

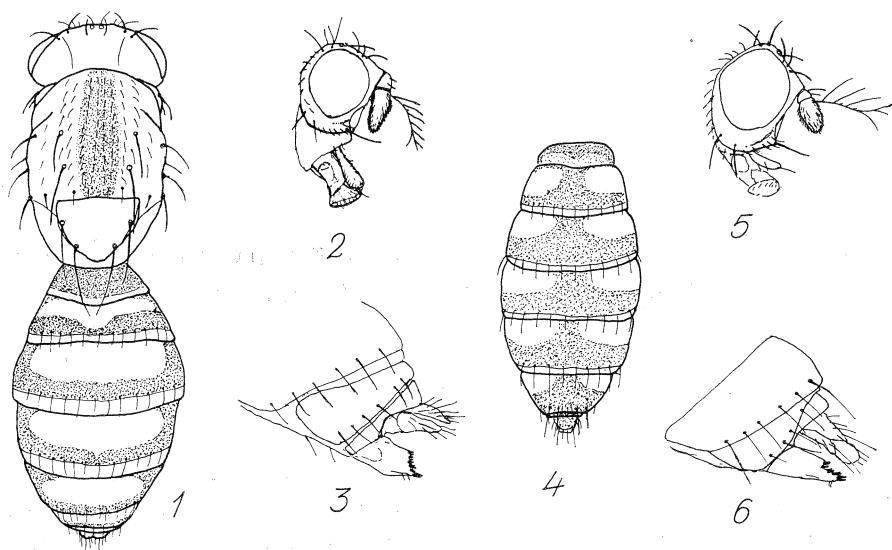
## On *Drosophila* (*Hirtodrosophila*) *lundstroemi* Duda and *D. (H.) oldenbergi* Duda (Dipt., Drosophilidae).

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During the summer of 1964, Prof. RISTO TUOMIKOSKI and Mr. KAURI MIKKOLA collected various Diptera in Northern Finland, and a sample from Kuusamo: Juuma: Jäkälävuoma 21.VIII., contained a very interesting Drosophilid fly, namely a female specimen belonging to the *Drosophila* subgenus *Hirtodrosophila* Duda. There are only two species of this subgenus known from Europe: *D. (H.) lundstroemi* Duda, described (DUDA 1935) on the basis of a single male from Finland: Tuovilanlahti (leg. C. Lundström) and later taken in U.S.S.R.: Leningrad: Komarowo by A. Stackelberg, also a single male. The other species, *D. (H.) oldenbergi* Duda, was described (DUDA 1924) from 3 ♂♂ from Mehadia in Hungary but later taken in the Leningrad area in two localities (Leningrad and Luga) and among the specimens were also ♀♀ identified by the author (HACKMAN 1957). Unfortunately, a description of the *oldenbergi* female was not given. The male genitalia of both species were figured (HACKMAN op.cit. figs. 2, 3). BADSEN (1961) described a female specimen from Steinbrück (Steiermark, Austria, coll. Strobl) which was supposed to belong to *oldenbergi*.

The female specimen from Kuusamo: Juuma agrees well with *oldenbergi* sensu Basden but is distinctly different from the *oldenbergi* female (sensu mihi) from the Leningrad area (one ♀ retained in the collection of Helsinki University). Now the questions arise as to which of these two different females belongs to *oldenbergi* and whether the other one could be the female of *lundstroemi* or whether more than two species are involved.

BADSEN's description of the female from Steiermark is very detailed and includes all the important measurements. In table 1 the females in question (from Kuusamo, Steiermark and the Leningrad area) are compared. A comparison with male type of *lundstroemi* Duda and with DUDA's description of *oldenbergi* ♂ makes it most probable that the females from Kuusamo and Steiermark belong to *lundstroemi*, and that from the Leningrad area to *oldenbergi* Duda.



Figs. 1—3. *Drosophila (Hirtodrosophila) lundstroemi* Duda ♀. Fig. 1. Thoracic and abdominal pattern (darker areas dotted). Fig. 2. Head in profile. Fig. 3. End of abdomen in profile. Figs. 4.—6. *D. (H.) oldenbergi* Duda ♀. Fig. 4. Abdominal pattern. Fig. 5. Head in profile. Fig. 6. End of abdomen in profile.

The important differences in the females of the two species are as follow: On tergites 2—6 the brown posterior bands are not produced medially into the yellow anterior band like the spot in *lundstroemi* (fig. 1). In the male slight traces of this pattern are also discernible, though the tergites are almost unicoloured. In the female of *oldenbergi* the dark posterior bands are produced medially and here reach the anterior margin, dividing the anterior yellow area in to two lateral spots (fig. 4). In the description of the *oldenbergi* ♂, DUDA (1935 p. 73) mentions »an den Vorderrändern der Tergite dreieckig vorspringende schwarze Hinterrandbinden», which agrees well with the pattern of the female. In chaetotaxy, the humeral bristles serve as characters corroborating the interpretation of these flies. In the *lundstroemi* ♀ there are 2 humerals of different sizes (index in the specimen from Kuusamo right 1.37, left 1.32, ♀ from Steiermark 1.37). DUDA mentions (op.cit. p. 72) that the male has one strong humeral. In fact, the lower one is not very small (index right 1.33, left 1.92). In the *oldenbergi* ♀ the two humerals are of almost equal size (index 1.0—1.08). Duda mentions for the male »2 gleichstarke Humerale». The ovipositor guides are of almost the same shape in the ♀ from Kuusamo and in that from Steiermark (BASDEN 1961, fig. 6) but in *oldenbergi* this organ is slightly different (figs. 3, 6). The denticles of this organ are very similar in number and position in the two species. The thoracic pattern is different but this (point 3 in the table) may be variable.

