

New Lauxaniid Flies (Diptera, Lauxaniidae) from the Amur River Region and the Far East*

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Abstract. The following new species are described: *Noetomima aberrans*, *N. fulgens*, *Sapromyza carinatula*, *Minettia gemmata*, *M. gemina*, *M. tenebrica*, *M. eoa*, *M. kunashirica*, and *Homoneura fulgida*. Notes are given on *Noetomina radiata* Enderlein, with a figure of a wing, and a figure of the ♂ genitalia of *Minettia longipennis* Fabr. is given.

Lauxaniidae are small flies with peculiar appearance, predominantly yellow in color. They occur in great numbers in the grass and on leaves of shrubs. Data on their species composition in our country are fragmentary. Below I present results of examination of materials collected at different times in the Amur River region and in the Far East. Holotypes of new species are preserved in the collection of the Zoological Museum of Moscow State University (ZMM) and some of the paratypes are preserved in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIS).

Noetomima Enderlein

Noetomima is known by 4 species described from China (*N. radiata* Enderlein, 1937), Nepal (*N. nepalensis* Stuckenberg, 1971), Thailand (*N. thaiensis* Sasakawa, 1987), and Australia (*N. parva* Stuckenberg, 1971). These species are characterized by a unique pattern on the wing resembling that of species of *Noeeta* R. D., for which the name of the genus was made. The similarity with *Noeeta* is traced particularly in the system of dark, narrow rays arranged fan-wise in the apical part of the wing.

In our country the genus has not been previously recorded. Among Far Eastern collections of lauxaniids I found three species of *Noetomima*, two of which appeared to be new species. Below I give their descriptions and also data on localities of collections of *N. radiata*.

Noetomima aberrans Shatalkin, sp. n.

Material. Holotype ♀, Kurile Islands, Kunashir Island, near Mendeleev volcano, 6.VII.1985 (Churkin). Paratypes: 5 ♀s, same locality, 28.VI-29.VII.1985 (Churkin).

Description. ♀. Head yellowish brown. Frons in posterior half dark gray, anteriorly yellowish; a pair of narrow brown stripes extending from base of antennae to ocellar triangle, at first parallel to each other, then turning laterally toward *vti* and terminating before touching them. Frons at sites of connection with almost black dot-like spots, two on each side of frons, sometimes fusing to form second pair of stripes. Face with weak brown spot above mouth and darkened area below antennae.

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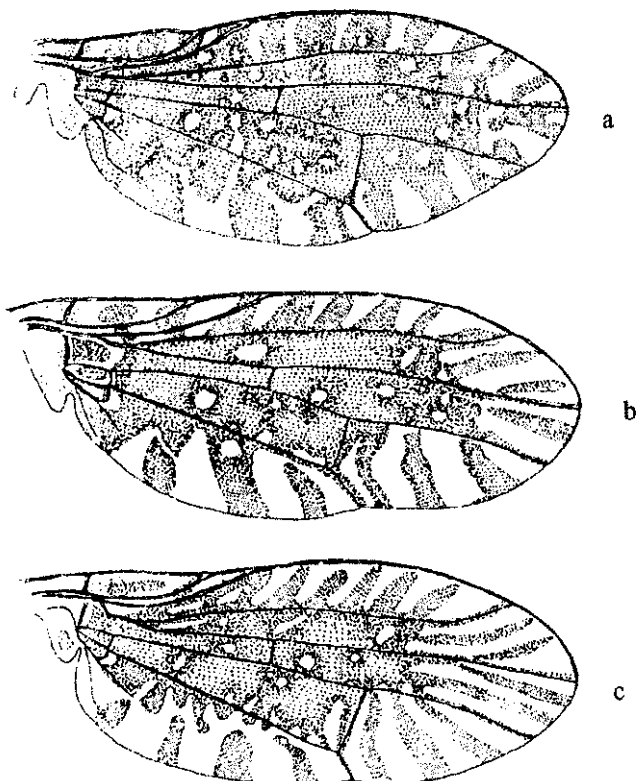


Fig. 1. Wings. a) *Noeetomima aberrans* sp. n.; b) *N. fulgens*; and c) *N. radiata* End.

