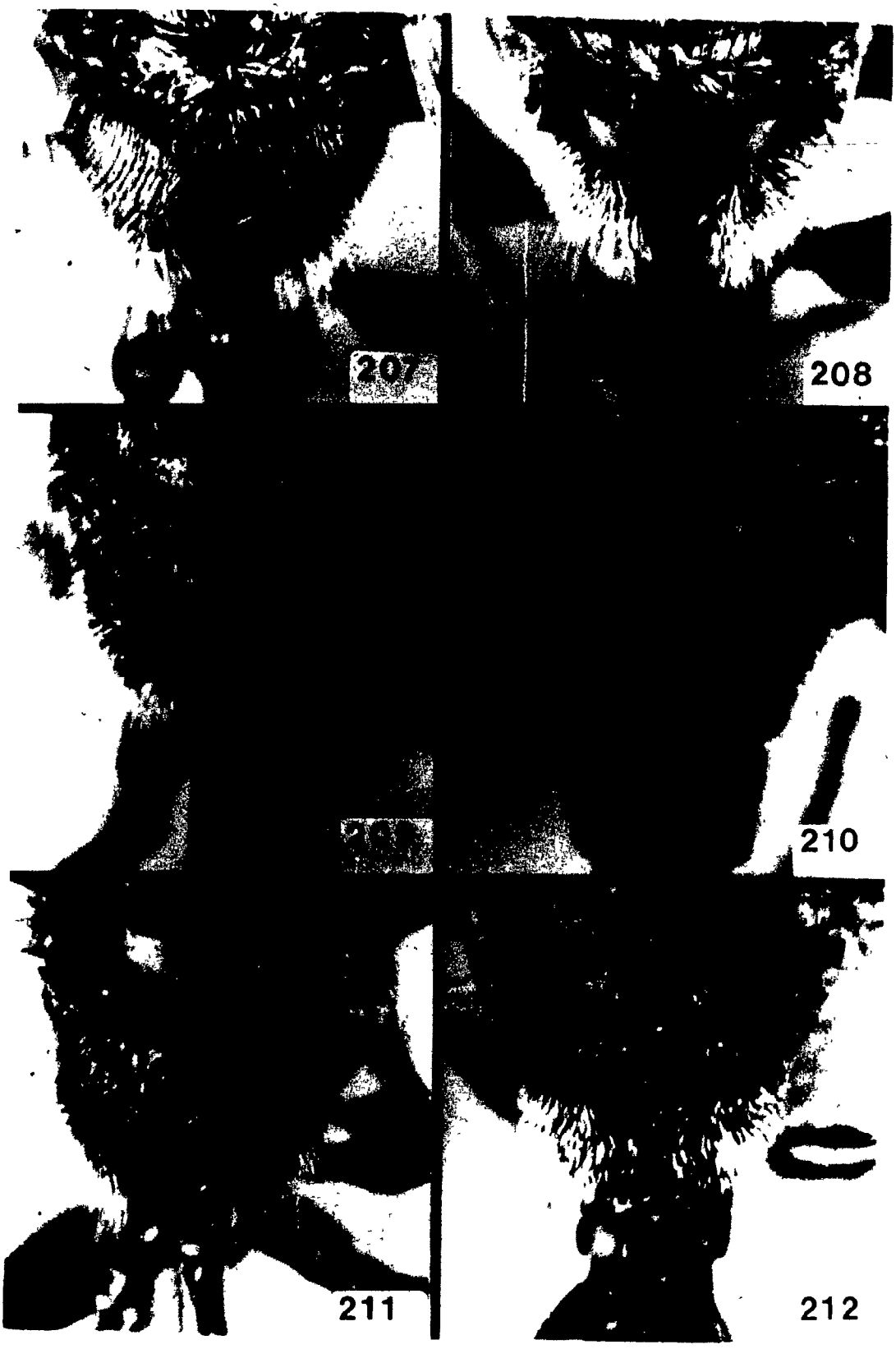
207-212 Propodeum, dorsal, ♀. 207 *Mimesa cressonii*, 208 *Mimesa dawsoni*, 209 *Mimesa edentata*, 210 *Mimesa ezra*, 211 *Mimesa foxi*, 212 *Mimesa gabrielena*.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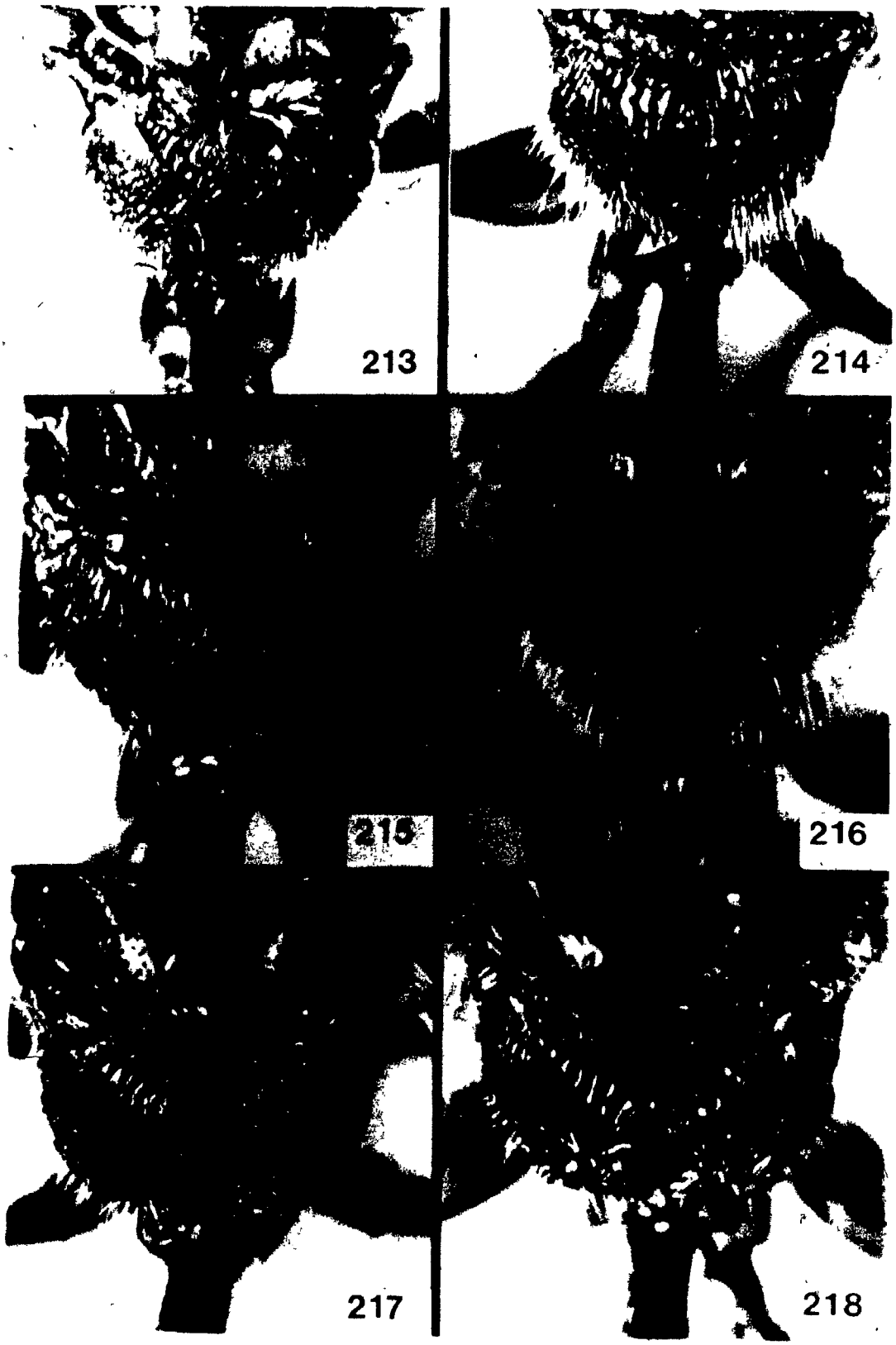
212

213-218 Propodeum, dorsal, ♀. 213 *Mimesa granulosa*, 214 *Mimesa gregaria*, 215 *Mimesa huron*, 216 *Mimesa ipai*, 217 *Mimesa lutaria*, 218 *Mimesa maculipes*.


213
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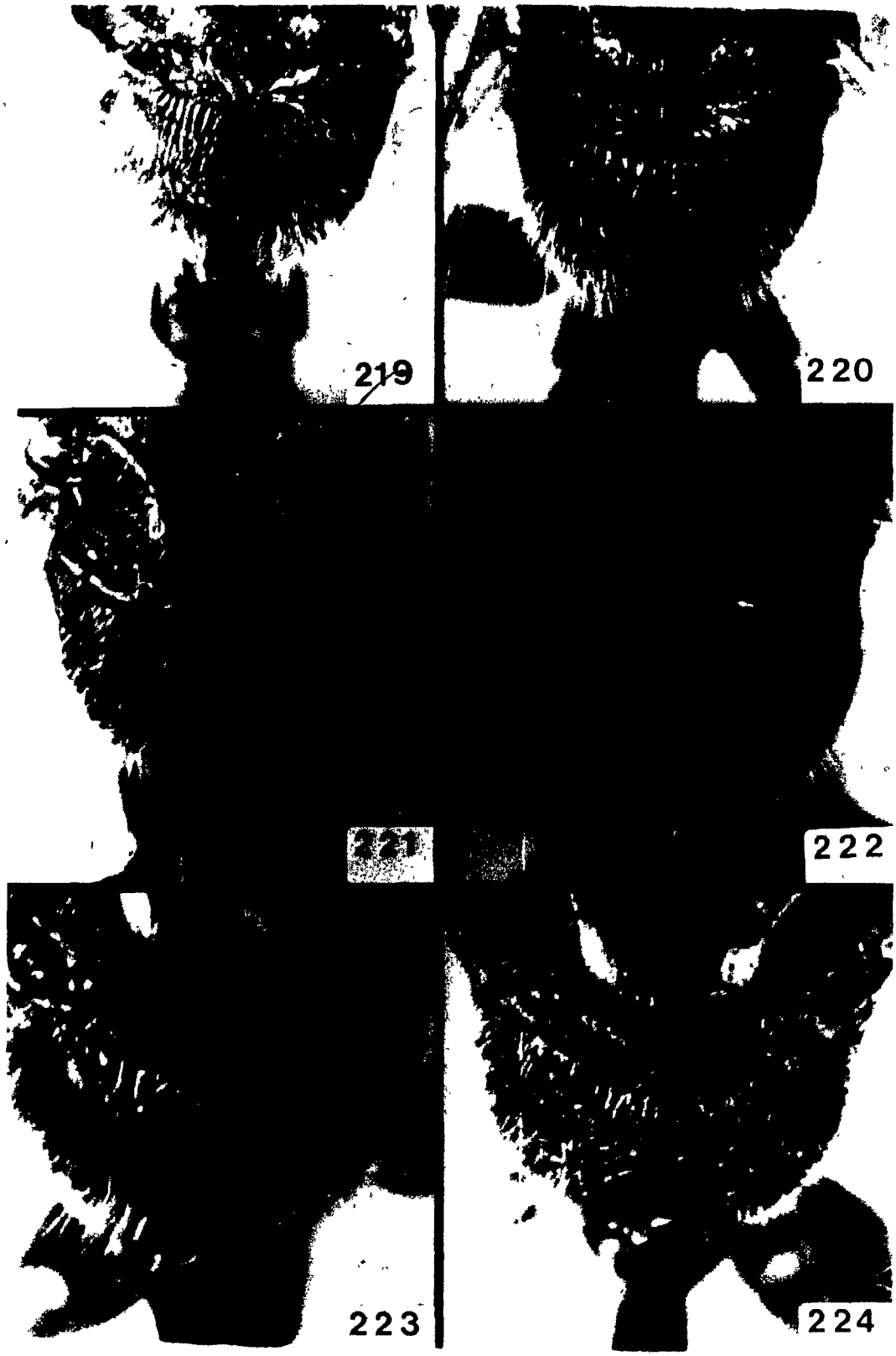
218

219-224 Propodeum, dorsal, ♀. 219 *Mimesa mexicana*, 220 *Mimesa pauper*, 221 *Mimesa proxima*, 222 *Mimesa punctifrons*, 223 *Mimesa pygidialis*, 224 *Mimesa sabina*.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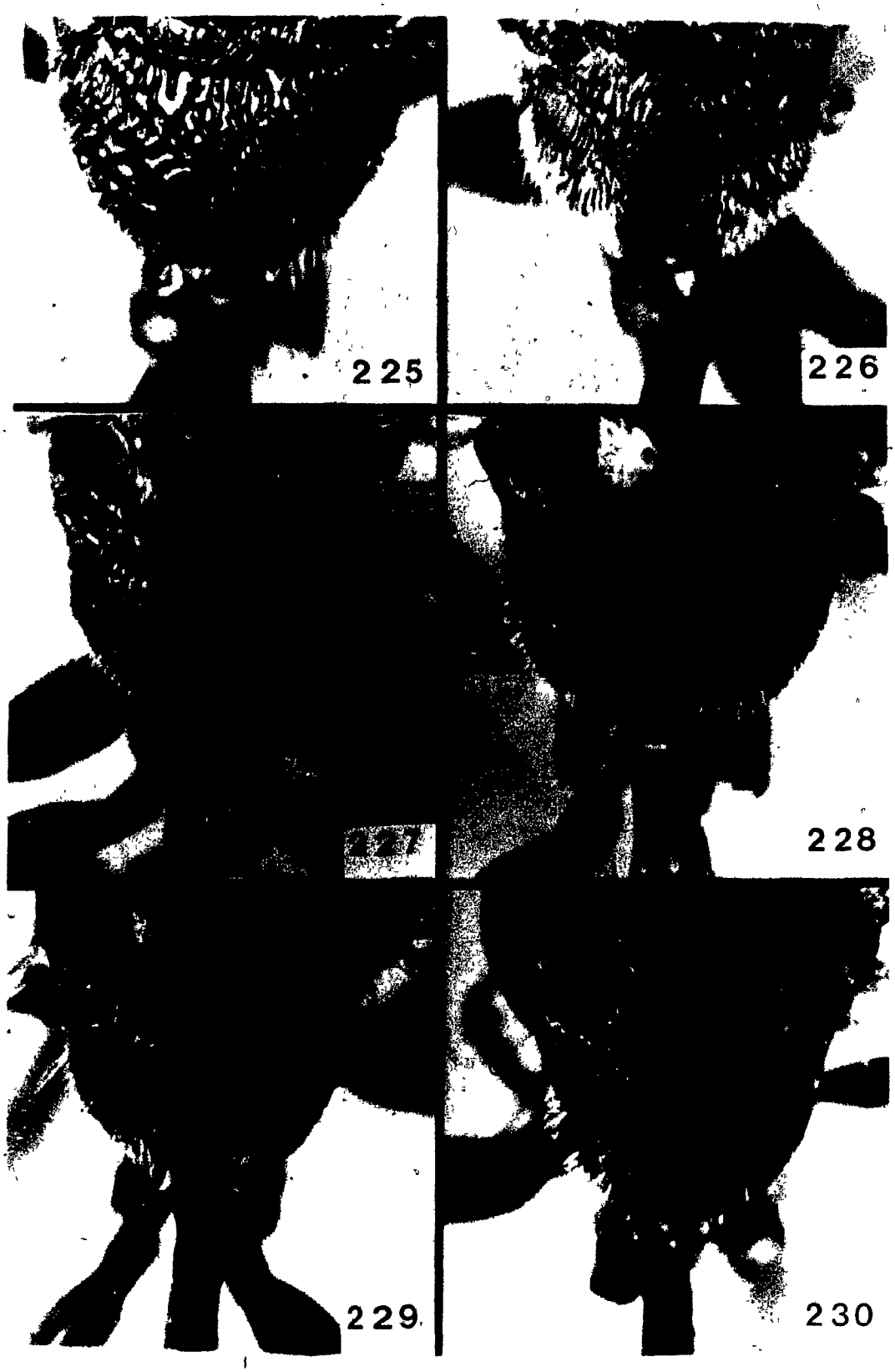
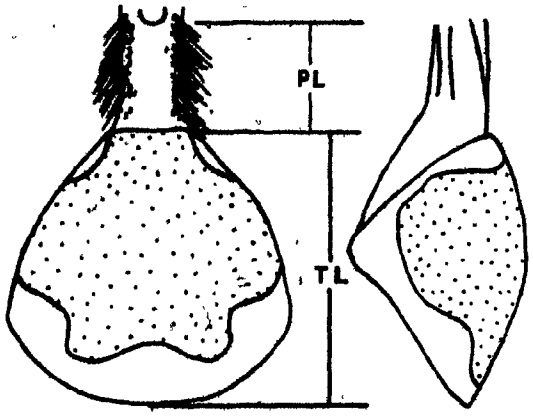
224

225-230 Propodeum, dorsal, ♀. 225 *Mimesa senijextee*, 226 *Mimesa serrano*, 227 *Mimesa nisenan*, 228 *Mimesa simplex*, 229 *Mimesa unicincta*, 230 *Mimesa zapoteca*.


225
226
228
229
230

231-236 Petiole and first tergum, dorsal and lateral, ♂. 231 *Mimesa agalena*, 232 *Mimesa arizonensis*, 233 *Mimesa barri*, 234 *Mimesa cahuilla*, 235 *Mimesa cheyenne*, 236 *Mimesa chiricahua*. PL, petiole length; TL, tergum length.



