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Sapygidae from Turkey, with a key to palaearctic species of Sapyginae (Hymenoptera)

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Abstract: An annotated list of 14 species of Sapygidae collected in Turkey since 1965 we have studied is given. One new genus (*Asmisapyga* KURZENKO nov. gen.), one new subgenus of *Sapyga* LATR. (*Polosapyga* KURZENKO nov. subgen.) and six new species (*Sapygina maloasiatica* KURZENKO, nov. spec. *Sapygina schwarzi* KURZENKO, nov. spec., *Asmisapyga warnckei* KURZENKO, nov. spec., *Sapyga singla* KURZENKO, nov. spec. *Sapyga mutica* KURZENKO, nov. spec. and *Sapyga gusenleitneri* KURZENKO, nov. spec.) are described. Additionally a key to all palaearctic genera and species of Sapygidae excluding Fedtschenkiinae is presented. The appendix includes a full checklist of all known palaearctic genera and species and the main literature on this family.

Резюме

Приводится аннотированный список 14 исследованных видов Sapygidae, собранных в Турции начиная с 1965 года. Описаны новый род (*Asmisapyga* KURZENKO nov. gen.), новый подрод рода *Sapyga* LATR. (*Polosapyga* KURZENKO nov. subgen.) и шесть новых видов (*Sapygina maloasiatica* KURZENKO nov. spec., *Sapygina schwarzi* KURZENKO nov. spec., *Asmisapyga warnckei* KURZENKO nov. spec., *Sapyga singla* KURZENKO nov. spec., *Sapyga mutica* KURZENKO nov. spec. и *Sapyga gusenleitneri* KURZENKO nov. spec.). Дополнительно приведена определительная таблица для всех палеарктических родов и видов Sapygidae, за исключением Fedtschenkiinae. Приложение включает полный список всех известных палеарктических родов и видов, а также основную литературу по этому семейству.

Introduction

Since 1965 colleagues of the entomological work group in Linz/Donau (H.H.F. Hamann †, K. Kusdas †, J. Schmidt †, Maximilian Schwarz and J. Gusenleitner) have collected Sapygidae in Turkey. The co-author has got additional material of this family from Ing. C. Holzschuh (Vienna), Prof. F. Ressler (Purgstall), W. Schacht (Munich) and Dr. K. Warncke † and we have studied specimens of the Biology-Centre of O.Ö. Landesmuseum in Linz, Austria. The dates of these collections were worked out in the

first part of this publication. The descriptions of one new genus, one new subgenus of *Sapyga* LATR, and six new species were made by N. V. Kurzenko. Many thanks for the types, especially to Mr. Max. Schwarz, which were taken over in the collection of J. Gusenleitner. Also many thanks to P. A. Ebmer for photos.

The second part contains a key to all palaeartic genera and species of sapygid wasps, excluding Fedtschenkiinae, known by us and 176 figures and explanations of them. Species described by M. PIC (1920: 1928) are not included in this key, because his descriptions are extremely short and we did not know their type-locality. It would be necessary to look for them in future, but N.V. Kurzenko supposed that *Monosapyga theresae* is a synonym of *Monosapyga clavicornis* (L.) and at least *Sapyga multinotata* is a synonym of earlier described species. BERLAND (1925) wrote that species described by M. PIC (all or some of them ?) were synonyms of species described earlier.

The appendix includes a full checklist of all known palaeartic genera and species of Sapygidae including synonyms and the main literature on this family.

Material

Fedtschenkia grossa SAUSSURE 1880

Mut, 9.6.: 13.6.1965, ♀, leg. J. Gusenleitner, det. D. Guiglia.

Sapygina decemguttata (JURINE 1807)

Neveshir: Ürgüp, 6.6.1978, ♀, leg. Max. Schwarz; Hasanbeyli env., Nur daglari, 4.7.1993, ♂, leg. P. Bulirsch, coll. Biolgy-Centre O.Ö. Landesmuseum.

Sapygina maloasiatica KURZENKO nov. sp. (figs 1-10)

♀. Head, seen from the front, slightly higher than wide, the outer outline of eyes in median part very slightly convex, almost straight (fig. 1). Vertex somewhat raised behind ocelli. Malar space distinctly shorter than diameter of the anterior ocellus. Frons slightly convex, with fine longitudinal furrow extending from the anterior ocellus to about the level of the upper border of eye-emargination. Frontal tubercle weak, without distinct border between its upper sloping face and the lower vertical part. Apical margin of clypeus broad, slightly emarginate and medially with dark lamellate border visible only in definite light (fig. 2). Antennae slender, slightly thickening towards the apex (fig. 3). Thorax elongate, mesopleuron much sloping. Humeral angles rather acute than right (fig. 4). Propodeum long, with well defined dorsal face (figs 5, 6). Fore wing with the third radiomedial vein irregularly curved so that the anterior side of the third radiomedial cell much longer than the posterior one (fig. 7). Abdomen slender (figs 8, 9), the last sternite ventrally with the sharp longitudinal ridge almost reaching the apex of the segment (fig. 10).

Black, with pale yellow (nearly white) markings. Yellowish : the arcuate stripes along the lateral margins of clypeus (fig. 2), two small spots on the frons, comma-shape spot completely filling the eye-emargination (fig. 1), very small spot between each of posterior ocelli and eye, narrow, medially widely interrupted transverse bands along the anterior and posterior margins of pronotum (fig. 4), elongate medium-sized spot on mesopleuron, small round spot in front of each lateral side of scutellum (fig. 6) and a pair of larger spots on the posterior face of propodeum (fig. 5). The abdomen with light markings as on figs 8, 9. Antennae black, segments 4-11 below and the last one almost entirely brownish orange. Mandibles black with teeth reddish brown. Legs in general black, only mid and hind femora with small whitish spot on the outer face on the top. Tibiae and tarsi (especially their apical segments) tinged with brown.

Punctuation of clypeus coarse, punctures on the upper part clearly more dense than on the apical half. Lateral sides of pronotum in a great part with coarse and dense punctures but along hind margin with punctures smaller and sparse, less distinct. Scutum, scutellum and propodeum each medially with narrow impunctate shiny stripe; moreover, propodeum behind each spiracle with very short smooth longitudinal scar and laterally close to the border of metapleuron with not large shiny area without punctures.

Punctuations on figs 156-158.

Length 10,5 mm.

♂ unknown.

H o l o t y p e : Turkey, Namrun, 16.6-2.7.1979, ♀ leg. Holzschuh and Ressler, coll. J. Gusenleitner.

***Sapygina schwarzi* KURZENKO nov. sp. (figs 11-18)**

♀. Head, seen from the front, slightly higher than wide, the outer outline of eyes in median part almost straight (fig. 11). Vertex somewhat raised behind ocelli. Malar space distinctly shorter than diameter of the anterior ocellus. Frons slightly convex, with fine longitudinal furrow (similar as in *Sapygina maloasiatica* nov. sp., but some shorter). Frontal tubercle weak, without distinct border between its upper sloping face and the lower vertical part. Apical margin of clypeus narrower than in preceding species, not deep emarginate, with narrow lamellate border forming the small blunt lateral teeth (fig. 12). Antennae about as in *Sapygina maloasiatica* nov. sp. (see fig. 3). Thorax elongate, mesopleurae much sloping. Humeral angles rather right that acute (fig. 13). Propodeum elongate, with dorsal face shorter than in preceding species (fig. 14). Forewing with the third radiomedial vein slightly concave in median part, anterior and posterior sides of the third radiomedial cell about equal length (fig. 15). Abdomen slender (figs 16, 17), the last sternite rounded ventrally (fig. 18).

Black, with pale yellow (nearly white) markings. Yellowish are: the arcuate stripes along the lateral margins of clypeus (fig. 12), two small spots on the frons, reduced stripe along the lower margin of the eye-emarginations (fig. 11), narrow, medially widely interrupted transverse band along the anterior margin of pronotum (fig. 13), medium sized oval spot on the mesopleuron. The abdomen with light markings as on figs 16, 17. Antennae black, only segments 4-11 below and the last one on the apical third brownish orange. Mandibles dark, teeth tinged with brown. Legs in general black, only spurs and tarsi brownish yellow.

Punctuation of clypeus in total dense, rather coarse, distances between punctures with clear micropunctures, hardly shining. Lateral sides of pronotum for a great part with coarse and dense punctures (but less large and denser than in the preceding species), and only along the hind margin with punctures small, sparse and faint. Scutum, scutellum and propodeum each along median line with narrow (only on anterior part of propodeum somewhat enlarged) smooth shiny stripe; moreover, propodeum behind each of spiracles and laterally close near the border of metapleuron with small areas with very rare punctures.

Punctuations on figs 159-161.

Length 10,0 mm.

♂ unknown.

H o l o t y p e : Turkey, Hakkari, W Tanin-Tanin-Pass, 3.6.1980, 1900 m, leg. Max. Schwarz, coll. J. Gusenleitner.

Monosapyga clavicornis (LINNAEUS 1758)

8 km E Turkal, 500 m, 7.5.1976, ♀, leg. F. Ressler; Namrun, 20.5.1976, ♀, leg. F. Ressler.

Asmisapyga KURZENKO nov. gen. (figs 19-28)

Head of ♂, seen from the front, rounded, the outer outline of eyes regularly convex. Vertex slightly swollen, somewhat raised behind the ocelli. Malar space distinctly shorter than the diameter of the anterior ocellus. Frontal tubercle with distinct transverse arcuate carina (smoothed medially), separating its upper horizontal face from the lower vertical part. Frons between tubercle and anterior ocellus slightly convex. Apical margin of clypeus with two small blunt teeth situated close to each other (fig. 19). Antennae unusually long (turned back, they reach almost to the middle of abdomen), not thickened towards the apex, the apical and preapical segments about equal size (fig. 20), segments 3-13 below with distinct tyloids in the form of narrow longitudinal roller (fig. 21), the tyloid on segment 3 smoothed, indistinct in the basic half. Humeral angles rather rounded-right (fig. 22). Propodeum short, declivous posteriorly, without clear dorsal face (fig. 23). Forewing venation as on fig. 24; position of nervulus post-

furcal in holotype or interstitial in paratype (fig. 25). Basic segment of the mid tarsus about 1.2 times longer than segments 2 to 4 all together (fig. 26). Abdomen as on figs 27, 28. Propodeum laterally with large smooth, shiny area, quite without punctuation; moreover, similar shiny areas are on the dorsolateral faces behind each of spiracles.

This genus differs from all known palaeartic genera of Sapygidae, but is most similar to monotypic *Polochridium* GUSSAKOVSKIJ 1933 from East Asia.

Asmisapyga warnckeii nov. sp.

♂ Black, marked with pale yellow (paratype) or white (holotype) as follows: clypeus entirely, large spot on frons touching the clypeus, narrow stripe along inner margin of the lower lobe of eye reaching to eye-emargination and completely filling it, elongate spot on upper part of each temple and, moreover (in paratype), a sparse chain of very small pale spots extending down from it, a large spot on outer side of mandible, transverse medially widely interrupted band between humeral angles and (in paratype only) two not large transverse isolated spots on median part near posterior margin of pronotum (fig. 22), vertical spot on upper part of mesopleuron, very small, hardly distinct spot on each lateral sides of mesonotum opposite the posterior margin of tegula (in paratype only), not large spot in median part of tegula, two isolated spots on scutellum, complete (in paratype) or medially narrowly interrupted band on postscutellum. Light markings of abdomen as on figs 27, 28. Antennal scape mainly black with yellowish spot on outer face near the apex; segments 2-13 brownish orange, their anterior face lighter than back one. Anterior face of all coxae partly yellow, further legs brownish orange with yellow (the yellow on the legs brighter than the same one on head and thorax); brownish orange on femora (on all of them in holotype and on hind femora only in paratype) to a more (especially in holotype) or less extent replaced by dark brown or (in holotype) black. Yellow: outer side of all tibiae, fore femora below in total length, mid and hind femora on outer faces near the apex.

Clypeus and pronotum in total with dense and coarse punctures. Smooth shiny area on the dorsolateral faces of propodeum are small in holotype and rather large in paratype. All of abdominal segments, except the last sternite, with clear dense medium size punctures. The last sternite laterally near the base with distinct smooth shiny areas in the form of weak swell and between them with small faint punctures.

Punctuations on figs 162-164.

Length 9,0 mm.

♀ unknown.

H o l o t y p e : Turkey, Hakkari: Oramar, 10 km NE, 1700 m, 29.6.1985, ♂, leg. Max. Schwarz, coll. J. Gusenleitner.

P a r a t y p e : Turkey, Hakkari, Suvani-Halil-Pass, E Beytisebap, 2300 m, 2.8.1982, ♂, leg. K. Warncke, coll. Max. Schwarz.

Sapyga (Polosapyga KURZENKO nov. subgen.) *singla* KURZENKO nov. sp. (figs 29-35)

This peculiar species well differs from all known palaeartic species of *Sapyga* LATREILLE by very short abscissa 4 of radius in forewing (fig. 29) and by antennae of ♂ with unusually large apical segment (fig. 30). In general the new species similar to *Sapyga hissarica* KURZENKO, described based on 4 females from Tadjikistan only. Material deficiency (absence of *Sapyga hissarica* KURZENKO'S males and, opposite, *Sapyga singla* nov. spec. ♀) doesn't allow to estimate the relation between these two forms truly, but peculiarities of fore wing venation, in this case the only diagnostic feature not connected with sex, don't allow to include *Sapyga singla* nov. sp. into *Rectosapyga* KURZENKO. From our point of view it will be more right to include the new species into a separate subgenus *Polosapyga* nov. subgen. and designate *Sapyga singla* nov. sp. as a type species.

♂. Head, seen from the front, wider than high, the outer outline of eye regularly convex. Vertex slightly swollen, somewhat raised behind ocelli. Malar space somewhat shorter than the diameter of anterior ocellus. Frontal tubercle with distinct angular bend (not transverse carina as in other species of *Sapyga*) separates its lower vertical part from the upper horizontal face. Frons between tubercle and anterior ocellus almost flat, medially with fine hardly distinct longitudinal furrow extending from the anterior ocellus to about the level of lower margin of eye-emargination. Clypeus as on fig. 31. Antennae thickening towards the apex, all of segments clearly longer than wide, the apical one large (fig. 30), the segments 4-12 below with tyloids in the form of narrow longitudinal roller, the tyloid on segment 4 in basic quarter weak. Humeral angles obtuse (fig. 32). Propodeum short, without dorsal face, declivous posteriorly (fig. 33). Forewing with the second and third submarginal cells elongate, position of nervulus is interstitial (fig. 29). Abdomen as on figs 34, 35. Black, with yellow markings. Yellow: clypeus almost entirely (fig. 31), narrow stripe along the inner margin of lower lobe of eye reaching to eye-emargination and completely filling it, irregular spot on frons, large spot on the outer face of mandible, short narrow stripe in upper part of each temple, anterior face of antennal scape, transverse medially narrowly interrupted band along anterior margin of pronotum (fig. 32) extending down laterally much beneath humeral angles, much reduced spot on mesopleuron, two spots widely separated from each other on scutellum and two small hardly distinct spots on posterior face of propodeum, tegulae on a large scale. Light markings of abdomen as on figs 34, 35. Antennal scape dorsally and ventrally and segment 2 dorsally black, back of scape and ventral face of segment 2 brownish orange; segments 3 to 12 in general yellowish orange, below lighter than on dorsal face, moreover segment 3 above in basal part and segment 12 in apical part all around dark; the last segment entirely black, much contrasting with preceding segments (fig. 30). Legs black with yellow, light markings are: anterior face of fore and mid coxae in total, not large spot in apical part of hind coxa, whole interior and about half of outer face of fore femora, not large elongate spot on

apical part of anterior face of mid femora and limited transverse area near the top of hind femora, all tibiae and tarsi in total. The yellow on inner face of tibiae and tarsi generally with more or less intensive brownish shade.

