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Ferchestina, a new genus of oonopid spiders from Russian Far East (Aranei: Oonopidae)

Ferchestina, новый род пауков-оонопид из Дальнего Востока (Aranei: Oonopidae)

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KEY WORDS: Spiders, Aranei, Oonopidae, *Orchestina*, *Ferchestina*, new genus, new species, Russian Far East.

КЛЮЧЕВЫЕ СЛОВА: Пауки, Aranei, Oonopidae, *Orchestina*, *Ferchestina*, новый род, новый вид, Дальний Восток.

ABSTRACT: *Ferchestina storozhenkoi* gen.n. et sp.n. (♂♀) described from the Russian Far East. Detail illustrations provided for new taxon and *Orchestina pavesii* (Simon, 1873) the type species of the related genus *Orchestina* Simon, 1882.

РЕЗЮМЕ: Из Дальнего Востока России описан паук *Ferchestina storozhenkoi* gen.n. et sp.n. (♂♀). Приведены детальные рисунки нового таксона и *Orchestina pavesii* (Simon, 1873) — типового вида близкого рода *Orchestina* Simon, 1882.

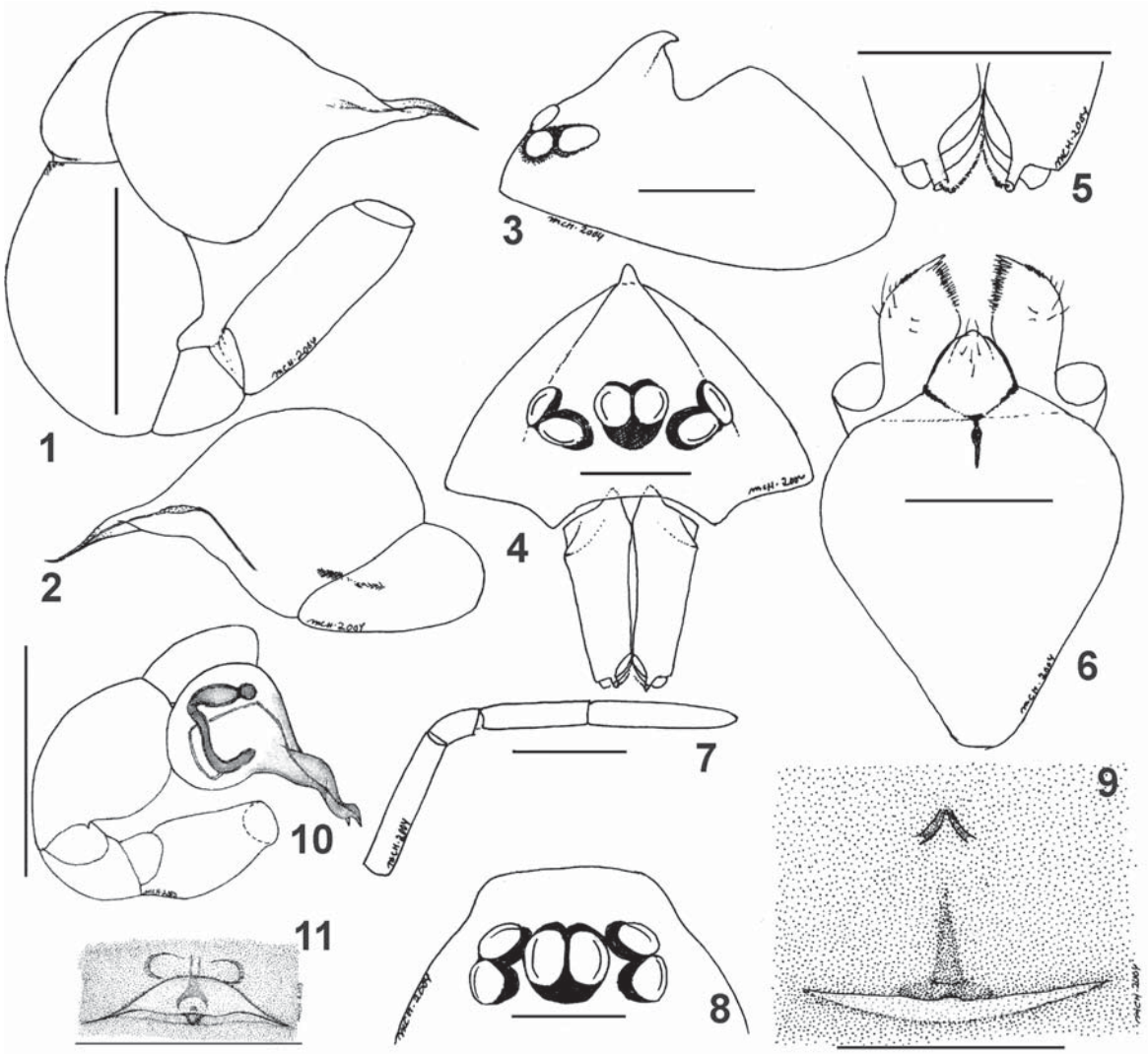
Introduction.

