A redescription of Pegohylemyia retusa Ringdahl, including the 3rd instar larva (Dipt., Anthomyiidae).

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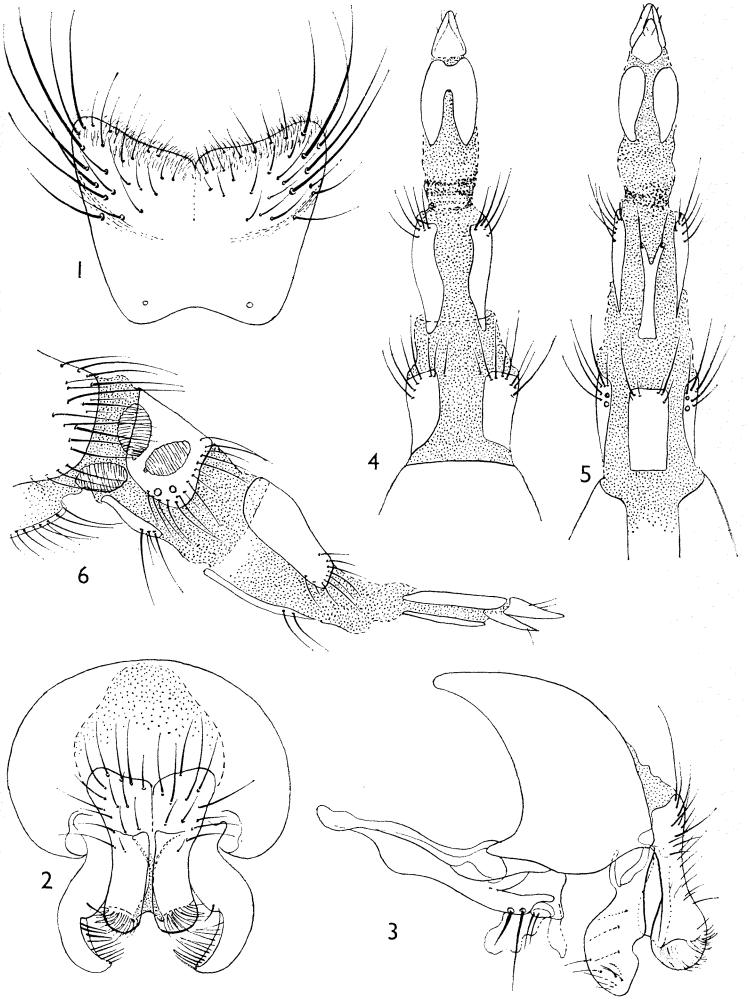
In the autumn of 1967 Dr L. Lyneborg, Zoological Museum, Copenhagen, sent me some larvae, and adults of both sexes, of a species of Anthomyiidae which breeds in the flowers of *Delphinium*. This material was originally submitted (as larvae) to the "Statens Plantepatologiske Forsøg" in Lyngby by Mrs Nordfjeld of Dragør in June 1965, and was collected in her garden; the adults were reared in May 1966 and prove to be *Pegohylemyia retusa* Ringdahl. This species was described by Ringdahl (1952: 231, 233) from the arctic region of Lapland (Kvikkjokk and Saxnäs); two other species of *Pegohylemyia* were described at the same time, and associated (with other species) in a group in which the main or only distinguishing characters are in the male hypopygium. Ringdahl therefore characterized his new species by genitalic characters in the key, and figures of the male hypopygium. The rather surprising occurrence of one of these northern species in Denmark, and the availability of associated males and females, and larvae, makes it possible to redescribe the species in more detail.

In addition to the adults reared from larvae collected by Mrs Nordfjeld mentioned above, larvae have also been found in *Delphinium* flowers in another garden at Lyngby, and at Holte and Molskroen by Prof. Jørgen Jørgensen. The larvae described in this paper were collected at Holte.

The male of *P. retusa* has a fifth sternite (fig. 1) of similar shape to *rectangularis* Ringdahl, described in the same paper, and the name of the latter species refers no doubt to the shape of this sternite; Ringdahl does not figure or mention the fifth sternite of *retusa*. As far as I am aware these are the only European species of this genus with undeveloped lobes to this sternite. Huckett

(1965:79) describes a related species, *aborta,* from northern Canada in which the hypopygium and fifth sternite are very similar to those of *retusa,* and the female of *aborta* (op. cit. 338, fig. 8) has the same type of terminal sclerite to the ovipositor as the female of *retusa,* the cerci being fused to the suranal plate.