Clypeus in total with regularly coarse, moderately dense punctures, distances between punctures dull, equal to slightly less than puncture diameter; the puncture deep with shining bottom. Lateral sides of pronotum completely with dense punctuation. Scutellum in anterior half medially with faint narrow carina; postscutellum medially close near anterior margin with small, hardly distinct welt. Propodeum with dense punctures, only laterally near anterior border with small slightly shiny area with rare faint punctures. All of abdominal segments above and below with distinct, dense, small punctures.

Punctuations on figs 165-167.

Length 11,5 mm.

♀ unknown.

H o l o t y p e : Turkey, Kars: 20 km W Karakurt, 27.5.1980, 600 m, ♂, leg. Max. Schwarz, coll. J. Gusenleitner.

***Sapyga (Sapyga) caucasica* RADOSZKOWSKI 1880**
ssp. *schevyrevi* MORAWITZ 1889

3 km E Gemecik, 1830 m, 3.6.1975, ♀, leg. F. Ressler; Hakkari: 25 km NW Yuksekova, 2200 m, 30.5.1980, ♂, leg. Max. Schwarz.

***Sapyga (Sapyga) gussakovskii* KURZENKO 1986**

Hakkari, Sat Dagi, Varegos SW Yuksekova, 1700 m, 29.6.1985, 2 ♀ ♀, leg. W. Schacht; Hakkari, W Tanin-Tanin-Pass, 1900 m, 3.6.1980, ♂, leg. Max. Schwarz; Bilecik, 14.6.1969, ♀, leg. J. Schmidt; Beysehir, 16-19.6.1966, ♂, leg. H.H.F. Hamann; Mut, Sertavul, 1300 m, 12.6.1968, 4 ♂ ♂, leg. J. Gusenleitner; Konya, 15.6.1965, 3 ♂ ♂, leg. J. Gusenleitner; Meram, Konya, 14.6.1968, ♂, leg. J. Gusenleitner; 25 km N Konya, 11.6.1966, ♂, leg. H.H.F. Hamann; Urfa, 1.6.1968, 2 ♀ ♀, ♂, leg. J. Gusenleitner.

Greece: Lamia, 9.6.1964, ♂, leg. W. Grünwaldt; Altkorinth, 30.5 and 5.6.1963, 2 ♂ ♂, leg. J. Gusenleitner, 2 ♀ ♀, 4 ♂ ♂, leg. Max. Schwarz; Heraklion, West Kreta, 24.5.1963, ♂, leg. J. Gusenleitner, 23. 5. 1963, ♂, leg. Max.Schwarz.

The specimens from Urfa have a very extensive yellow markings on the body and are almost completely identical with holotype, described from Caucasus. Some reduction of light markings and, moreover, the replacement of the bright yellow by a pale yellow (especially in males) is characteristic of specimens collected in different places in Turkey and in Greece.

***Sapyga (Sapyga) mutica* KURZENKO nov. sp. (figs 36-51)**

♀. Head, seen from the front, wider than high, the outer outline of eye regularly convex (fig. 36). Vertex slightly swollen, somewhat raised behind ocelli. Malar space shorter than the diameter of anterior ocellus. Frontal tubercle with the lower vertical part separated from the upper face by complete not very distinct transverse carina, forming medially a faint triangular curve from which a short ridge runs down towards base of clypeus, not high, somewhat smoothed, but more or less distinct between surrounding punctures. Clypeus as on fig. 37, seen in profile regularly convex. Antennae towards the apex slightly thickening, all of segments clearly longer than wide (fig. 38). Humeral angles as on fig. 39. Propodeum gradually declivous, without horizontal face (fig. 40). Forewing venation as on fig. 41. Abdomen as on figs 42-45.

Black, marked with pale-yellow (ivory white) and, partly (on abdominal tergites 1 and 2 and sternite 2), brownish orange (figs 42-45). Light markings on head and thorax are: stripes along inner margin of the lower lobes of eyes running into the eye-emargination, but not leaving it (fig. 36), two spots on frons, separated or touching each other, medium-sized or (more often) much reduced spot on outer side of mandible, a small spot on upper part of each temple (sometimes lost), transverse medially more or less widely interrupted bands on anterior and posterior margins of pronotum (fig. 39), two small spots in central part of mesonotum touching one another, medium-sized spot on upper part of mesopleuron, a pair of separate spots on scutellum, postscutellum and median part of propodeum (one of paratypes has no spots on propodeum). Clypeus with not large spots on the lateral sides (in holotype much reduced: fig. 37) or entirely black. Antennal segments 1 and 2 in total and segment 3 for a great part black, the following segments brownish orange, 3 to 4 apical segments on the upper face more or less dark. All femora mainly black, apical part of femora, tibiae and tarsi in general brownish orange (fig. 46). Yellowish markings on the legs are: short narrow stripe or spot on outer face in basal part of all tibiae and (more rare) a stripe (in holotype) or small spot (in one of paratypes) on lower side near the apex of forefemora. Moreover, fore tibia on outer face, mid and hind tibiae on inner face or, in addition, on outer face too, with dark brown elongate spot.

Punctuation of clypeus mainly dense and coarse, distances between punctures clearly smaller than puncture diameter, in some places forming short longitudinal rugosity; small area closely near to the apical margin of clypeus slightly shiny, with sparse, usually somewhat smaller punctures. Malar space with micropunctures only. Lateral sides of pronotum entirely with dense punctuation. Propodeum laterally close to border of metapleuron with not large (very small in one of paratypes) impunctuated shiny area. Abdominal tergites 1 to 3 in total and tergite 4 in basal part with more or less distinct, relatively coarse punctures; distances between punctures on tergite 1 clearly larger than puncture diameter, on tergite 2 and 3 about equal or (especially in basal part of each of them) smaller than it, forming faint transverse rugosity. Punctuation on

posterior part of tergite 4 and on all face of tergites 5 and 6 smaller and rarer than on the preceding segments, the punctures faint, not very distinct. Sternites 2 to 6 with clear, dense punctuation, punctures on sternite 2 to 4 small and on two last segments very small.

♂. In general as ♀, but differs from it as follows: clypeus as on fig. 47. Antennal segments 3 to 12 below with tyloids, the last one small, about semispherical (fig. 48). Humeral angles as on fig. 49. Abdomen as on figs 50, 51, without brownish orange markings. Light spots on frons fused together into a transverse stripe, clypeus almost entirely light (fig. 47), yellowish spot on mandible larger, temples in total black. Light bands or spots on the posterior margin of pronotum (fig. 49), mesonotum, scutellum, postscutellum and propodeum are absent. First, second and last antennal segments entirely, preapical and sometimes segment 3 mainly, black; the segments 4 to 11 orange or orange yellow, all of them or at least segments 8 to 10 on upper side darkend (dark brown or almost black). All coxae on anterior face in total or partly yellowish, tarsi brown, basal segment of foretarsus anteriorly sometimes distinctly tinged with yellow. All of femora black with pale yellow markings; light are: the lower side of forefemora, more or less long stripe on the outer side of mid femora and small spot on the outer face close to the apex of hind femora; more rarely hind femora entirely black. All of tibiae outside yellowish, within black; on fore tibiae the black more or less extensively replaced by light-brown.

Punctuations on figs 168-170.

Length 6,0-9,0 mm.

Holotype: Turkey, Mut, Sertavul, 1300 m, 12.6.1968, ♀, leg. et coll. J. Gusenleitner.
Paratypes: Mut, Sertavul, 1300 m, 1.6.1967, 2 ♀♀ and 12.6.1968, ♂, leg. J. Gusenleitner; ibidem, 1600 m, 11.6.1978, ♂, leg. K. Kusdas; Ürgüp, Asia Minor, 2.6.1964, ♂, leg. J. Gusenleitner; Iceli: Sertavul, 1400 m, 9.6.1978, ♂, leg. Max. Schwarz. Paratypes in coll. J. Gusenleitner and Max. Schwarz.

Sapyga (Sapyga) pulcherrima MORAWITZ 1894

Mut: Sertavul, 1300 m, 7.6.1968, 2 ♂♂, leg. J. Gusenleitner; ibidem, 1600 m, 22.5.1970, ♀, J. Gusenleitner; Sivas: Gürün, 2 ♂♂ and 3.6.1978, 3 ♂♂, leg. Max. Schwarz; ibidem, 6.6.1970, ♀, leg. J. Gusenleitner; Ankara: 10 km S Ankara, 1100 m, 8.6.1980, ♂, leg. Max. Schwarz.

Sapyga (Sapyga) quinquepunctata (FABRICIUS 1781)

Mut: Sertavul, 1300 m, 1.6.1967, ♀, leg. J. Gusenleitner; ibidem, 1600 m, 31.5.1967, ♂, leg. J. Gusenleitner; ibidem, 1800 m, 2.6.1967, ♂, leg. J. Gusenleitner; ibidem, 1300 m, 7.6.1968, ♂, leg. J. Gusenleitner; ibidem, 1600 m, 9.6.1968, ♂, leg. K. Kusdas; Sertavul-Pass, 1610 m, 1.6.1967, ♂, leg. J. Schmidt; ibidem, 31.5.1967, ♂, leg. K. Kusdas. Konya: 25-27.5.1965, ♂, leg. J. Gusenleitner; ibidem, 25.5.1965, 2 ♂♂, leg. Max. Schwarz; ibidem, 15.6.1968, ♀, leg. J. Gusenleitner. Urfa: 21.5.1967, ♀, leg. J. Gusenleitner. Istanbul, 23.5.1965, ♂, leg. J. Gusenleitner. Hakkari: 25 km NW Yuksekova, 2200 m, 30.5.1980, ♂, leg. Max. Schwarz; W

Tanin-Tanin-Pass, 1900 m, 3.6.1980, ♂, leg. Max. Schwarz. Nevsehir: Ürgüp, 6.6.1978, ♀, leg. Max. Schwarz; Kilyos, 26.5.1984, ♂, leg. J. Gusenleitner; Bolu lake env., 21.6.1993, ♂, leg. Mi. Halada, coll. Biology Centre O.Ö. Landesmuseum.

***Sapyga (Sapyga) gusenleitneri* KURZENKO nov. sp. (figs 52-59)**

♀. Head, seen from the front, wider than high, the outer outline of the eye regularly convex (fig. 52). Vertex very slightly swollen, behind the ocelli scarcely raised. Malar space distinctly shorter than the anterior ocellus diameter. The lower vertical part of the frontal tubercle separated from its horizontal face by distinct transverse carina, forming medially the faint triangular curve, often indistinct among surrounding coarse punctures. Clypeus as on fig. 53, seen in profile slightly convex. Antennae scarcely thickening towards the apex, all of segments clearly longer than wide. Humeral angles as on fig. 54. Propodeum posteriorly gradually declivous, without horizontal face (see fig. 40). Forewing venation similar to *Sapyga mutica* nov. sp. (see fig. 41). Abdomen as on figs 55-58.

Black, marked with pale yellow (ivory white); moreover, abdominal tergites 1 to 3 and sternites 2 and 3 (or at least tergite 2 and sternite 2) partly brownish orange (figs 55-58). Light markings on head and thorax are: stripes along the inner margins of eyes, running up to the level of posterior ocelli (fig. 52), large spot on the frons, variable spot (sometimes very small) on outer side of mandible, small spot on upper part of each temple or, rarely, on lower part too (sometimes both are absent), transverse medially more or less widely interrupted bands, both on anterior and posterior margins of pronotum (fig. 54), two small spots in central part of mesonotum touching each other or fused together, medium-sized spot on the upper part of mesopleuron, a pair of widely separated spots on each of scutellum, postscutellum and on posterior face of propodeum (in difference from *Sapyga mutica* nov. sp., in which spots on propodeum clearly smaller than those on postscutellum, in *Sapyga gusenleitneri* nov. sp. situation is opposite). Light marking of abdomen as on figs 55-58. Clypeus always with more or less large yellowish spots on the lateral sides (fig. 53). Two first antennal segments in total, segment 3 almost entirely black, the remaining segments yellowish orange, above dark all over. Legs mainly black (fig. 59), inner faces of forefemora, apex of tibiae and usually apical ends of tarsal segments brownish; on the legs pale yellow: narrow short stripes or elongate spots on the outer side (close to the base) of mid and hind tibiae and in apical part of fore and mid femora, more rarely on mid and sometimes on fore and hind coxae, too. Punctuation on clypeus, malar space and pronotum about as in *Sapyga mutica* nov. sp.; smooth areas on the anterior part of the lateral sides of propodeum usually very small, hardly distinct. Punctuation on abdomen generally more uniform, more sparse and less distinct than in *Sapyga mutica* nov. sp.

Punctuations on figs 174-176.

Length 6,5-8,5 mm.

♂ unknown.

H o l o t y p e : Turkey, Urfa, 19.5.1967, ♀, leg. et coll. J. Gusenleitner.

P a r a t y p e s : Urfa, 19-20.5.1967, 8♀, leg. J. Gusenleitner; Mut, 5.6.1968, ♀, leg. K. Kusdas; Antakya, As.Turk., 23-25.5.1967, ♀, leg. J. Schmidt. Paratypes in coll. J. Gusenleitner and N.V. Kurzenko.

Key to palaeartic Sapyginae species

- 1 Anterior side of the third radiomedial cell of forewing equal or longer than posterior one (figs 7, 15) (*Sapygina* A. COSTA)..... 2
- Anterior side of the third radiomedial cell of forewing much shorter than posterior one (figs 24, 29, 41, 60-62) 4
- 2 Anterior side of the third radiomedial cell of forewing distinctly longer than posterior one (fig. 7). ♀: last abdominal sternite ventrally with sharp longitudinal ridge (fig. 10); posterior margin of pronotum with transverse, narrow, light band widely interrupted medially (fig. 4); propodeum with two whitish spots (fig. 5); abdomen with light markings as on figs 8, 9. ♂: unknown. Turkey
.....*Sapygina maloasiatica* nov. sp.
- Anterior side of the third radiomedial cell of forewing about equal to posterior one (fig. 15). ♀: last abdominal sternite ventrally rounded, without the ridge (fig. 18); posterior margin of pronotum without light marking (fig. 13); propodeum entirely black..... 3
- 3 Humeral angles acute, almost spiniform (fig. 63); lateral sides of pronotum along posterior margin with impunctuated shiny area; mesopleuron weakly sloping; clypeus, eye-emarginations and mesopleurae in both sexes entirely black. ♀: light markings on the upper side of abdomen as on fig. 64. ♂: the antennal apical segment as on fig. 65. Europe, Turkey..... *Sapygina decemguttata* (JURINE)
- ♀: Humeral angles nearly right (fig. 13); lateral sides of pronotum totally with more or less dense punctuation; mesopleuron strongly sloping; clypeus (fig. 12), eye-emargination (fig. 11) and mesopleurae with whitish stripes or spots; light markings on the abdomen as on figs 16, 17. ♂ unknown. Turkey*Sapygina schwarzi* nov. sp.
- 4 ♂: antennae claviform (fig. 66), last two segments very large, massive, below with longitudinal deep cavities (fig. 67). ♀: head, seen from the front, higher than wide, outer outline of eye in median part straight to slightly concave (fig. 68); frontal tubercle without distinct border between its upper sloping face and lower vertical part. Europe, North Africa, Asia Minor, Caucasus..... *Monosapyga clavicornis* (LINNAEUS)