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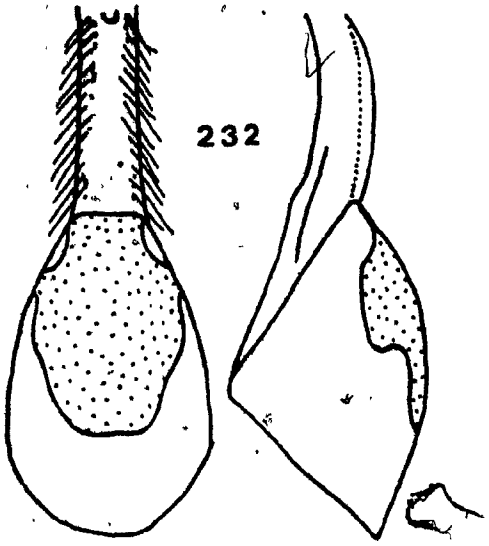

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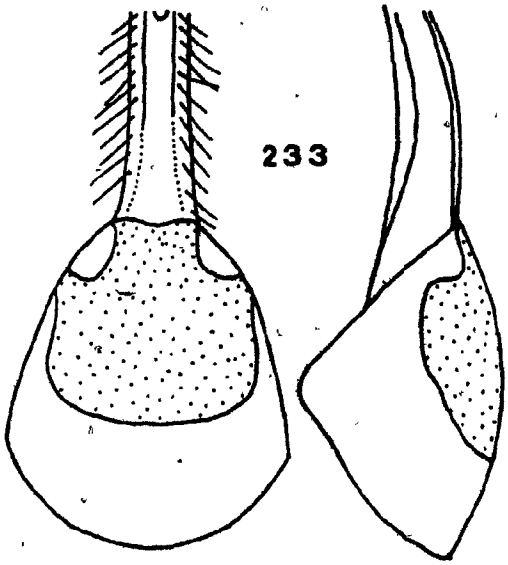

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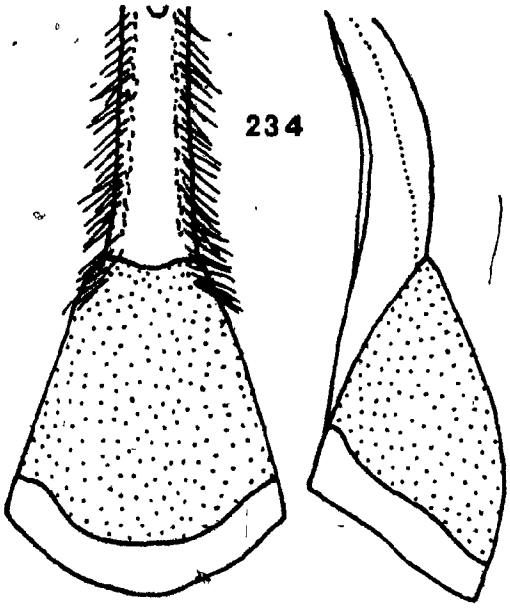

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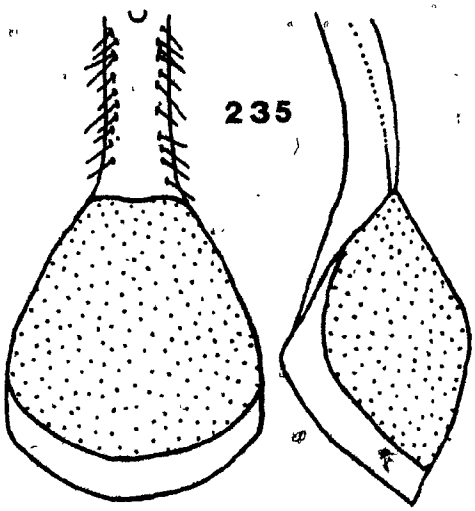

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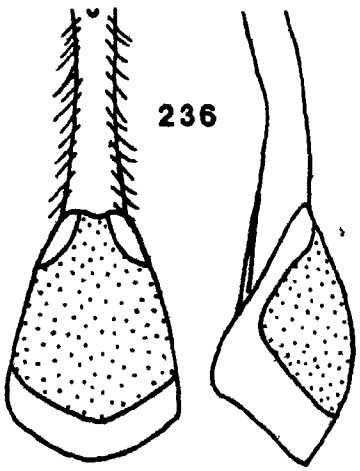
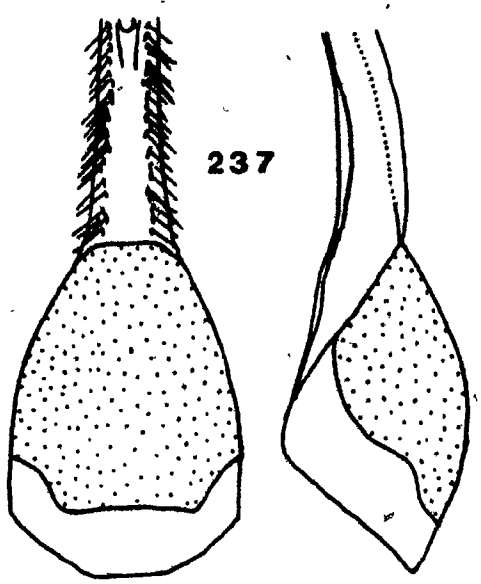


236

237-242 Petiole and first tergum, dorsal and lateral, ♂. 237 *Mimesa coquilletti*, 238 *Mimesa cressonii*, 239 *Mimesa dawsoni*, 240 *Mimesa edentata*, 241 *Mimesa ezra*, 242 *Mimesa foxi*.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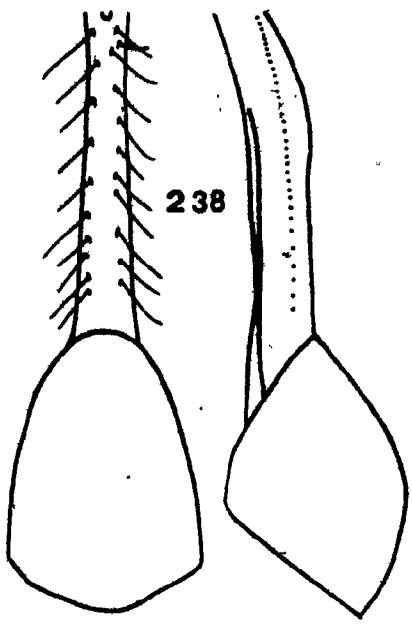
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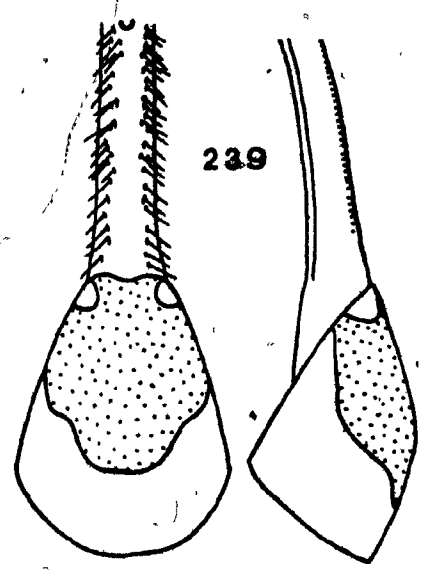
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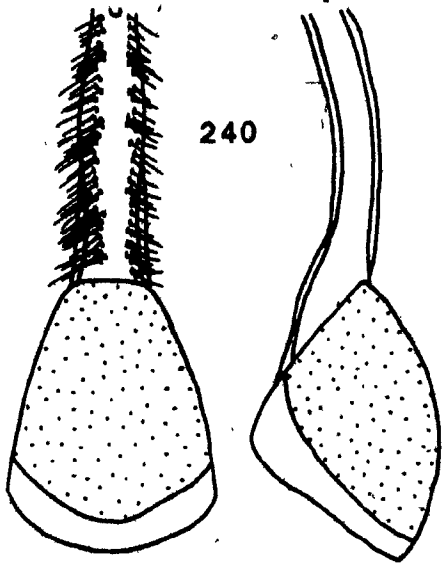
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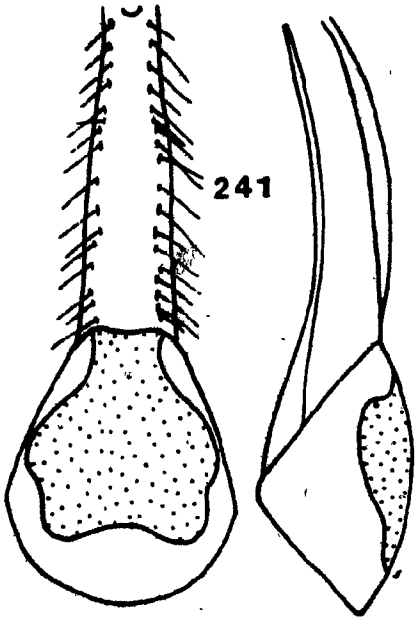
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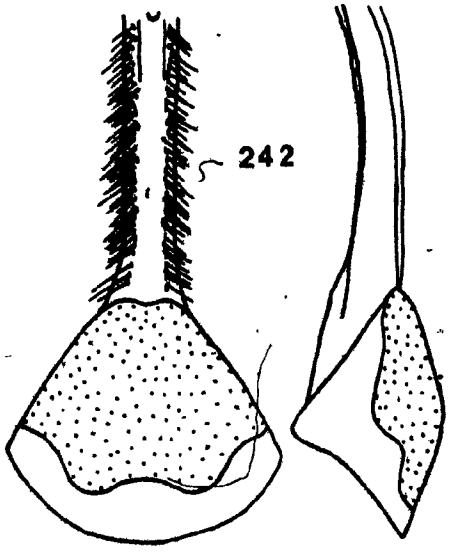
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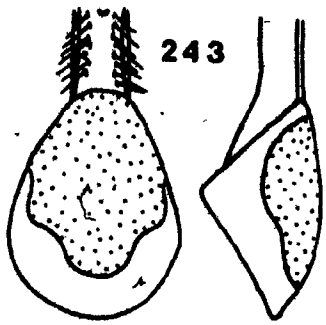
243-248 Petiole and first tergum, dorsal and lateral, ♂. 243 *Mimesa gabrieleno*, 244 *Mimesa granulosa*, 245 *Mimesa gregaria*, 246 *Mimesa huron*, 247 *Mimesa ipai*, 248 *Mimesa jicarilla*.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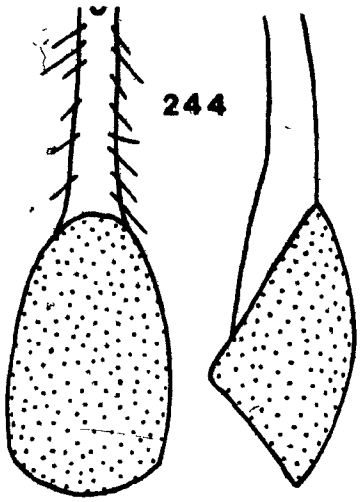
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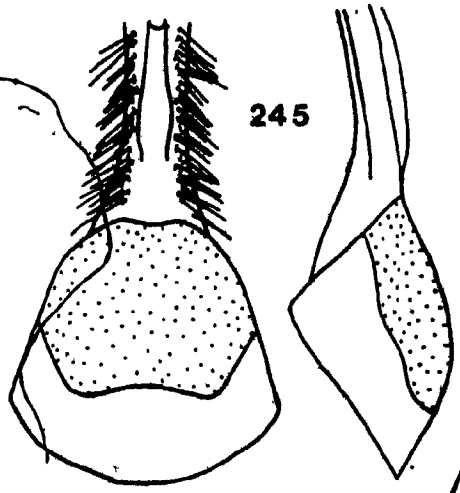
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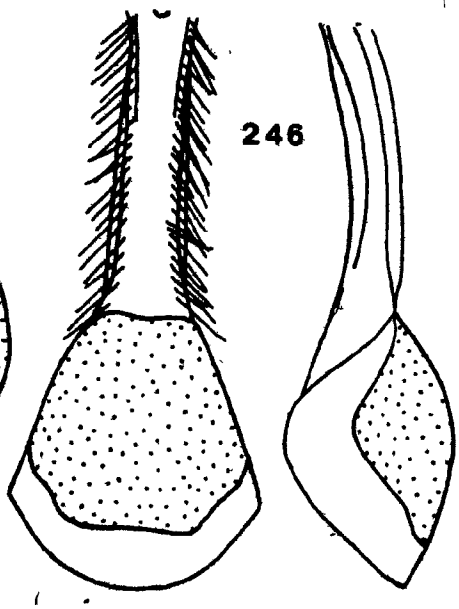
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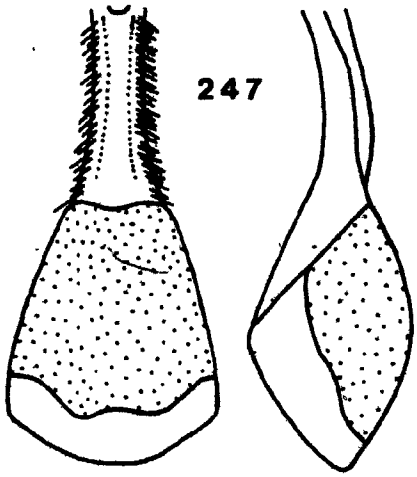
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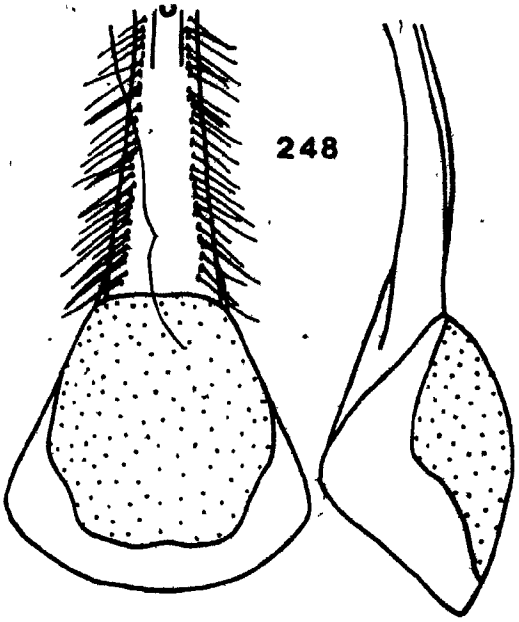
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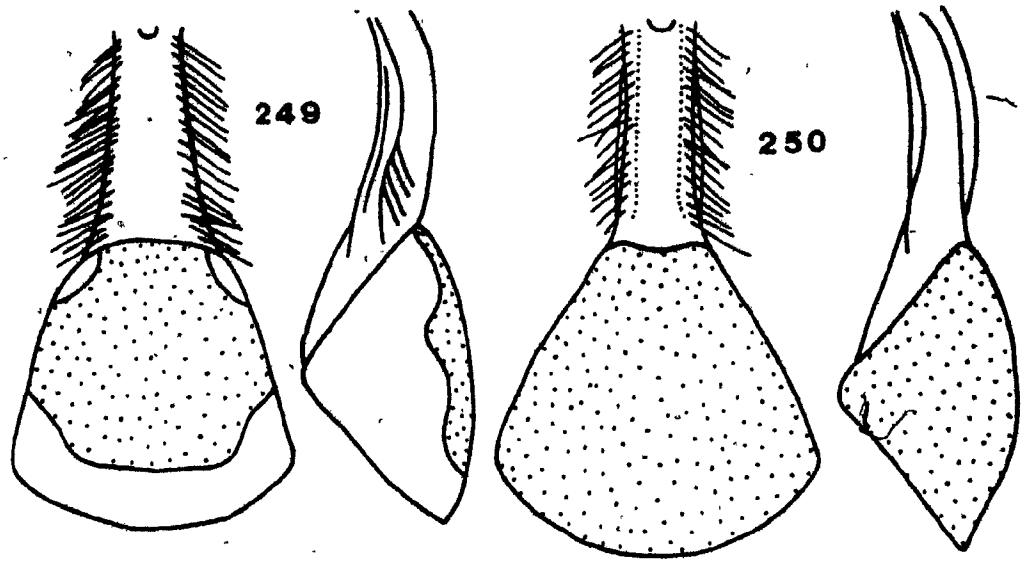
249-254 Petiole and first tergum, dorsal and lateral, ♂. 249 *Mimesa lutaria*, 250 *Mimesa maculipes*, 251 *Mimesa mexicana*, 252 *Mimesa miwoka*, 253 *Mimesa pauper*, 254 *Mimesa proxima*.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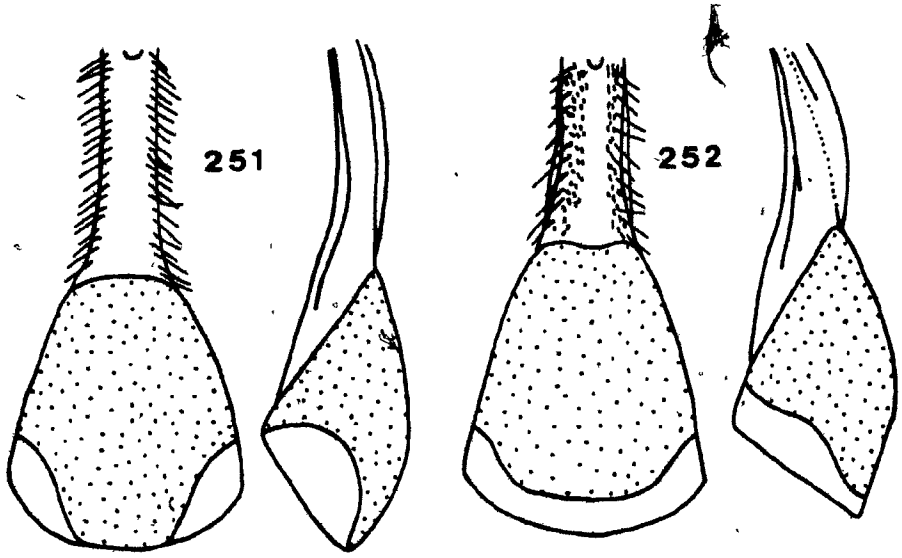
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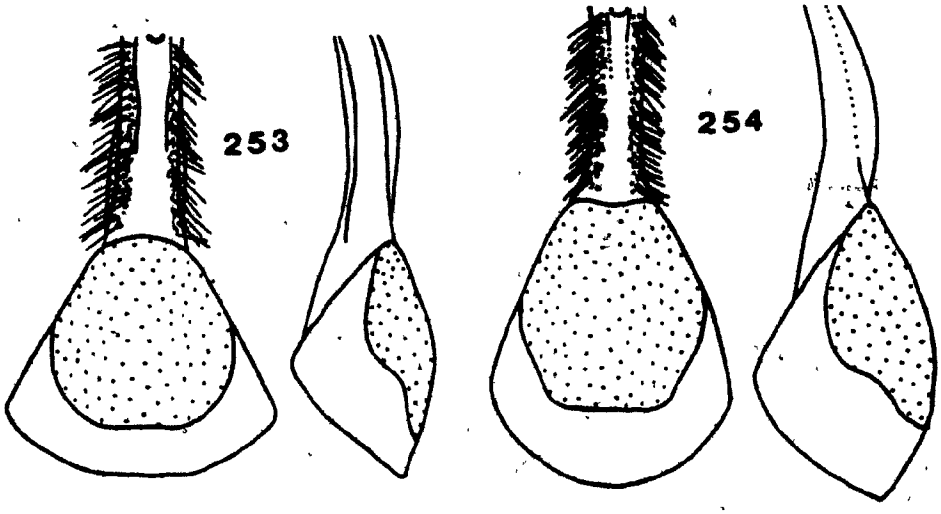
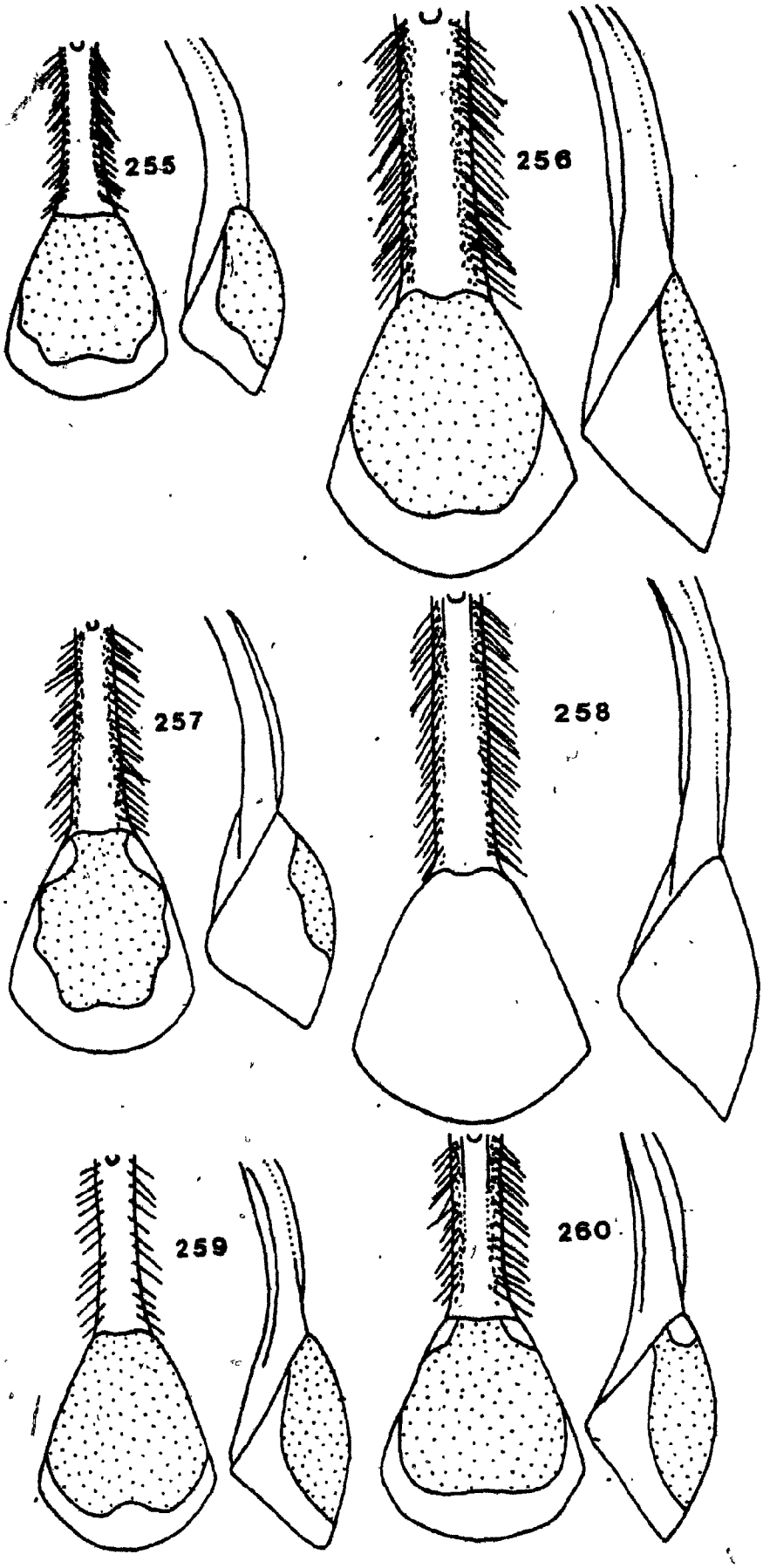