Genae with three pairs of brown spots, one spot between base of antennae and eyes, another pair of spots slightly below, and the third pair of spots between margins of mouth and eyes. Occiput and genae (except narrow area near eyes) dark gray. Antennae brownish yellow, basal segments grayish. Third segment of antennae 1.3 times as long as wide. Arista dark-brown, its feathering smaller than its dilated basal part. Frons slightly protruding forward causing height and width of frons to be equal. Eyes rounded. Genae slightly smaller than $1/3$ of height of eyes. Proboscis yellowish; palpi brown, turning darker toward apex.

Thorax densely gray microtomentose, with distinct brown spots: 1) spots around base of each large seta, spots around anterior *dc* and *acr* not differing in size from corresponding spots of posterior setae; 2) a pair of narrow stripes on pronotum extending posteriorly to anterior *acr* and also appearing between 2nd and 3rd *acr*; 3) pair of wide, but short stripes extending from posterior *dc* and *acr* to scutellum; 4) pair of rows of spots laterad of *dc*; 5) stripe extending along notopleura interrupted before base of wings; 6) fringing around humeral calli and bases of wings; 7) mesopleura with wide (sometimes divided in two) spot in upper half and with smaller spot in lower part; 8) sternopleura brownish with parallel pair of gray stripes on upper margin and slightly below; pteropleura below of wings brownish, ventrally gray, hypopleura brownish. Scutellum gray, with pair of large (sometimes fusing at apex) brownish spots. Metanotum dark brown with distinct shine. Legs yellow: forefemora in

basal 1/3 brownish; midfemora and hindfemora, except apices, brownish black; hindtibia, slightly away from base, with brownish diffused ring. Wings with characteristic brown pattern as in Fig. 1a. Halteres with yellow stem and brownish black knob. Abdomen black-brown, with small contrasty gray spots (from 4 to 8) along posterior margin of tergites.

Chaetotaxy: 1 *h*, 1 *ph* and 2 *npl*, *ia* absent; 1 + 3 *dc*, *ac* in two rows, stout, of comparable size with *dc* and with each other (comparing anterior and posterior ones). Presutural *dc* and *acr* actually at one level. Sides of thorax with 1 *ppl* and 2 *mspl*, one of near posterior margin and directed posteriorly, the other medial and directed downward; two *stpl* setae, anterior seta distinctly weaker; scutellum with two pairs of marginal setae.

Body length 2.9 mm (paratypes 2.5-3.1 mm).

♂ unknown.

Comparison. In pattern of wing (absence of system of rays diverging fanwise from middle darkened to apex of wing) the new species sharply differs from all other species of the genus. Differences in color of legs, pronotum, and scutellum also present, which will be discussed in descriptions of the two other species.

Noetomima fulgens Shatalkin, sp. n.

Material. Holotype ♂, Kurile Islands, Kunashir Island, near Mendeleev volcano, 17.VII.1985 (Churkin). Paratype ♀, same locality, vicinity of Golovnin volcano, 26.VII.1973 (Kerzhner).

Description. ♂. Frons gray microtomentose, in anterior 1/3 yellowish brown, with system of brown spots repeating pattern in preceding species. Occiput and genae, except narrow stripe around eyes gray microtomentose. Face and genae yellow. Face with brownish stripe near mouth extending as pair of spots onto genae; under antennae weak darkened areas extending onto cheeks, there becoming a pair of spots between base of antennae and eyes. Antennae brown, basal segments darker, gray. Arista dark brown, plumosity shorter than width of dilated basal part. Frons slightly narrowing anteriorly, width at level of ocellar triangle 1.4 times height. Genae slightly less than 1/3 of height of eyes. Proboscis yellow, palpi dark brown.

Thorax densely gray microtomentose with system of brown spots as in preceding species; differences as follows. Spots at base of presutural *dc* very small; pair of narrow middle stripes on mesonotum not developed beyond suture; only 2 spots laterad of *dc* present, before suture at level of anterior *dc*, and beyond suture at level of second pair of *dv* setae. Mesopleura brown, with gray stripe extending from anterior upper corner to lower posterior corner. Sternopleura gray, with large brownish spot in anterior part, also with narrow brownish stripe surrounding bases of stenopleural setae. Scutellum with wide brown margins, slightly shining in posterior view; disc densely, gray microtomentose. Metanotum dark brown, very shiny. Legs yellow; midtibia and hindtibia in basal 3/4 black; forefemora in basal 3/4 darkened, but only dorsally and laterally; tibia with dark ring in basal 1/3. Wings with characteristic dark brown pattern as in Fig. 1b. Halteres with yellow stem and brownish black knob. Abdomen dark brown, with small contrasty gray spots on posterior margin of tergites.