- ♂: antennae fusiform or slightly thickening towards apex, last two segments another form, without such concavities (figs 20, 21, 30, 48, 69-74). ♀: head, seen from the front, rounded or wider than high, outer outline of eye regularly convex (figs 36, 52); frontal tubercle with more or less distinct border (transverse carina or, at least, angular bend) between its upper face and lower vertical part 5
- 5 Malar space much longer than diameter of anterior ocellus (fig. 75); second submarginal cell of forewing elongate, no less than 2.5 times longer than high, position of nervulus distinct postfurcal (fig. 61); hind coxae posteriorly rounded (fig. 76). ♀: the last abdominal sternite ventrally on posterior part with sharp longitudinal ridge (fig. 77). Large species, length 15-22 mm (*Polochrum* SPINOLA) 6
- Malar space not longer than diameter of anterior ocellus (fig. 78); second submarginal cell of forewing shorter and wider, position of nervulus (with rare exceptions) interstitial (figs 25, 29, 41); hind coxae posteriorly on outer side with more or less distinct vertical carina (fig. 79). ♀: the last abdominal sternite ventrally rounded, without ridge (fig. 80). Smaller, length 6-16 mm 7
- 6 Apical margin of clypeus in both sexes with short, blunt lateral teeth (figs 81, 82); occiput medially more or less clearly impressed (fig. 83). ♂: the last antennal segment as on fig. 69. Middle Asia (Tadjikistan) *Polochrum pamirepandum* KURZENKO
- Apical margin of clypeus in both sexes with longer, slightly acute lateral teeth (figs 84, 85); occiput almost straight (fig. 86). ♂: the last antennal segment as on fig. 70. South Europe, Turkey, Transcaucasus *Polochrum repandum* SPINOLA
- 7 ♂: the last antennal segment in shape and size about as the preapical one, below with tyloid (figs 20, 71). Lateral sides of propodeum in both sexes with large, smooth, shiny areas 8
- ♂: the last antennal segment another shape, as a rule (except in *Sapyga singla* nov. sp.) much smaller than preapical one, without tyloid (figs 48, 72-74). Lateral sides of propodeum in both sexes entirely punctuated or with small, smooth, fairly shining area (*Sapyga* LATREILLE) 9
- 8 Basal segment of mid tarsus in both sexes about twice longer than segments 2 to 4 all together (fig. 87); lateral sides of pronotum along posterior margin with impunctuated shiny area; dorsolateral faces of propodeum entirely punctuated. ♂: antennal segments, beginning from 5, below along tyloids with not deep, shiny longitudinal concavities (fig. 88); clypeus as on fig. 89; lower part of temples yellow. ♀: antennae thin, filiform (fig. 90). East of Russia (south Primorye), north-east China, Korea *Polochridium eoum* GUSSAKOVSKI

- Basal segment of mid tarsus in ♂ only 1.2 times longer than segments 2 to 4 all together (fig. 26); lateral sides of pronotum entirely densely punctuated, dorsolateral faces of propodeum behind each of spiracles with impunctuated shiny area. ♂: all of antennal segments without such concavities (fig. 21); clypeus as on fig. 19; lower part of temples black. ♀ unknown. Turkey.....*Asmisapyga warnckei* nov. gen. et sp.
- 9 Submarginal cells 2 and 3 of forewing elongated, the abscissa 3 of radius distinctly longer than abscissa 4 (fig. 29, 62); the upper horizontal face of frontal tubercle separated from its lower vertical part with rounded bend, not carinated; abdominal sternite 2 on basic part almost flat (fig. 91)..... 10
- Forewing with submarginal cells 2 and 3 shorter and wider, the abscissa 3 of radius distinctly shorter or, at most, about equal to abscissa 4, first radiomedial vein arcuated (fig. 41); the upper horizontal face of frontal tubercle separated from its lower part with more or less distinct transverse carina; abdominal sternite 2 in basic part convex (fig. 95). ♂: the last antennal segment much smaller than preapical one, both of them about the same colour (figs 48, 72-74) (subgenus *Sapyga* s.str.) 11
- 10 Forewing with nervulus in interstitial position, first radiomedial vein arcuated (fig. 29). ♂: the last antennal segment large, massive, entirely black, sharply contrasting with the preceding segments (fig. 30). ♀ unknown. Turkey.....
.....*Sapyga (Polosapyga) subgen. nov.) singla* nov. sp.
- Forewing with nervulus in distinct postfurcal position, first radiomedial vein straight (fig. 62). ♀: all of flagellar segments clearly longer than wide; light stripes bordering the inner margin of eyes running up to the level of the posterior ocellus (as on fig. 52); abdomen with light markings as on figs 93, 94. ♂ unknown. Middle Asia (Tadjikistan)..... *Sapyga (Rectosapyga) hissarica* KURZENKO
- 11 Humeral angles obtuse (fig. 96); lateral sides of propodeum as a rule entirely punctuated; antennae in both sexes long and thin, flagellum with all of segments (except for the apical one in ♂) clearly longer than wide (figs 72, 97). ♀: thorax, excluding pronotum, without light marking..... 12
- Humeral angles right to slightly acute (figs 39, 49, 54, 99-105); lateral sides of propodeum close near to the border of metapleurae usually with not large, smooth shiny area. ♀: thorax (excluding that in *Sapyga quinquepunctata* (FABRICIUS) with light markings on mesonotum, mesopleurae, scutellum, postscutellum and propodeum or, at least, on some of them 13
- 12 ♀: malar space micropunctuated only; eye-emargination entirely light; abdominal tergites 1 and 2 (fig. 106) and sternite 2 completely black, the last sternite partly yellow (fig. 107). ♂: antennal flagellum above totally dark; frons and mandibles without yellow marks; all of tibiae entirely dark; the last abdominal segment above and beneath partly light (figs 108, 109). Eastern Russia (south Primorye), Eastern China, Korea *Sapyga (Sapyga) coma* YASUMATSU et SUGIHARA

- ♀: malar space coarsely punctuated; eye-emargination light, on lower part only; light markings on the abdomen very variable, usually tergites 1 and 2 (fig. 110) and sternite 2 (fig. 111) at least partly brownish-orange, rarely entirely black (figs 112, 113), the last sternite without light mark. ♂: antennal flagellum above partly orange; frons and mandibles with yellow marks; at least fore and mid tibiae partly or totally light; the last abdominal segment entirely black (figs 114, 115). Europe, the Asian part of Russia to the east up to the Pacific ocean, Mongolia, Northern China
.....*Sapyga (Sapyga) similis* (FABRICIUS)
- 13 ♀♀ 14
- ♂♂ (in *Sapyga glasunovi* MORAWITZ, *Sapyga raddi* KURZENKO, *Sapyga gusenleitneri* nov. sp. unknown) 21
- 14 Light stripes bordering the inner margin of eyes do not leave the eye emargination (figs 36, 78)..... 15
- Light stripes bordering the inner margin of eyes running up at least to the level of the anterior ocellus (fig. 52) 18
- 15 Antennal segment 9 clearly longer than wide (fig. 38); humeral angles rather right than acute (figs 39, 98); mesonotum with 1-2 light spots 16
- Antennal segment 9 about as long as wide (fig. 116); humeral angles rather acute than right (fig. 99); mesonotum without light spots 17
- 16 Pronotum with nearly parallel lateral sides and with medially interrupted light bands along the anterior and posterior margins (fig. 39); light markings on the body pale yellow (ivory white); clypeus entirely black or with two small light spots (fig. 37); all of tibiae in general brownish-orange; the black on abdominal segment 2 above and beneath partly replaced by brownish orange, sternites 5 and 6 entirely black (figs 42-45). Turkey.....*Sapyga (Sapyga) mutica* nov. sp.
- Pronotum with slightly converging lateral sides and with two large light spots (fig. 98); light markings on the body yellow; clypeus mainly light, all of tibiae in general yellow; abdomen above and beneath without the brownish-orange, sternites 5 and 6 mainly yellow (figs 117, 118). ♂ unknown. Middle Asia (Uzbekistan, Tadjikistan)
.....*Sapyga (Sapyga) raddi* KURZENKO
- 17 Legs almost entirely black; antennal flagellum above all over dark (fig. 116); thorax, excluding pronotum, usually without light markings; abdomen partly brownish orange (figs 119, 120). Europe, Turkey and, possibly, Caucasus
.....*Sapyga (Sapyga) quinquepunctata* (FABRICIUS)
- Legs in general not black, tibiae and tarsi mainly brownish-orange; antennal flagellum above partly orange; thorax, excluding pronotum, usually with light markings
.....*Sapyga (Sapyga) caucasica* RADOSZKOWSKI

- A. The black on abdominal segments 1 and 2 or, moreover, segment 3 above and beneath partly or completely replaced by brownish red, tergite 1 and often 2 and sternite 2 without light marks (figs 121, 122); light markings on the abdomen pale yellow to almost white. Turkey, Northern Caucasus
 *Sapyga* (s. str.) *caucasica schevyrevi* MORAWITZ
- B. The brownish red on the anterior part of abdomen much reduced or completely absent; tergites 1 and 2 and sternite 2 with light spots or bands (figs 123, 124); light markings on the abdomen bright yellow. Iran, Transcaucasus
 *Sapyga* (s. str.) *caucasica caucasica* RADOSZKOWSKI
- 18 Mid and hind tibiae mainly, the tarsi entirely dark (fig. 59); light markings on the body ivory white; clypeus black with two light lateral spots (fig. 53); antennal flagellum above completely darkened; sternite 2 without light spots (figs 56, 58). Small, graceful species (length 6,5-8,5 mm). ♂ unknown. Turkey.....
 *Sapyga* (*Sapyga*) *gusenleitneri* nov. sp.
- Mid and hind tibiae yellow, often more or less distinctly tinged with orange (fig. 125); light markings on the body yellow; clypeus mainly or almost entirely light (figs 126, 127); antennal flagellum above at least half orange; sternite 2 partly yellow or with yellow spots (figs 129, 131, 133, 135. 135). Larger (length 10,5-15 mm) 19
- 19 Antennae relatively shorter and thicker, segment 9 nearly as long as wide (fig. 136); lateral sides of mesonotum and those of scutellum forming the broken line together (fig. 137); pronotum with interrupted medially yellow bands along the anterior and posterior margins (fig. 100); light markings on the abdomen as on figs 128, 129. Smaller (length 10,5-11,0 mm). Turkey, Middle Asia (Turkmenistan, Uzbekistan).....
 *Sapyga* (*Sapyga*) *pulcherrima* MORAWITZ
- Antennae longer and thinner, segment 9 clearly longer than wide (fig. 138); lateral sides of mesonotum and those of scutellum forming a nearly straight line together (fig. 139); pronotum with another light markings (figs 101, 102). Larger (length 12-15 mm)..... 20
- 20 Anterior margin of pronotum more deeply concave (fig. 101); mandibles black; mesonotum without light mark; light markings on pronotum and on the abdomen as on figs 101, 130, 131; clypeus as on fig. 126. Middle Asia (probably Tadjikistan). ♂ unknown.....
 *Sapyga* (*Sapyga*) *glasunovi* MORAWITZ
- Anterior margin of pronotum faintly concave (fig. 102); mandibles partly yellow; mesonotum with light mark; light markings on pronotum and on the abdomen as on figs 102, 132-135; clypeus as on fig. 127. Greece, including Crete, Asia Minor, Transcaucasus
 *Sapyga* (*Sapyga*) *gussakovskii* KURZENKO
- 21 Mandibles partly light; antennal segment 10 clearly longer than wide (fig. 48)..... 22
- Mandibles entirely black; antennal segment 10 about as long as wide (figs 73, 74) 23

- 22 Light markings on the body ivory white; mesonotum, scutellum, postscutellum and propodeum without light marks; all of tibiae posteriorly black; light markings on pronotum and on the abdomen as on figs 49-51. Smaller (length 6,5-9,0 mm).....
..... *Sapyga (Sapyga) mutica* nov. sp.
- Light markings on the body pale yellow to bright yellow; mesonotum, scutellum, postscutellum and propodeum as a rule with light marks; all of tibiae posteriorly brownish orange or, more rarely, entirely yellow; light markings on pronotum and on the abdomen as on figs 103, 140, 141. Larger (length 12,0-14,0 mm).....
..... *Sapyga (Sapyga) gussakovskii* KURZENKO
- 23 Last antennal segment with sloping down apex (fig. 73); abdominal tergites 3-5 distinctly very dense punctuated; humeral angles rather right (fig. 104); mesopleurae and often postscutellum with light spots; eye emargination entirely yellow; light markings on the abdomen as on figs 142, 143.....
..... *Sapyga (Sapyga) pulcherrima* MORAWITZ
- Last antennal segment more or less regularly convex, its apex direct in straight line or slightly up (fig. 74); abdominal tergites 3-5 with faint rare punctures and weak transverse rugosity; humeral angles acute (fig. 105); mesopleurae and postscutellum without light spots; eye emargination partly black; light markings on the abdomen as on figs 144-151..... 24
- 24 Legs entirely black (fig. 152) or, usually, tibiae anteriorly with more or less developed light markings (figs 153, 154); light marks on the body usually almost white, rarely yellow; antennal flagellum above completely black; frons without light mark; abdominal sternite 2 usually totally black (fig. 145), sometimes with two white spots (fig. 147); light markings on the abdomen above as on figs. 144, 146.....
..... *Sapyga (Sapyga) quinquepunctata* (FABRICIUS)
- Legs in total not black, tibiae yellow with light brown, tarsi entirely brown (fig. 155); light markings on the body clearly yellow; antennal flagellum above partly yellowish orange; abdominal sternite 2 as a rule with yellow spots (figs 149, 151); light markings on the abdomen above as on figs 149, 151.....
..... *Sapyga (Sapyga) caucasica* RADOSZKOWSKI
- A. Frons often, temples and abdominal tergites 1 and 6 (fig. 148) as a rule with yellow spots; fore and mid femora usually with not large light spots anteriorly near the top, all of tibiae posteriorly slightly tinged with brownish orange.....
..... *Sapyga* (s. str.) *caucasica caucasica* RADOSZKOWSKI
- B. Frons, temples, abdominal tergites 1 and 6 (fig. 150) as rule without light spots; all of femora entirely black, tibiae posteriorly more extensively tinged with brownish orange or clean brown..... *Sapyga* (s. str.) *caucasica schevyrevi* MORAWITZ

Checklist of palaeartic genera and species of Sapygidae

Subfamily Fedtschenkiinae

Genus *Fedtschenkia* SAUSSURE 1880

Fedtschenkia SAUSSURE 1880: 13, Tab.I, figs 6, 7.

Type species: *Fedtschenkia grossa* SAUSSURE 1880 (by monotypy). *Cosilella* BANKS 1913, Bull.Amer.Mus.Nat.Hist. 32: 237 (subgenus)

Cosila [author, date ?]

Type species: *Cosila* (*Cosilella*) *plutonis* BANKS 1913 (= *Telephoromyia anthracina* ASHMEAD 1898) (original designation).

F. grossa SAUSSURE 1880: Turkey (Anatolia), East Iran, Middle Asia (Turkmenistan, Uzbekistan, Tadjikistan), West Pakistan.

Fedtschenkia grossa SAUSSURE 1880: 15, n.1, tab.I, figs 6, 7, ♀, ♂.

F. indigotea RADOSZKOWSKI 1886: Middle Asia (Turkmenistan).

Fedtschenkia indigotea RADOSZKOWSKI 1886: 45, tab.10, figs 46a,b, f, i, k, n, ♂.

F. libanoi GUIGLIA 1966: Middle East.

Fedtschenkia libanoi GUIGLIA 1966: 149, figs 1, 2; tab.I, 1, tab.II, 3; tab.III, 5, ♂.

F. palaestinensis GUIGLIA 1963: Middle East.

Fedtschenkia palaestinensis GUIGLIA 1963: 1, 4, figs 1-3, ♂.

Subfamily Sapyginae

Genus *Asmisapyga* nov. gen.

Type species: *Asmisapyga warnckei* nov. sp. (original designation).

A. warnckei nov. sp.: Turkey.

Genus *Monosapyga* PIC 1920

Monosapyga PIC 1920: 15 (subgenus of *Sapyga* LINNAEUS 1798).

