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### Anthomyiidae from the U.S.S.R.

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With 14 Figures

Among a collection of Anthomyiidae kindly sent to me by Dr. V. SYTSHEVSKAYA, Samarkand, were a number of new species belonging to those genera already dealt with by Prof. Dr. W. HENNIG in his revision of this family in 'Die Fliegen der paläarktischen Region'. This excellent work forms such a comprehensive basis for the species and genera already described, that it is a relatively easy matter to assign with some confidence the status and relationship of the many new forms which exist in the remoter areas of the region.

#### *Calythea nigra* n. sp. ♂ Fig. 1

Head: eye-margins on frons touching, frontalia obsolescent at this point. Interfrontalia dark brown to black, lighter anteriorly in holotype, somewhat swollen and quite wide above lunule. Parafrontals very narrow above, the rather numerous frontal bristles only diverging from eye margin opposite lunule. Parafacials opposite third antennal segment nearly as wide as that segment, but because they are in almost the same plane as the face, appearing very narrow in profile. Mouth margin not produced, at level of lower eye margin; no trace of a carina between antennae at base. Eyes large, upper frontal facets hardly larger than the others, jowls below eyes very narrow in profile, hardly equal to half width of third antennal segment. Bristles and hairs in vibrissal area numerous, the uppermost ones on facial ridges placed above mouth margin by a distance equal to width of third antennal segment. Antennae black, apex of third segment well above mouth margin; arista short and almost bare. Occiput black, hairs on lower part rather dense. Mentum of proboscis short, black, slightly shining. Palpi black.

Thorax and scutellum black in ground colour, with thin dark dusting which is not differentiated into areas, hence mesonotum and pleurae dark semi-matt black, no vittae present, also apex of scutellum black. Mesonotum with rather dense black hairs and bristles. *acr* bristles distinct and erect, bi- to triserial, the presutural ones about 0.5—0.75 times length of *prst dcs* bristles. *pra* bristle absent. Hairs and bristles behind humeri especially dense and encroaching onto notopleuron, where there are about 8—12 on the anterior and upper part of the notopleuron adjacent to anterior bristle. Prosternum hairy, propleural and prostigmatal bristles represented by dense bristly hairs. Postnotum more or less uniformly dark, without differentiated paler

lateral areas of dusting. Hypopleuron with some hairs on upper anterior ridge, and a few shorter ones postventrally behind hind spiracle.

Wings: membrane pale, not darker at base, veins yellowish, squamae whitish yellow with pale borders and fringe, lower squamae large and projecting. Cross-vein  $m-m$  straight and rather upright, penultimate section of  $M1+2$  only a little longer than  $m-m$ . Costal spine absent.

Legs black. Hind femur with long fine  $av$  and  $pv$  bristles, those at base longest, at least twice as long as diameter of femur. Hind tibia with the usual long  $pd$  bristle at about apical third, which is as long as distance between base of bristle and apex of tibia.

Abdomen viewed directly from above with pale greenish grey markings narrowly visible on hind margins of tergites 1 + 2 to tergite 5. As the angle of vision becomes increasingly more from behind, these pale markings become more distinct and larger, and when viewed from a low angle the outer corners of the pale hindmarginal markings reach to the visible edge of the tergites. Fifth sternite (fig. 1) with more numerous bristles and bristly hairs than *bidentata* Malloch (fig. 2), but lateral bristles shorter. Genitalia apparently identical to *bidentata*.

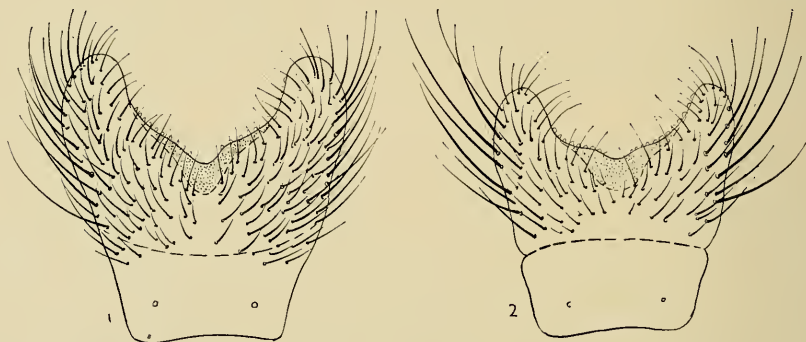


Fig. 1: *Calythea nigra* n. sp. (holotype) ♂ 5<sup>th</sup> sternite.

