

A new *Atypus* from the Russian Far East (Aranei: Atypidae)Новый вид рода *Atypus* с Дальнего Востока России (Aranei: Atypidae)T.I. Oliger  
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KEY WORDS: *Atypus*, Atypidae, Russian Far East.КЛЮЧЕВЫЕ СЛОВА: *Atypus*, Atypidae, Дальний Восток России.

ABSTRACT: An illustrated description of *Atypus medius* sp.n. (♂) from the Maritime Province (Primorie), Russian Far East is provided. The new species is closely related to *A. coreanus* Kim, 1985, and *A. magnus* Namkung, 1986, both from Korea, differing by the shape of the conductor and certain details of leg structure, eye field, abdomen, etc. Some comparative proportion indices for these species are given.

РЕЗЮМЕ: Дано иллюстрированное описание *Atypus medius* sp.n. (♂) из Приморского края Дальнего Востока России. Новый вид близок к *A. coreanus* Kim, 1985 и *A. magnus* Namkung, 1986, оба из Кореи, но отличаются формой кондуктора и некоторыми деталями строения ног, глазного поля, брюшка и пр. Приведена сравнительная характеристика этих трех видов по некоторым относительным размерным признакам.

The new species described here is the third valid *Atypus* in the Russian fauna [cf. Mikhailov, 1997], as the earlier records of *A. affinis* Eichwald, 1830, and *A. piceus* (Sulzer, 1776) [Kharitonov, 1932; Tyshchenko, 1971] in the southern part of the USSR have long proved wrong [cf. Zonstein, 1985]. The records of *A. muralis* Bertkau, 1890, are delimited in the east by the Ural Mts [Zonstein, 1985].

From entire Eastern Asia, including the Russian Far East with adjacent islands, as well as from Japan and Korea, altogether five *Atypus* species have hitherto been registered: *A. coreanus* Kim, 1985, *A. karschi* Dönitz, 1887, *A. magnus* Namkung, 1986, *A. donggukensis* Kim & Kim, 1996, and *A. formosensis* Kayashima, 1943 [Haku, 1937; Kim, 1985; Namkung, 1986; Logunov, 1990; Schwendinger, 1990; Yaginuma, 1990; Platnick, 1993; Paik & Kim, 1994; Kim & Kim, 1996]. Of these, only *A. magnus* has been found to occur in the south of Primorie (= Maritime Province), Far East of Russia [Logunov, 1990].

The type series of the new species described here is deposited in the collection of the Zoological

Museum, Moscow State University (ZMUM), Moscow.

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The following abbreviations are used: AER – anterior eye row, AL – anterior lateral eyes, AM – anterior median eyes, EF – eye field, F – femur, H – height, i. – index (width / length \*100), L – length, Mt – metatarsus, PER – posterior eye row, PL – posterior lateral eyes, PLS – posterior lateral spinnerets, PM – posterior median eyes, Pt – patella, T – tibia, Tr – tarsus, W – width.

All measurements are given in mm, measurements for the holotype are given without brackets, those for the paratype in brackets.

*Atypus medius* Oliger, **sp.n.**  
Figs 1–12.