Type species: *Sapyga theresae* PIC 1920 (original designation).

M. clavicornis LINNAEUS 1758: Europe, North Africa, Turkey, Caucasus.

Apis clavicornis LINNAEUS 1758: 574, [♂: DAY 1979].

Scolia prisma FABRICIUS 1787: 282, n.21, [♀: DALLA TORRE 1897].

♂ *Sapyga prisma* var. *ininterrupta* PIC 1920: 14.

♂ *Sapyga prisma* var. *triinterrupta* PIC 1920: 14.

M. theresae PIC 1920: West Europe.

Sapyga Theresae PIC 1920: 14.

Taxonomic status uncertain. It needs to confirm. Probably it is a synonyms of *Monosapyga clavicornis* (LINNAEUS 1758).

Genus *Polochridium* GUSSAKOVSKIJ 1933

Polochridium GUSAKOVSKIJ 1933 : 48, figs 18, 19.

Type species: *Polochridium eoum* GUSSAKOVSKIJ 1933 (original designation).

P. eoum GUSSAKOVSKIJ 1933: East Asia.

Polochridium eoum GUSSAKOVSKIJ 1933: 49, ♂.

Polochrum koreanum SUGIHARA et KIM 1936: 124, figs 1, 2, ♀.

Genus *Polochrum* SPINOLA 1805

Polochrum SPINOLA 1805 :7.

Type species: *Polochrum repandum* SPINOLA 1805 (by monotypy).

Dimorpha PANZER 1806 , Krit.Revis.II: 129.

Type species: *Dimorpha* ♂ *repandus* SPINOLA 1805 (by monotypy ♂).

Aclastocera FOERSTER 1855, Verh naturhist. Ver. preuss. Rheinl. u. Westphal.12: 247.

Type species: *Aclastocera frivaldskii* FOERSTER 1855 (= *Polochrum repandum* SPINOLA 1805) (by monotypy).

P. pamirepandum KURZENKO 1986: Middle Asia (Tadjikistan).

Polochrum pamirepandum KURZENKO 1986 : 70, figs 30, 31, 37, 40, ♂, ♀.

P. repandum SPINOLA 1805: South Europe, Caucasus.

Polochrum repandum SPINOLA 1805: 7, ♂, ♀.

Aclastocera frivaldskii FOERSTER 1855, Verh. naturhist. Ver. preuss. Rheinl. u. Westphal.12: 247.

Genus *Sapyga* LATREILLE 1796

Sapyga LATREILLE, 1796: 134.

Type species: *Scolia quinquepunctata* FABRICIUS 1781 (designated by LATREILLE 1803: 346).

Hellus FABRICIUS 1804: 246.

Type species: *Hellus 6-punctatus* FABRICIUS 1804 (= *Scolia quinquepunctata* FABRICIUS 1781) (designated by SHUCKARD 1837: 44).

Subgenus *Arthrosapyga* PIC 1920

Arthrosapyga PIC 1920 : 15 (subgenus of *Sapyga* LATREILLE 1796).

Type species: *Sapyga sancta* PIC 1920 (original designation).

***A. sancta* PIC 1920:** Middle East (Israel).

Sapyga sancta PIC 1920: 14.

Taxonomic status uncertain. It needs to confirm.

Subgenus *Polosapyga* nov. subgen.

Polosapyga nov. subgen.

Type species: *Sapyga (Polosapyga) singla* nov. sp. (original designation).

***P. singla* nov. sp.:** Turkey.

Subgenus *Rectosapyga* KURZENKO 1986

Rectosapyga KURZENKO 1986 : 72, 75, figs 5, 27, 58 (subgenus of *Sapyga* LATREILLE 1796).

Type species: *Sapyga (Rectosapyga) hissarica* KURZENKO 1986 (original designation).

***R. hissarica* KURZENKO 1986:** Middle Asia (Tadjikistan).

Sapyga (Rectosapyga) hissarica KURZENKO 1986: 72, 75, figs 5, 27, 42, 58, 59, ♀.

Subgenus *Sapyga* LATREILLE 1796

***S. buyssoni* PIC 1928:** North Africa (Algeria).

Sapyga buyssoni PIC 1928: 7.

Taxonomic status uncertain. It needs to confirm.

***S. caucasica caucasica* RADOSZKOWSKI 1880:** Iran, Transcaucasus.

Sapyga caucasica RADOSZKOWSKI 1880: 156, ♂.

***S. caucasica schevyrevi* MORAWITZ 1889:** Turkey, North Caucasus.

Sapyga schevyrevi MORAWITZ 1889: 545, ♀.

***S. coma* YASUMATSU et SUGIHARA 1938:** East Asia.

Sapyga coma YASUMATSU et SUGIHARA 1938: 76, figs A-D, ♀.

***S. diversiventris* PIC 1920:** North Africa (Algeria).

Sapyga diversiventris PIC 1920: 14.

Taxonomic status uncertain. It needs to confirm.

S. glasunovi MORAWITZ 1893: Middle Asia (probably Tadjikistan).

Sapyga glasunovi MORAWITZ 1893: 394, n.8, ♀.

S. gussakovskii KURZENKO 1986: Greece, Turkey, Transcaucasus.

Sapyga gussakovskii KURZENKO 1986: 73, 77, figs 43, 51, 52, 54, ♀.

S. luteomaculata PIC 1920: North Africa (Egypt).

Sapyga luteomaculata PIC 1920: 14.

Taxonomic status uncertain. It needs to confirm.

S. multinotata PIC 1920: Europe (France).

Sapyga multinotata PIC 1920: 14.

Taxonomic status uncertain. It needs to confirm.

S. mutica nov. sp.: Turkey.

S. pulcherrima MORAWITZ 1894: Turkey, Middle Asia (Turkmenistan, Uzbekistan).

Sapyga pulcherrima MORAWITZ 1894: 333, ♀.

S. quinquepunctata quinquepunctata (FABRICIUS 1781): Europe, Turkei, perhaps Caucasus, North Africa (Tunisia, 15 km SW Makthar, 21. 4. 1994, ♀, leg. J. Gusenleitner).

Scolia 5-punctata FABRICIUS 1781: 453, n.14, [♀: DALLA TORRE 1897].

Scolia quadriguttata FABRICIUS 1781: 454, n.15, [♀: DALLA TORRE 1897].

Sphex tricolor SCHRANK 1781: 383, n.776, ♀.

Sirex pacca FABRICIUS 1787: 258, n.15, [♀: DALLA TORRE 1897].

Scolia sexguttata FABRICIUS 1793: 235, n.30, [♂: DALLA TORRE 1897].

Sapyga punctata KLUG 1803, Monogr. Siric. German.: 61, n.1, T.7, figs 4-6, ♀, ♂.

Hellus sexpunctata FABRICIUS 1804: 246, n.1, [♀: DALLA TORRE, 1897].

Hellus quadripunctatus FABRICIUS 1804: 247, n.3, [♂: DALLA TORRE, 1897].

Sapyga punctum LAMARCK 1817, Hist. nat. anim. s. vert. IV: 108, n.1.

Sapyga varia LEPELETIER 1825, Encycl. method. Insect. X: 338, n.1, ♀.

Sapyga decipiens LEPELETIER 1825, Encycl. method. Insect. X: 338, n.2, ♂.

♂ *Sapyga quinquepunctata* var. *arvenica* PIC 1925: 12.

S. raddi KURZENKO 1986: Middle Asia (Uzbekistan, Tadjikistan).

Sapyga raddi KURZENKO 1986: 73, 78, figs 55, 56, ♀.

S. similis (FABRICIUS 1793): Europe, the Asian part of Russia to the east up to the Pacific ocean, Mongolia, North China.

Sirex similis FABRICIUS 1793: 129, n.18.

Sapyga variegata DAHLBOM 1844, Foerh. skandin. Naturf. 4. Mode: 228, 229, ♀.

Sapyga exornata GERSTAECKER 1861 : 313, ♂.

Sapyga pedestris GERSTAECKER 1861 : 312, ♀.

Sapyga rufipes A.COSTA 1864, Ann. Mus. zool. Napoli II (1862): 105, n.8, ♀.

S. gusenleitneri nov. sp.: Turkey

Genus *Sapygina* A.Costa 1887

Sapygina A.COSTA 1887: 111.

Type species: *Sapyga decemguttata* JURINE 1807 (by monotypy).

S. decemguttata (JURINE 1807): Europe.

Sapyga decemguttata JURINE 1807: 160, tab.9, Gen.13, ♀, ♂.

Meria millefolii LEPELETIER 1825, Encycl. method. Insect. X: 394, n.1, ♀.

Sapyga chelostomae ROBINEAU 1836, Ann. sci. nat. zool. (2) VI: 362.

Myzine Panzeri GUERIN 1837, Dict. pitt. hist. nat. V: 584, n.15.

Polochrum ♂ *cyndricum* SCHENK 1857, Jb. Ver. Naturk. Nassau XII: 278, ♀, ♂.

Sapygina nigra TOURNIER 1889, Entomol. Genev.II: 36, ♂.

S. maloasiatica nov. sp.: Turkey.

S. schwarzi nov. sp.: Turkey.

Species of uncertain positions

biguttata FABRICIUS 1787: Europe (Spain).

Scolia biguttata FABRICIUS 1787: 282, n.19.

Scolia octoguttata FABRICIUS 1793: 235, n.28 (error)

DALLA TORRE (1897) included this species in *Sapyga* LATREILLE 1798, but its real generic position and taxonomic rank uncertain. Perhaps it belongs to another family, not Sapygidae.

octoguttata DUFOUR 1849: Europe (Spain).

Sapyga octoguttata DUFOUR 1849 (nec FABRICIUS 1793), Ann. sci. nat. zool. (3) XI: 93, n.1, tab.5, figs 10-12, ♀.

Sapyga fiducaria DUFOUR 1849, Ann. sci. nat. zool. (3) XI: 93, n.2, tab.5, figs 11, 12, ♂.

GERSTAECKER (1861) and DALLA TORRE (1897) included this species in *Sapyga* LATREILLE 1796, but its real generic position and taxonomic rank uncertain.

Species withdrawn from Sapygidae

Meria nitidula KLUG 1810, treated by DALLA TORRE (1897) as synonyms of *Sapyga cylindrica* (FABRICIUS 1793), really is a good species of *Meria* ILLIGER 1807 (Tiphidae, Myzininae) (GORBATOVSKY 1981).

Scolia cylindrica FABRICIUS 1793, was included by DALLA TORRE (1897) in *Sapyga* LATREILLE 1796. Really it belongs to *Meria* ILLIGER 1807 (Tiphidae, Myzininae) (GORBATOVSKY 1981).

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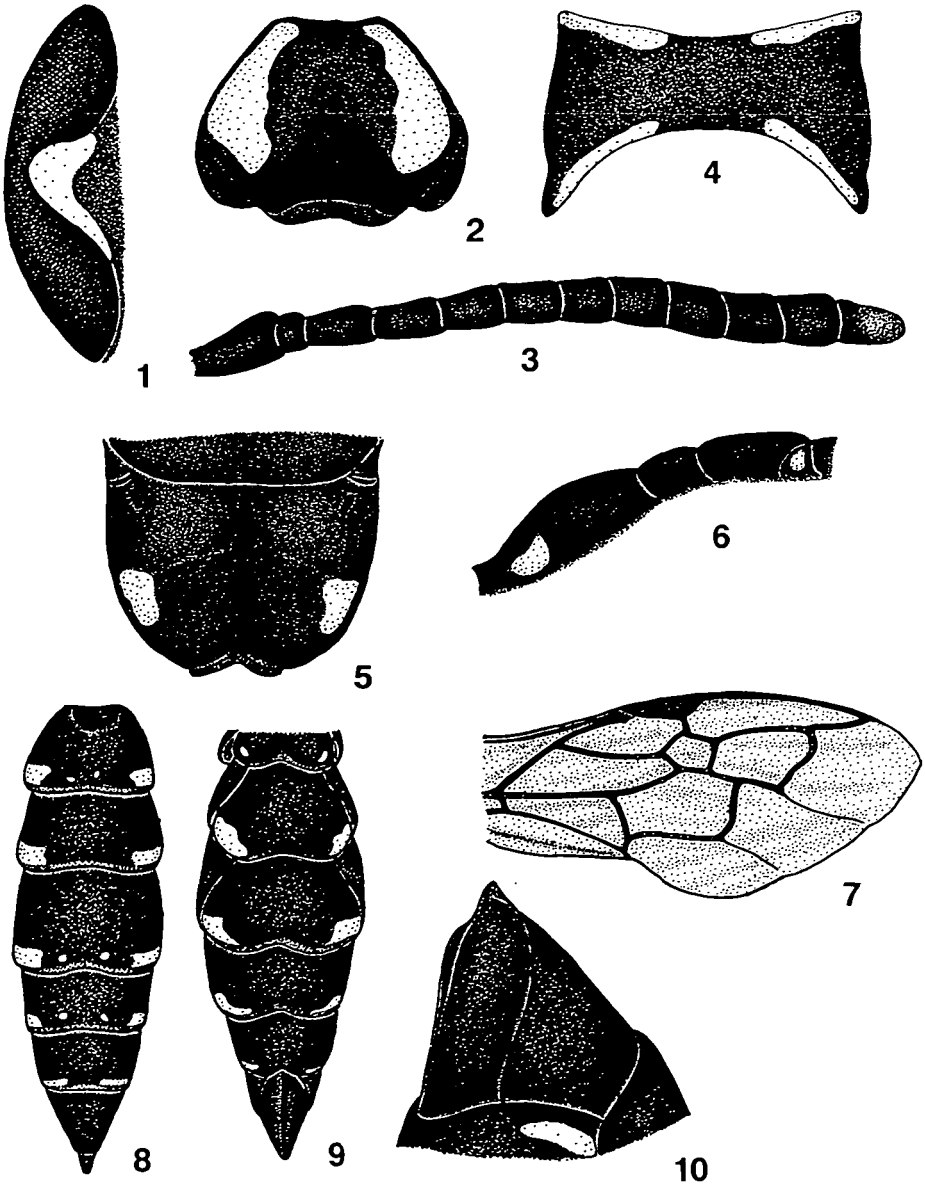
Zusammenfassung

In einer Liste werden die seit 1965 von verschiedenen Kollegen in der Türkei aufgesammelten Sapygiden angeführt und eine neue Gattung (*Asmisapyga* KURZENKO, nov. gen.), eine neue Untergattung der Gattung *Sapyga* LATR. (*Polosapyga* KURZENKO nov. subgen), sowie sechs neue Arten dieser

Familie (*Sapygina maloasiatica* KURZENKO nov. spec., *Sapygina schwarzi* KURZENKO nov. spec., *Asmisapyga warnckeii* KURZENKO nov. spec., *Sapyga singla* KURZENKO nov. spec., *Sapyga mutica* KURZENKO nov. spec. und *Sapyga gusenleitneri* KURZENKO nov. spec.) beschrieben. Anschließend findet sich ein Bestimmungsschlüssel für alle paläarktischen Gattungen und Arten der Sapygiden, ausgenommen der Fedtschenkiinae. Im Anhang wird eine Checkliste von allen bekannten paläarktischen Gattungen und Arten sowie eine Übersicht über die wichtigsten Veröffentlichungen, diese Familie betreffend, vorgestellt.