253
254

255-260 Petiole and first tergum, dorsal and lateral, ♂. 255 *Mimesa punctifrons*, 256 *Mimesa pygidialis*, 257 *Mimesa sabina*, 258 *Mimesa semijextea*, 259 *Mimesa serrano*, 260 *Mimesa nisenan*.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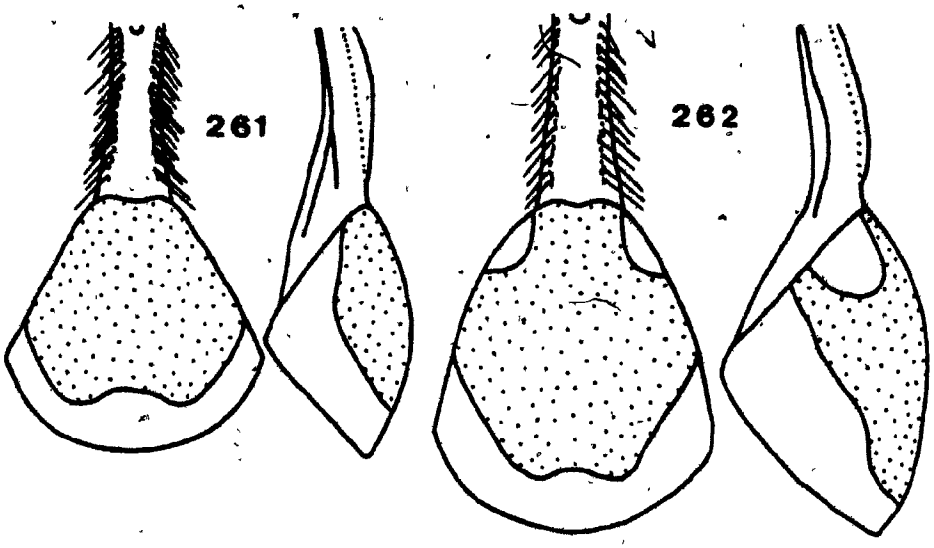
260

261-265 Petiole and first tergum, dorsal and lateral, ♂. 261 *Mimesa simplex*, 262 *Mimesa tequila*, 263 *Mimesa tolteca*, 264 *Mimesa unicincta*, 265 *Mimesa zapoteca*.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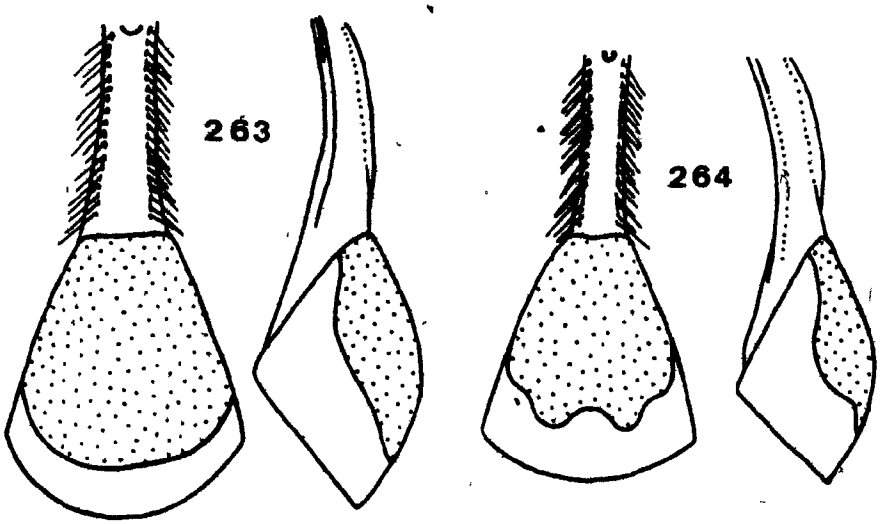
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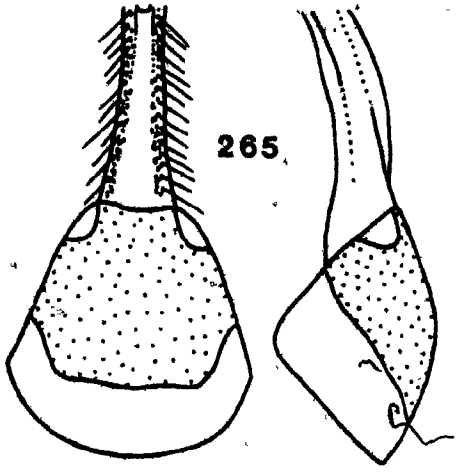
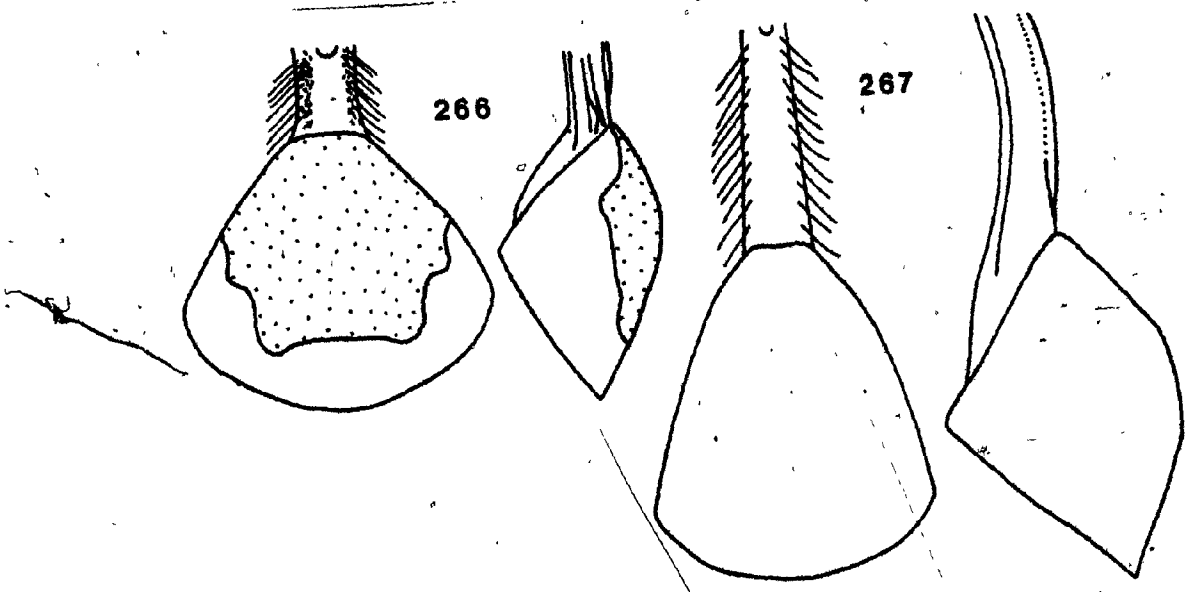

265

266-271 Petiole and first tergum, dorsal and lateral, ♀. 266 *Mimesa agalena*, 267 *Mimesa arizonensis*, 268 *Mimesa barri*, 269 *Mimesa cahuilla*, 270 *Mimesa cheyenne*, 271 *Mimesa coquillettii*.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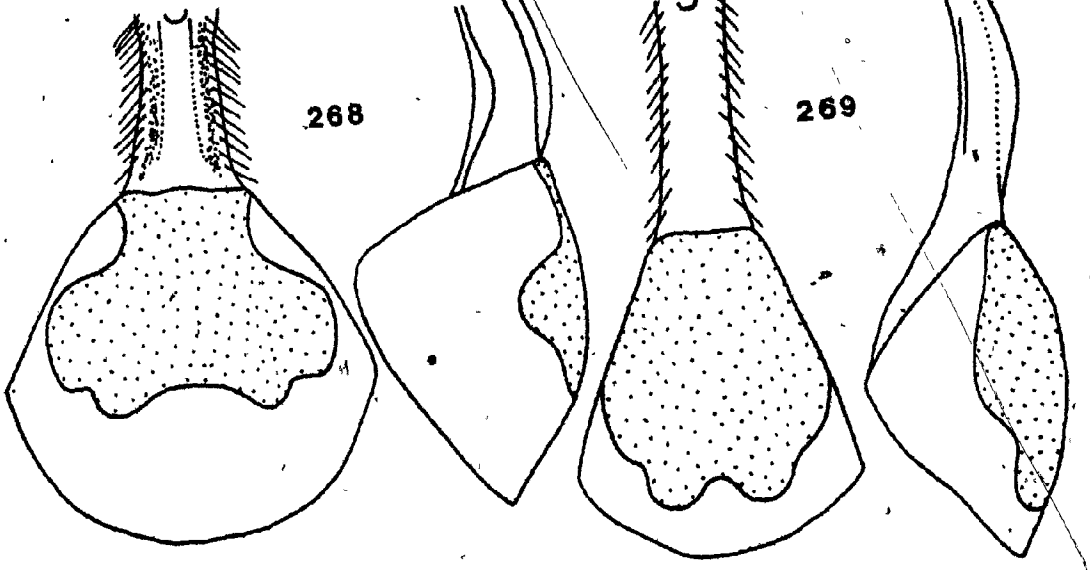
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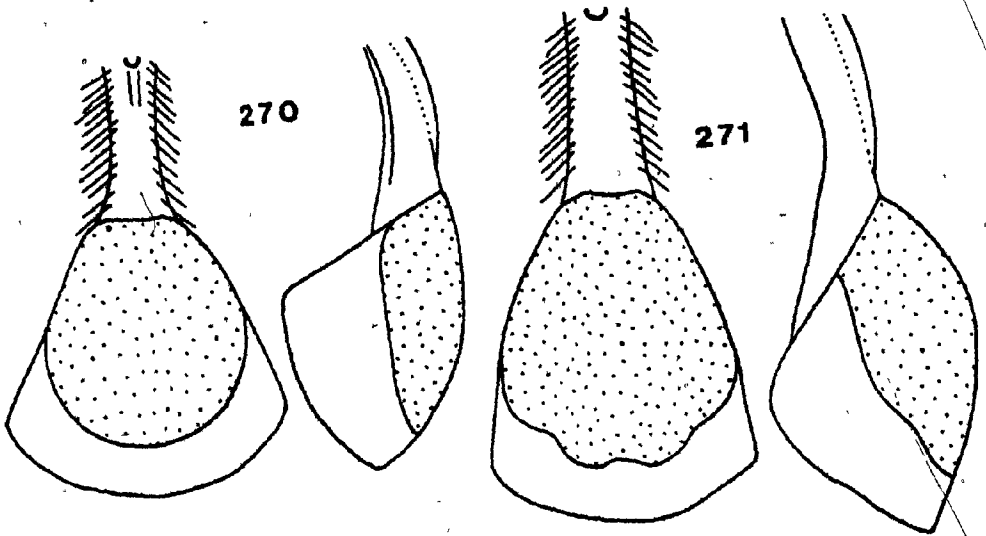
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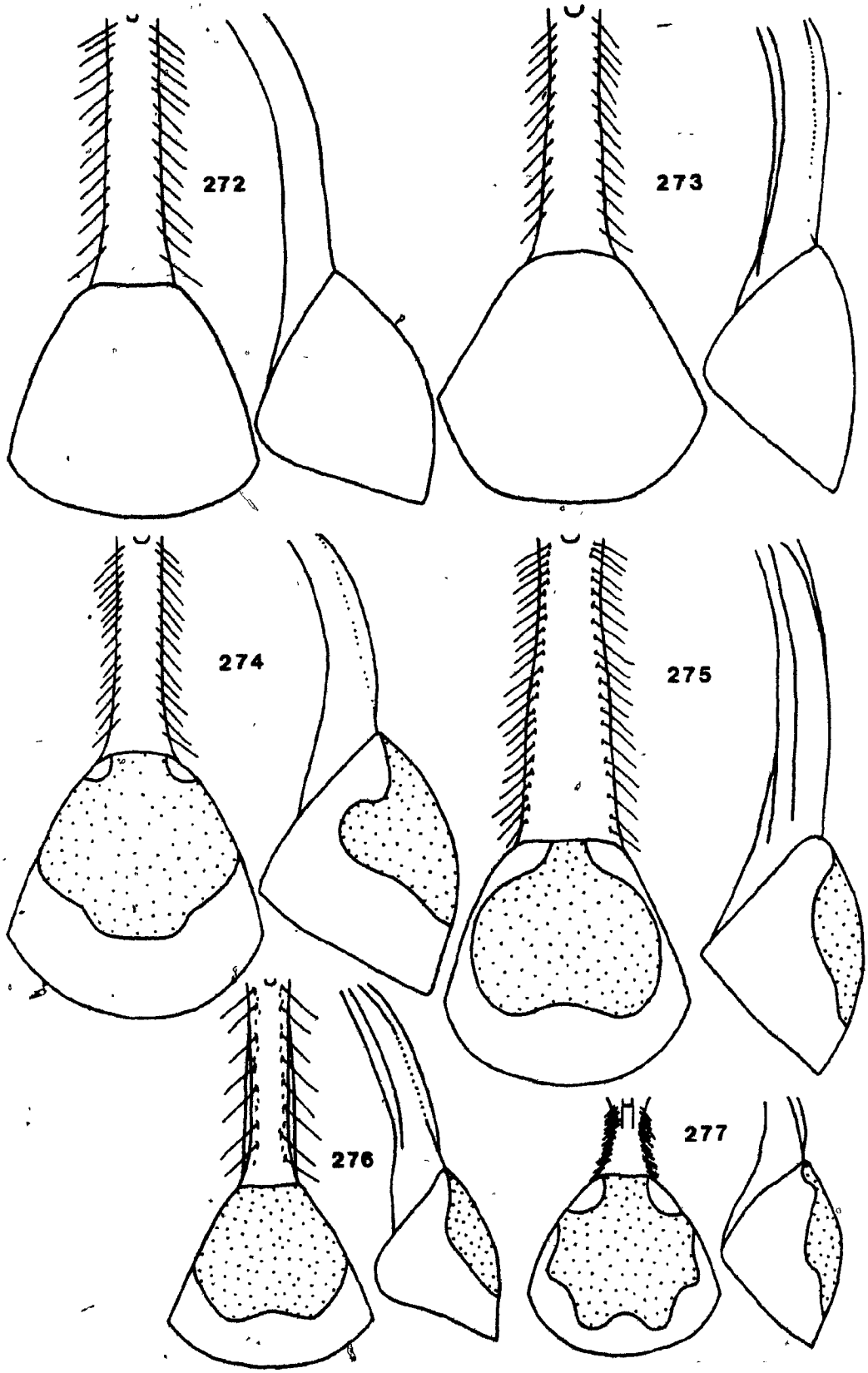
271