Chaetotaxy: prescutellar *dc* shifted anteriorly of presutural *acr*; Otherwise not differing from preceding species.

Body length 2.0 mm.

♀ not differing from ♂. Body length 1.9 mm.

Comparison. In pattern of wing close to *N. radiata*, from which it differs in details of pattern (relatively shorter of rays, in number and arrangement are different). *N. radiata* characterized also by completely shiny scutellum, yellow forelegs, midfemora and hindfemora darkened only in basal halves.

Noetomima radiata Enderlein

Material. 3 ♂s, Khabarovsk Terr., Khekhtsir, 1-4.VII.1983 (Kasparyan); 1 ♂, Maritime Terr., Chernyatino, on Seifun River, 20.VII.1963 (Narchuk); 1 ♂, Maritime Terr., Ussury Distr., Kamenushka, 29.V.1989 (Shatalkin).

The species was described from one ♂ caught in Manchuria. It differs from all species known to me in shiny black scutellum as well as in rays of apical part of wing characterized by maximal length (Fig. 1c), and presutural *dc* and *acr* at common level (unlike preceding species). There are other differences, particularly in color of legs (femora less darkened) and number and position of spots on mesonotum.

Sapromyza Fallén

Among over 50 species living in E Palearctic only 15 species were recorded, mostly Transpalearctic forms. Below I describe a new species from the Amur River region.

Sapromyza carinatula Shatalkin, sp. n.

Material. Holotype ♂, Amur Prov., vicinity of Zeya (Zeya Reserve), 16.VI.1982 (Krivosheina). Paratypes: 2 ♀s, same locality, 16.VI.1982 (Krivosheina and Ozerov).

Description. ♂. Head yellow. Frons dark gray, narrowly yellow only in anterior part. Face slightly concave in area of antennae, with small medial carina dividing latter; latter darker than basic yellow color, in one case (paratype) distinctly dark gray. Face and cheeks yellow, posteriorly to cheeks yellowish, densely gray microtomentose, and occiput dark gray. Basal segments of antennae dark gray, 3rd segment in dorsal half brownish-gray, in lower half yellowish, length 1.3 times width. Arista dark brown with microscopic hairs. Frons slightly convex, 1.3 times as wide as high. Face relatively low, height along middle line 1.7 times distance along line of lateral oral margins. Height of head 1.4 times as length. Genae 1/5 height of eyes; height of eyes 1.4 times length. Proboscis and palpi brownish.

Thorax black and densely gray microtomentose. Legs yellowish brown, with distinctly darker femora. Wings infumate, very darkened on anterior margin. Halteres with yellowish stem and dark brown knob. Abdomen black and gray microtomentose. Genitalia very large, 2.8 times as long as abdomen. Epandrium massive, with two black shiny spots on sides contrasting with gray microtomentose areas.

Chaetotaxy: 1 *h*, 1 *ph* and 2 *npl*, *ia* absent; 3 *dc* setae beyond suture, *acr* setae in 4 rows, propleura bare, weak *ppl* present, 1 *mspl* and 2 *stpl*, anterior one less developed. Hindtibia with preapical seta.

Body length 2.5 mm.

♀. Not differing from ♂. Body length 2.3-2.5 mm.

Comparison. *S. carinatula* sp. n. differs well among all known Palearctic species. In black body color; it is close to species of the subgenus *Schumannimyia* Papp, all 4 species of which, however, have black head, flat face without characteristic longitudinal carina and clear wings.

Minettia Robineau-Desvoidy

Minettia includes more than 40 Palearctic species. In the Far East only 6 species are recorded: Transholarctic *M. longipennis* F. and *M. lupulina* F., Transpalearctic *M. helvola* Beck., Far Eastern *M. helva* Czerny (Middle Amur River region and S Maritime Terr), *M. nigriventris* Czerny (S Maritime Terr.) and *M. punctata* Saskawa (Kurile Islands). I add to this checklist 5 new species, which are described below. Among these species, the first one stands apart among all Palearctic forms, two species described next are close to *M. helvola* and close forms, and the species described last are certainly associated with *M. longipennis*.