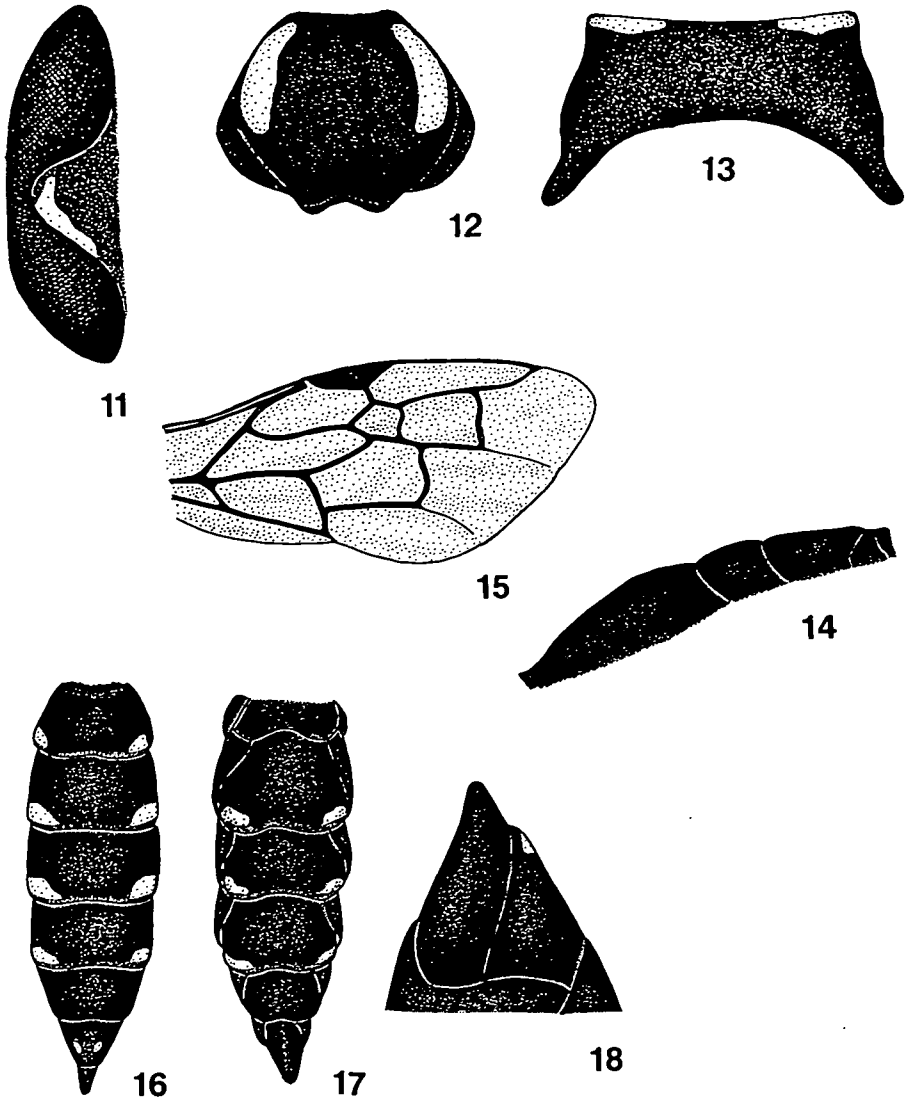
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Figs 1-10: *Sapygina maloasiatica* nov. sp., ♀ (holotype).

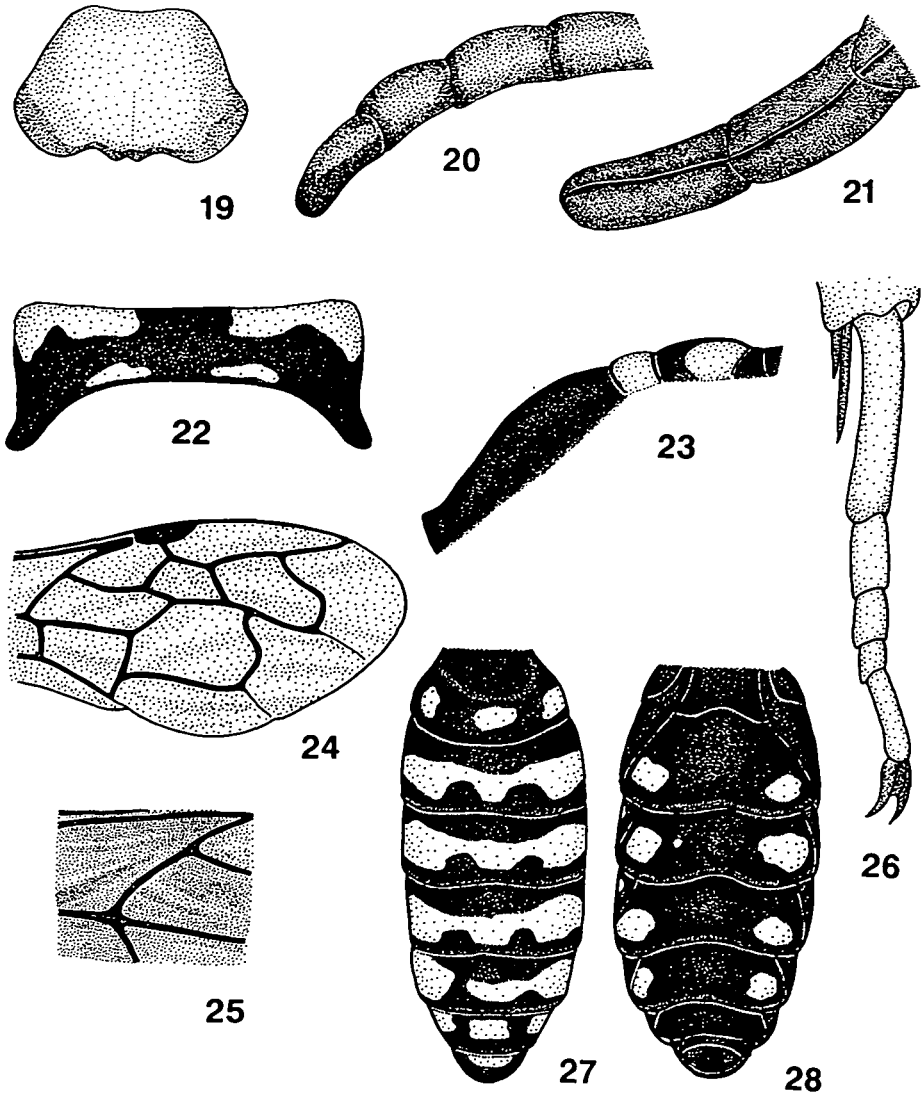
1: eye, frontal view; 2: clypeus; 3: antenna; 4: pronotum, dorsal view; 5: propodeum, dorsal view; 6: scutum, scutellum and propodeum, dorsal view; 7: fore wing; 8: abdomen, dorsal view; 9: abdomen, ventral view; 10: apex of abdomen, lateral view.



Figs 11-18: *Sapygina schwarzi* nov. sp., ♀ (holotype).

11: eye, dorsal view; 12: clypeus; 13: pronotum, dorsal view; 14: scutellum, postscutellum and propodeum, lateral view; 15: fore wing; 16: abdomen, dorsal view; 17: abdomen, ventral view; 18: apex of abdomen, lateral view.

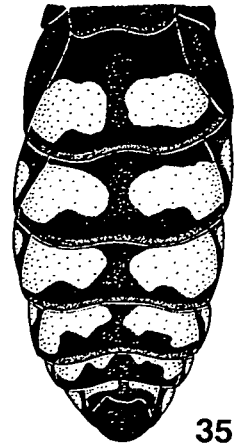
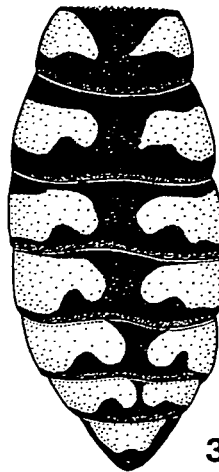
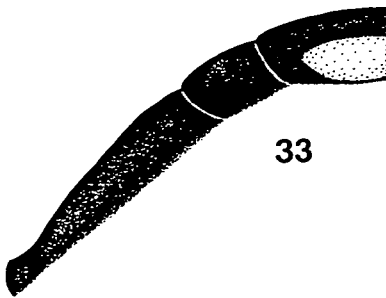
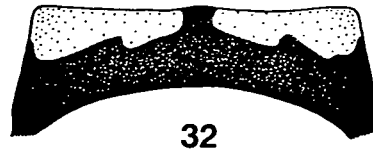
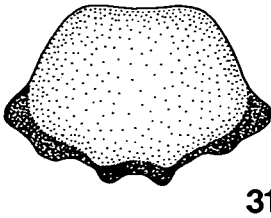
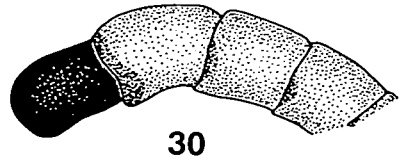
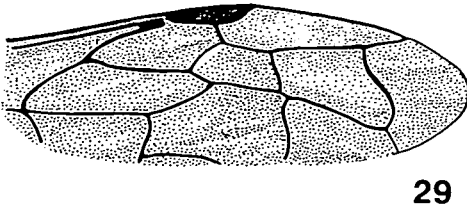
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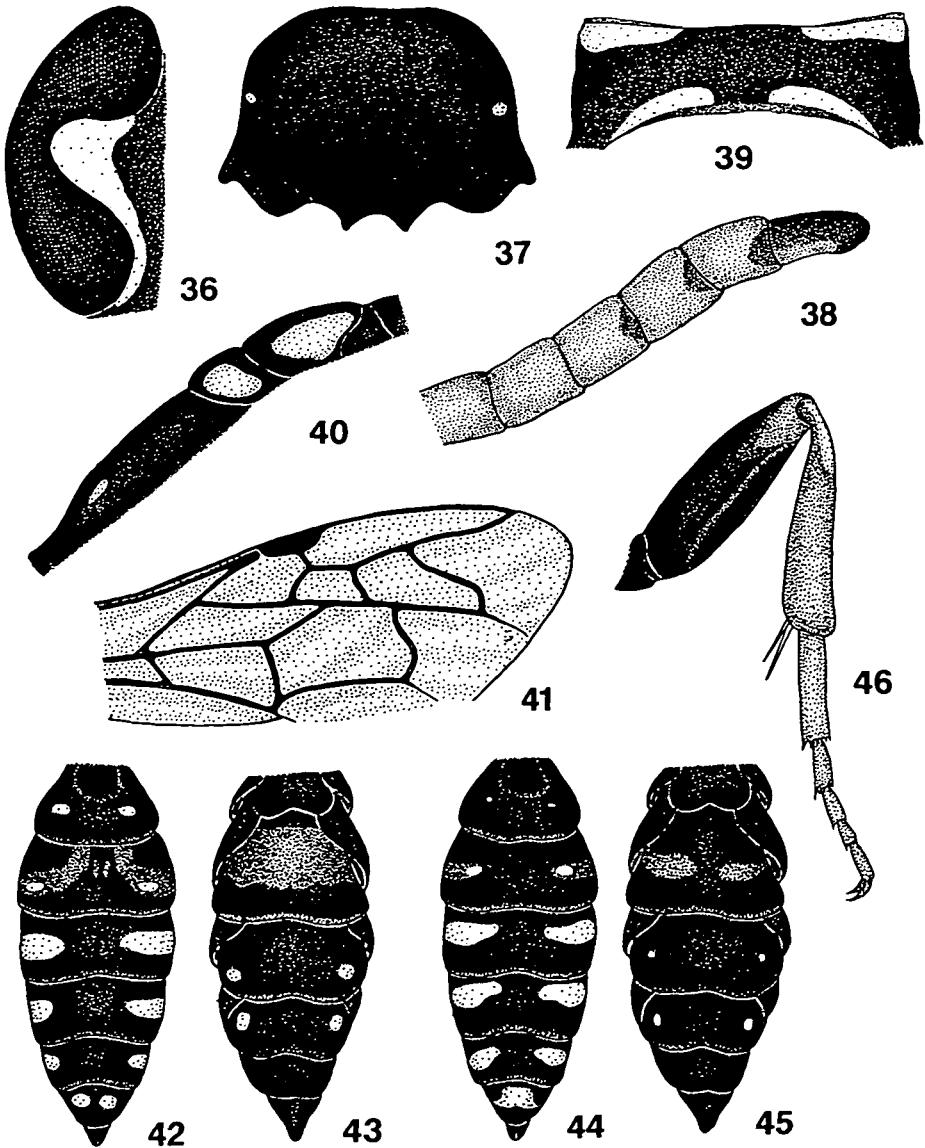
Figs 19-28: *Asmisapyga warnckei* nov. gen. et sp., ♂ (holotype: 19, 21, 24, 26-28; paratype: 20, 22, 23, 25).

19: clypeus; 20: apical antennal segments, lateral view; 21: apical antennal segments, dorsal view; 22: pronotum, dorsal view; 23: propodeum, lateral view; 24: fore wing; 25: part of fore wing; 26: mid tarsus; 27: abdomen, dorsal view; 28: abdomen, ventral view

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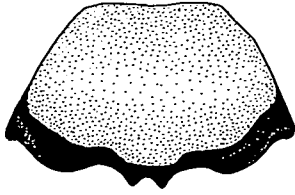
Figs 29-35: *Sapyga singla* nov.sp., ♂ (holotype). 29: fore wing; 30: apical antennal segments; 31: clypeus; 32: pronotum, dorsal view; 33: propodeum, lateral view; 34: abdomen, dorsal view; 35: abdomen, ventral view.



Figs 36-46: *Sapyga mutica* nov.sp., ♀ (holotype: 36-43; paratype: 44, 45).

36: eye, frontal view; 37: clypeus; 38: apical antennal segments; 39: pronotum, dorsal view; 40: propodeum, lateral view; 41: fore wing; 42: abdomen, dorsal view; 43: abdomen, ventral view; 44: abdomen, dorsal view; 45: abdomen, ventral view; 46: mid leg.