Fig. 2: *Calythea bidentata* Mall. ♂ 5<sup>th</sup> sternite.

Body length 4 mm. Wing length 4 mm.

Holotype ♂. U.S.S.R. Kirghizia: River Chon Kyzyl-Su, Terskei Ala-Tau, 13. V. 1964 (VTOROV). [In the Zoological Institute of the Academy of Science, Leningrad.]

Paratype. 1 ♂, U.S.S.R. Siberia: Yakutsk, 18 km E. of River Lena, 21. VII. 1970 (R. B. ANGUS) [in British Museum (Nat. Hist.).]

This species is in general appearance very like *bidentata* Mall. from the Nearctic region, especially the shape of the head. In my key to species of *Calythea* (ACKLAND, 1968, Entomologist's mon. mag. 104: 136) it would run to this species (couplet 7) but can be separated as follows:

1. Abdomen when viewed directly from above with traces of narrow pale dusting visible on hindmargins of tergite 1 + 2 to tergite 5. Posterodorsal bristle as long as distance from point of insertion to apex of tibia. 5<sup>th</sup> sternite fig. 1 . . . .  
*nigra* n. sp.
- Abdomen when viewed directly from above matt black, when viewed obliquely from behind small pale triangular areas become visible on hind-margins of tergite

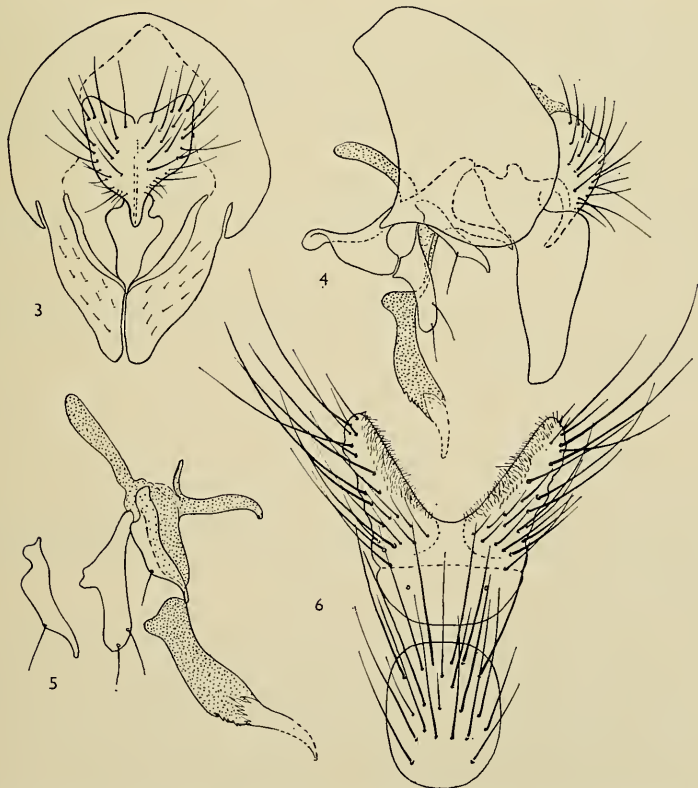
3—5, but none on tergite 1 + 2. Posterodorsal bristle of hind tibia shorter, not as long as distance between point of insertion and apex of tibia. 5<sup>th</sup> sternite fig. 2.  
 . . . . . *bidentata* Mall.

The only other species of *Calythea* from the Palaearctic region with hairs on the upper anterior ridge of the hypopleuron is *dedecorata* Rondani, which has a short *pd* bristle on the hind tibia, hairs in front of hind spiracle as well as posteroventrally, and areas of pale dusting on the mesonotum; in addition the notopleuron is bare (apart from the two strong bristles) in *dedecorata*, hairy in *nigra*.

*Heterostylodes ricta* n. sp. ♂♀ Fig. 3—6

In general appearance very similar to a small black *Egle* species, in which genus it might well be placed after a superficial examination. The male genitalia however do not agree very closely with the majority of species at present placed in *Egle*, and in addition the following characters suggest a closer relationship with *Heterostylodes*:

Costa at junction with apex of vein R1 not appreciably swollen, *pra* bristle fairly well developed, at least as long and strong as posterior notopleural bristle. Wing base blackish.



