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## TAXONOMIC AND FAUNISTIC NOTES ON *PHAONIA CINCTA* ZETTERSTEDT, 1846 (DIPTERA, MUSCIDAE)

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**Abstract.** *Phaonia cincta* Zetterstedt, 1846 is newly recorded for central and southern parts of European Russia. The female of *P. cincta* was never properly described; its redescription is given. After examination of previously unknown series of topotypes of *P. juglans* Sorokina, 2015 we came to a conclusion that this species should be synonymized to *P. cincta* (**syn. nov.**). In such a wide sense *Phaonia cincta* also occurs in Central Asia. Association of larvae and imagoes of *P. cincta* with broad-leaf trees is discussed.

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**Keywords:** Diptera, Muscidae, *Phaonia cincta*, new records, synonymy.

## ТАКСОНОМИЯ И РАСПРОСТРАНЕНИЕ *PHAONIA CINCTA* ZETTERSTEDT, 1846 (DIPTERA, MUSCIDAE)

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**Аннотация.** *Phaonia cincta* Zetterstedt, 1846 впервые приведена для центральной и южной частей европейской территории России. Самка этого вида никогда не была подробно описана, описание приведено в данной статье. Исследовав серию обнаруженных нами экземпляров, собранных вместе с голотипом *P. juglans* Sorokina, 2015, мы пришли к выводу, что этот вид является синонимом *P. cincta* (**syn. nov.**). Таким образом, *P. cincta* в широком понимании оказалась распространенной и в Средней Азии. Обсуждается связь личинок и имаго *P. cincta* с широколиственными деревьями.

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**Ключевые слова:** Diptera, Muscidae, *Phaonia cincta*, новые находки, синонимия.

## INTRODUCTION

Recently we sorted dipterans collected in trunk traps (Ruchin et al. 2020) in Mordovsky Nature Reserve and found a male of *Phaonia cincta* Zetterstedt, 1846. *P. cincta* Zetterstedt, 1846 is a West European species which was also known from Near East but it was not recorded for Russia (Pont 1986; Pont 2013). We decided that the new record worth publishing as a short note. Working on the publication we checked *Phaonia* material in Zoological Museum of Moscow University (ZMUM) and Zoological Institute, Saint Petersburg, Russia (ZIN) and found several more interesting specimens of *P. cincta*. As usual, the study of additional material opened questions not arisen before. In the Discussion below several new points are considered: (1) the position of *P. cincta* in the genus *Phaonia*; (2) description of the female of *P. cincta*; (3) taxonomic status of the similar *P. juglans* Sorokina, 2015 from Central Asia; (4) distribution of *P. cincta* in the wide sense.

*Phaonia cincta* Zetterstedt, 1846

*Phaonia juglans* Sorokina, 2015, **syn. nov.**  
Figs 1–4

## MATERIAL EXAMINED:

AUSTRIA, “in the South Austria”, Kowarz, 1♂ (ZIN).

GREECE, Crete Isl., 7 km SW Perama (35.33°N 24.65°E), 12 September 1999, V. Michelsen, 1♂ (ZMUM).

RUSSIA: *Krasnodar* reg., Sochi env., Akhun Mt., (43.55°N 39.85°E), 20 October 2006, N. Vikhrev, 1♂; Adygeya, Dakhovskaya env., Belaya R. valley, 44.199°N 40.170°E, 465 m, 18–31 August 2009, K. Tomkovich, 1♀ (new records for South European Russia); *Mordovia* reg., Mordovia State Nature Reserve, 54.72°N 43.23°E, 7 July 2019, A. Ruchin, 1♂ (all ZMUM); *Moscow* reg.: Ozery (54.86°N 38.55°E), reared, 1974, V. Kovalev, 1♂ (ZIN); SW Moskovsky, 55.58°N 37.34°E, 29 July 2016, K. Tomkovich, 1♀ (new records for Central European Russia) (ZMUM).

SPAIN, *Granada* reg., Granada Valor (37.0°N 3.08°W), 925 m, 25 March 2009, V. Michelsen, 1♀ (ZMUM).

TURKMENISTAN: ♂ holotype *Phaonia juglans* Sorokina, 2015, Ipay-Kala [Kopet Dag Range, 37.2°N 59.8°E], reared from larva found in a hollow of a nut tree, collected on 6 June 1971, emergence 18 June 1971, N. Krivosheina;