TABLE 1. Comparison of three *D. (Hirtodrosophila)* specimens.

	<i>D. lundstroemi</i> ♀ Kuusamo	<i>lundstroemi</i> ♀ Steiermark	<i>oldenbergi</i> ♀ Leningrad area
1. Diameter of eyes & jowls .....	3.80	3.72	3.67
2. Number of dorsal arisal rays, excluding end fork .....	R and L 5	R 5, L 4	R and L 3
3. Mesonotal pattern ..	Median stripe	diffuse	diffuse
4. Upper humeral: lower humeral ....	R 1.37 L 1.82	1.36	R 1.1 L 1.08
5. Basal scutellars: apical scutellars .....	0.95	0.85	0.91
6. Wing length .....	3.5 mm	3.2 mm	3.5 mm
7. Wing colour .....	greyish yellow	»yellow tinged»	greyish yellow
8. Stronger costal fringe: mg <sub>3</sub> .....	0.47	0.44	0.58
9. mg <sub>2</sub> : mg <sub>3</sub> (Costal index) .....	2.72	2.54	2.29
10. mg <sub>3</sub> : mg <sub>4</sub> .....	3.22	3.30	3.50
11. »V3»: tp .....	1.6	1.31	1.61
12. Bristles at 2nd costal break .....	1 strong (+ ordinary fringe bristle)	»1 strong»	1 strong + a smaller external (lower) one
13. Haltere colour ....	whitish yellow	?	pale yellow
14. Abdominal tergites 2-6, pattern .....	yellow area undivided (fig. 1)	yellow area undivided	two separate yellow spots (fig. 4)

Other biometric characters do not prove much, since the two species are very similar and the measurements are based on single specimens.

In the light of the above facts however, it seems, obvious that the female described by BASDEN as *oldenbergi* is that of *lundstroemi* Duda.

Thus, the *oldenbergi* female must be described anew and the description s completed below.

*D. (H.) oldenbergi* Duda, ♀.

Body length 3.44 mm, wing length 3.5 mm. Further measurements and indices in table 1. Frons yellow, posterior parts, including ocellar area and orbitae, brownish. Median length 16, median width 20. Antennae yellow-brown, third joint darker apically. Number of arisal rays, except for the end fork 3 above and one below (possibly variable as in male: 3—5 above). Face yellow-brown, facial keel almost absent. Palpi tawny yellow-brown, paler than in *lundstroemi*. Mesonotum red-brown, pruinose, paler at the humeri, which are almost yellow. Chaetotaxy similar to that of *lundstroemi*. Pleura dark red-brown (probably variable, as in the male). Legs yellow. First meta-

tarsus as long as the three following joints together. Wings greyish yellow. Costa at the second break (as Duda states for the male) with two unequal-sized bristles, the smaller one external and decidedly bigger than the other fringe bristles in the same row. *BASDEN* (op. cit.) draws special attention to this character. In the *lundstroemi* ♀ there is one strong internal bristle, in the external row a small bristle of the same size as the other fringe bristles. The ratio between the apical portion of m 4 (V 3) point 11 in the table and tp is not useful for separating the species. Halteres possibly less pale yellow than in *lundstroemi*. Abdominal pattern and ovipositor guides as in figs. 4 and 6.

The description is based on a female from U.S.S.R.: Luga: Tolmatschevo 30.VII.1935 leg. A. Stackelberg.

The description of the female of *lundstroemi* Duda already given by *BASDEN* (op.cit., »oldenbergi») but two characters from the Finnish specimen may be mentioned. The mesonotum has a distinct brown median stripe ending at the scutellum (See fig. 1). The palpi are brown and clavate with one (subapical) bristle.

The distribution of these two species, as already mentioned, is very little known but may be summarized as follows:

*D. (H.) lundstroemi* Duda: Finland: Sb: Tuovilanlahti (Type locality) and Ks: Juuma, U.S.S.R.: Leningrad area: Komarowo, Austria: Steiermark: Steinbrück.

*D. (H.) oldenbergi* Duda. U.S.S.R.: Leningrad area: Leningrad Luga: Tolmatschevo, Hungary: Mehadia (type locality).

#### References:

- BASDEN*, E. B., 1961. Type collections of Drosophilidae 1. The Strobl Collection. Beitr. Entom., 11: 160—224. — *DUDA*, O. 1924, Beitrag zur Systematik der Drosophiliden unter besonderer Berücksichtigung der paläarktischen und orientalischen Arten. Arch. f. Naturgesch., 90 A: 172—234. — 1935. Drosophilidae. In Lindner: Die Fliegen der Palaearktischen Region, 58 g: 1—118. — *HACKMAN*, W. 1957. Beiträge zur Kenntnis der Drosophiliden des Leningradgebietes. Not. Ent., 37: 17—22.