Figs. 3—6: *Heterostylodes ricta* n. sp. (holotype) ♂ genitalia; figs. 3—4, hypopygium, fig. 5, aedeagus, fig. 6, 4<sup>th</sup> and 5<sup>th</sup> sternite.

♂ Head: Eye margins practically touching on frons. Mouth margin very strongly produced forwards, in front of frons at lunule. Antennae short, arista short, swollen at base, with microscopic hairs. Parafacials wide, in the middle wider than width of third antennal segment. Lower margin of jowls with distinctly biserial bristles, the upper row nearly at level of vibrissa, continuing as a biserial row to almost the lowest point of eyemargin. Proboscis black, grey dusted, long and slender, mentum about as long as fore metatarsus. Palpi black, slender.

Thorax black with grey dust, not shining. Three rather faint narrow stripes on mesonotum. *acr* bristles fine and hair-like, biserial, closer together than to *dcs*, *pra* bristle distinct, as long and strong as posterior notopleural bristle. *stpl* bristles 1 + 2, hind pair nearly equal in length.

Wings: base blackish, contrasting with pale whitish squamae, lower squama small and narrow. Costa hardly thickened in middle, apparently without ventral hairs. Costal spine absent. Cross vein *m-m* straight and upright. Knob of halteres darkened.

Legs: mid tibia without *av* bristle, a small *ad* present. Hind femur with rather long fine erect bristles ventrally, mainly in basal two-thirds, the *av* however to apex, the longest at least twice depth of femur. Hind tibia with 2—3 very short fine *av* bristles, about 4 *ad* and *pd*.

Abdomen rather long and slender, dorsoventrally compressed.

Body length about 3.5 mm.

♀; agrees in essential characters with the male, except it is more greyish dusted, middle tibia with an *av* bristle, and knob of halteres pale.

*Heterostylodes ricta*, apart from the very different genitalia, differs from other palaeartic *Heterostylodes* as follows: ♂ eyes almost touching, jowlar bristles biserial for some distance (♂♀), thorax greyer with distinct stripes.

Holotype ♂. U.S.S.R. U Lednika, Kara-Batkak, 3,300 m. Terskei Ala-Tau, 31. V. 1965 (ZTOROV). [In the Zoological Institute of the Academy of Science, Leningrad.]

Paratypes. 1 ♂, 2 ♀♀. Same data as holotype, except 1 ♀ with additional label 'on flowers, *Ranunculus alberti*' [1 ♂, 1 ♀ in Zoological Institute, Leningrad, 1 ♀ in the British Museum (Nat. Hist.).]

### *Paregle latifrons* n. sp. ♂♀ Figs. 7—10

Small black grey dusted species, with short robust legs, large head with very wide parafacials and jowls, and ♂ eyes separated by a rather wide frons, about 1.25—1.5 times width of third antennal segment.

♂ Head black in ground colour with thick grey dust; large in relation to thorax. Eye margins on frons separated by a considerable distance, difficult to measure exactly as the head in the holotype is somewhat collapsed, but probably between 1.25 and 1.5 times width of third antennal segment. Interfrontalia with a pair of crossed bristles, lower part slightly paler reddish brown. Parafrontals at lunule wide, slightly more than width of third antennal segment; 4—5 pairs of fine frontal bristles. Parafacials hardly decreasing in width below level of lunule, level of face therefore well in front of anterior eye margin. Jowls also wide, narrowest part below

eyes 0.42 times eye height. Mouth margin projecting, but not strongly upcurved or produced much in front of level of profrons. Antennae black, third segment short and wide, hardly longer than length of second segment; arista short, very distinctly swollen in basal quarter, bare. Occiput collapsed, but apparently not very swollen. Upper postocular bristles short and fine. Proboscis not very long, slender, dusted. Palpi black, slender, and rather long.