272-277 Petiole and first tergum, dorsal and lateral, ♀. 272 *Mimesa cressonii*, 273 *Mimesa dawsoni*, 274 *Mimesa edentata*, 275 *Mimesa ezra*, 276 *Mimesa foxi*, 277 *Mimesa gabrieleno*.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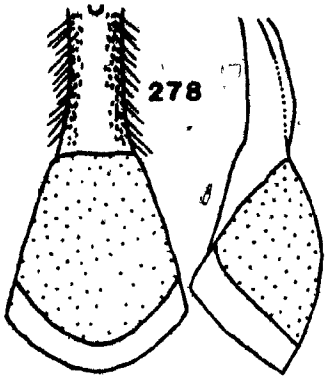
277

278-283 Petiole and first tergum, dorsal and lateral, ♀. 278 *Mimesa granulosa*, 279 *Mimesa gregaria*, 280 *Mimesa huron*, 281 *Mimesa ipai*, 282 *Mimesa lutaria*, 283 *Mimesa maculipes*.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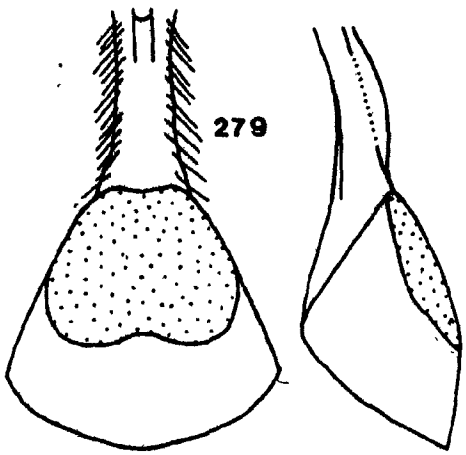
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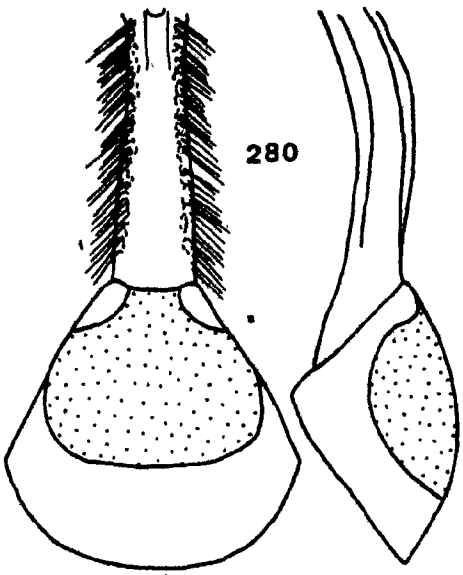
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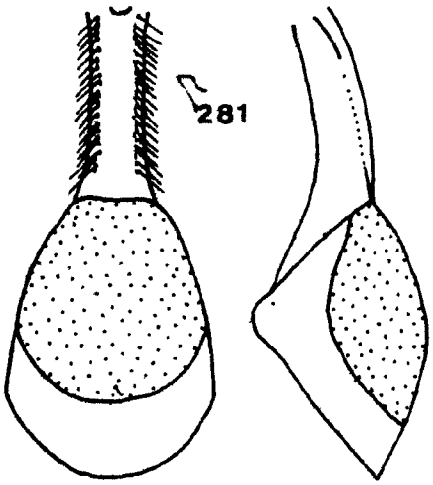
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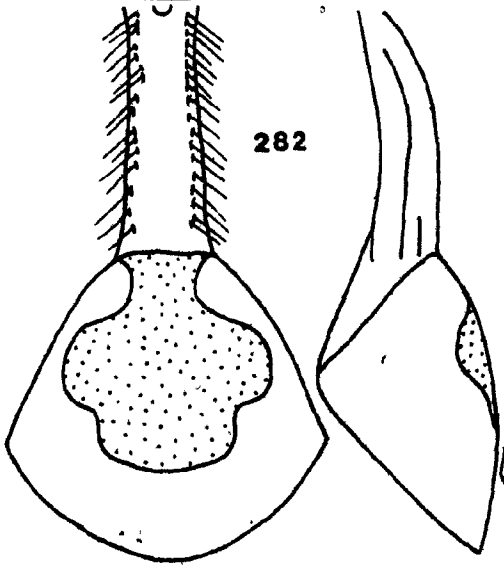
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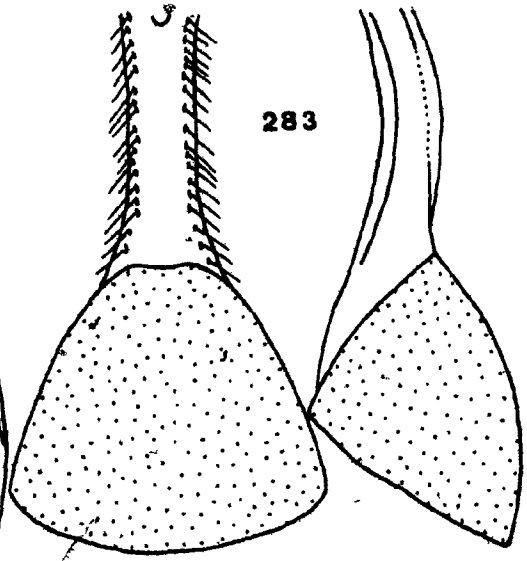
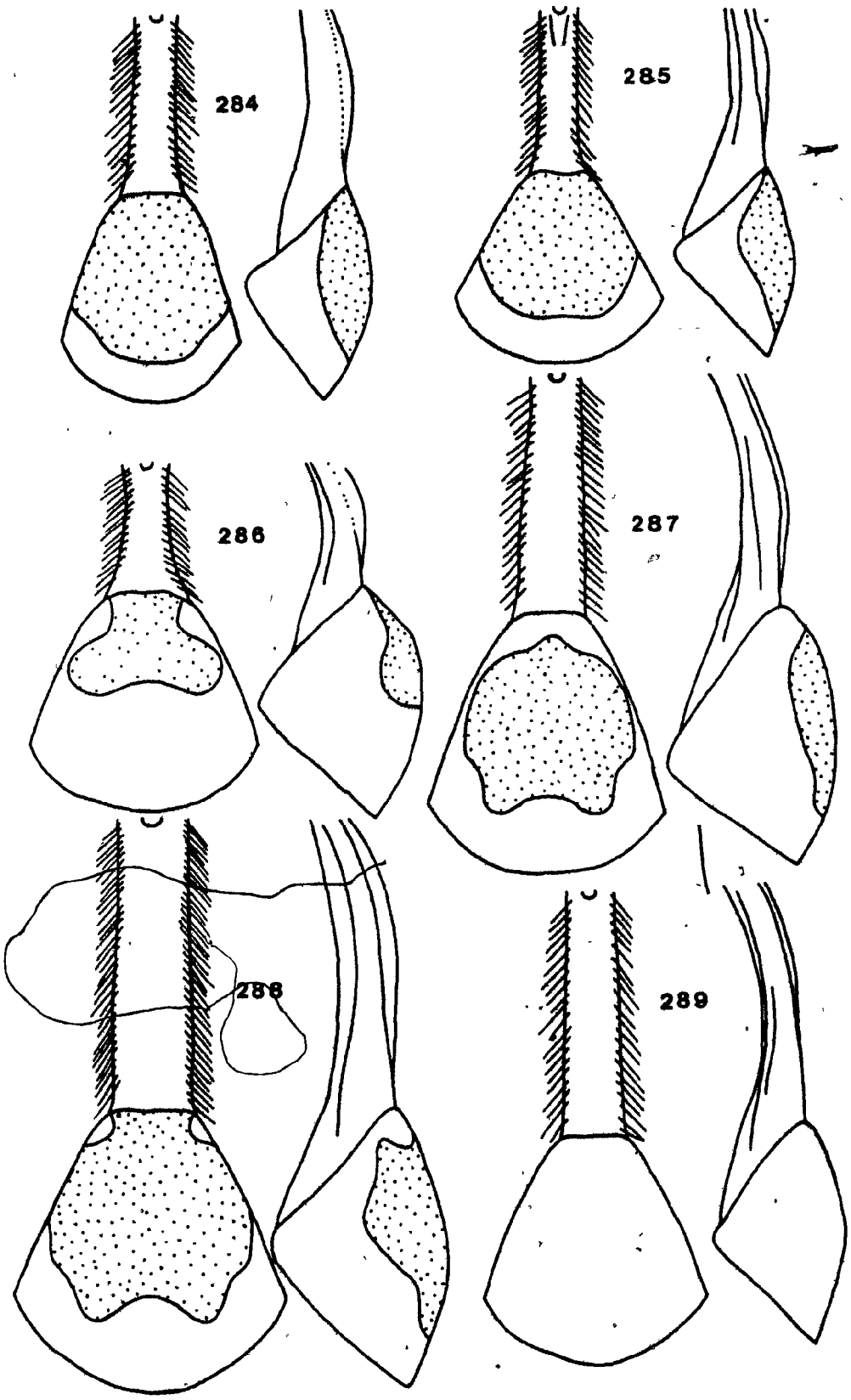

283

284-289 Petiole and first tergum, dorsal and lateral, ♀. 284 *Mimesa mexicana*, 285 *Mimesa pauper*, 286 *Mimesa proxima*, 287 *Mimesa punctifrons*, 288 *Mimesa pygidialis*, 289 *Mimesa sabina*.


284
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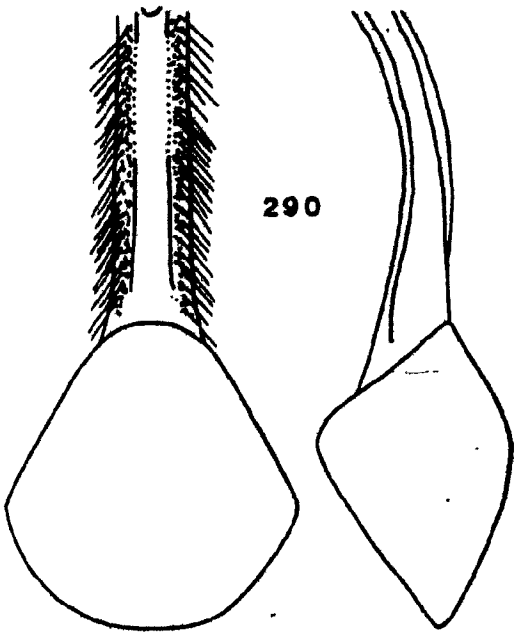
290-295 Petiole and first tergum, dorsal and lateral, ♀. 290 *Mimesa senijextee*, 291 *Mimesa serrano*, 292 *Mimesa nisenan*, 293 *Mimesa simplex*, 294 *Mimesa unicincta*, 295 *Mimesa zapoteca*.



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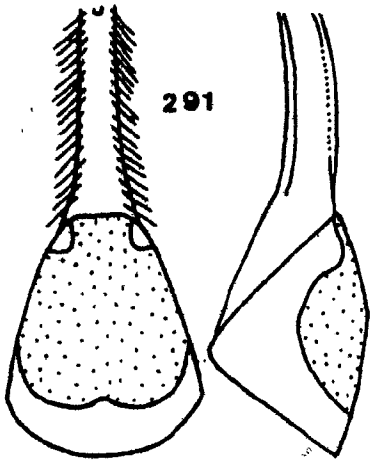

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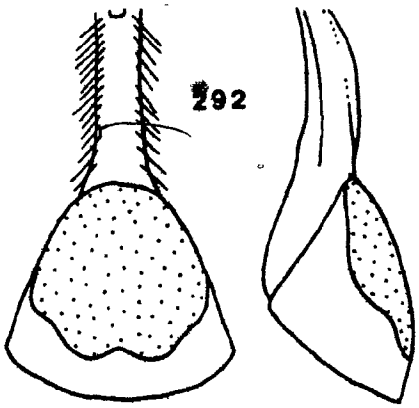

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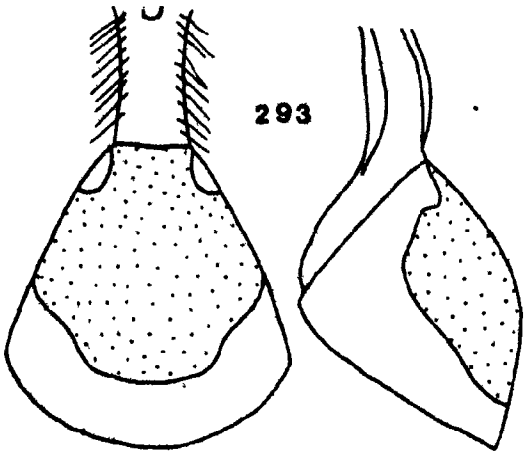

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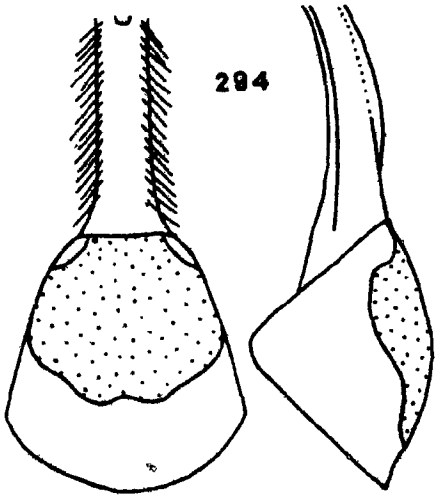