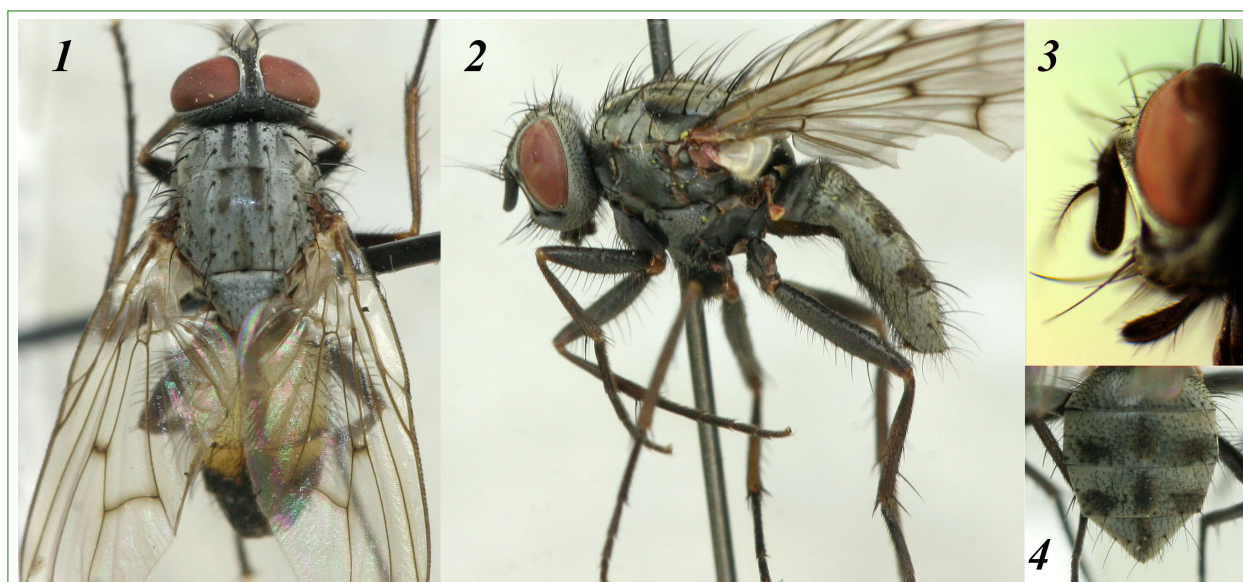
the same data as above, N. Krivosheina, collected 24 May–9 June 1971, 4♂, 3♀, three males with Lobanov’s labels identified as *P. cincta*; 20 km SE Geok Tepe, Chuli vill., 38.00°N 58.15°E, reared from larvae collected on 20 April 1983, N. Krivosheina, 2♂, 2♀ (ZMUM).

UKRAINE: *Poltava* reg., Yareski (49.84°N 33.90°E), 1 September 1929, Gildebrandt, 1♂; *Kharkov* reg.: vicinity of Kharkov (50.0°N 36.2°E), W. Yaroshevsky, 25 April 1882, 1♂; 2 May 1882, 1♂; uncertain localities, presumably the Ukraine: I. Porchinsky, 1♂; W. Yaroshevsky, on oak trunk, 30 July 1886, 1♂ (all ZIN).

## DISCUSSION

RELATIONSHIP. Hennig (1963) placed *Phaonia cincta* in the *P. pratensis* group, so did also Zinovjev (1981). Hennig (1963, 774) wrote on the *P. pratensis* group: “no character can be interpreted as an apomorphy for the whole group ... the group is so symplesiomorphic that it cannot be regarded as a monophyletic one”. On the other hand, males of *P. cincta* have yellow abdomen which is a diagnostic character for the *P. pallida* group (Hennig 1963; Vikhrev, Erofeeva 2018). The intrageneric systematic of *Phaonia* is in an unsatisfactory state. It seems that only molecular phylogeny will improve the situation, but we would like to draw attention that *P. cincta* looks similar to *P. bitincta* Rondani, 1866 which belongs to the *P. pallida* group. Apart from the yellow abdomen, both species share densely grey dusted mesonotum with a pair of dark stripes and several other characters.

REDESCRIPTION of FEMALE. The male of *P. cincta* was redescribed by Hennig (1963) in sufficient detail, while the female is mentioned in only two sentences: “crossed interfrontal setae absent; yellow colour on abdomen absent”. Here we give redescription of female. Body length 5–7 mm. *Head* black. Frons grey, without crossed interfrontal setae, fronto-orbital plates light-grey. Eye sparsely short haired. Antenna black, postpedicel 3x as long as wide. Arisital hairs as long as width of postpedicel (Fig. 3) or longer, the character is variable. Palpi black or yellow-brown, slightly to distinctly (Fig. 3) widened, about 0.5–0.7x as wide as width of postpedicel. Lower occipital setulae dark. *Thorax* black, densely grey dusted. Scutum with a pair of distinct median vittae from



**Figs 1–4.** *Phaonia cincta*: 1 — male, dorsal; 2 — female, lateral; 3 — female head, lateral; 4 — female abdomen, dorsal

**Рис. 1–4.** *Phaonia cincta*: 1 — самец, дорсально; 2 — самка, латерально; 3 — голова самки, латерально; 4 — брюшко самки, дорсально

neck to level of 2<sup>nd</sup> *post dc*, these vittae slightly narrower than distance between *dc* and *ac* setae. Notopleuron, meron and katepimeron bare; *dc* 2+4; 2–3 pairs of strong *prst ac*; prealar seta less than half as long as posterior notopleural. Scutellum with 1–3 hairs on lateral surface below of strong scutellar setae (offered by D' Assis Fonseca, 1968). Wings hyaline, both crossveins darkened. *Legs* chaetotaxy: *t1* with 1 *p*; *t2* with 2 *p*; *t3* with 2 *av*, 2 *ad* and 1 *pd*. Coxae, femora and tarsi dark; trochanters contrasting yellow; tibiae brownish-yellow. Colour of the legs is variable: from almost entirely dark (with yellow trochanters) in some specimens from Europe to mostly yellow in some specimens from Central Asia. *Abdomen* dark, densely grey dusted with black median vitta on tergites 1+2 to 5 and with characteristic paired black postero-lateral spots on tergites 3 and 4. Sternite 1 bare.