Thorax black in ground colour, with grey dust. Mesonotum rather short and wide. A narrow median brown stripe visible, and perhaps there are also narrow brown paramedian stripes. Accessory setulae and hairs rather sparse. *prst acr* bristles represented by very short fine hairs, rows closer together than to *dc* bristles, no hairs between rows; *post acr* not ascertainable in ♂, but probably very short and fine as in ♀. Two *ph*, the posterior one as long and strong as the anterior, laterally placed near suture, in profile almost in line with the *pra* and *sa*. Notopleuron bare apart from the two strong bristles. *pra* bristle distinct, long, as long as or longer than the posterior notopleural, and placed close to suture. Propleurals difficult to see, but probably 2; prostigmata 2 without any extra hairs or bristly hairs. *stpl* bristles 1 + 2, lower *p* short and fine.

Wings: membrane clear or perhaps slightly milky, veins dark brown and very distinct, even slightly infuscated in places. Last section of *M* 3 + 4 very faint towards wing margin, contrasting strongly with the dark thicker basal half of the section. Last section of *M* 1 + 2 twice length of preceding section. Costal spine not distinct. Costa bare ventrally. Cross vein *m-m* straight and upright. Halteres pale.

Legs black, short and robust. Fore tibia without median bristles. Mid tibia with a short *av* bristle, one *ad*, one *pd*, and two *p*. Hind femur with a complete row of *av*, 4–5 shorter finer *pv* bristles. Hind tibia rather curved, with 3 *av*, 3–4 *ad*, and 2 *pd* bristles.

Abdomen in very poor condition, but probably grey dusted as thorax, short.

Body length about 2.5–3 mm, wing length 2.75 mm.

♀ Head: frons at narrowest part more than one third head width (0.37) other characters as in ♂, including the last section of wing vein *M* 3 + 4 being very distinct at base, but almost absent towards wing margin.

Holotype ♂. Tian-Shan, Verkh. R.B. Naryn, 22. VII. 1964, 3,500 m (ZLOTIN).

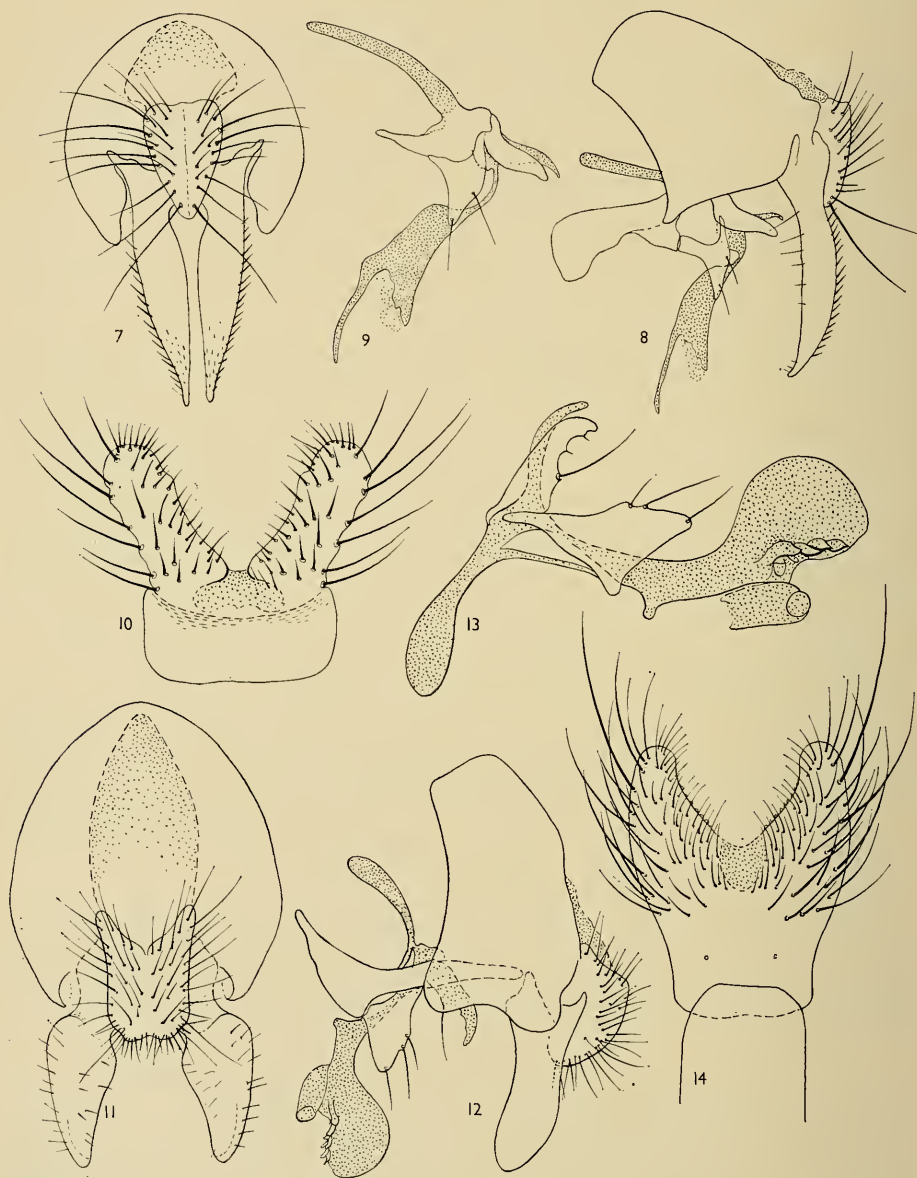
Paratype 1 ♀. Same data as holotype, gummed on same mount. Both types in the Zoological Institute of the Academy of Science, Leningrad.