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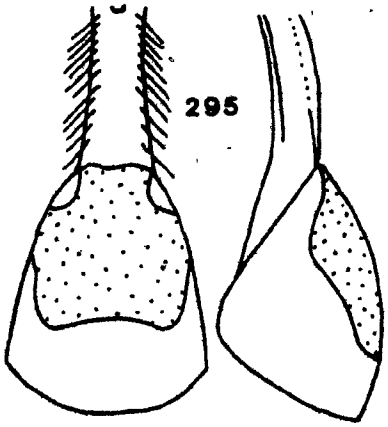
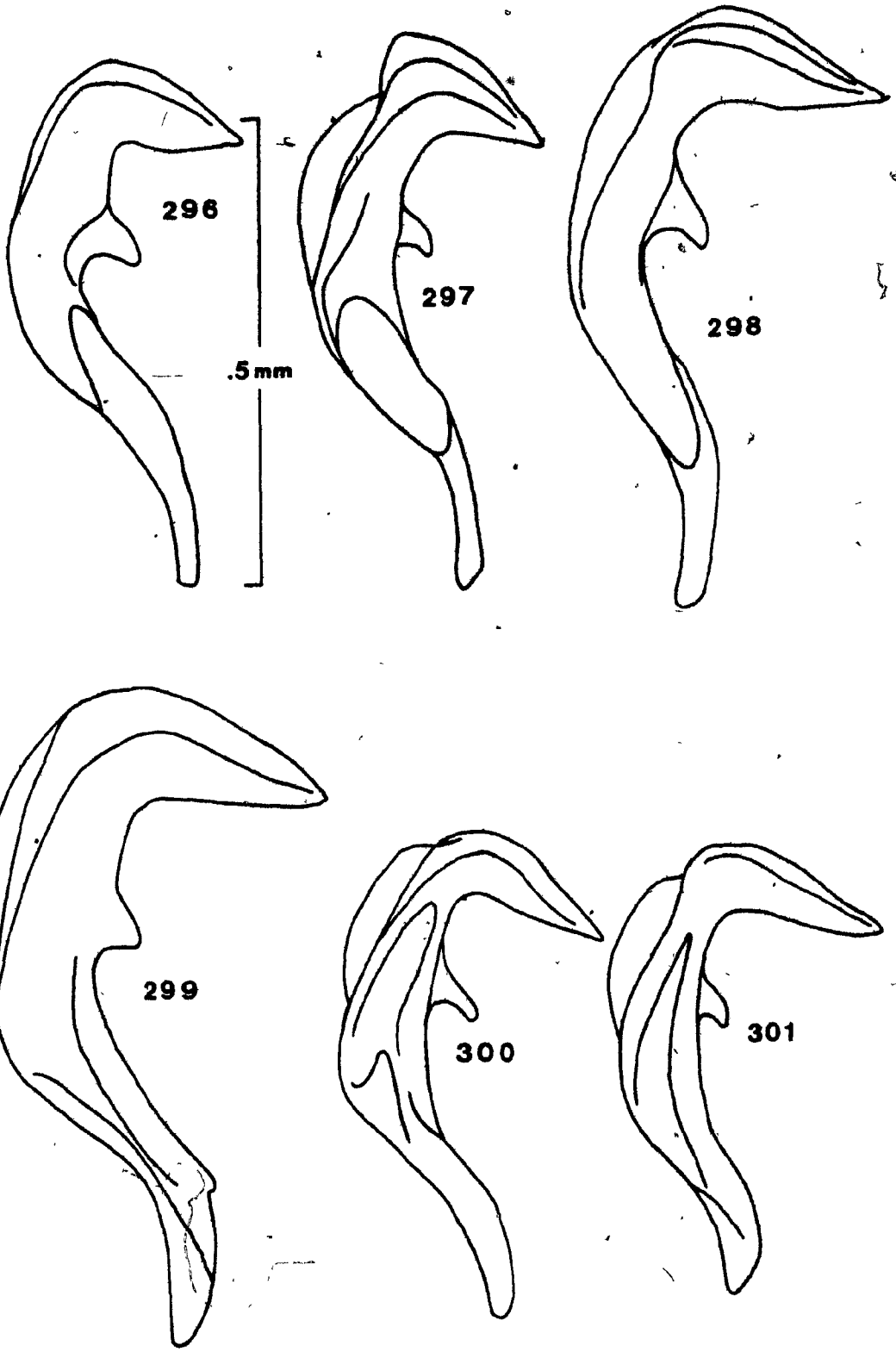


295

296-301 Penis valve, lateral. 296 *Mimesa agalena*, 297 *Mimesa arizonensis*, 298 *Mimesa barri*, 299 *Mimesa cahuilla*, 300 *Mimesa cheyenne*, 301 *Mimesa chiricahua*.


296
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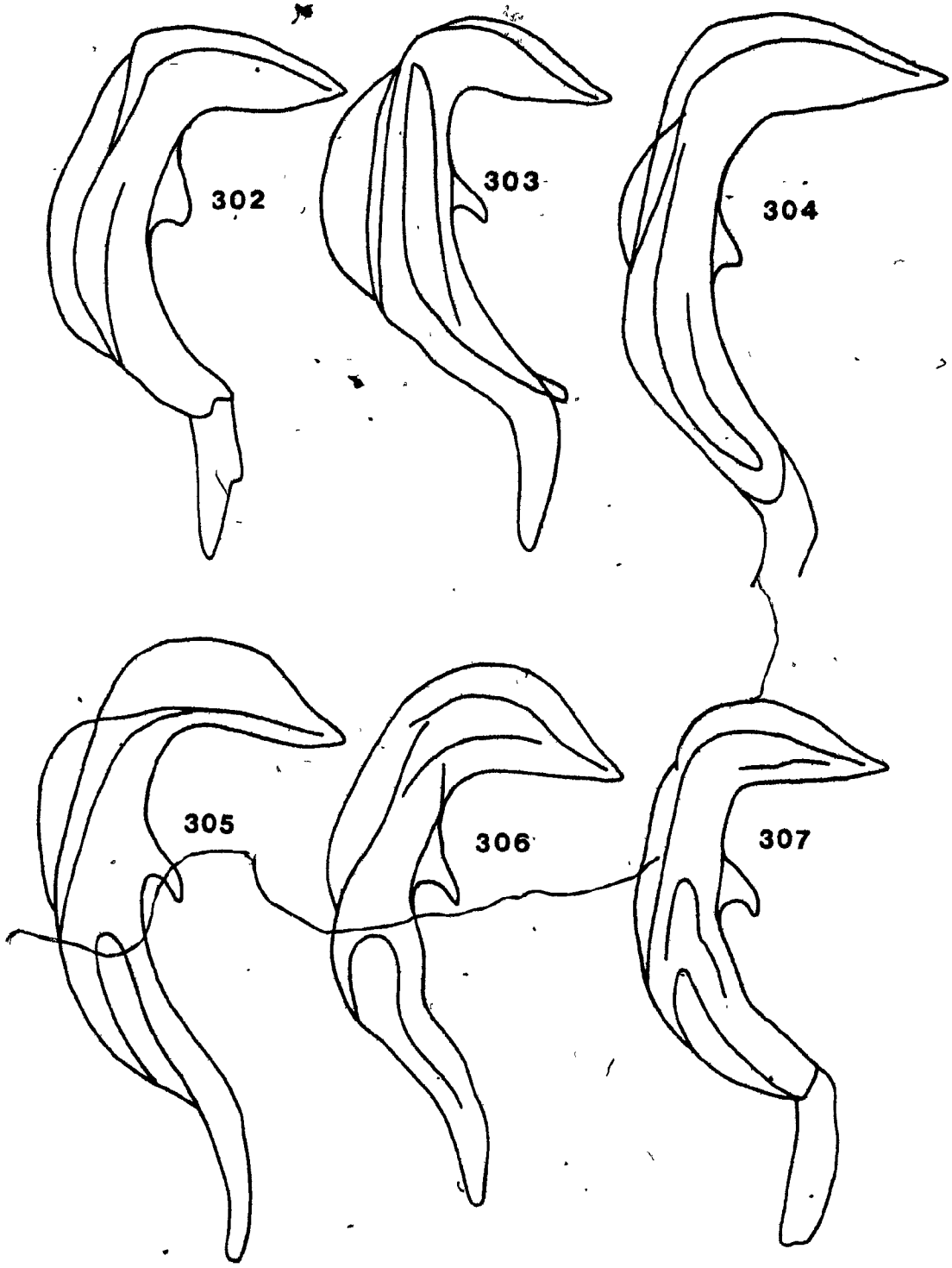
302-307 Penis valve, lateral. 302 *Mimesa coquilletti*, 303 *Mimesa cressonii*, 304 *Mimesa dawsoni*, 305 *Mimesa edentata*, 306 *Mimesa ezra*, 307 *Mimesa foxi*.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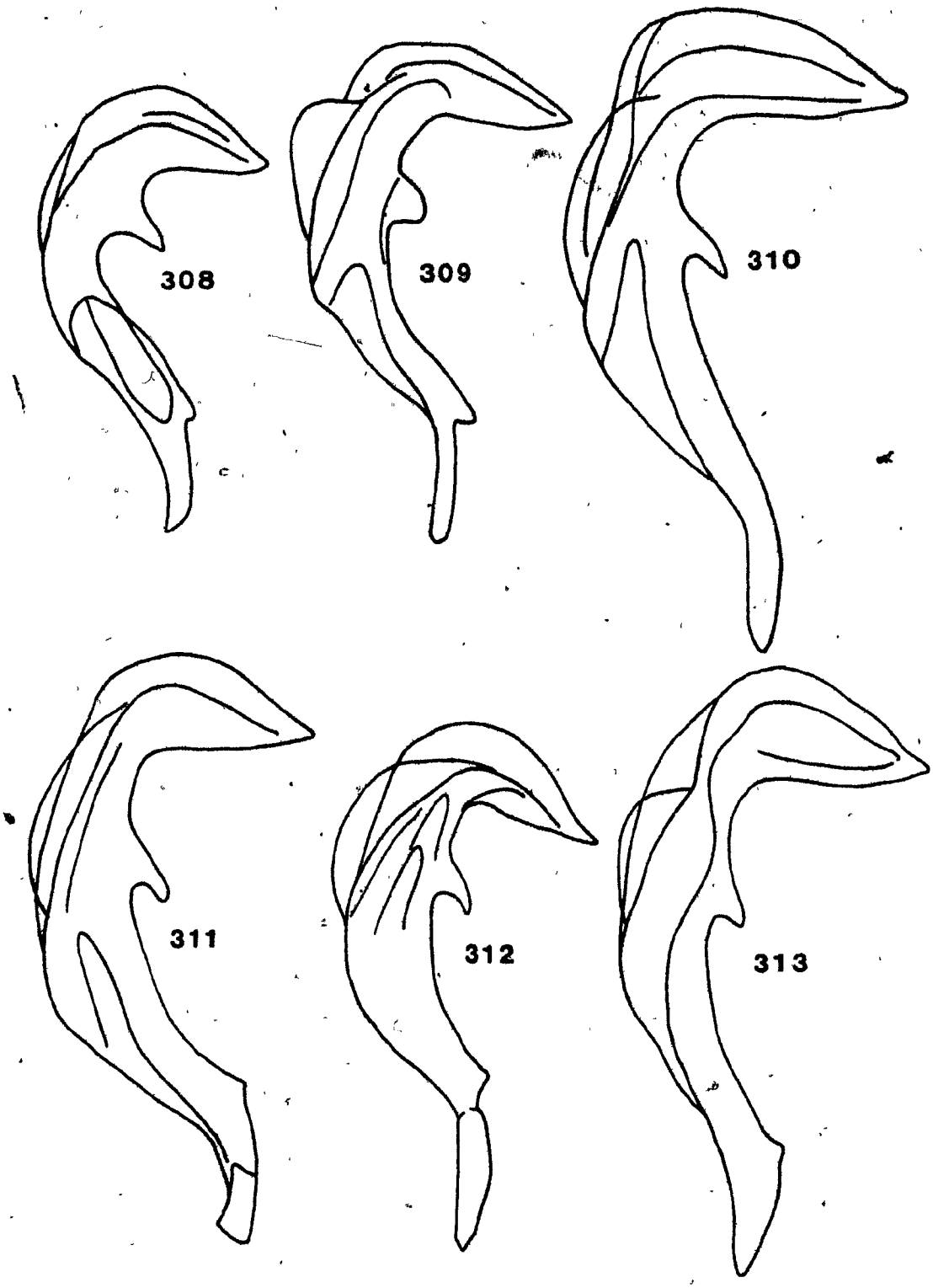
308-313 Penis valve, lateral. 308 *Mimesa gabrieleno*, 309 *Mimesa granulosa*, 310 *Mimesa gregaria*, 311 *Mimesa huron*, 312 *Mimesa ipai*, 313 *Mimesa jicarilla*.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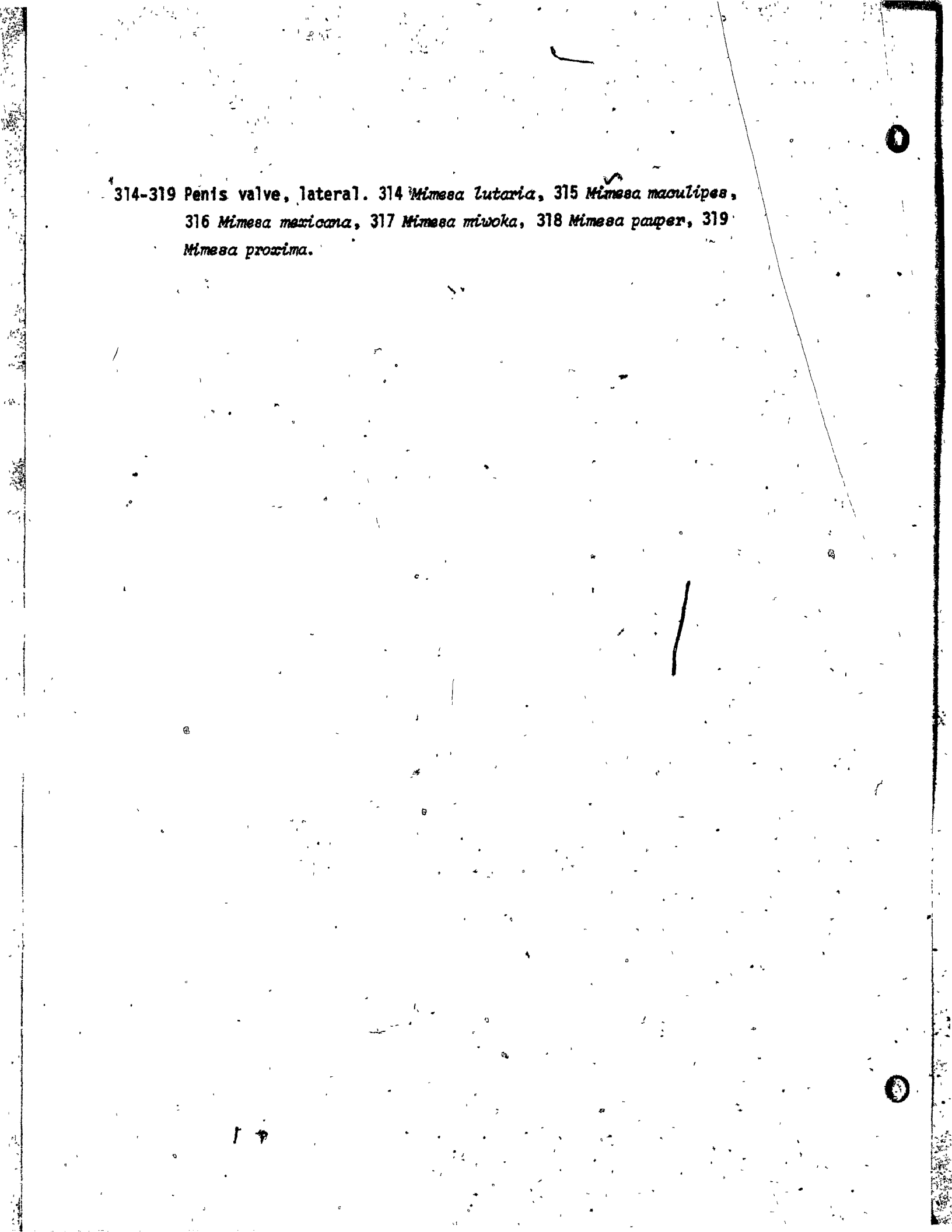
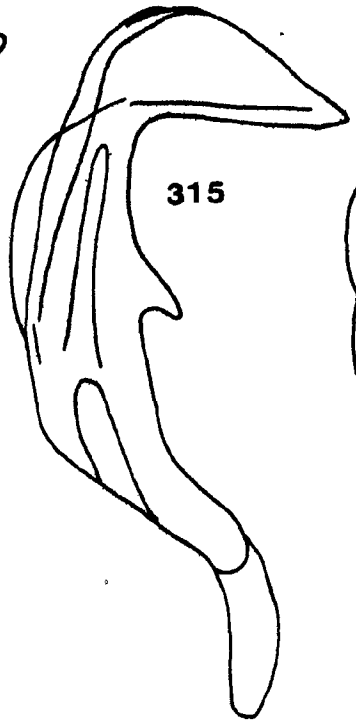
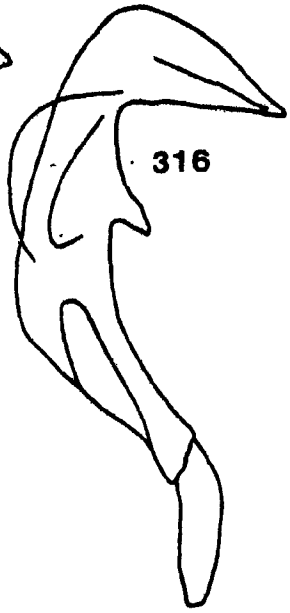
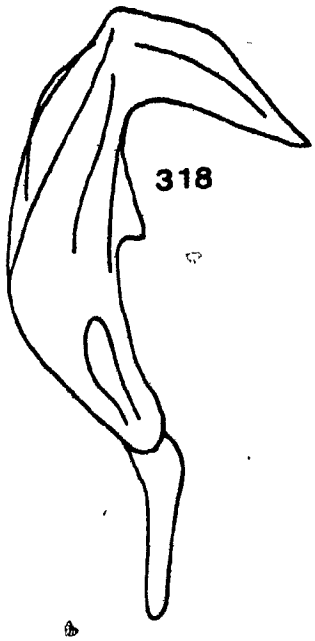


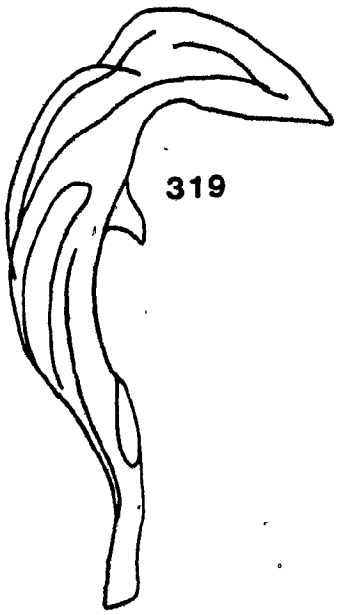
314-319 Penis valve, lateral. 314 *Mimesa lutaria*, 315 *Mimesa maculipes*, 316 *Mimesa mexicana*, 317 *Mimesa miwoka*, 318 *Mimesa pauper*, 319 *Mimesa proxima*.