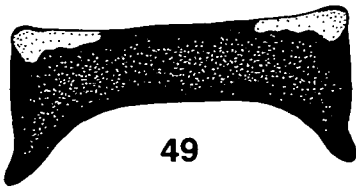
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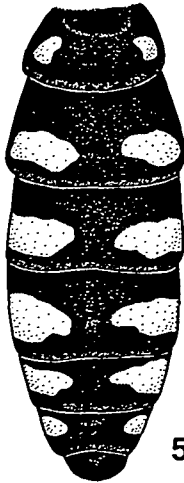
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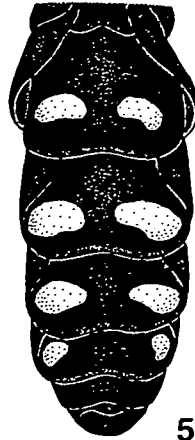
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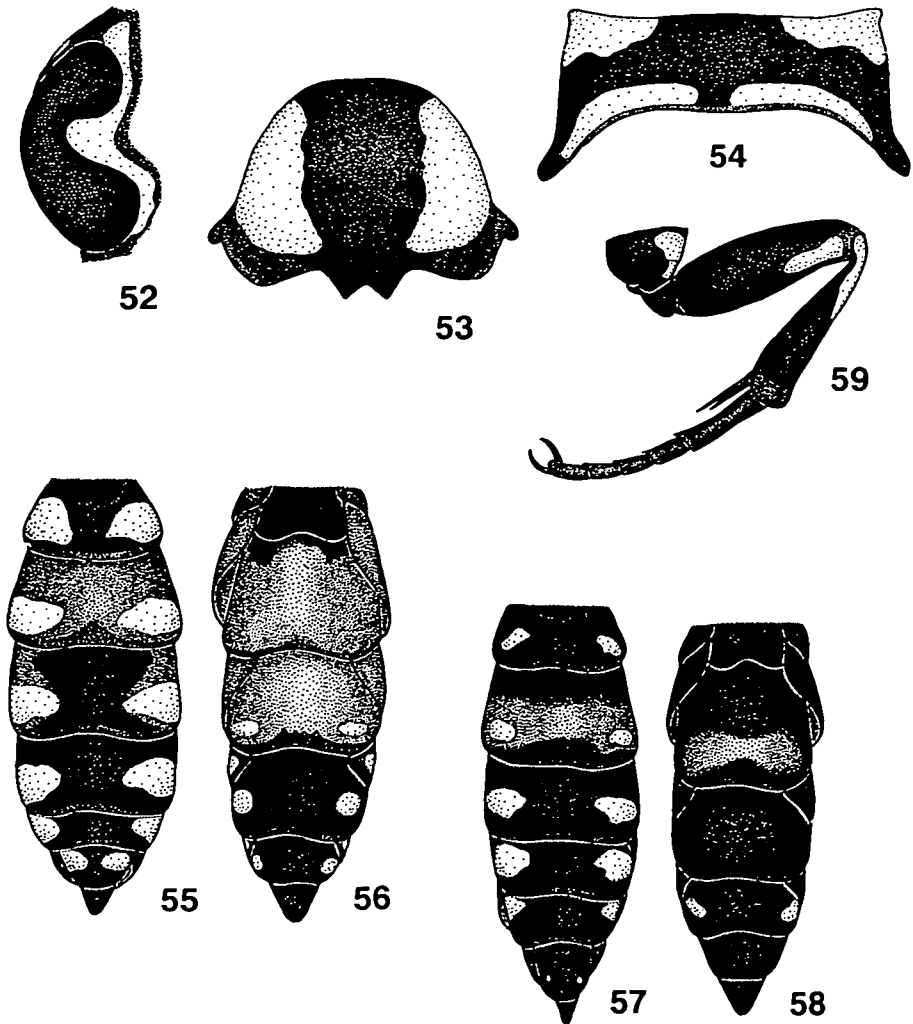
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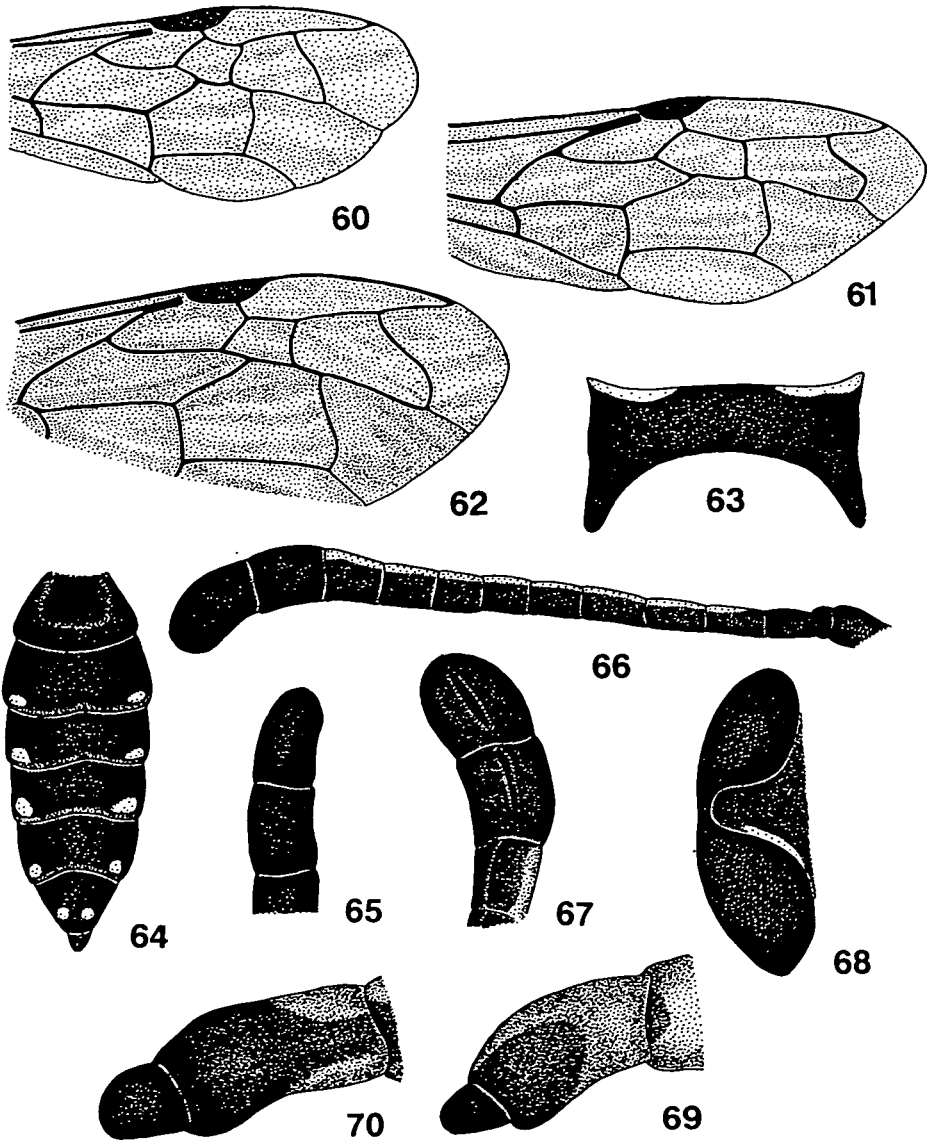
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Figs 47-51: *Sapyga mutica* nov.sp., ♂ (paratype).

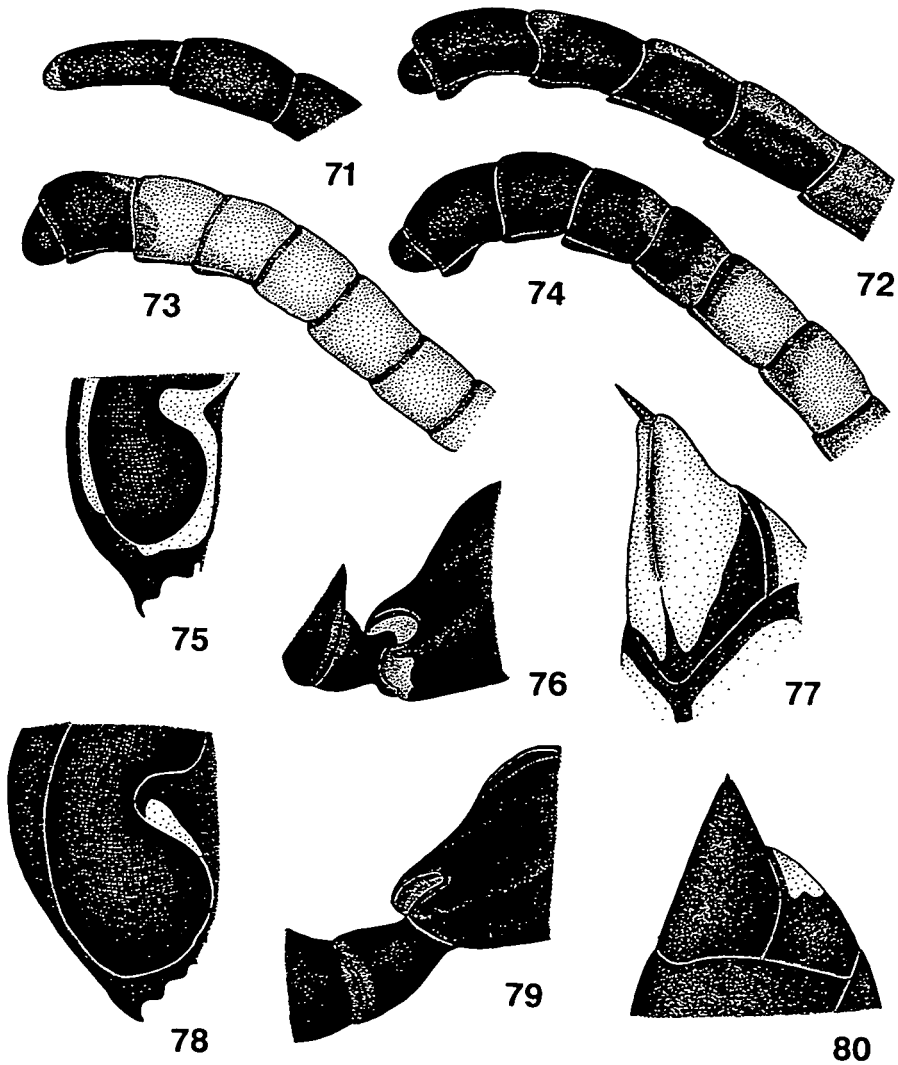
47: clypeus; 48: apical antennal segments; 49: pronotum, dorsal view; 50: abdomen, dorsal view; 51: abdomen, ventral view.



Figs 52-59: *Sapyga gusenleitneri* nov.sp., ♀ (holotype: 52-56, 59; paratype: 57, 58).
52: eye, frontal view; 53: clypeus; 54: pronotum, dorsal view; 55: abdomen, dorsal view; 56: abdomen, ventral view; 57: abdomen, dorsal view; 58: abdomen, ventral view; 59: mid leg.

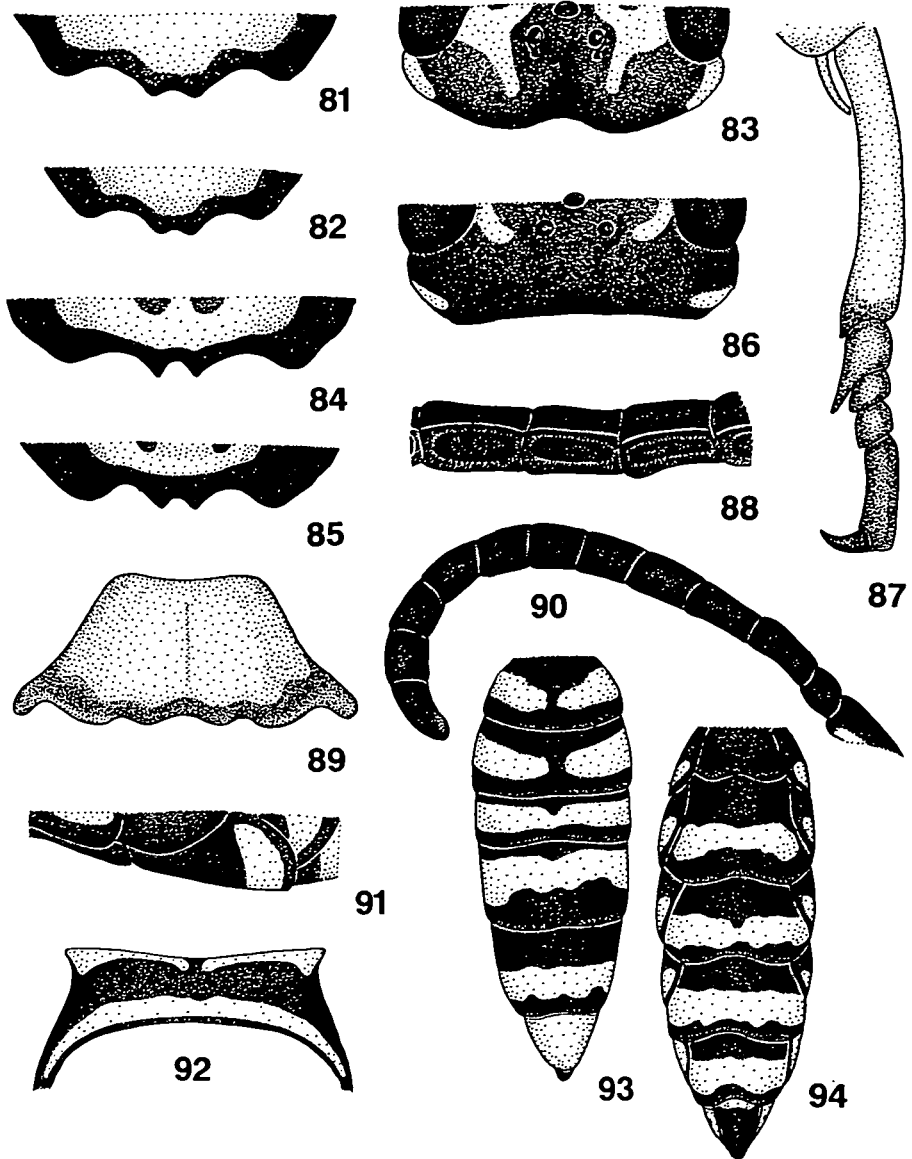


Figs 60-70: Figs 60, 66-68: *Monosapyga clavicornis* (LINNAEUS 1758) (60: fore wing; 66: antenna, ♂; 67: apical antennal segments, ventral view, ♂; 68: eye, frontal view, ♀): Figs 61, 70: *Polochrum repandum* SPINOLA 1805 (61: fore wing; 70: apical antennal segments, ♂). Fig. 62: *Sapyga hissarica* KURZENKO 1986, fore wing. Figs 63-65: *Sapygina decemguttata* (JURINE 1807) (63: pronotum, dorsal view, ♀; 64: abdomen, dorsal view, ♀; 65: apical antennal segments, ♂). Fig. 69: *Polochrum pamirepandum* KURZENKO 1986, apical antennal segments, ♂ (holotype).

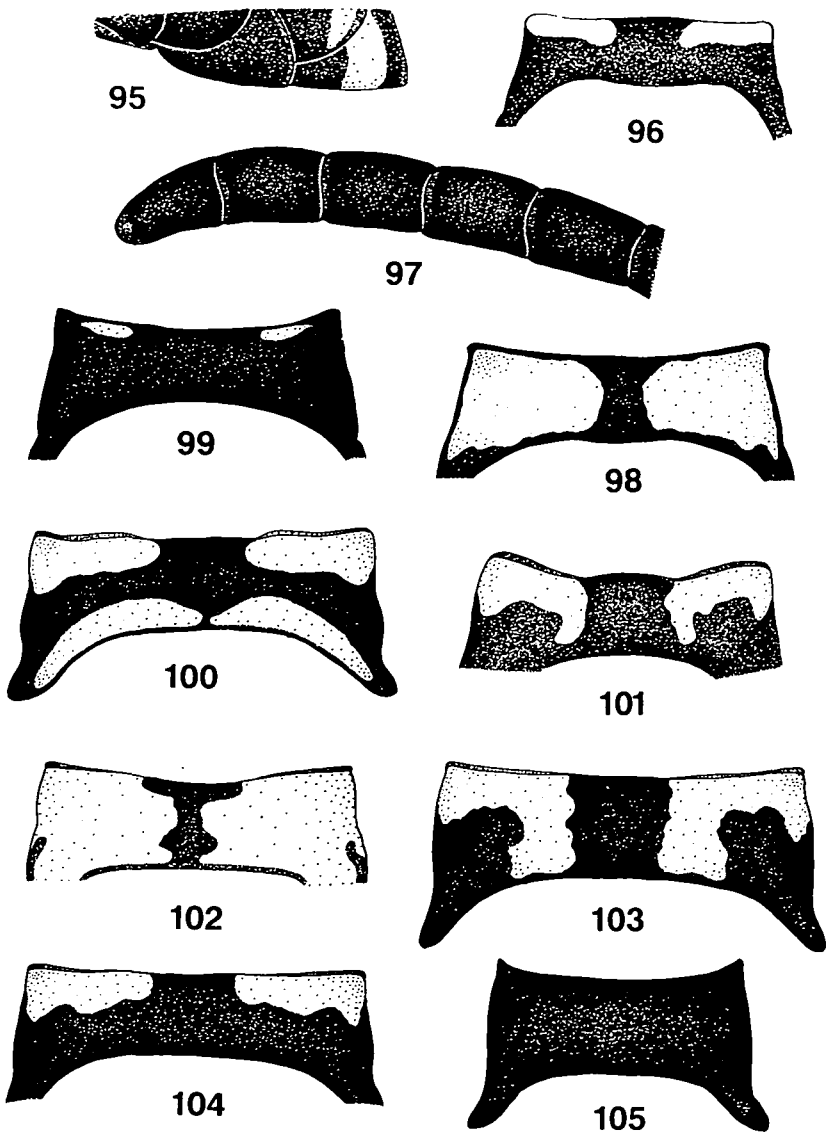


Figs 71-80: Fig. 71: *Polochridium eoum* GUSSAKOVSKIJ 1933, apical antennal segments, ♂. Figs 72, 79: *Sapyga coma* YASUMATSU et SUGIHARA 1938 (72: apical antennal segments, ♂; 79: hind coxa, ♀). Fig. 73: *Sapyga pulcherrima* MORAWITZ 1894, apical antennal segments, ♂. Fig. 74: *Sapyga caucasica* RADOSZKOWSKI 1880, apical antennal segments, ♂. Figs 75-77: *Polochrum repandum* SPINOLA 1805, ♀ (75: malar space; 76: hind coxa; 77: apical abdominal sternite). Figs 78, 80: *Sapyga quinquepunctata* (FABRICIUS 1781), ♀ (78: malar spece; 80: apical abdominal sternite).