Minettia gemmata Shatalkin sp. n.

Material. Holotype ♀, Maritime Terr., Ussuri Distr., Kamenushka, 24.VI.1984 (Shatalkin).

Description. ♀. Frons and occiput reddish yellow. Ocellar triangle and orbital plates dark gray; occiput with a pair of dark gray stripes extending from vertexal setae to occipital opening. Face yellow with black central spot slightly above mouth. Prelabrum brown. Basal setae of antennae black; 3rd segment yellowish orange, twice as long as wide. Arista dark, brownish yellow in basal 1/3 and with microscopic hairs. Eyes with sparse microscopic hairs. Head round, 1.1 times as high as long. Eyes rounded. Height of genae 2/5 height of eyes. Proboscis brown, palpi yellow. Thorax gray, scutellum at apex, between apical setae yellowish. Legs yellow. Wings yellowish, with yellowish veins. Halteres lemon yellow. Abdomen gray, with diffuse yellowish bands on anterior margin of tergites. Chaetotaxy: 1 *h*, 1 *ph* and 2 *npl*, *ia* present; 3 *dc* setae beyond suture, *acr* setae in 6 rows, 1 *ppl*, 1 *mspl*, 2 *stpl* setae have almost equal length. Body length 3.1 mm.

♂ unknown.

Comparison. Large black spot on face distinguishes the new species among Palearctic representatives of the genus. A similar spot is present only in some American species, particularly in *M. evittata* Mall. from Panama. However, this and other American species differ well from new species in the color and several structural characters of the exoskeleton.

Minettia gemina Shatalkin, sp. n.

Material. Holotype ♂, Maritime Terr., Ussuri Distr., Kamenushka, 24.VI.1984 (Shatalkin). Paratypes: 14 ♂s, 14 ♀s, same locality, 13.VIII-20.IX.1987 (Shatalkin); 1 ♂, 5 ♀s, same locality, 26-31.VIII.1983 (Shatalkin); 2 ♂s, same locality, 15.VII.1984 (Shatalkin); 2 ♂s, Maritime Terr., Kievka (Lazovsky Reserve), 3.IX.1980 (Shatalkin).

Description. ♂. Frons dark gray, yellowish on anterior margin, with reddish brown diffused transverse stripe surrounding space between anterior and posterior orbital setae. Face dark gray, genae and cheeks yellowish brown; on cheeks between base of antennae and eyes with weak dark gray spot. Antennae yellowish, 3rd segment slightly darkened on upper margin. 1.6 times as long as wide. Arista in basal dilated part yellow, above black; plumosity slightly shorter than half width of 3rd antennal segment. Height of head 1.3 times length; genae 1/8 height of eyes, height of eyes 1.5 times length. Proboscis and palpi black-brown. Thorax brownish gray; anterior margin of mesonotum, including

calli, brownish yellow; sides of thorax brownish, sternopleura and posterior part of mesopleura gray. Femora dark, with brownish shine. Tibia in basal 1/3 yellowish, above dark brown. Tarsi brownish yellow. Wings yellowish, with yellow veins. Halteres light yellow. Abdomen along medial line brownish yellow, toward lateral margins of tergites becoming darker, actually black-brown; toward end of abdomen yellow color also disappearing completely and corresponding tergites becoming dark gray. Genitalia as in Fig. 2a. Chaetotaxy as in preceding species, but *acr* setae in 4 rows and of 2 *stpl* setae, anterior seta distinctly weaker than posterior seta. Body length 4.1 mm (in paratype length 3.8-4.2 mm).

♀ not differing from ♂.

The systematic position of *M. gemina* sp. n. will be discussed together with the following species.

Minetia tenebrica Shatalkin sp. n.

Material. Holotype ♂, Maritime Terr., Ussuri Distr., Kamenushka, 15.IX.1987 (Shatalkin). Paratypes: 14 ♂s, 19 ♀s, same locality, 4-18.IX.1987 (Shatalkin); 1 ♂, Maritime Terr., Kievka (Lazovsky Reserve), 6.IX.1980 (Shatalkin).