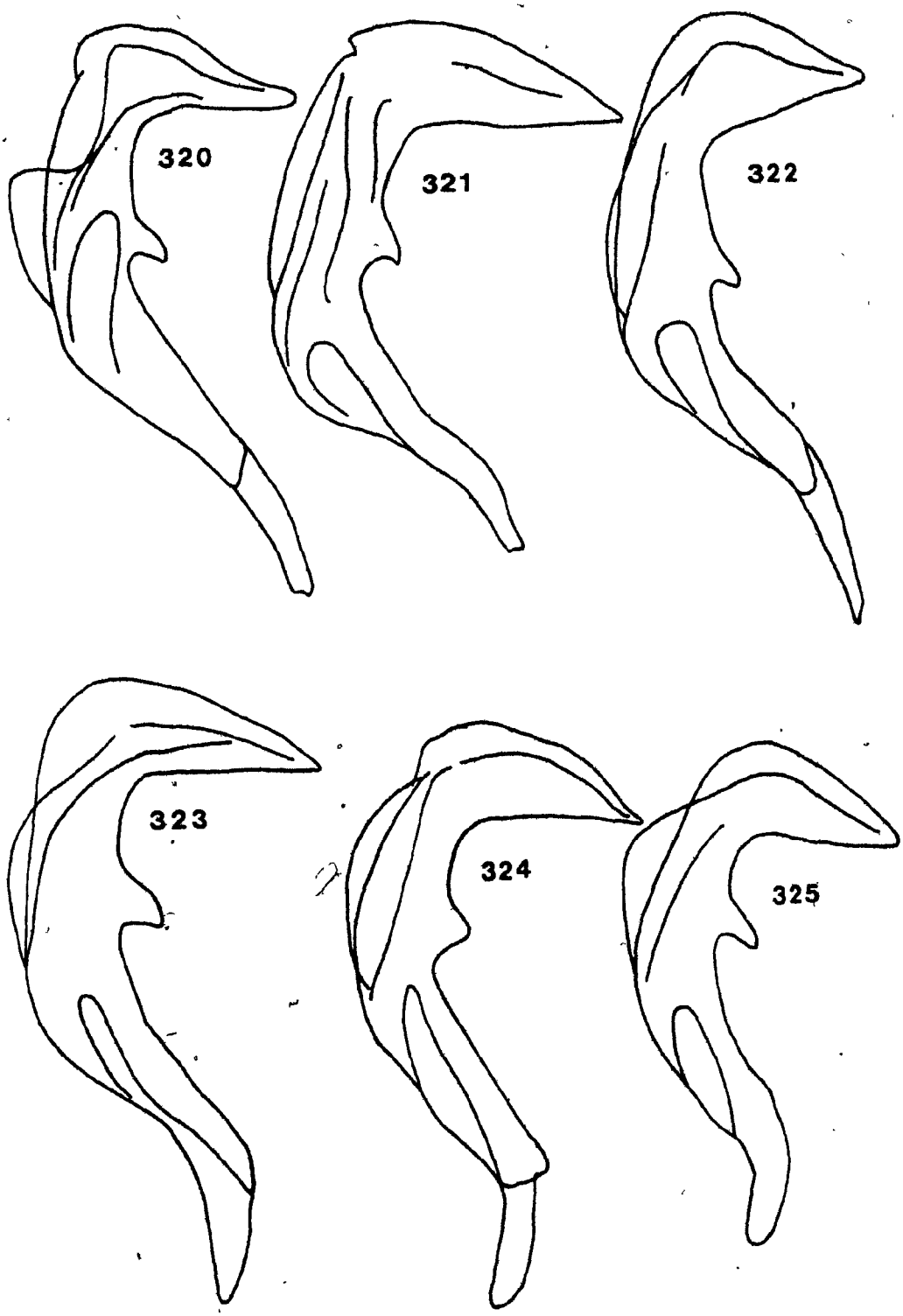


317
Unavailable, only known specimen damaged.





320-325 Penis valve, lateral. 320 *Mimesa punctifrons*, 321 *Mimesa pygidialis*, 322 *Mimesa sabina*, 323 *Mimesa senijextee*, 324 *Mimesa serrano*, 325 *Mimesa nisenan*.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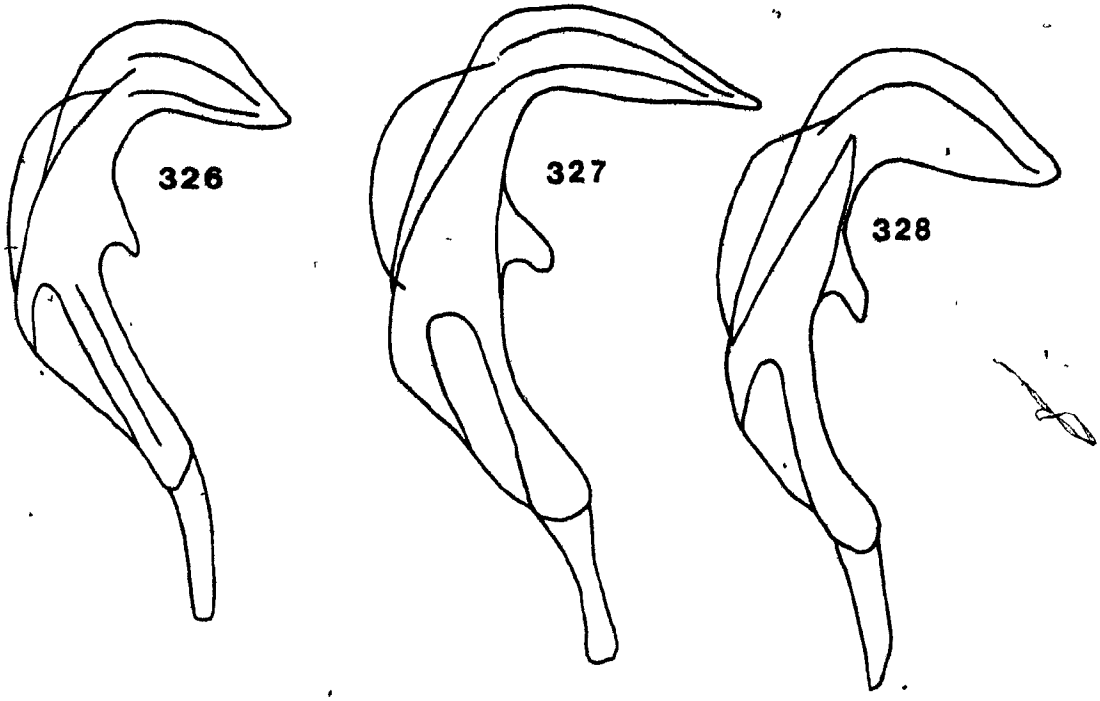
326-330 Penis valve, lateral. 326 *Mimesa simplex*, 327 *Mimesa tequila*, 328 *Mimesa tolteca*, 329 *Mimesa unicincta*, 330 *Mimesa zapoteca*.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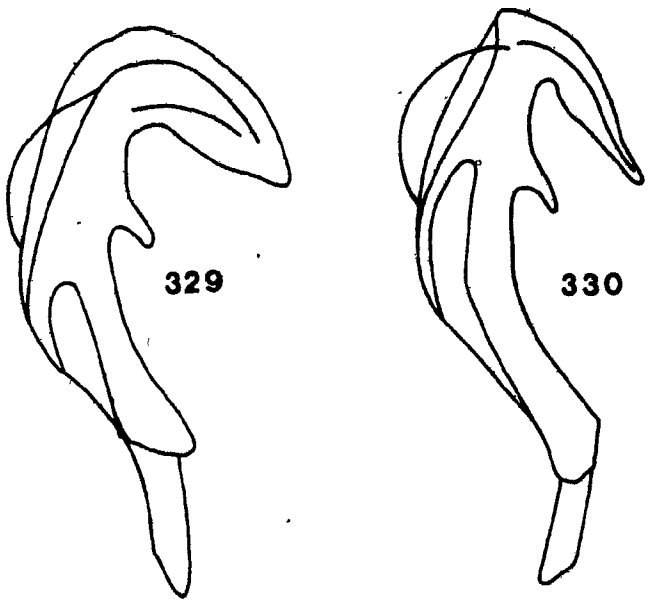
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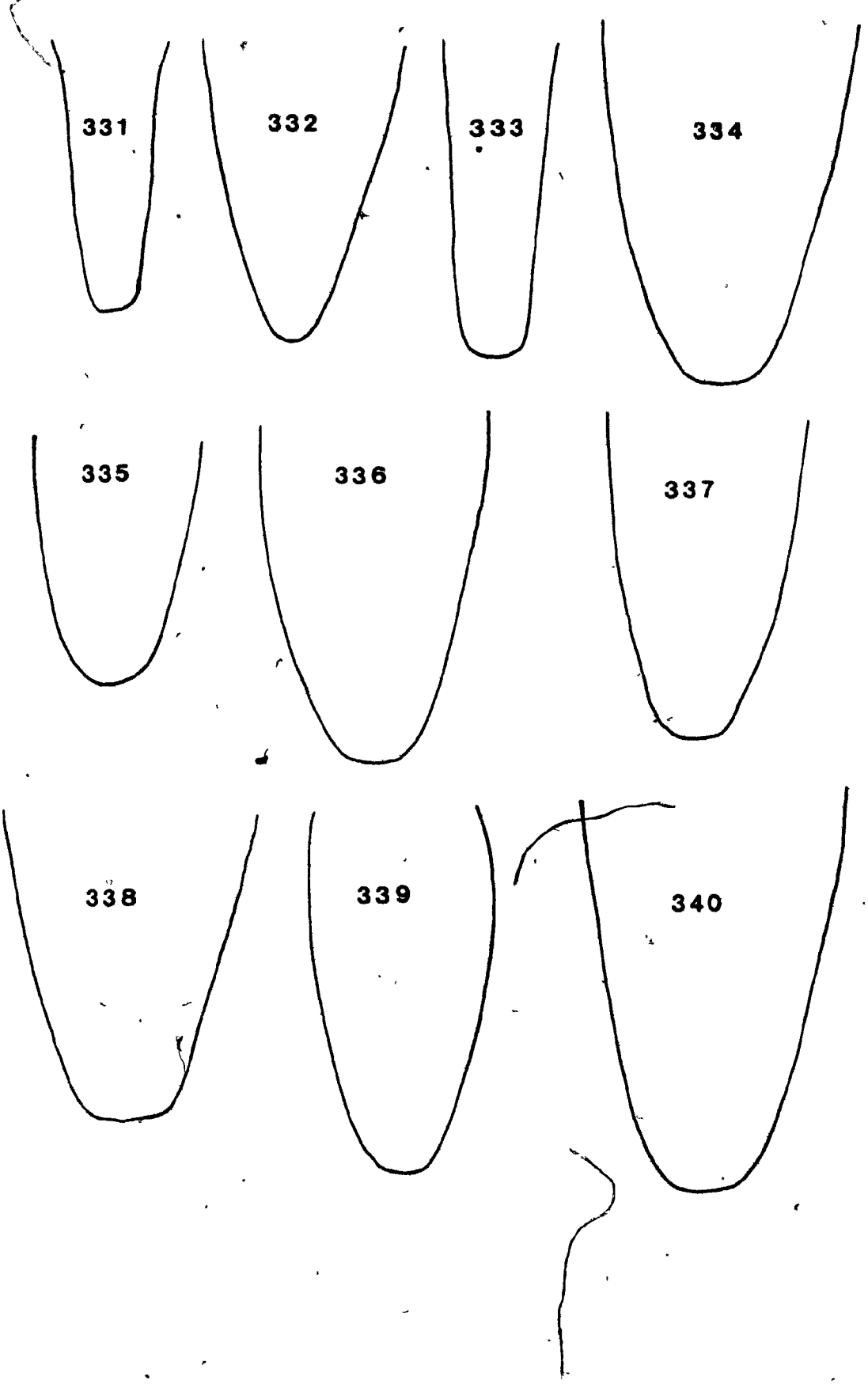
331-340 Pygidial plate. 331 *Mimesa agalena*, 332 *Mimesa arizonensis*, 333 *Mimesa barri*, 334 *Mimesa cahuilla*, 335 *Mimesa cheyenne*, 336 *Mimesa coquilletti*, 337 *Mimesa cressonii*, 338 *Mimesa dawsoni*, 339 *Mimesa edentata*, 340 *Mimesa ezra*.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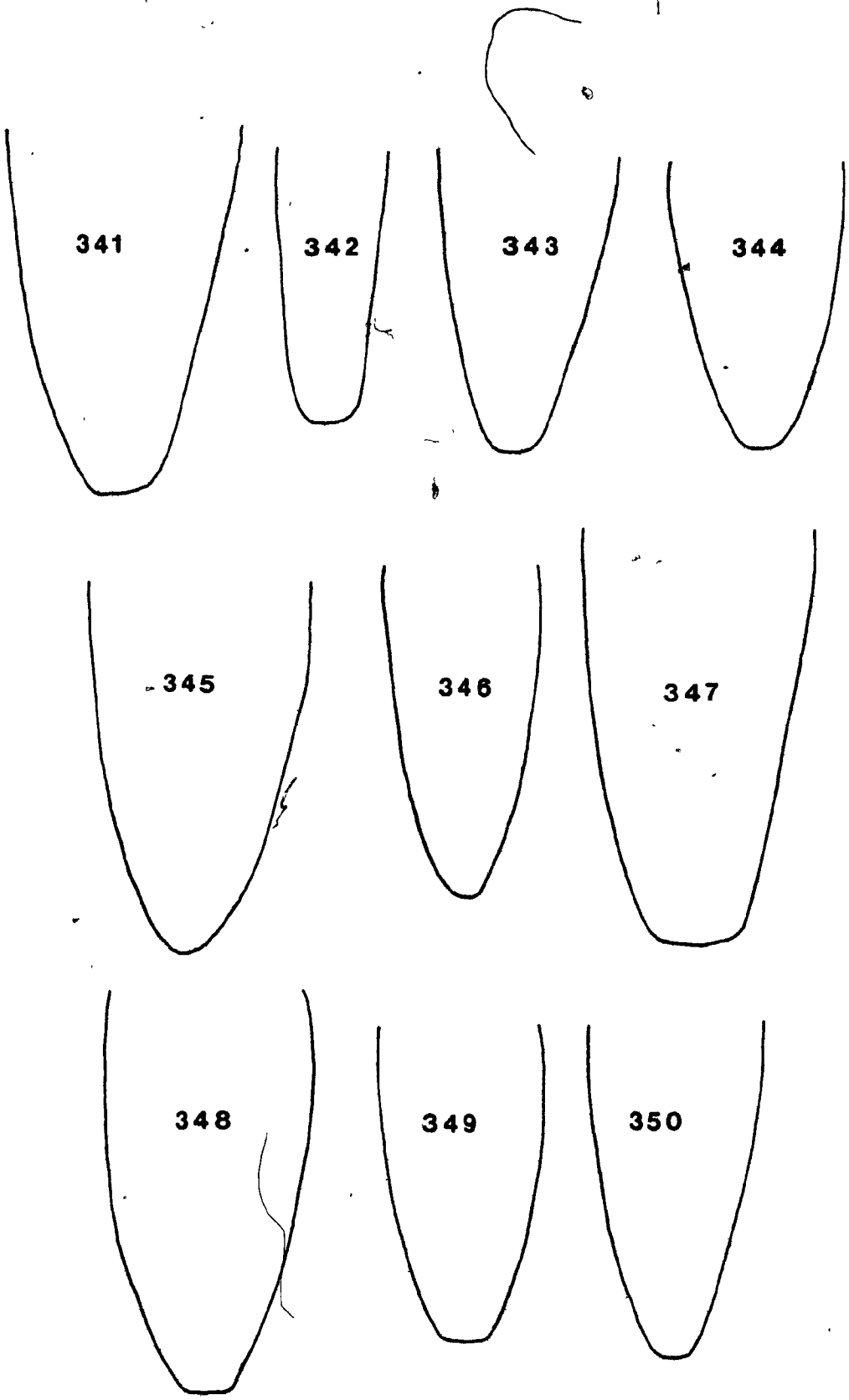
341-350 Pygidial plate. 341 *Mimesa foxi*, 342 *Mimesa gabrieleno*, 343 *Mimesa granulosa*, 344 *Mimesa gregaria*, 345 *Mimesa huron*, 346 *Mimesa ipai*, 347 *Mimesa lutaria*, 348 *Mimesa maculipes*, 349 *Mimesa mexicana*, 350 *Mimesa pauper*.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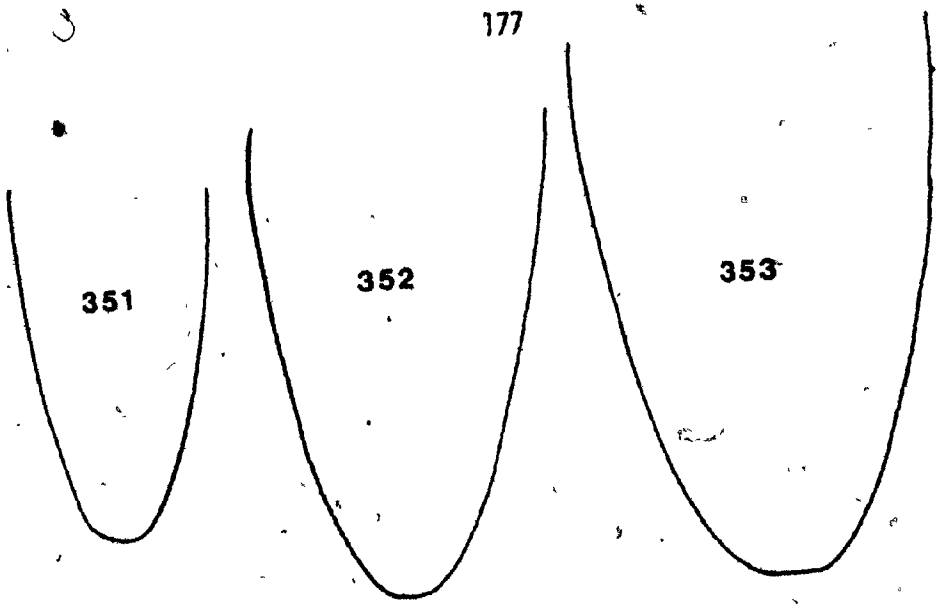
351-360 Pygidial plate. 351 *Mimesa proxima*, 352 *Mimesa punctifrons*, 353 *Mimesa pygidialis*, 354 *Mimesa sabina*, 355 *Mimesa senijextee*, 356 *Mimesa serrano*, 357 *Mimesa nisenan*, 358 *Mimesa simplex*, 359 *Mimesa unicincta*, 360 *Mimesa zapoteca*.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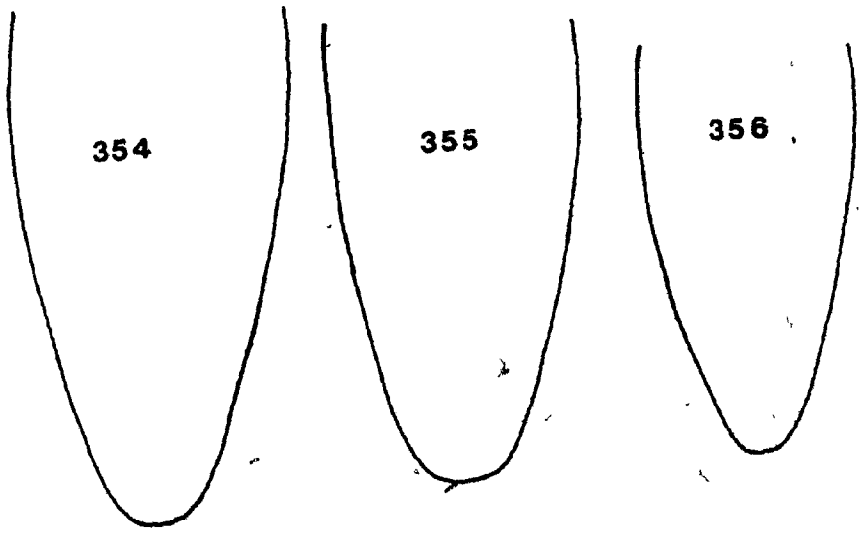
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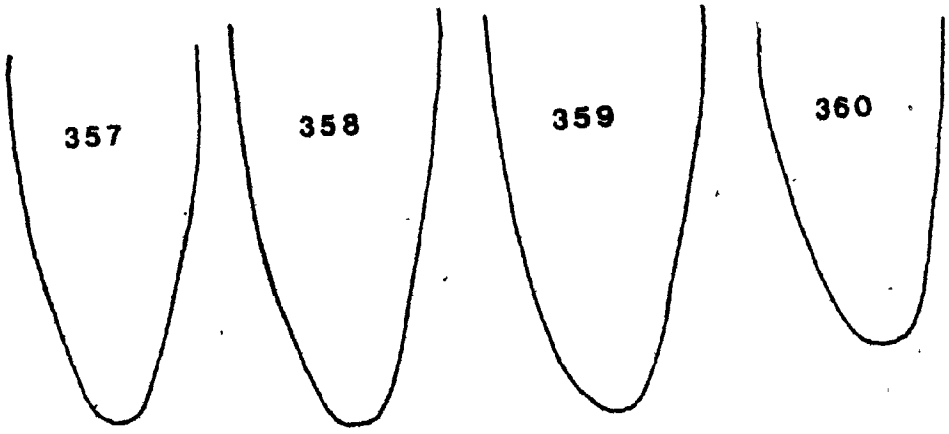
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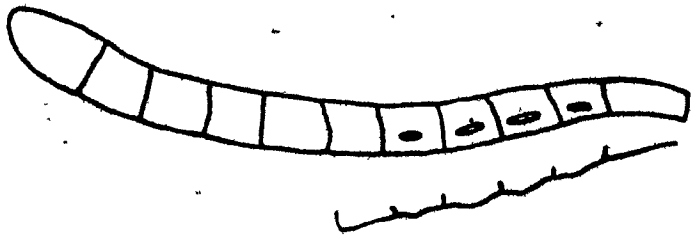
361-365 *Mimesa klamath* ♂. 361 Flagellum of antenna with tyli in profile; 362 apical flagellomeres; 363 tegula, left side of thorax; 364 petiole and first tergum, dorsal and lateral; 365 penis valve, lateral.