**SYNONYMY.** According to the original description (Sorokina 2015) *Phaonia juglans* Sorokina, 2015 is similar to *P. cincta* and distinguished from the latter by “eye sparsely short haired, palpus dull yellow, antenna brownish-dark, legs brownish-yellow”. Hennig (1963) wrote that male eyes of *P. cincta* are densely and long haired. It is an error repeated by Gregor et al. (2002, 116–117), actually both male and female *P. cincta* have eyes sparsely short haired. It turned out that

Dr. Nina Krivosheina reared from larvae collected in Turkmenistan a series of 7♂ and 5♀ of *Phaonia*, but only one male was sent to Dr. Vera Sorokina for identification, the male became the holotype of *P. juglans*. Examination of the rest of the series showed that other characters offered as diagnostic for *P. juglans* are variable. In most Central Asian specimens the pedicel and posterior femora are yellowish, the crossveins of wings are less infuscated, but we do not consider these differences sufficient enough. In European specimens variation of colour is also significant. A possible solution is to downgrade the taxonomic status of *P. juglans* to the subspecies rank, but in the present paper we treat *P. cincta* in the wide sense, so *Phaonia cincta* Zetterstedt, 1846 = *P. juglans* Sorokina, 2015, **syn. nov.**

**ECOLOGY and DISTRIBUTION.** According to d' Assis Fonseca (1968, 22–27) in Great Britain *P. cincta* was bred from larvae found in sap exuding from elm and horse-chestnut. One Ukrainian specimen was a male collected on oak trunk; the male from Moscow region was reared from a larva found under the oak bark; the Mordovian male was collected by a fermented beer trap placed on oak; in Armenia Pont (2018) collected 6♂ of *P. cincta* on a sunny side of a smooth trunk of a beech tree (*Fagus*). In Turkmenistan (Ipay-Kala) *P. cincta* were reared from larvae found in a hole in a walnut

tree (*Juglans*); other Turkmenian (Chuli) series of *P. cincta* was reared from larvae found on elm (*Ulmus*) damaged by larvae of *Cossus cossus*, in fermented tree sap (Dr. Nina Krivosheina, pers. comm.). Thus, *P. cincta* seems to be associated with broad-leaved trees at both larval and imaginal stages and our distributional data fit this view. Broad-leaved trees are common in Western and Central Europe, the Caucasus (Armenia (Pont 2018) and South European Russia), Near East (Turkey and Syria (Hennig 1963; Pont 1986)) and Turkmenistan. The northern distributional limit of *P. cincta* in East Europe (55–56°N) coincides with that of the oak in European Russia.

Dr. Adrian Pont (pers. comm.) brought to our attention to the fact that *P. cincta* was mentioned for Russia by Schnabl (1888) “♂ provient de la Crimée (recu de Mr. Porchinsky)”, but it is not listed for South European Russia in Pont (2013), because Schnabl’s

old identification requires confirmation. We have seen the male specimen and found this (as most other Schnabl’s) identification correct. But there is other difficulty, to decipher locality on the handwritten label. It is either «Крымъ» = Crimea or «Крышт[оповка]» = Kryshtopovka, Kharkov reg. (48.67°N 36.29°E). The second possibility is supported by the fact that for Crimea Porchinsky used the name “Tauria” in some of his labels. However, we listed above this locality as “uncertain locality, presumably Ukraine”.

#### ACKNOWLEDGEMENTS

We thank Olga Ovchinnikova and Galina Suleymanova (Saint Petersburg) for access to ZIN collection. We thank Oleg Kosterin (Novosibirsk) and Maria Yanbulat (Moscow) for correcting our text. We thank Gennadiy Semishin and Mikhail Esin for their help in sorting and mounting of Mordovian material.

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**For citation:** Vikhrev, N. E., Erofeeva, E. A., Ruchin, A. B. (2020) Taxonomic and faunistic notes on *Phaonia cincta* Zetterstedt, 1846 (Diptera, Muscidae). *Amurian Zoological Journal*, vol. XII, no. 1, pp. 4–7. DOI: 10.33910/2686-9519-2020-12-1-4-7

**Received** 9 January 2020; reviewed 5 February 2020; accepted 7 February 2020.

**Для цитирования:** Вихрев, Н. Е., Ерофеева, Е. А., Ручин, А. Б. (2020) Таксономия и распространение *Phaonia cincta* Zetterstedt, 1846 (Diptera, Muscidae). *Амурский зоологический журнал*, т. XII, № 1, с. 4–7. DOI: 10.33910/2686-9519-2020-12-1-4-7

**Получена** 9 января 2020; прошла рецензирование 5 февраля 2020; принята 7 февраля 2020.