Description. ♂. Frons dark gray with bronze sheen on anterior and weaker on posterior margins and also relatively wide brownish stripe extending from base of antennae to ocellar triangle (in part of paratypes anterior part of frons and area limited by orbital plates and ocellar triangle yellowish brown). Antennae yellowish brown, 3rd segment oval, 1.7 times as long as wide, on upper margin dark gray. Arista dark, plumosity equal to slightly longer than width of dilated basal part. Height of head 1.5 times length. Genae 1/4 height of eyes, height of eyes 1.2 times length. Proboscis and palpi dark gray. Thorax dark gray, almost black; in good light distinct bronze sheen is visible. Legs black, tibia in basal 1/3 with brownish cast, tarsi yellowish brown. Genitalia as in Fig. 2b. Chaetotaxy as in the preceding species, but *acr* setae in 6 rows. Body length 3.7 mm (in paratypes 3.3-3.8 mm).

♀ not differ from ♂.

Comparison. *M. gemina* sp. n. and *M. tenebrica* sp. n. are close species differing from each other in peculiar structure of genitalia, with arista plumose in one case and bare in the other case, and rows of *acr* setae. The first species also differs from the second one in greater proportion of yellow-brown color. In this it shows definite similarity with *M. helvola* and *M. divaricata* Sasakawa, 1985 (Japan), which 2 latter species (validity of the second species is very questionable) are characterized by very strong bronzy sheen and by presence of accessory (second) pair of long prescutellar *acr*. They differ from *M. gemina* in the structure of genitalia.

In color *M. tenebrica* can be confused with some species close to *M. longipennis* (subgenus *Frendelia* Coll.). However, the latter species differ in bicolored halteres (yellow stem and black knob).

Minetia eoa Shatalkin, sp. n.

Material. Holotype ♂, Maritime Terr., Ussuri Distr., Kamenushka, 6.VIII.1987 (Shatalkin). Paratypes: 2 ♂s, same locality, 6 and 10.VIII.1987 (Shatalkin); 1 ♂, same locality, 20.VI.1984 (Shatalkin); 1 ♂, same locality 4.VI.1989 (Shatalkin).

Description. ♂. Head black and dark gray microtomentose. Frons above antennae yellowish, cheeks light gray microtomentose. Antennae brown, their 3rd segment relatively extended, twice as

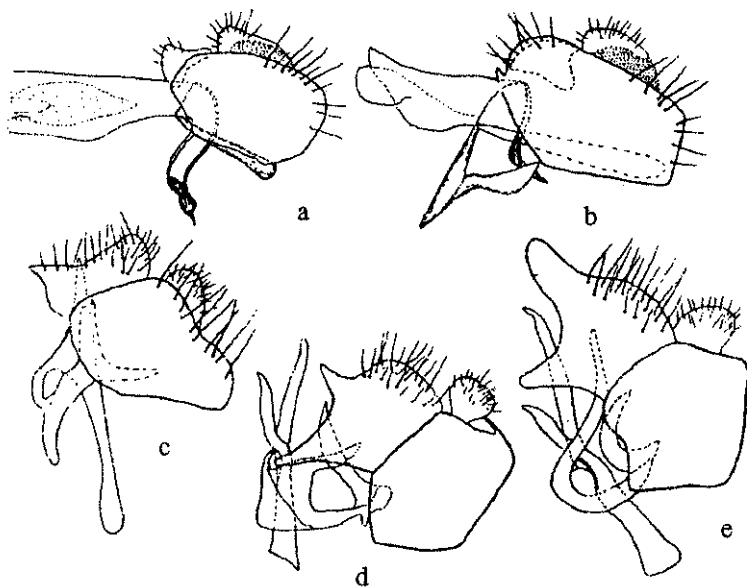


Fig. 2. Genitalia (in lateral view): a) *Minettia gemina* sp. n.; b) *M. tenebrica* sp. n.; c) *M. eoa* sp. n.; d) *M. kunashirica* sp. n.; e) *M. longipennis*.

long as wide. Arista dark brown, plumosity equal to or slightly longer than half width of 3rd antennal segment. Height of eyes 1.5 times length. Cheeks low, 1/7 height of eyes. Proboscis dark brown. Palpi black. Thorax black, with 3 weak grayish stripes on mesonotum, two lateral ones on line connecting *dc* setae. Scutellum black, grayish microtomentose on disc. Legs black; foretarsi brown, midtarsi and hindtarsi yellowish brown. Wings yellowish, at most only slightly darkened at base; veins yellow. Halteres with yellowish stem and dark brown knob. Abdomen black. Genitalia as in Fig. 2c. Chaetotaxy as in the preceding species, *acr* setae in 4 rows. Hindtibia with preapical seta. Body length 3.1 mm (in paratypes 2.8-3.3 mm).