*Paregle latifrons* differs from other known palaeartic species in the following combination of characters: smaller size, *acr* bristles biserial and very short and fine, apical part of wing vein *M* 3 + 4 very indistinct in contrast to basal dark part, legs short and robust, hind tibia rather bent, ♂ eyes separated by a wide frons.

*Nupedia valentinae* n. sp. ♂♀ Figs. 11–14

♂ Head black with rather dense greyish dust. Eye margins on frons practically touching, leaving only a linear stripe and no trace of interfrontalia between orbits. Interfrontalia above constriction consisting only of a minute triangle in front of ocellar tubercle. Parafrontals at level of lunule not very wide, about two-thirds width of third antennal segment; about 7 pairs of frontal bristles. Interfrontalia small, reddish, with a pair of fine crossed bristly hairs. Parafacials in profile at level

of middle of third antennal segment rather narrow, about one quarter to one third width of segment. Face flat, mouth margin not at all produced forwards. Jowls below eyes about one fifth of eye height. Antennae black, third segment about 1.7 times length of second, apex not quite reaching level of vibrissa. Arista only microscopi-



Figs. 7—10: *Paregle latifrons* n. sp. (holotype) ♂ genitalia; figs. 7—8, hypopygium, fig. 9, aedeagus, fig. 10, 5<sup>th</sup> sternite.

Figs. 11—14: *Nupedia valentinae* n. sp. (holotype) ♂ genitalia; fig. 11, 12, hypopygium, fig. 14, 15<sup>th</sup> sternite.

cally hairy, the longest hairs not as long as diameter of base. Occiput black with dense grey dust, lower part swollen, upper postocular setulae rather fine, no hairs or setulae below the upper ones, but some fine hairs below the row from about the tenth setula from vertex. Proboscis short, rather swollen, brownish black, grey dusted but somewhat shining above. Palpi black, slightly flattened at apex.

Thorax black in ground colour, densely grey dusted from all points of view, practically no stripes visible on mesonotum, except very indistinctly from behind. Three pairs of *prst acr* bristles, middle pair longest, slightly shorter than first pair of *prst dc*, rows as distant from each other as from *dc* rows; several fine irregular hairs between rows. *post acr* short and fine. Three *ph* bristles, the outer ones much shorter and finer. Notopleuron bare apart from the two bristles. *pra* bristle distinct but small, only just differentiated from the adjacent scutose hairs, hardly half as long as the posterior notopleural bristle, placed half way between suture and *sa* bristle, and rather high up on mesonotum, i. e. in line with *sa* and posterior post-humeral bristle. Two propleural bristles, about 12 prostigmatal, ranging from 2—3 strong bristles to fine hairs. Mesopleuron without a developed upper bristle. *stpl* 1 + 2, lower *p* bristle nearly as long as upper. Scutellum as thorax in colour and dusting, 4—5 fine hairs on lateral parts of disc, apical hairs between apical setae finer than laterals, apex ventrally with fine pale hairs.