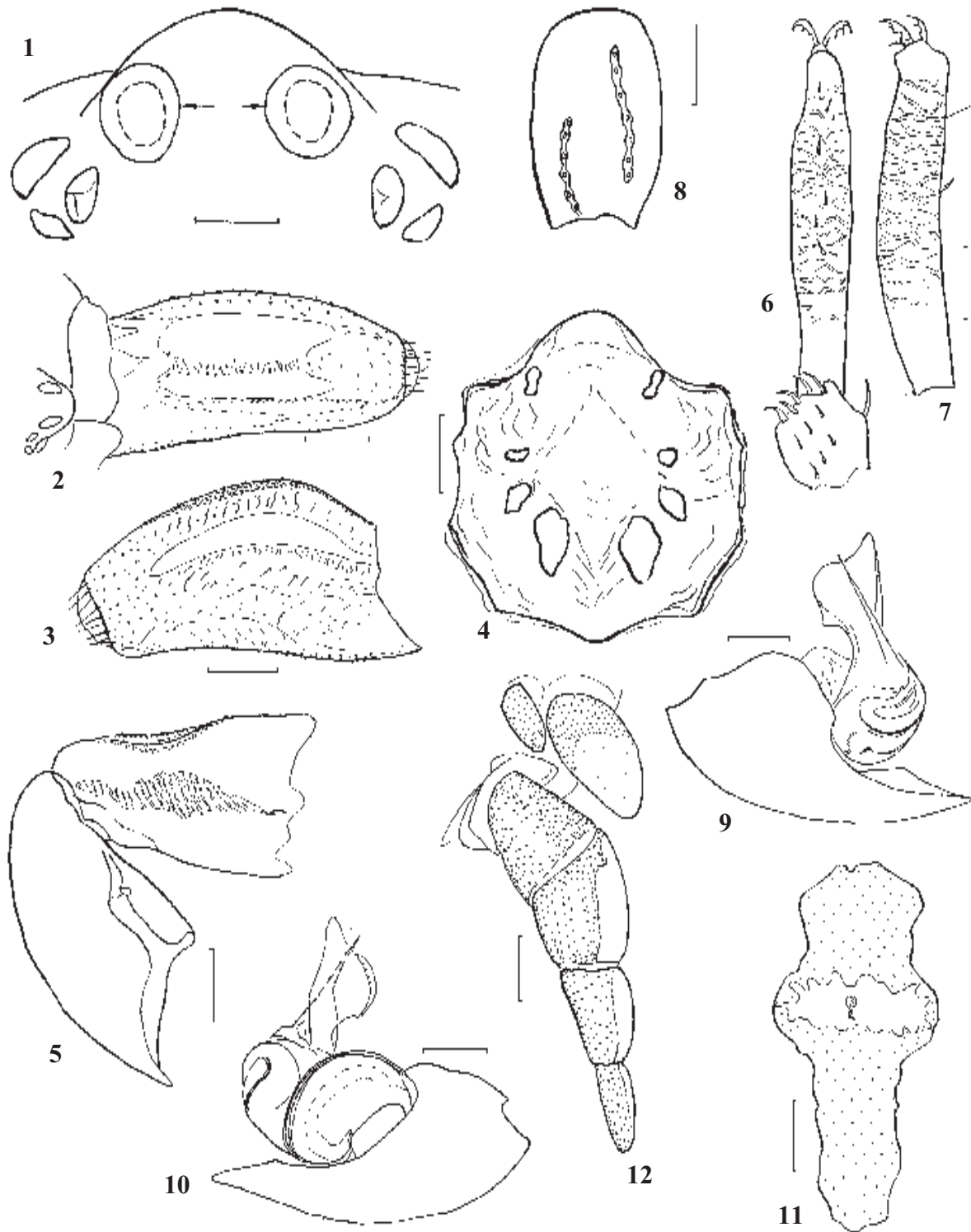
MATERIAL. Holotype: 1 ♂ (ZMUM), Russia, Primorie, Lazo Distr., near Kievka, 24.07.1975, leg. T. Oliger. — Paratype: 1 ♂ (ZMUM), Primorie, Ussuriysk Distr., near Kondratenovka (Kamenushka), 07.1992, leg. I.A. Pilipenko.

Other material. 3 juv. (possibly the same species), Pashegou, Lazovsky Nature Reserve, Primorie, 23.06.1975, leg. T. Oliger.

DESCRIPTION. Male. Total L (without spinnerets but including chelicerae) 18.5 (15.5); body L 14.0 (11.7). General colouration typical for the genus: deep brown with shining chelicerae, carapace, legs and scutum, and with a dull abdomen.