♀ unknown.

Comparison. In the habitus the new species is very similar to *M. longipennis*, but smaller and with undeveloped grainlike swellings in lower part of face; bases of wings of *M. longipennis*, unlike in *M. eoa*, are darkened. Within the subgenus *Frendelia*, *M. eoa* sp. n. is closest to the Japanese species *M. acuminata* Sasakawa, which is larger and has different structure of genitalia (see Sasakawa, 1985).

Minettia kunashirica Shatalkin, sp. n.

Material. Holotype ♂, Kurile Islands, near Mendeleev volcano, 17.VII.1985 (Churkin). Paratypes: 4 ♀s, same locality, 21.VI-17.VII.1985 (Churkin).

Description. ♂. In the habitus differing little from *M. longipennis*. Head black, dark gray microtomentose. Frons above antennae brownish. Cheeks lightly microtomentose, dark spot between bases of antennae and eyes present. Antennae brown, their 3rd segment almost twice as long as wide. Arista dark brown, plumosity distinctly shorter than width of 3rd antennal segment. Calliform swell-

ings in lower part of face weakly developed. Proboscis dark brown and palpi black. Thorax black, mesonotum with 3 diffuse grayish stripes (as in the preceding species); scutellum black and grayish microtomentose on disc. Legs black, midtarsi and hindtarsi yellowish brown. Wings yellowish, slightly darkened at base and with yellow veins. Halteres with whitish stem and black knob. Abdomen black, with weak sheen and insignificantly dark gray microtomentose. Genitalia as in Fig. 2d. Chaetotaxy as in the preceding species; *acr* setae in 6 rows; hindtibia with preapical seta. Body length 3.9 mm.

♀ not differing from ♂. Body length 3.8-4.1 mm.

Comparison. This species is close to *M. longipennis*, from which it differs in the structure of surstyli. In both species bilobate, in *M. longipennis* (Fig. 2e) inner lobes (corresponding to cerci) greatly developed, whereas in *M. kunashirica* sp. n. on the contrary, outer lobes more developed. Among external characters distinguishing the new species, hairs on the arista are less developed and swellings in the lower part of the face are less outlined. It should be emphasized that among Far Eastern *M. longipennis* specimens with well developed preapical seta on hindtibia occur. Siberian and European *M. longipennis* do not have this seta.

Homoneura Van der Wulp

The genus includes 70 Palearctic species, among which more than 50 species live in the Far East and in adjacent countries. Color of most species yellow; only 2 species recently described from Japan (Sasakawa and Ikeuchi, 1985) have black body. The third species of this group, collected by me in S Maritime Terr. is described below. Yellow species in my material are represented by many new species from various localities and will be considered in a separate paper.

Homoneura fulgida Shatalkin, sp. n.

Material. Holotype ♀, Maritime Terr., Ussuri Distr., Kamenushka, 31.VII.1983 (Shatalkin). Paratype ♀, same locality, 13.VI.1984 (Shatalkin).

Description. ♀. Head yellow. Ocellar triangle, occiput (except narrow yellow stripe immediately behind ocellar triangle and also postgenae) black, 3rd segment 1.8 times as long as wide. Arista yellow, plumosity slightly longer than width of dilated basal part. Head moderately flattened, height 1.9 times length. Genae low, 1/6 height of eyes, height of eyes 2.1 times as length of eyes. Proboscis and palpi yellow. Thorax black, mesonotum densely gray microtomentose, contrasting with moderately pollinose sides of thorax. Legs yellow. Ridge of small setae of anteroventral side in apical 1/3 of forefemora absent. Wings yellowish with yellow veins. Halteres yellow. Abdomen with weak gray coating. Chaetotaxy: 1 *h*, 1 *ph* and 2 *npl*, *ia* absent, 3 *dc* setae beyond suture, *acr* in 4 rows, all setae of equal length, *ppl* weak, less than half as long as *h* seta, 1 *mspl* seta, 2 *stpl* setae, anterior seta distinctly weaker than posterior seta. Body length 2.6-2.7 mm.