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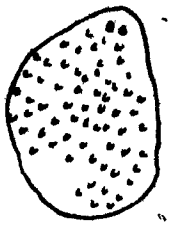

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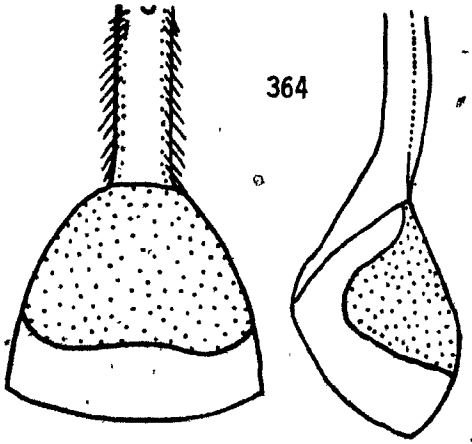

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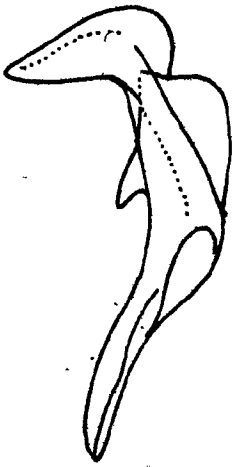

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APPENDIX

Locality Records For American *Mimesa*

This section is a list of collection localities in America for those species not described as new in the present work. Complete locality data is on file with the author and is also deposited with the Lyman Entomological Museum and Research Laboratory.

Mimesa agalena

U.S.A.
CALIFORNIA: Joshua Tree National Monument, Smithwater Wash; Kern Co.: Havilah; Los Angeles Co.: Pearblossom; Napa Co.: Berryessa, Samuel springs; Tulare Co.: Ash Mountain.

Mimesa arizonensis

U.S.A.
ARIZONA: Roosevelt Lake; Maricopa Co.: Gila Bend; Pinal Co.: Picacho Pass.
CALIFORNIA: Imperial Co.: Palo Verde; Riverside Co.: Blythe, Cabazon; San Bernadino Co.: Needles.

Mimesa bakeri

U.S.A.
CALIFORNIA: Apple Valley; Del Puerto Canyon, west of Patterson; Palo Alto; Contra Costa Co.: Walnut Creek; Lassen Co.: Ravendale; Napa Co.: Samuel Springs; San Diego Co.: Escondido; Julian.
WASHINGTON: Klikitat.

Mimesa coquilletti

MEXICO
BAJA CALIFORNIA: 23 mi. e. San Luis.
U.S.A.
ARIZONA: Cochise Co.: Wilcox Dry Lake; Maricopa Co.: Gila Bend; Yuma Co.: Dateland, Tacna, Yuma.
CALIFORNIA: Apple Valley; Deep Canyon near Palm Desert; Palm Springs; Imperial Co.: Algodones Dunes, nw. Glamis; Black Mountain; Glamis Sand Dunes; Ocotillo; Inyo Co.: Deep Spring; Eureka; Kern Co.: Red Rock Canyon; Los Angeles Co.: Lancaster; Mono Co.: Oasis, Fish Lake Valley; Riverside Co.:

Blythe; Hopkins Well; Pleasant Valley Dry Lake; Thousand Palms; San Bernadino Co.: Baker; Kelso Dunes; San Diego Co.: Borrego Springs.
NEVADA: Lovelock; Reno; Winnemucca; Clark Co.: Glendale; Washoe Co.: Patrick; Pyramid Lake; Wadsworth.
NEW MEXICO: Pinedale; Shiprock; Torrance Co.
UTAH: Logan; Cash Co.: Cornish; Garfield Co.: Dixie State Park.

Mimesa cressonii

CANADA
ALBERTA: Medicine Hat.
BRITISH COLUMBIA: Oliver; Osoyoos; Richter Pass; White Lake.
MANITOBA: Aweme; Seven Sisters; Squirrel Creek; Shilo.
ONTARIO: Arkell; Bancroft; Brighton; Burketon; Chatterton; Harrow; Hepworth; Jordan; Kilbride; London; Markham; Maynooth; Ottawa; Primrose; St. Thomas; Shannonville; Spencerville; Strathroy; Toronto; Trenton.
QUEBEC: Gatineau Park; La Trappe; Nomininque; Ste. Anne de Bellevue; Vaudreil.
SASKATCHEWAN: Lisieux; Pike Lake; Rock Glen; Swift Current; Willow Bunch.
U.S.A.
ARIZONA: Flagstaff.
CALIFORNIA: Strawberry; Eldorado Co.
COLORADO: Boulder; Deertrail; Estes Park; Jefferson; Limon; Lincoln Co.
CONNECTICUT: Colebrook.
DISTRICT OF COLUMBIA: Washington.
IDAHO: Adelaide; Hagerman Valley; Hollister; Kimama.
ILLINOIS: Chicago; Havana; Henderson Co.: Henderson State Forest; Macomb; Robertson; St. Anne.
IOWA: Sioux City; Stanhope.
KANSAS: Coldwater; Manhatten; Nickerson; Wallace; Wichita; Barber Co.: Hardtner; Medicen Lodge; Sawyer; Barton Co.; Clark Co.; Douglas Co.: Lawrence; Hamilton Co.; Ness Co.; Norton Co.; Riley Co.; Sheridan Co.: Quinter; Trego Co.: Collyer.
MARYLAND: Beltsville; Bowie; Patuxent Ref.
MASSACHUSETTS: Boston; Forest Hills; Nantucket; Springfield; Truro; Wellesley.
MICHIGAN: Mason; Alpena Co.; Bay Co.; Benzie Co.; Cheboygan Co.; Emmett Co.; Mecosta Co.; Midland Co.; Missaukee Co.; Muskegon Co.; Oceana Co.: Silver Lake State Park; Saginaw Co.; Wayne Co.
MINNESOTA: Fergus Falls; Hallock; St. Paul; Bigstone Co.; Cass Co.: Chippewa

National Forest; Clay Co.: Hitterdale; Polk Co.; Pope Co.; Traverse Co.; Yellow Medicine Co.
MONTANA: Columbia.
NEBRASKA: Hastings; West Point; Garden Co.: Oshkosh; Saline Co.: Crete; Sioux Co.: Montrose.
NEW HAMPSHIRE: Hanover; Holderness; Meredith; Pelham.
NEW JERSEY: Ashbury Park; Lakehurst; Lawnside; Englewood; Ramsey.
NEW MEXICO: Ruidoso; Vegas Ridge.
NEW YORK: Cold Spring Harbor, Long Island; Niverville; Oswego; Powder Mills; Saranac Lake; Staten Island; White Plains.
NORTH CAROLINA: Raleigh; Southern Pines; Moore Co.; Wake Co.
NORTH DAKOTA: Beach; Breien; Edgeley; Fargo; Mandan; Mott; Marmarth; Bottineau Co.; Dunn Co.; Grand Forks Co.; La Moure Co.; Mercer Co.; Ransom Co.: McLeod; Sheldon; Richland Co.: Walcott; Slope Co.
OHIO: Barberton.
PENNSYLVANIA: Allegheny; Germantown; Philadelphia.
SOUTH DAKOTA: Bella Fourche; Blue Bell, Custer State Park; Cedar Pass Bad Lands; Pennington Co.: Wasta.
TEXAS: Comstock; Randall Co.: Palo Duro.
UTAH: Box Elder Co.: Howell; Jaub Co.: Mona; Nephi; Millard Co.: Oasis; Uintah Co.: Vernal.
VIRGINIA: Falls Church.
WISCONSIN: Clintonville; Milwaukee; Ritzville; Grant Co.: Rutledge.
WYOMING: Lusk; Summit.

Mimesa dawsoni

CANADA
ALBERTA: Medicine Hat.
MANITOBA: Bald Head Hills, near Glenboro; Birds Hill Park; Carberry; Glenboro; Victoria Beach; Whitemouth.
ONTARIO: Brighton; Chatterton; Grand Bend; Hepworth.
U.S.A.
ILLINOIS: Fulton; Havana; Mason City; Thomson; Mason Co.: Forest City.
IOWA: Sioux City.
KANSAS: Douglas Co.; Scott Co.
MASSACHUSETTS: Andover; Gloucester; Wellfleet; Westport.
MICHIGAN: Oceana Co.: Silver Lake State Park.

MINNESOTA: Anoka Co.: Fridley Sand Dunes; Cass Co.: Cass Lake; Pine Co.: Lake Lena.
MONTANA: Glendive.
NEBRASKA: Garden Co.: Oshkosh.
NEW JERSEY: Seaside Park.
NEW MEXICO: Rooseveldt Co.: Oasis State Park.
NEW YORK: Albany; Colonie; Long Beach, Long Island; Woodhaven, Long Island.
NORTH CAROLINA: Dare Co.: Kill Devil Hills.
NORTH DAKOTA: Bowman; McLeod; Sheldon; Cavelier Co.; Richland Co.: Walcott; Sargent Co.: Crete.
OKLAHOMA: Woods Co.: Little Sahara State Park.
SOUTH DAKOTA: Cedar Pass Bad Lands.
UTAH: Juab Co.: Eureka.

Mimesa edentata

CANADA
BRITISH COLUMBIA: Kamloops.
U.S.A.
CALIFORNIA: Claremont; Onyx; Riverside; San Jacinto Mountains; Waner Springs; Lassen Co.: Ravendale; Los Angeles Co.: Santa Susana Pass; Nevada Co.:Boca; Riverside Co.: Bautista Canyon; San Bernadino Co.: Wildwood Canyon.
IDAHO: Lewiston.
NEW MEXICO: Valencia Co.: Los Lunas, Carrizo Arroyo.
UTAH: Newton; Cache Co.: Cornish.
WASHINGTON: Goyan.

Mimesa ezra

CANADA
ALBERTA: Bilby.
NEW BRUNSWICK: Kouchibouguac.
ONTARIO: Chatterton; Parry Sound; St. Lawrence Islands; Stirling.
QUEBEC: Hudson Heights; Knowlton; Lac Carre; Mt. St. Hilaire; Tadoussac.
U.S.A.
COLORADO: Boulder Canyon, 9 mi. w. Boulder.
ILLINOIS:
MAINE: Mt. Blue at Weld.
MICHIGAN: Ann Arbor; Gun Lake; Lake Odessa.
MINNESOTA: Eaglesnest; Itasca.

NEW YORK: Alabama; Ithaca; Middleville.
PENNSYLVANIA: Presque Ile.
SOUTH DAKOTA: Spearfish; Stanley Co.: White River.
WISCONSIN: Pierce Co.: Maiden Rock.

Mimesa foxi

CANADA
ALBERTA: Edmonton; McMurray; Peace River.
MANITOBA: Cowan; Cranberry Portage; Whitemouth Lake.
NEW BRUNSWICK: Cambellton; Kouchibouguac; Nerepis.
NEWFOUNDLAND: Deer Lake.
NORTH WEST TERRITORIES: Fort Smith.
NOVA SCOTIA: Baddeck; Truro;Kings Co.
ONTARIO: Bancroft; Black Sturgon Lake; Merivale; Noelville; Ottawa; Prescott; Queenston; St. Lawrence Islands, Mallorytown; Thunder Bay; Vankleek Hill.
PRINCE EDWARD ISLAND: Brackley Beach National Park; Dalvay House National Park.
QUEBEC: Avoca; Berthierville; Forestville; Hudson Heights; Kazubazua; Lac Carre; La Ferme; La Trappe; Laurentide Park; Metabetchouan; Mistassini; Mt. Tremblant; N. Richmond; Nomininque; Ste. Agathe des Monts; Ste. Anne de Bellevue; St. Hilaire; Shawbridge.
SASKATCHEWAN: Candle Lake; White Fox.
U.S.A.
CONNECTICUT: Colebrook.
MASSACHUSETTS: Lexington.
MAINE: Fort Kent; Skowhegan.
MICHIGAN: Trout Lake; Baraga Co.; Midland Co.
MINNESOTA: Eaglesnest; Cook Co.
NEW HAMPSHIRE: Albert Shaw; Bath; Durham.
NEW JERSEY: Morgan; Bergen Co.: Closter.
NEW YORK: Auburn; Groton; Ithaca; Sennett; Jefferson Co.: Southwick Beach.
NORTH DAKOTA: Richland Co.: Walcott.
SOUTH DAKOTA: Brookings.
VERMONT: Caledonia; Chittenden; Jamaica; Woodstock.
WYOMING: South Gate, Yellowstone National Park.

Mimesa granulosa

U.S.A.

COLORADO: Roggen; Alamosa Co.: Great Sand Dunes.

IDAHO: Tuttle.

NEBRASKA: Sioux Co.: Glen.

NEW MEXICO: Alamogorda; Moriarty.

NORTH DAKOTA: McLeod; Ransom Co.: Sheldon.