Wings: membrane clear, wing base pale. Costal spine virtually absent, not appreciably differentiated from anterior costal setulae. Costa bare ventrally. Cross vein *m—m* very slightly sinuate and rather oblique. Last section of *M* 1 + 2 nearly one and a half times (1.48) length of preceding section. Squamae pale, lower one somewhat projecting beyond upper, fringes pale. Halteres pale.

Abdomen black in ground colour with dense grey dust, not shining from any point of view. Seen from behind with a dark narrow undusted mid stripe, about as wide as diameter of hind tibia, on tergite 1 + 2 to tergite 5. This stripe is parallel sided, extends the full length of each tergite, and is not widened at all on fore margins of tergites, which are densely grey dusted as rest of tergite. Moderately long, about 2.2 times as long in dorsal view as maximum width at tergite 3; tergite 1 + 2 and tergite 4 almost as wide, hence lateral margins of abdomen from tergite 1 + 2 to tergite 4 inclusive practically parallel sided. Partially dorsoventrally compressed, postabdomen in profile not swollen, fifth sternite flat and little visible. Tergite 6 with about 6 spaced out bristles on hind margin. Tergites not particularly hairy, discal setulae erect or semi-erect, hind marginal bristles distinctly stronger than these, those on hind margin of tergite 5 fully as long as length of tergite. Tergite 7 + 8 and 9 grey dusted as rest of abdomen, but perhaps not quite so strongly. Fifth sternite black in ground colour, with grey dust.

Legs mainly black or brown in colour, including coxae and tarsi, only mid and hind tibia obscurely pale transparent orange about middle, and all knees distinctly yellowish. Fore tibia with one median *pv*. Mid tibia with a short *ad* bristle at apical third, a longer *pd* at same level, and 2 *p* bristles. Hind femur with complete row of *av*, *pv* bristles in basal third only. Hind tibia with one *av*, 2 *ad*, 2 *pd*, the apical *pd* rather long. Claws and pulvilli as long as last tarsal segment.

Body length about 6 mm. Wing length 6 mm.

♀ Head: frons at vertex 0.4 times head width, interfrontalia with a pair of strong crossed bristles. Palpi very distinctly swollen. Legs with fore tibia and mid and hind femur and tibia yellow.

I have pleasure in naming this species after Dr. VALENTINA SYTSHEVSKAYA, whose work in collecting and studying the flies of the southern part of the U.S.S.R. is well known.

Holotype ♂. U.S.S.R. East Pamir, Okr. Chechekty, 30. VII. 1965, on window (V. SYTSHEVSKAYA).

Paratype 1 ♀. Kirghizia. River Chon Kyzyl-Su, Terskei Alatau. 2600 m 12. IX. 1963 (V. SYTSHEVSKAYA). Holotype and paratype in the Zoological Institute of the Academy of Science, Leningrad.

In spite of the difference in the colour of the legs, and the rather poor condition of the single female, which was not captured in the same locality as the male, I am certain that it is conspecific with the latter as it agrees in so many details, of which might be mentioned the position of the rather small *prst* bristle, the *prst acr* with hairs between rows, hind tibial chaetotaxy, and the fine apical hairs on scutellum which are finer than the lateral ones. This species shows many of the characters which indicate the affinity of *Nupedia* with *Pegoplata*, namely the 2 + 2 dorsal bristles on the hind tibia, ♀ with swollen palpi, interfrontalia with crossed bristles. *Pegoplata* species as far as is known have some strong bristles on the sixth tergite, which is normally absent in *Nupedia* species; the above described species has these bristles, but on the other hand the costa is bare ventrally, which is not the case with *Pegoplata*.

*Nupedia valentinae* differs from other palaeartic species of *Nupedia* in the following combination of characters: Mouth margin not projecting, mid tibia without an *av* bristle, upper postocular row of bristles with a few short setulae below laterally, arista with very short hairs only, costa of wing bare ventrally, tergite 6 in ♂ with a row of bristles, thorax densely grey dusted, paralobes in ♂ simple.

I would like to thank Dr. SYTSHEVSKAYA for the opportunity to study these species, Mr. G. STEYSKAL of the U.S. National Museum for kindly lending me a specimen of *Calythea bidentata* for comparison, and Dr. R. B. ANGUS who presented me with the Anthomyiidae he collected in Siberia in 1970.

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