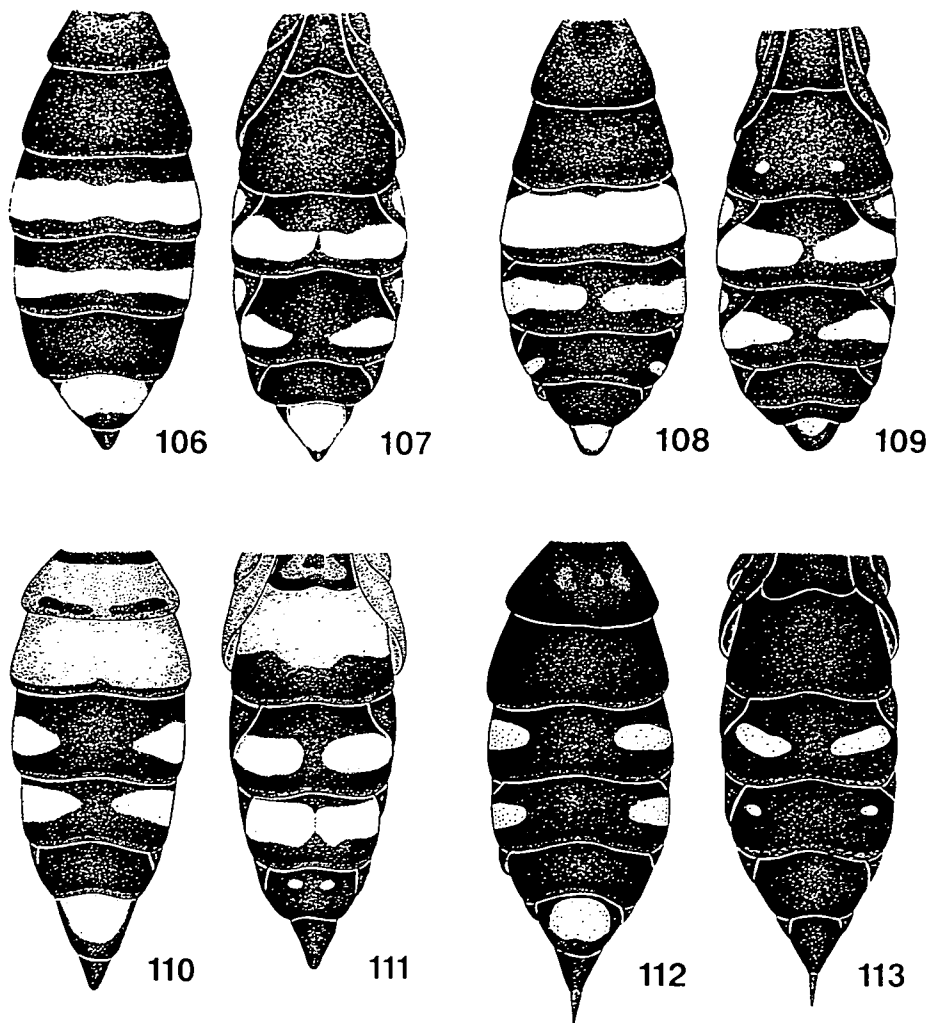
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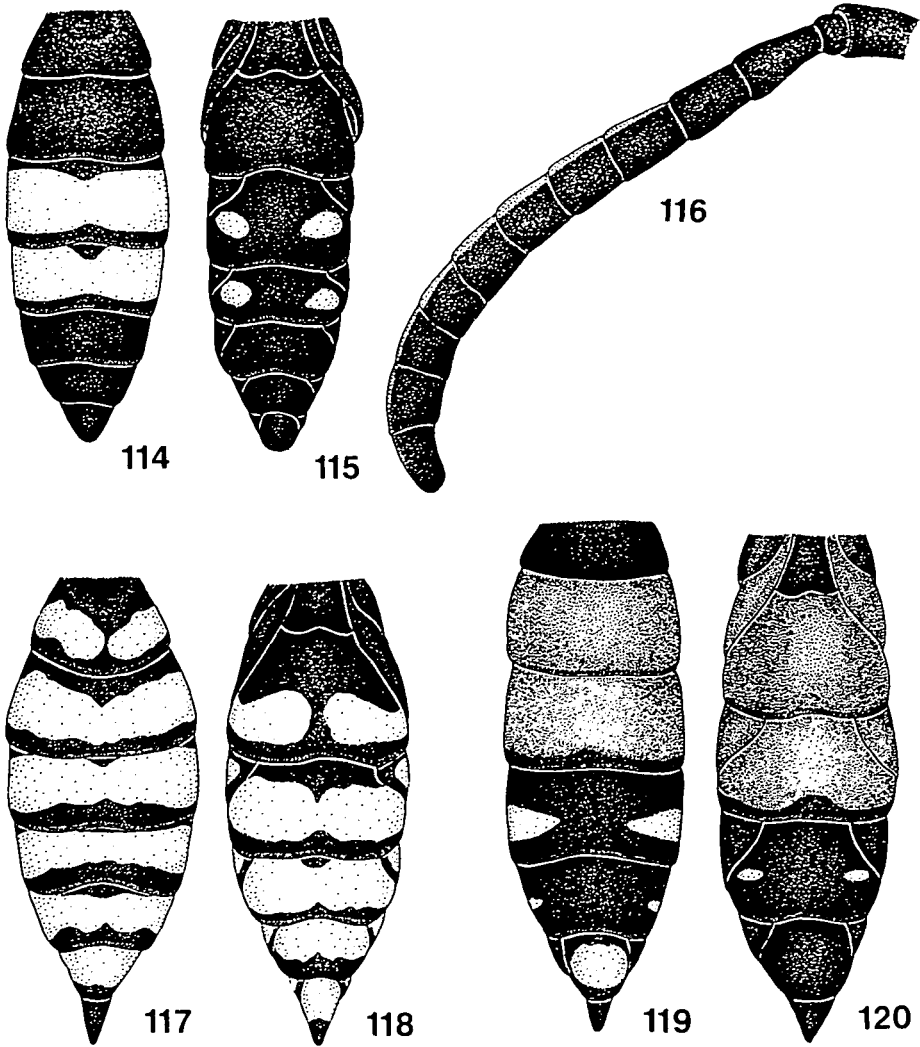
Figs 81-94: Figs 81-83: *Polochrum pamirepandum* KURZENKO 1986 (holotype: 82; paratype: 81, 83) (81: anterior margin of clypeus, ♀; 82: anterior margin of clypeus, ♂; 83: occiput, dorsal view, ♀). Figs 84-86: *Polochrum repandum* SPINOLA 1805 (84: anterior margin of clypeus, ♀; 85: anterior margin of clypeus, ♂; 86: occiput, dorsal view, ♀). Figs 87-90: *Polochridium eoum* GUSSAKOVSKIJ 1933 (87: mid tarsus, ♂; 88: mid antennal segments, ventral view; 89: clypeus, ♂; 90: antenna, ♀). Figs 91-94: *Sapyga hissarica* KURZENKO 1986, ♀ (holotype: 91, 93, 94; paratype: 92) (91: abdominal sternite 2, lateral view; 92: pronotum, dorsal view; 93: abdomen, dorsal view; 94: abdomen, ventral view).



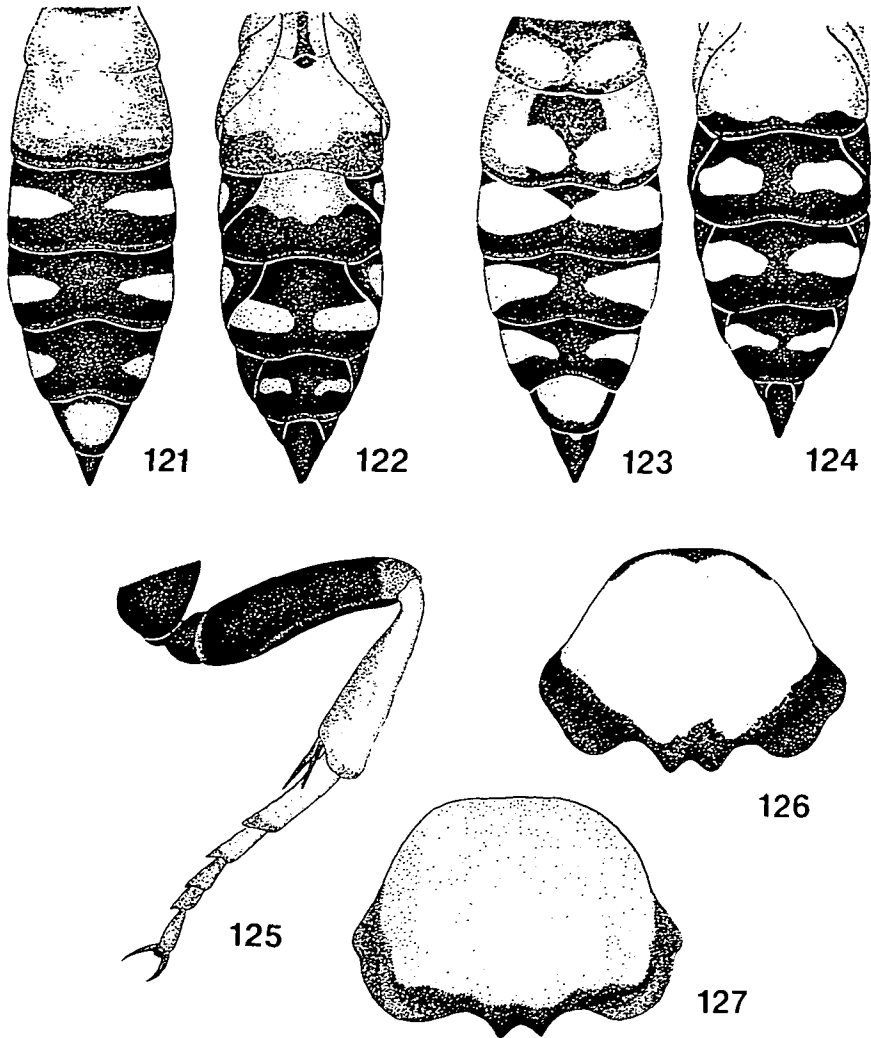
Figs 95-103: Figs 95-97: *Sapyga coma* YASUMATSU et SUGIHARA 1938, ♀ (95: abdominal sternite 2, lateral view; 96: pronotum, dorsal view; 97: antennal apical segments). Fig. 98: *Sapyga raddi* KURZENKO 1986, pronotum, dorsal view, ♀ (holotype). Figs 99, 105: *Sapyga quinquepunctata* (FABRICIUS 1781) (99: pronotum, dorsal view, ♀ (paralectotype); 105: pronotum, dorsal view, ♂). Figs 100, 104: *Sapyga pulcherrima* MORAWITZ 1894 (100: pronotum, dorsal view, ♀ (paralectotype); 104: pronotum, dorsal view, ♂). Fig. 101: *Sapyga glasunovi* MORAWITZ 1893, pronotum, dorsal view, ♀ (holotype). Figs 102, 103: *Sapyga gussakovskii* KURZENKO 1986 (102: pronotum, dorsal view, ♀ (holotype); 103: pronotum, dorsal view, ♂).



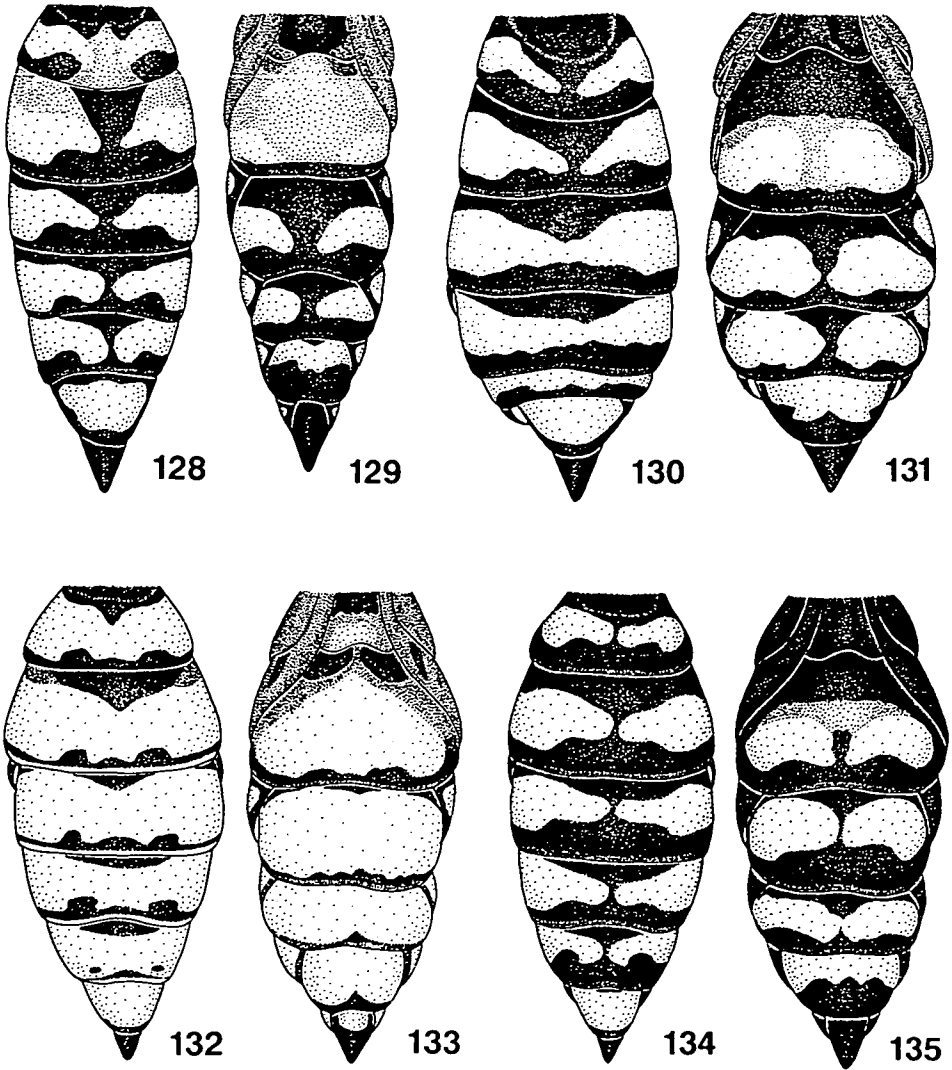
Figs 106-113. Figs 106-109: *Sapyga coma* YASUMATSU et SUGIHARA 1938 (106: abdomen, dorsal view, ♀; 107: abdomen, ventral view, ♀; 108: abdomen, dorsal view, ♂; 109: abdomen, ventral view, ♂). Figs 110-113: *Sapyga similis* (FABRICIUS 1793), ♀ (110: abdomen, dorsal view (light form); 111: abdomen, ventral view (light form); 112: abdomen, dorsal view (dark form); 113: abdomen, ventral view (dark form)).