Oonopidae is a spider family with a worldwide distribution. According to the latest information the family consists of 452 species belonging to 65 genera [Platnick, 2004]. Five largest genera, viz. *Oonops* Templeton, 1835 (73 species), *Gamasomorpha* Karsch, 1881 (56 species), *Dysderina* Simon, 1891 (44 species), *Opopaea* Simon (38 species), and *Orchestina* Simon, 1882 (36 species), incorporate 247 species, which is more than half or 55% of the species of the family. All these genera have a worldwide distribution and they are found in all or almost all biogeographical realms. Such distributional pattern is extremely rare in well studied groups, there are only a few exceptions like *Tetragnatha* and *Dolomedes*. Thus judging from this unusual pattern of distribution combined with the poorly developed taxonomy of Oonopidae it is quite safe to postulate that all these five genera are more or less polyphyletic. It is clear from the literature that species were placed to one or another genus due to some quite trivial somatic characters such as eye-pattern, possession or lack of the abdominal scuta, spination of the two first leg pairs etc. However, numerous members of the above mentioned genera possess unique, often very bizarre somatic characters not to mention the variability of male and female copulatory organs.

Although oonopids have a worldwide distribution its members avoid northern Holarctic or areas north of 50ºN and the species found above this latitude are synantropic. Three out-door oonopid species belonging to two genera *Oonops* and *Dysderina* Simon 1891 [Mikhailov, 1997] were known from the western half of the former Soviet Union (Ukraine, Azerbaijan, Turkmenistan and Kazakhstan), but they have never been found in Russia. Further, an additional genus for the former USSR, viz. *Orchestina*, has been reported from Azerbaijan [Marusik & Guseinov, 2003]. A recent survey of the Russian Far East spider fauna yielded the first member of Oonopidae for Russia and simultaneously the northernmost oonopid record in Asia. It also proved to be a new species somewhat resembling *Orchestina pavesii* (Simon, 1873), the type species of *Orchestina*. It, however, has a very unusual male carapace as well as quite different male and female copulatory organs compared with those of *O. pavesii*.

A single key-character used to separate members of *Orchestina* from other non-scutate oonopids is the markedly swollen tibia IV. A rather comprehensive study of species described in *Orchestina* as well as numerous undescribed species with swollen fourth tibia from Europe, North Africa, Seychelles, Yemen, India, Russian Far East, and Ecuador has revealed the extraordinary wide spectrum of both somatic and genitalic characters among them. As already emphasized by Saaristo [2001] the genus is in urgent need of revision. The new genus described in this paper is the first step to that direction.

Type specimens are deposited in the Zoological Museum of the Moscow State University. All measurements are given in millimeters.



Figs. 1–11. *Ferchestina storozhenkoi* sp.n. (1–9) and *Orchestina pavesii* (10–11): 1, 10 — right male palp laterally; 2 — right male palp dorsally; 3 — male carapace laterally; 4 — male carapace and chelicera frontally; 5 — apical parts of male chelicera frontally; 6 — maxilla, labium, and sternum of male ventrally; 8 — right female palp laterally; 8 — ocular area of female dorsally; 9, 11 — female copulatory organ ventrally. Scale bar = 0.2 mm.