The following species of *Pegohylemyia* were described and grouped together by Ringdahl on the basis of the presence of a



Figs. 1—6. *Pegohylemyia retusa* Ringdahl. (1) ♂ 5th sternite. (2) ♂ hypopygium, caudal view. (3) do. profile. (4) ♀ ovipositor, dorsal. (5) do. ventral. (6) do. profile.

median lobe-like process between the two halves of the cercal plate: *nuoljensis, rotundivalva, subfuscisquama, rubrifrons, bidens, setiforceps, rectangularis, retusa,* and probably *coronata. P. nuoljensis* (1926) (as pointed out by Ringdahl) may be synonymous with *rubrigena* (Schnabl, 1915) and *sobrina* Collin, 1931. This latter species was described from three males captured near Godthaab Fjord, Kugssuk, Greenland; these syntypes are in the Hope Dept. of Entomology, Oxford. I have seen specimens of the same species from Iceland (Arnarholt, 7.vii.1922, leg. G. Magnusson) and Sweden (Lake Tarraure, near Kvikkjokk, 20.vii.1962, leg. A. C. Pont) and therefore the synonymy of *nuoljensis* and *sobrina* is probably correct. *P. rubrigena* (described from Siberia) differs from *nuoljensis*, according to the description, in the head colour; *P. incursa* Malloch, 1920 (described from Alaska) has very similar genitalia, and may also be a synonym. These four names may be synonyms for a circumpolar species with some variation in colour.

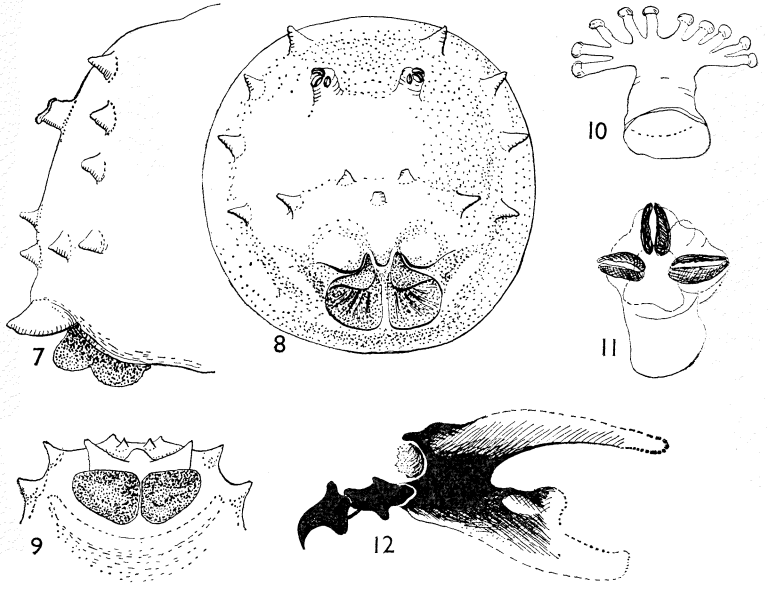
Redescription ♂♀: **Pegohylemyia retusa** Ringdahl, 1952

♂ Head: eye-margins on frons at narrowest part almost touching, separated by diameter of *a* ocellus; interfrontalia linear at this point. Interfrontalia orange, also sometimes upper part of parafacial. Parafacials and jowls below eyes more or less equal to width of third antennal segment. Epistome projecting to same level as profrons. Proboscis not as long as height of eye, mentum about half length of fore tibia. Thorax: greyish brown, with a darker median vitta, and fainter narrower paramedian vittae. *acr* setae rather fine and short, 1—2 pairs of presutural *acr* slightly stronger, the rows as wide apart as distance between *acr* and *dc* rows, with some fine hairs between rows, *pra* seta as long as or slightly shorter than posterior notopleural seta, placed much closer to suture than to *sa* seta. No developed upper anterior mesopleural setula. Two propleural setae, two prostigmatal with 5—6 associated hairs. 1 + 2 sternopleural setae, lower posterior two thirds to three quarters length of upper. Lower squama small, not projecting beyond upper, whitish yellow with pale fringe. Wings: membrane faintly tinged with pale brownish yellow; veins pale. Costal spine very small, hardly differentiated from anterior costal setulae. Legs: fore tibia without median setae, or sometimes a minute *ad* at apical two thirds. Mid tibia with one

ad, two *pd,* all rather short, and 1—2 very short *p* setae. Hind femur with 6—8 *av* on whole length, but only 1—2 long *pv* near base. Hind tibia with 1—2 *av,* 4 short *ad,* 3 longer *pd,* and 1—2 short *p* or *pv* setulae towards base. A b d o m e n : greyish brown pollinose with greenish grey reflections from some points of view; viewed from behind with a faint darker narrow median vitta, but no darker lateral markings. Fifth sternite (fig. 1) almost rectangular, hind margin very little incised. G e n i t a l i a : cercal plate produced into two almost parallel sided lobes with their apices rounded and finely setulose; in profile (fig. 3) these lobes are also expanded. Surstyli with the apical half of inner margin setulose; hypandrium large and robust, praegonites fused to hypandrium, with one long and one shorter slightly flattened seta; postgonite small, distiphallus membranous.

Length 4.5—5 mm.

♀: Agrees with the male except for the following: H e a d : eyes separated on frons by about one third head width, the orange yellow interfrontalia about twice as wide as a parafacial, and with



Figs. 7—12. *Pegohylemyia retusa* Ringdahl, details of 3rd instar larva. (7) posterior segment profile. (8) do. caudal view. (9) do. caudoventral view. (10) anterior spiracle. (11) posterior spiracle. (12) buccopharyngeal armature.