UTAH: Cash Co.: Cornish; Emory Co.; San Juan Co.: La Sal Junction.

WYOMING: Lingle.

Mimesa gregaria

CANADA

ALBERTA: Eisenhower Junction; Elkwater Park; Flat Creek; Grande Prairie; Hotchkiss; Jumping Pond Creek, 20 mi. w. Calgary; Lethbridge; McMurray; Medicine Hat; Morley; Peace River; Scandia; Stettler; Wainwright.

BRITISH COLUMBIA: Atlin; Burnaby; Cultus Lake; Hazelton; Jesmond; Kamloops; Kaslo; Minniel; Mission City; Nicola; Okanagan; Osoyoos; Pinewoods, Manning Park; Seltat Creek; Terrace; 30 mi. sw. Terrace; Tweedsmuir Park; 30 mi. w. Williams Lake; Vancouver.

LABRADOR: Goose Bay.

MANITOBA: Aweme; Brandon; Falcon Lake near Rennie; Horton; Mafeking; Minnedosa; Ninette; Shilo; The Pas; Whitemouth Lake; Whitewater; Winnipeg.

NEW BRUNSWICK: Kouchibouguac Park.

NORTH WEST TERRITORIES: Fort Norman; Fort Simpson; Norman Wells; Resolution; Yellowknife.

NOVA SCOTIA: Truro; Victoria Co.: Beinn.

ONTARIO: Kenora; Midland; Port Arthur.

QUEBEC: Hull; Knowlton; Lac Carre; La Trappe.

SASKATCHEWAN: Carberry; Christopher Lake; Dana; Elbow; Holdfast; Indian Head; Maidstone; Prince Albert; Rosthern; Val Marie.

YUKON TERRITORY: Champagne; Dawson; Gravel Lake, 58 mi. e. Dawson; Whitehorse.

U.S.A.

ALASKA: Anchorage; Birch Lake near Fairbanks; Fairbanks; Palmer; Shaw Creek, mi. 289 Rich Hwy.

CALIFORNIA: Nevada Co.: Sagehen Creek near Hobart Mills; Sierra Co.: Yuba Pass.

COLORADO: Cameron Pass; Estes Park; Steamboat Springs.

Idaho: Driggs; Galena; Lewiston; Malta; Idaho Co.: Squaw Creek, 20 mi. wsw.

Lolo Pass; Blaine Co.: Galena Summit.
ILLINOIS: Volo.
KANSAS: Cherokee Co.
MASSACHUSETTS: Concord.
MINNESOTA: Eaglesnest; Istaca; Istaca Park; Aitkin Co.; Lake Co.
MICHIGAN: Baraga Co.; Beltrami Co.; Gogebic Co.: Hughitt-Rawson Preserve.
MONTANA:
NEVADA: Angel Lake, 12 mi. sw. Wells.
NEW MEXICO: Las Conchas Campground, e. fork Jemez River; Sandoval Co.
NEW YORK: Orient, Long Island; Lake Placid.
NORTH DAKOTA: Grand Forks; Knox; Mott.
OREGON: Mt. Hood.
SOUTH DAKOTA: Belle Fourche; Brookings; Mobridge.
UTAH: Duchesne Co.: Mirror Lake.
VERMONT: Chittenden.
WASHINGTON: Olympia; Pierce Co.
WISCONSIN: Milwaukee; Sawyer Co.
WYOMING: Moran, Jackson Hole; Fremont Co.: Union Pass Road; Grand Teton National Park: Huckleberry Hot Springs; Leigh Lake; Sublette Co.: Pinedale; Yellowstone National Park: Canyon Camp; Lewis Lake; Riverside; South Gate; West Thumb.

Mimesa huron

CANADA
NEW BRUNSWICK: Kouchibouguac.
NOVA SCOTIA: Baddeck.
ONTARIO: Garvel River; Guelph; Hepworth; Markham; Merivale; One Sided Lake; Port Sydney; St. Lawrence Island; St. Thomas; Toronto.
QUEBEC: Aylmer; Berthierville; Hemmingford; Lac Carre; Montreal; Mt. St. Hilaire; Shawbridge.
SASKATCHEWAN: Saskatoon.
U.S.A.
CONNECTICUT: Colebrook.
ILLINOIS: Ste. Anne; Macoupin Co.: Carlinville.
IOWA: Sioux City.
KANSAS: Cherokee Co.
MASSACHUSETTS: Bedford; Boston; Cambridge; Forest Hills; Lexington.

MAINE: Winthrop.
NEW HAMPSHIRE: Alstead; Compton; Durham; Hampton; Holderness; Lancaster; Meredith; Nelson.
NEW YORK: Farmington; Ithaca; Lewisboro.
PENNSYLVANIA: Presque Ile State Park.
WEST VIRGINIA: Cranberry Glens.
WISCONSIN: Door Co.

Mimesa lutaria

CANADA
ALBERTA: Banff; 20 mi. w. Calgary; Elkwater Park; Gleichen; Morley.
BRITISH COLUMBIA: Bear Lake; Burnaby; Laird Hot Spring, mi. 496 Alaska Hwy.; MacGillivary Creek, Chilliwac; Nelson; osoyoos; Robson; Ruskin; Summit Lake, mi. 392 Alaska Hwy.; Terrace.
MANITOBA: Birds Hill Park; Brandon; Boissevain; Glenboro; Minnedosa; Sandilands; Seven Sisters; Treesbank.
NEW BRUNSWICK: Kouchibouguac.
NEWFOUNDLAND: Avalon Penn.; Clarenville; Corner Brook; Deer Lake; Goose Bay.
NORTH WEST TERRITORIES: Fort Norman; Norman Wells; Yellowknife.
NOVA SCOTIA: Freeport; Victoria Co.: Highland Road, mi. 15.
ONTARIO: Algonquin; Atikokan; Dyers Bay; Kapuskasing; Kenora; Kitchener; Lake Superior Park; Nepigon; One Sided Lake; Ottawa; Rondeau Prov. Park; Stirling; Sudbury.
QUEBEC: Hemmingford; Knowlton; La Ferme; Montreal; Mt. St. Hilaire; Rigaud; Rivier a La Chasse.
SASKATCHEWAN: Kenosee; Saskatoon; Willow Bunch.
YUKON TERRITORY: Rampart House.
U.S.A.
ALASKA: Big Delta.
ARIZONA: Flagstaff; Rustlers Pk., Chiricahua Mountains.
CALIFORNIA: Huntington Lake; Lone Pine; Alpine Co.: Luther Pass; Humboldt Co.: Trinidad; Mono Co.: Cottonwood Creek.
COLORADO: Echo Lake, Mt. Evans; Lump Gulch near Gilpin; Midland; Ohio; Peaceful Valley; Clear Creek Co.: Chicago Creek.
CONNECTICUT: Colebrook.
DISTRICT OF COLUMBIA: Washington.
GEORGIA: Athens.

IDAHO: Idaho Co.: Warren.
MAINE: Echo Lake; Eastport; North East Harbor; Aroostook Co.: Houlton.
MARYLAND: Plummers Island.
MASSACHUSETTS: Cambridge; Huntington; Reading.
MICHIGAN: Ann Arbor; Benzie Co.
MINNESOTA: St. Paul; Clay Co.: Moorhead.
NEVADA: Morrison; Washoe Co.: Galena Park; Mt. Rose.
NEW HAMPSHIRE: Albert Shaw; Berlin; Mt. Washington; Grafton Co.: Groton Twp.
NEW MEXICO: Beulah; Clouderoft.
NEW YORK: Buffalo; Jamestown; Lewisboro; Saranac Lake; Slaterville Springs; White Planes; Yonkers.
NORTH DAKOTA: Williston; Mercer Co.
NORTH CAROLINA: Macon Co.: Highlands; Wayah Bald.
OREGON: Mt. Hood; Waldport.
PENNSYLVANIA: Lycoming Co.: Cedar Run.
SOUTH DAKOTA: Mt. Rushmore; Sylvan Lake, Black Hills.
UTAH: Wasatch National Forest.
VERMONT: Rutland.
VIRGINIA: Arlington; Great Smokey Mountains National Park.
WASHINGTON: Copalis; Nehcotta; Olympia.
WYOMING: Freemont Co.: Union Pass; Johnson Co.: Buffalo.

Mimesa maculipes

CANADA
ONTARIO: Brighton; Chatterton; Midland; Smiths Bay near Picton.
QUEBEC: Ste. Anne de Bellevue.
U.S.A.
MARYLAND: Beltsville; Bowie.
MASSACHUSETTS: Hanson.
MICHIGAN: Ann Arbor; Benzie Co.
NEW HAMPSHIRE: Webster.
NEW JERSEY: Atco; Lucaston; Ramsey.
NEW YORK: Orient, Long Island.
NORTH CAROLINA: Lake Junaluska.
PENNSYLVANIA: Highspire.
VIRGINIA: Falls Church.

Mimesa mexicana

MEXICO

DURANGO: 10 mi. w. El Salto; Milpas.

Mimesa pauper

CANADA

ALBERTA: Athabasca; Bilby; 20 mi. w. Calgary; Edmonton; Elkwater Park; Empress; Lethbridge; McMurray; Medinine Hat; Morley; Scandia; Stettler.

BRITISH COLUMBIA: Agassiz; Barbine Portage; Burnaby; Chilcotin; Coquitlan; Cultus Lake; Hatzic Lake; Hazelton; Kamloops; MacGillivray Creek; Merritt; Mission City; North Thornanby Islands; Prince George; Robson; Salmon Arm; Sardis; Stave Lake; Sumas Prairie; Terrace; Vancouver.

MANITOBA: Brandon; Douglas; Ninette; Porcupine Forest; Seven Sisters; Shilo; Turtle Mountain Forest Reserve; Virden; Whitemouth Lake; Whitemouth.

NEW BRUNSWICK: Chamcook; Halcomb; Kouchibouguac; Nerepis.

NEWFOUNDLAND: St. George.

NORTH WEST TERRITORIES: Fort Simpson; Yellowknife.

NOVA SCOTIA: Beddeck; Freeport; Frizzleton; Kempt; Route Island; Shelburne; Whyrogomah.

ONTARIO: Ancaster; Bancroft; Belleville; Belwood; Black Sturgeon Lake; Chatterton; Crystal Beach, Madoc; Dundas; Dyers Bay; Foxoboro; Guelph; Jordan; Kearney; 17 mi. e. Kenora; Marmora; Merivale; Noelville; One sided Lake; Ottawa; Primrose; Rockport; St. Lawrence Islands, Grenadier Island; Shetland; Simcoe Lake; Timagimi.

QUEBEC: Abbotsford; Berthierville; Cascapedia; Duchesnay; Ile d'Orleans; Knowlton; Lac Carre; Lac Philip; La Ferme; Mistassini; Montreal; Mt. St. Hilaire; Nomininge; Old Chelsea; Rivier a la Chasse; Ste. Anne de Bellevue; Shawbridge; Wakefield.

SASKATCHEWAN: Christopher Lake; Melfort; Prince Albert; Prince Albert National Park; Rudy; Saskatoon; Waskesiu Lake; White Fox.

U.S.A.

CALIFORNIA: Echo; Mono Lake; Lassen Co.: Eagle Lake; Plumas Co.: Clio; Mono Co.: Arrowhead Lake; Wyman Canyon.

COLORADO: Florissant.

CONNECTICUT: Canaan; Colebrook.

DISTRICT OF COLUMBIA: Arlington; Washington.

ILLINOIS: Chicago.

IOWA:
MAINE: Dryden; Peaks Island; Perry; Salisbury Cove; Seal Harbor.
MARYLAND: Beltsville; Glen Echo; Plummers Island; Takoma Park.
MASSACHUSETTS: Bedford; Boston; Forest Hills; Holliston; Otis; Sherborn; Walpole.
MICHIGAN: Detroit; East Lansing; Ile Royal; Alger Co.; Baraga Co.; Benzie Co.; Cheboygan Co.; Clare Co.; Gladwin Co.; Iron Co.; Isabella Co.; Kent Co.; Lake Co.; Lapeer Co.; Osceola Co.; Roscommon Co.; Wexford Co.
MINNESOTA: Beaver Creek State Park; Eaglesnest; Istaca; St. Paul; Tamarak; Winona; Aikkin Co.; Carlton Co.; Cook Co.; Lake Co.: Basswood Lake; Washington Co.
MONTANA: 3-Forks.
NEW HAMPSHIRE: Durham; Hampton; Hanover; Gorham; Nelson; Pittsfield; Webster; White Mountain.
NEW JERSEY: Fort Lee; Westville.
NEW YORK: Bemus Point; Hamburg; Ithaca; Jamestown; Lake Placid; Milford Center; North Hamlin; Oneonta Swamp; Oswego; Poughkeepsie; Shokan; Jefferson Co.:Southwick Beach; Westchester Co.: Lewisboro.
NORTH CAROLINA: Highlands.
NORTH DAKOTA: Devils Lake; Fargo; Knox; Mercer Co.
PENNSYLVANIA: Davidsburg; Erie; North Mountain; Pittsburg; Presque Ile State Park; Erie Co.: Avonia.
SOUTH DAKOTA: Brookings; Custer.
VIRGINIA: Falls Church; Hunter; Hardy Co.: Lost River State Park.
VERMONT: Rutland; Addison Co.; Caledonia Co.; Windsor Co.
WASHINGTON: Glacier; Nooksack; North Central Ferry; Mt. Baker Lodge, hwy 542; Quilcene; Whitman Co.
WISCONSIN: Minocqua; Burnett Co.: Fountain City; Yellow River; Pierce Co.: Maiden Rock; Sawyer Co.
WYOMING: South Gate Yellowstone National Park.

Mimesa proxima

U.S.A.
COLORADO:
NEW MEXICO: Pecos; Springer.
WYOMING: Bosler; Glendo.

Mimesa punctifrons

U.S.A.

CALIFORNIA: Carmel; Monterey; Pasadena; Redlands; Whittier; Monterey Co.: Fort Ord; Nevada Co.: Boca; San Diego Co.: Point Loma; San Francisco Co.; San Luis Obispo Co.: Oceano; Santa Barbara Co.: Goleta; Santa Clara Co.; Tulare Co.: Whitney Portal.

Mimesa pygidialis

CANADA

ALBERTA: Bilby.

MANITOBA: Melita; Whitemouth Lake.

SASKATCHEWAN: Prince Albert; Rutland.

U.S.A.

ILLINOIS: Sand Ridge State Forest, sw. Forest City; Mason Co.

MICHIGAN: Douglas Lake; Cheboygan Co.; Emmett Co.

WISCONSIN: Burnett Co.: Yellow River.

Mimesa sabina

U.S.A.

CALIFORNIA: Antioch; Davis; Monterey; Sacramento; Mono Co.: Saddlebag Lake; Plumas Co.: Almanor; Johnsville; San Diego Co.: Sorrento; Santa Clara Co.; Tulare Co.: Whitney Portal; Tuolumne Co.: Strawberry.

COLORADO: Steamboat Springs; Alamosa Co.: Great Sand Dunes.

NEVADA: Lyon Co.: Datyon; Washoe Co.: Galena Creek; Nixon; Patrick.

UTAH: Logan Canyon; Salt Lake City.

Mimesa simplex

CANADA

ALBERTA: Conrad; Hayes; Indian Head; Lethbridge; Medicine Hat; Morley; Onefour; Scandia; Tilley.

BRITISH COLUMBIA: Barbine Portage; Douglas; Kamloops; Williams Lake.

MANITOBA: Brandon; Whitemouth.

SASKATCHEWAN: Elbow; Moosejaw; Regina; St. Victor; Saskatoon.

U.S.A.

ARIZONA: Pima Co.: Sta. Catalina Mountains.

CALIFORNIA: Mammoth Lake; Lassen Co.: Ravendale; Nevada Co.: Boca; Russel Valley; Ormsby Co.; Placer Co.: Martis Valley; San Bernadino Co.: Arrowhead Lake.

COLORADO: Bond, State Bridge; Salida.
IDAHO: Adelaid; Berger; Burley; Castleford; Hollister; Kimama; Milner; Oakley; Paul.
NEVADA: Deeth Valley.
NORTH DAKOTA: Beach; Mott.
OREGON: Worden.
UTAH: Blue Creek; Box Elder Co.: Mantua; Juab Co.: Nephi; Millard Co.: Delta.
WYOMING: Laramie; Fremont Co.: Kinnear.

Mimesa unicincta

CANADA
ALBERTA: Eisenhower Junction.
BRITISH COLUMBIA: Burnaby; Cultus Lake; Douglas; Hazelton; Terrace; Williams Lake.
U.S.A.
ARIZONA: Chiricahua Mountains; Flagstaff; Portal; Pima Co.: Santa Catalina Mountains.
CALIFORNIA: Mono Co.: Sonora Pass; White Mountains near Inyo Co. line.
COLORADO: Denver; Florissant; Fairplay; Golden; Granite Peaks Camp, Bayfield; Idaho Springs, w. of Chicago Creek; Mt. Evans; Mt. Vernon near Golden; Poncha Springs; Steamboat Springs; Clear Creek Co.: Chicago Creek; Jackson Co.: Muddy Pass; Larime Co.: Estes Park; Routt Co.: Hayden.
NEVADA: Ormsby Co.
NEW MEXICO: Chama.
OREGON: Mt. Hood.
UTAH: Guardsman Pass near Brighton; Manila; 25 mi. n. Vernal; Cache Co.: Logan Canyon; Duchesne Co.: Mirror Lake; Summit Co.: Henrys Fork Camp.
WASHINGTON: Gallatin Ranger Station; Mt. Rainier.
WYOMING: Moran, Jackson Hole Research Station; Yellowstone Park: Lewis Lake; South Gate.