Рис. 1–11. *Ferchestina storozhenkoi* sp.n. (1–9) и *Orchestina pavesii* (10–11): 1, 10 — правая пальпа самца сбоку; 2 — правая пальпа самца сверху; 3 — карапакс самца сбоку; 4 — какрапкс самца и хелицеры спереди; 5 — верхняя часть хелицер самца спереди; 6 — максиллы, нижняя губа и стернум самца снизу; 8 — правая пальпа самки сбоку; 8 — глазное поле самки сверху; 9, 11 — копулятивные органы самки снизу. Шкала = 0,2 мм.

Ferchestina gen. n.

Type species: *Ferchestina storozhenkoi* sp.n.

ETYMOLOGY: The generic name refers to the Russian Far East and the related genus *Orchestina*.

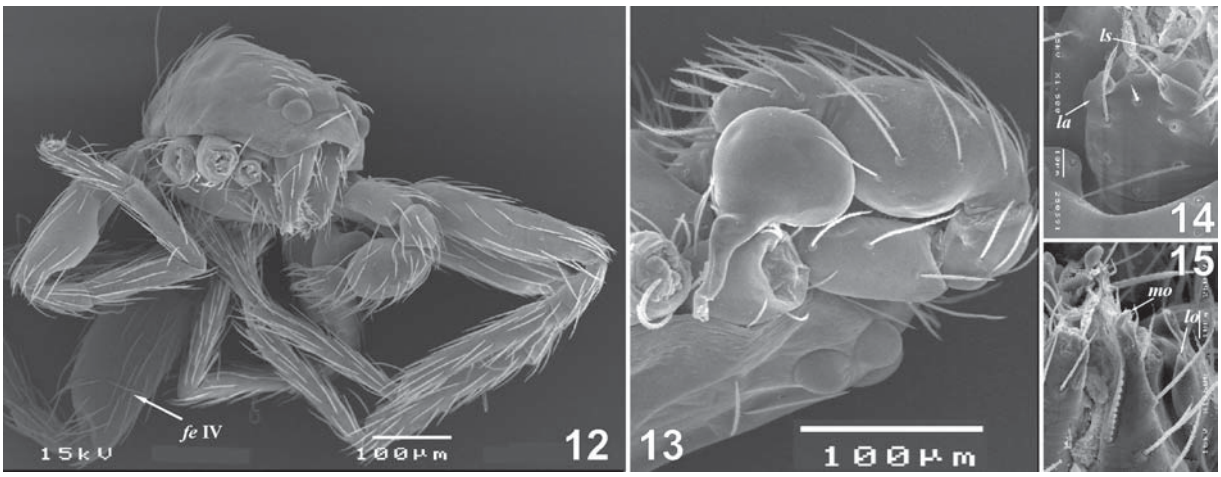
DIAGNOSIS: The new genus is close to *Orchestina* but differs from it especially in the following respects: (1) male carapace with two prominent humps in succession (cf. Figs. 3–4 and 12), (2) male chelicerae with a tubular prolateral extension bearing a long, swollen hair (cf. Figs. 4–5 and 12), (3) "embolus" of male palp dagger-like, almost straight (cf. Figs. 1–2 and 10, 13), (4) female copulatory organ with two very small, posteriorly opening invaginations forming a ^ -shaped figure, and (5) carapace higher (height/length = 0.5, in *Orchestina* = 0.3).

COMMENTS. In comparison to *O. pavesii* (total length 0.86, carapace length 0.49 in ♀ and 0.79 and 0.37 respectively in ♂), *F. storozhenkoi* sp.n. is twice as large as it; male labium and maxillae have no outgrowths (*lo* and *mo*, cf. Figs. 14–15), and also femur IV is not so thick (cf. Fig. 12).

DESCRIPTION: Since the genus is monotypic, the description is given under *Ferchestina storozhenkoi*.