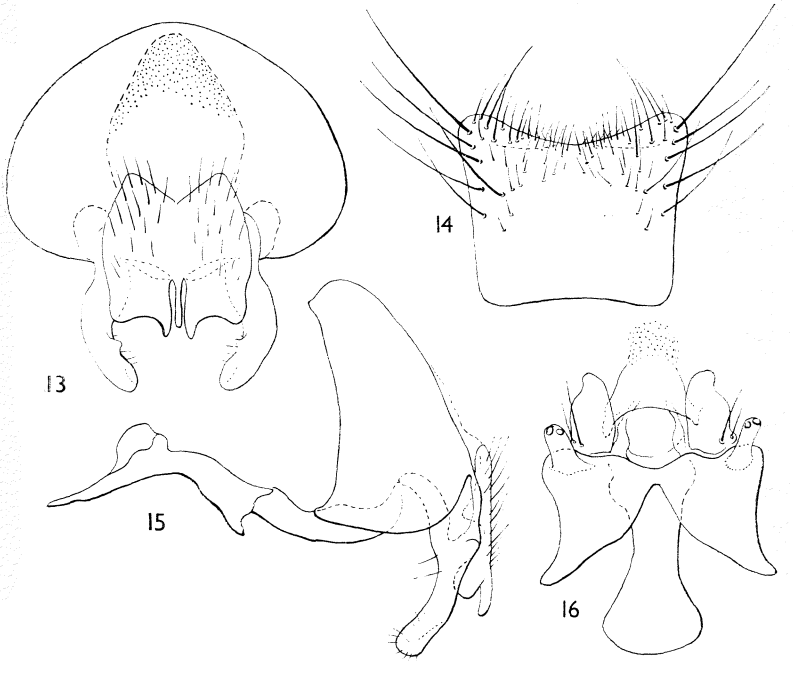
a pair of strong cruciate setae. T h o r a x : mesonotum almost non-vittate, the median vitta only visible in certain lights. Lower posterior sternopleural seta shorter and finer, hardly half length of upper. W i n g s : costal spine more distinct. L e g s : fore tibia with one submedian *ad* seta, and a shorter *pv* setula. Mid tibia with *ad* seta stronger. Hind tibia without *p* setulae. A b d o m e n : almost entirely greyish pollinose, only faint traces of a darker median vitta when viewed from behind. Hind marginal setae of tergites rather weak and decumbent, those on T4 and 5 stronger. In dried specimens the apical segments of ovipositor and the fused cerci are shining brownish, the latter with only short fine hairs. ♀ ovipositor (figs. 4—6): spiracles associated with segment 6 (6+7 of Huckett) close together on lateroventral margins of tergite. Tergites 6 and 7 not sclerotized dorsally along median line, the lateral parts of T8 only fused apically. Sternite 7 forked apically, with two setae; sternite 8 split into two; both tergite and sternite 8 without setae. Cerci apparently fused with suranal plate. Apical part of ovipositor narrower in dorsal and profile view than basal segments.

D e s c r i p t i o n o f t h i r d i n s t a r l a r v a :

About 7—8 mm. long, yellowish white, with a very distinct heavily sclerotized anal plate (fig. 9). Anterior spiracles (fig. 10) with 10 lobes, arranged in two slightly separated groups; posterior spiracles (fig. 11) on distinct protuberences, separated by 2—3 times their diameter; slits more or less at right angles to each other. On the posterior segment, surrounding the spiracles and on disc, are 15 papillae; 2 larger ones above anal plate, 3 on centre of segment, 2 paramedian, and 8 on outer upper part. (fig. 8). Buccopharyngeal armature (fig. 12) with lateral hooks simple.

Pegohylemyia rectangularis Ringdahl, 1952

This species was only separated from *retusa* by hypopygial characters. I possess one male of *rectangularis* (Lake Tarraure, near Kvikkjokk, Northern Sweden, 24.vii.1962, leg. A. C. Pont) which differs from the male of *retusa* in having the proboscis much longer, about as long as head height, the mentum very slender and parallel sided, and about three quarters the length of fore tibia; consequently the lower margin of the head is longer and the epistome more produced forwards. The genitalia of this specimen are drawn in figs. 13—16.



Figs. 13—16. *Pegohylemyia rectangularis* Ringdahl. (13) ♂ hypopygium, caudal view. (14) ♂ 5th sternite. (15) ♂ hypopygium, profile. (16) aedeagus, ventral view.

Acknowledgments.

I am very grateful to Dr L. Lyneborg of the University Zoological Museum, Copenhagen, for allowing me to study the material of *P. retusa,* and my thanks also to Mr A. C. Pont, of the British Museum, who very kindly gave me all the Anthomyiidae which he collected in Sweden in 1962.

References.

Huckett, H. C., 1965: The Muscidae of Northern Canada, Alaska, and Greenland (Diptera). — Mem. ent. Soc. Can. 42: 1—369.

Ringdahl, O., 1952: Übersicht der mir bekannten skandinavischen *Pegohylemyia*-Arten (Diptera: *Muscidae*). — Ent. Tidskr. 73: 231—238.