♂ unknown.

Comparison. *H. fulgida* sp. n. is the third undescribed Palearctic species with black color of body. It is easy to distinguish from the Japanese species *H. trifurcata* Sasa. and Ike. and *H. pyriformis* Sasa. and Ike. by yellow head and smaller number of rows of *acr* setae; it also differs from the 1st species in considerably smaller size, absence of 3 spurs on midtibia and it differs from the 2nd species in completely yellow legs and halteres (in Japanese species halteres are bicolored, characterized by yellow stem and black knob (Sasakawa and Ikeuchi, 1985).

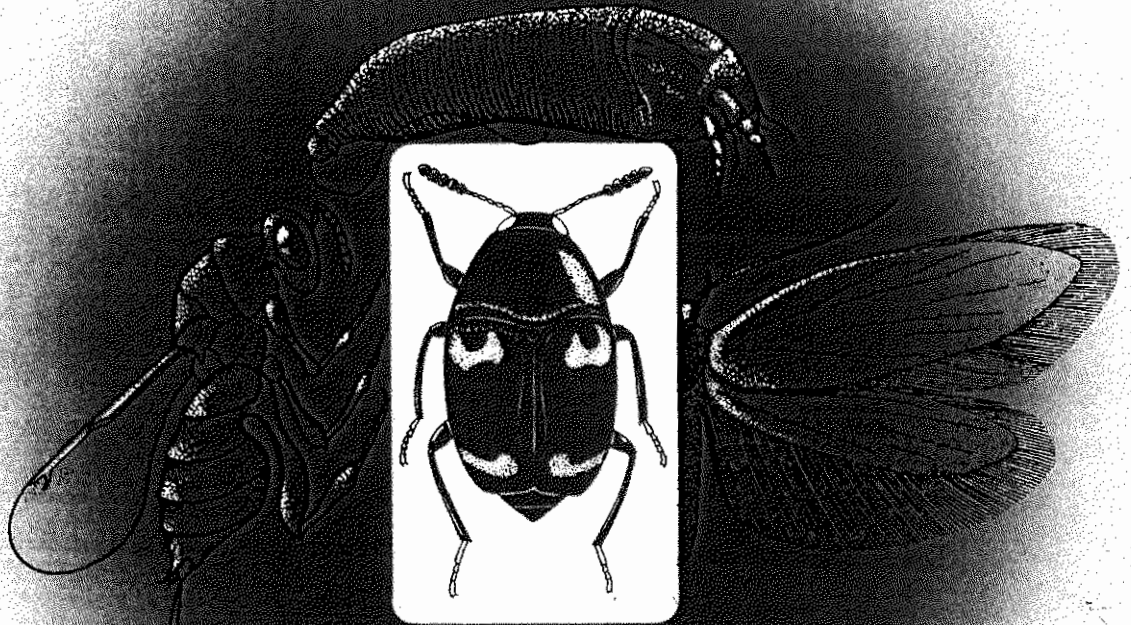
LITERATURE CITED

- ENDERLEIN, G. 1937. Acalyptrata aus Mandshukuo (Dent.). Mitt. Dtsch Entomol. Ges. 7: 71-75.
- SASAKAWA, M. 1985. Japanese Lauxaniidae (Diptera). IV. Akitu, N. Ser. 73: 1-8.
- SASAKAWA, M. 1987. Lauxaniidae of Thailand (Diptera). Pt. 1. Akitu, N. Ser. 92: 1-9.
- SASAKAWA, M., and S. IKEUCHI. 1985. A revision of the Japanese species of *Homoneura* (Diptera, Lauxaniidae). Pt. 3. Kontyu 53: 491-502.
- STUCKENBERG, B. R. 1971. An account of the genus *Noetomima*, with descriptions of new species from Queensland and Nepal (Diptera Lauxaniidae). Ann. Natal. Mus. 21: 21-28.

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