Ferchestina storozhenkoi sp.n.
Figs. 1–9.

Material: Holotype ♂ RUSSIA, Primorskiy Krai (=Maritime Prov.), ca 30 km E of Ussuriysk, Kamenushka Vill., 43°36.45'N 132°13.60, bark spraying # 6, 30.08.2001 (S. Yu. Storozhenko et al.). Paratype ♀ same locality, date and collectors, bark spraying # 11.



Figs. 12–15. SEM micrographs of *Orchestina pavesii* male: 12 — prosoma fronto-lateral; 13 — frontal part of prosoma showing palp; 14 — labium; 15 — terminal parts of maxilla and labium. Abbreviations: *fe* IV — femur IV, *lo* — labial outgrowth; *ls* — labial spine; *mo* — maxillary outgrowth.

Рис. 12–15. Детали строения самца *Orchestina pavesii*: 12 — головогрудь спереди-сбоку; 13 — передняя часть просомы с пальпой; 14 — нижняя губа; 15 — верхняя часть максилл и нижней губы. Сокращения: *fe* IV — бедро IV, *lo* — вырост нижней губы; *ls* — шип нижней губы; *mo* — вырост максилл.

Map 1. Type locality of *Ferchestina ztorozhenkoi* sp.n. (♂).

Карта 1. Типовое местообитание *Ferchestina ztorozhenkoi* sp.n. (♂).

Comparative material of *Orchestina pavesii* (Simon, 1873) (all from Zoological Museum, University of Turku): 2 ♂♂ SPAIN, Canary Islands, Lanzarote, Haria/Teguise border, 500 m a.s.l., litter (mainly *Euphorbia*), 23.02.2004 (S. Koponen); 1♂ 1♀ SPAIN, Canary Islands, Lanzarote, Haria, *Tamariscus* litter, 23.02.2004 (S. Koponen).

ETYMOLOGY. Named after the collector of the type material, a prominent Russian entomologist Dr. Sergei Yu. Storozhenko, Vladivostok.

DESCRIPTION. Male. Total length 1.64. Carapace: 0.64 long, 0.54 wide. Cephalothorax and appendages pale colored, carapace with poorly visible radiating striae, abdomen pale with violetish hue produced by small, densely scattered pigment particles. Carapace (Figs. 3–4) with two humps in succession, one in postocular area, and another in thoracic part; anterior one conical, its pointed apex directed posteriorly, posterior hump more or less evenly curved. Chelicera (Figs. 4–5) long and narrow with scarily detectable basolateral bumps and small tubular prolateral extensions bearing long, swollen hair. Sternum (Fig. 6) anteriorly narrowing with elongated triangular spot behind labium, maxillae with short rastellum, labium rhomboid. Legs missing except leg III: 0.5 + 0.16 + 0.31 + 0.37 + 0.21. Abdomen slightly damaged, almost round. Male palp (Figs. 1–2) with massive swollen tibia longer than femur; bulbus massive, its size and length subequal to corresponding dimensions of tibia, "embolus" dagger-like, about ½ of bulbus width, almost straight, only slightly downwards bent, opening of seminal duct terminal; only the most apical part of seminal duct visible through bulbal integument, just before entering "embolus" duct is slight expanded in short length.

Female. Total length 1.79. Carapace 0.71 long, 0.57 wide, 0.37 high. Coloration as in male. Abdomen dorsally with poorly visible median chevron. Carapace conspicuously high, carapace height/ length = 0.52, that of *O pavesii* = 0.30. Eyes (Fig. 8) arranged in H-shaped order; median eyes largest, lateral ones subequal, about half of the size of median

eyes. Leg I 0.67 + 0.17 + 0.57 + 0.5 + 0.26, leg IV: 0.71 + 0.21 + 0.53 + 0.50 + 0.29. Tarsus and tibia of female palp about equal in length (Fig. 7). Female copulatory organ (Fig. 9) with ⊥-shaped structure above the epigastric furrow and ^-shaped one above it; later one is formed by two posteriorly opening invaginations.

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