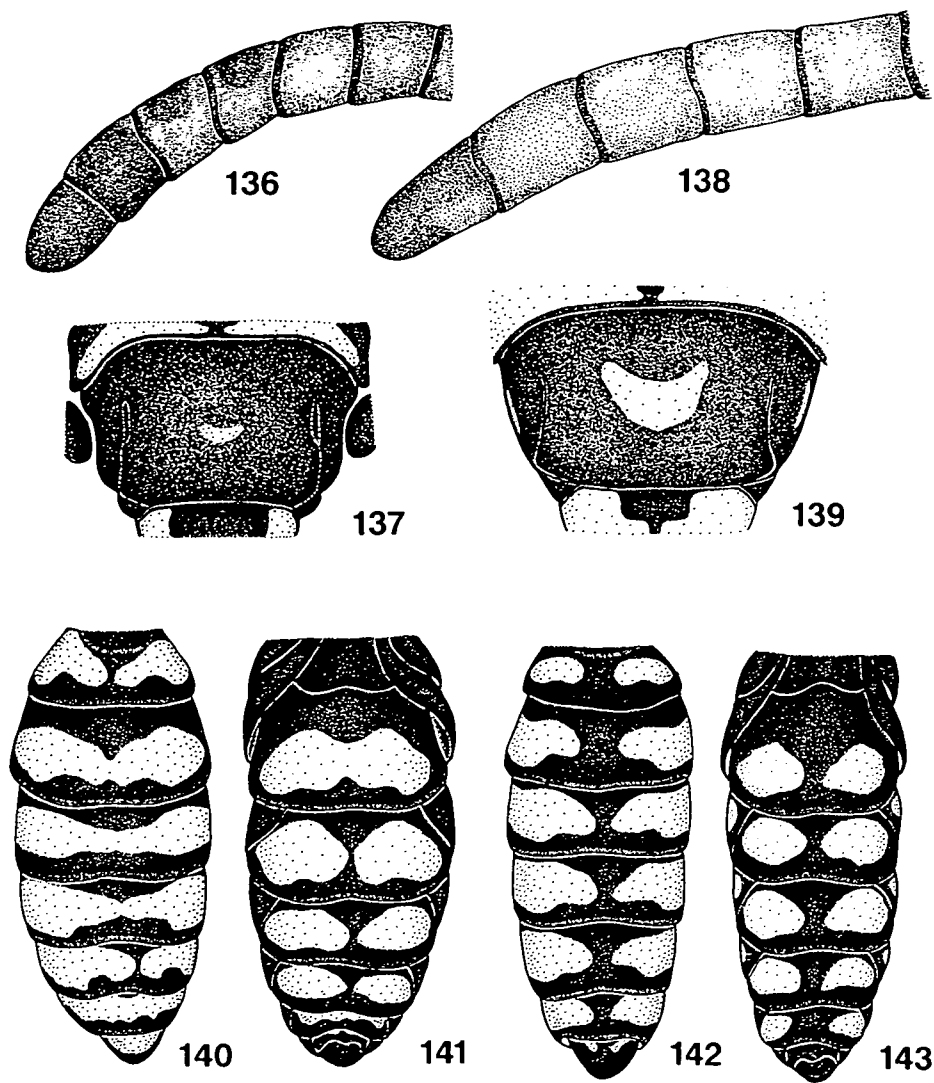
Figs 114-120: Figs 114-115: *Sapyga similis* (FABRICIUS 1793), ♂ (114: abdomen, dorsal view; 115: abdomen, ventral view) Figs 116, 119, 120: *Sapyga quinquepunctata* (FABRICIUS 1781), ♀ (116: antenna; 119: abdomen, dorsal view; 120: abdomen, ventral view). Figs 117, 118: *Sapyga raddi* KURZHENKO 1986, ♀ (paratype) (117: abdomen, dorsal view; 118: abdomen, ventral view).



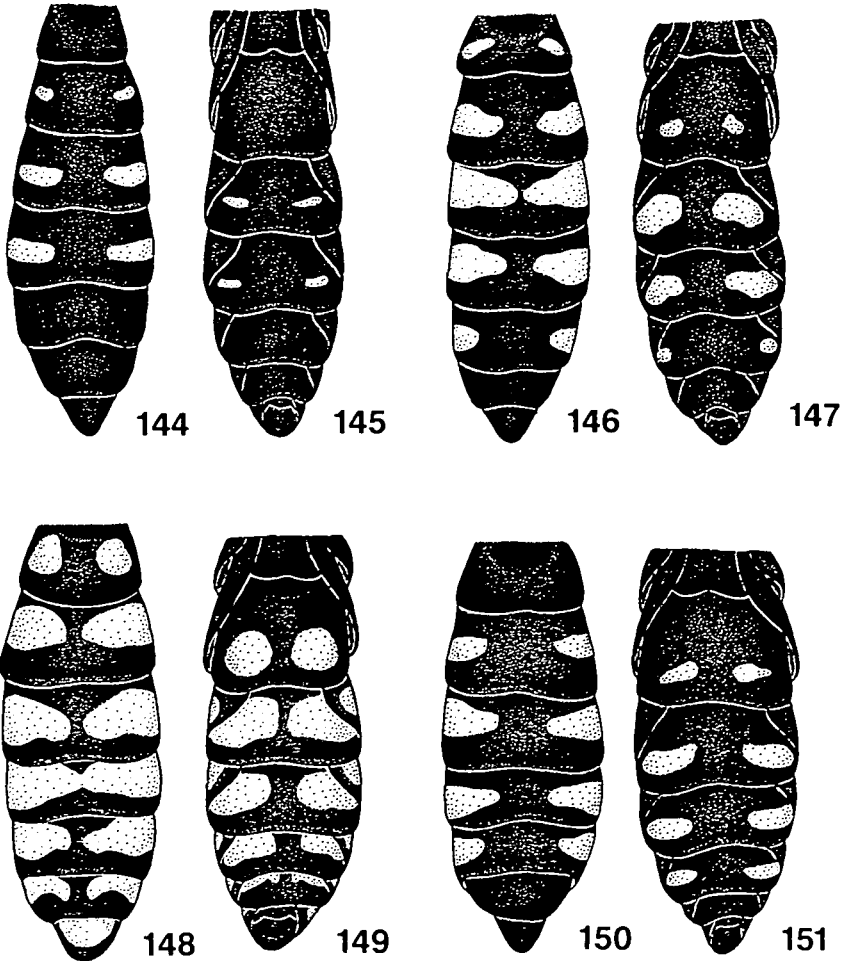
Figs 121-127: Figs 121, 122: *Sapyga caucasica schevyrevi* MORAWITZ 1889, ♀ (121. abdomen, dorsal view; 122: abdomen, ventral view). Figs 123, 124: *Sapyga caucasica caucasica* RADOSZKOWSKI 1880, ♀ (123: abdomen, dorsal view; 124: abdomen, ventral view). Fig.125: *Sapyga pulcherrima* MORAWITZ 1894, mid leg, ♀. Fig. 126: *Sapyga glasunovi* MORAWITZ 1893, clypeus, ♀ (holotype). Fig. 127: *Sapyga gussakovskii* KURZENKO 1986, clypeus, ♀.



Figs 128-135: Figs 128, 129: *Sapyga pulcherrima* MORAWITZ 1894, ♀ (paralectotype) (128: abdomen, dorsal view; 129: abdomen, ventral view). Figs 130, 131: *Sapyga glasunovi* MORAWITZ 1893, ♀ (holotype) (130: abdomen, dorsal view; 131: abdomen, ventral view). Figs 132-135: *Sapyga gussakovskii* KURZENKO 1986, ♀ (132: abdomen, dorsal view (light form); 133: abdomen, ventral view (light form); 134: abdomen, dorsal view (dark form); 135: abdomen, ventral view (dark form)).

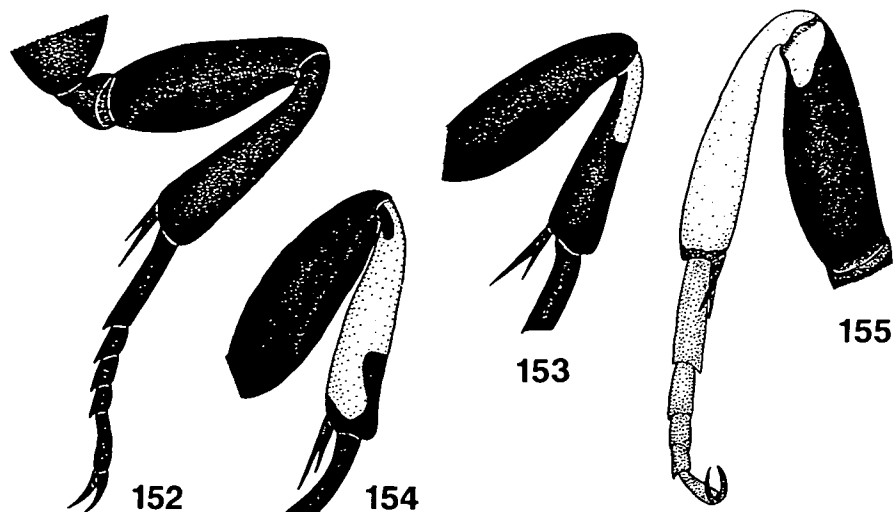


Figs 136-143: Figs 136, 137, 142, 143: *Sapyga pulcherrima* MORAWITZ 1894 (136: apical antennal segments, ♀; 137: mesonotum, ♀; 142: abdomen, dorsal view, ♂; 143: abdomen, ventral view, ♂). Figs 138-141: *Sapyga gussakovskii* KURZENKO 1986 (holotype: 138, 139) (138: apical antennal segments, ♀; 139: mesonotum, ♀; 140: abdomen, dorsal view, ♂; 141: abdomen, ventral view, ♂).



Figs 144-151: Figs 144-147: *Sapyga quinquepunctata* (FABRICIUS 1781), ♂ (144: abdomen, dorsal view (dark form); 145: abdomen, ventral view (dark form); 146: abdomen, dorsal view (light form); 147: abdomen, ventral view (light form)). Figs 148, 149: *Sapyga caucasica caucasica* RADOSZKOWSKI 1880, ♂ (148: abdomen, dorsal view; 149: abdomen, ventral view). Figs 150, 151: *Sapyga caucasica schevyrevi* MORAWITZ 1889, ♂ (150: abdomen, dorsal view; 151: abdomen, ventral view).

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Figs 152-155: Figs 152-154: *Sapyga quinquepunctata* (FABRICIUS 1781), ♂; 152: mid leg (dark form); 153: mid femur and tarsus (intermediate form); 154: mid femur and tarsus (light form). Fig. 155: *Sapyga caucasica schevyrevi* MORAWITZ 1889, mid leg, ♂.



Fig. 156

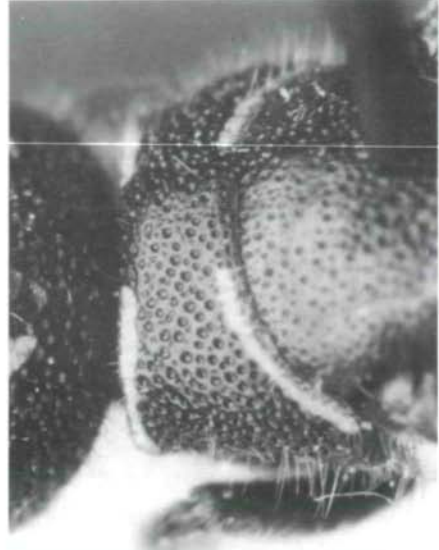


Fig. 157



Fig. 158

Figs. 156-158: *Sapygina maloasiatica* KURZ. nov. spec. ♀. Punctuations - 156: Clypeus 157: Pronotum 158: Mesonotum



Fig. 159



Fig. 160



Fig. 161

Figs. 159-161: *Sapygina schwarzi* KURZ. nov. spec. ♀. Punctuations - 159: Clypeus; 160: Pronotum; 161: Mesonotum



Fig. 162

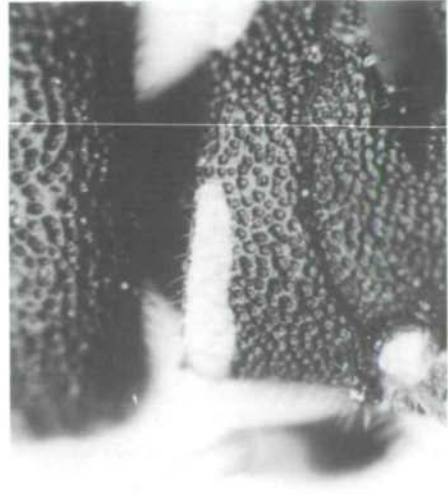


Fig. 163



Fig. 164

Figs. 162-164: *Asmisapyga warnckei* KURZ. nov. spec. ♂. Punctuations - 162. Clypeus, 163. Pronotum, 164. Mesonotum



Fig. 165

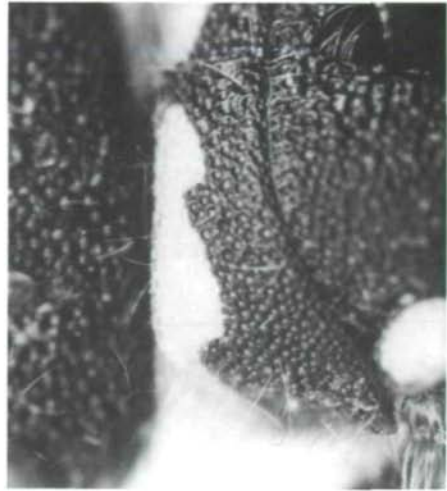


Fig. 166



Fig. 167

Figs. 165-167: *Sapyga singla* KURZ. nov. spec. ♂. Punctuations - 165: Clypeus, 166: Pronotum; 167: Mesonotum



Fig. 168



Fig. 169



Fig. 170

Figs. 168-170: *Sapyga mutica* KURZ. nov. spec. ♀. Punctuations - 168: Clypeus; 169: Pronotum, 170: Mesonotum



Fig. 171

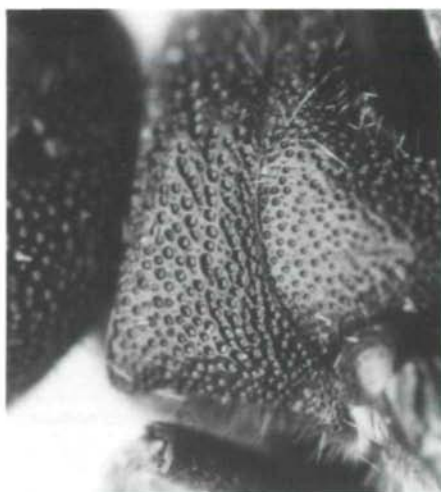


Fig. 172



Fig. 173

Figs. 171-173: *Sapyga quinquepunctata* (F.) ♀. Punctuations - 171: Clypeus; 172: Pronotum, 173: Mesonotum



Fig. 174

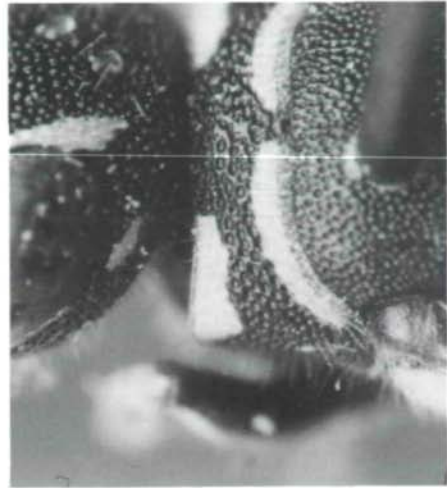


Fig. 175



Fig. 176

Figs. 174-176: *Sapyga gusenleitneri* KURZ. nov. spec. ♀. Punctuations - 174: Clypeus, 175: Pronotum, 176: Mesonotum