EF: nearly black, eye groups comparatively widely separated (Fig.1). Eyes: AM 0.30 (0.30), AL 0.25 x 0.17 (0.25 x 0.18), PM 0.2 x 0.1 (0.15 x 0.15), PL 0.13 x 0.07 (0.1 x 0.10). Eye formula: AM>AL>PM>PL (i. 100:83:66:43). Between: AM-AM 0.25 (0.25), AM-AL 0.12 (0.12), PM-PM 0.8 (0.8). AER 1.35 (1.33), PER 1.30 (1.25) (AER/PER=1.04), AM-AM/AM = 0.83; PM-PM/PM = 4 (or 8 if PM=0.1).

Chelicerae: L 5.75 (4.6), W 2.3 (1.7): faintly tapering (dorsal view), curved obliquely exolaterally, on top with



Figs 1-12. *Atypus medius* sp.n.: 1 — eye field: a — distance between AM; 2 — left chelicera dorsolaterally; 3 — left chelicera dorsomedially; 4 — sternum; 5 — distal F I and Pt, postlateral view; 6 — left Tr II, dorsally; 7 — right Tr I, prolaterally; 8 — palpal T dorsally; 9 — palp prolaterally; 10 — palp retrolaterally; 11 — scutum; 12 — spinnerets. Scale: 1, 8-10 = 0.25 mm; 5-7, 12 = 0.5 mm; 2-4, 11 = 1.0 mm.

Рис. 1-12. *Atypus medius* sp.n.: 1 — глазное поле: а — расстояние между AM; 2 — левая хелицера дорсолатерально; 3 — левая хелицера дорсомедиально; 4 — стернум; 5 — дистальный конец F I и Pt посталатерально; 6 — левая Tr II дорсально; 7 — правая Tr I пролатерально; 8 — голень пальпы дорсально; 9 — пальпус пролатерально; 10 — пальпус ретролатерально; 11 — скutum; 12 — паутинные бородавки. Масштаб: 1, 8-10 = 0,25 мм; 5-7, 12 = 0,5 мм; 2-4, 11 = 1,0 мм.

a thick ciliary fringe of bristles at distal edge. Angle between chelicerae 17°. Granular texture on lateral sides, dorsum with longitudinal, figurate, bald spots (Figs 2, 3); i. H/L=68. Inner edge with 11 small identical teeth.

Carapace: L 5.6 (5.4), W 5.3 (5.1): texture like in other *Atypus* species. Thoracic groove occupying about 1/5 of carapace width at that point.

Sternum: L 3.7 (4.2), W 3.5 (3.5), i. 95; with short sparse hairs and four pairs of sigilla (Fig. 4). First pair falcate and marginal, fourth pair oval and elongated. Labium: L 0.35, W along median line 1.3, i. 370, sternal portion fused with labium: L 0.75 (0.75), W up to promarginal sigilla 1.5 (1.5), i. 200. Palp coxa: L 3.4 (3.3), W 2.1 (1.8), i. 62. Angle between endites about 45°, inner margin forming an about 120° angle.

Appendages (all measurements along dorsal side of segments): palp 6.3 = 2.5 + 1.15 + 1.3 + — + 1.3 (6.05 = 2.2 + 1.2 + 1.3 + — + 1.35); I 15.8 = 5.1 + 2.3 + 2.5 + 3.6 + 2.3 (14.95 (4.5 + 2.3 + 2.55 + 3.4 + 2.2)); II 14.1 = 4.3 + 2.1 + 2.2 + 3.2 + 2.3; III 12.8 = 3.6 + 1.9 + 1.8 + 3.2 + 2.3; IV 16.9 = 4.9 + 2.0 + 2.5 + 4.3 + 3.2.

Legs: formula IV>I>II>III, i. 100-89-77-107, "median leg" 14.9. F I and F II each with a dorsal tooth at distal end and with a postlateral wrinkled part at this level (Fig. 5). F I with sparse, prolateral, granular texture. All F with neither spines nor apophyses. All Mt and Tr, especially Mt II & III, with numerous small spines. Each Pt with a ventroposterolateral suture. All Tr gently spindle-shaped, curved, with a light, cingulate, streamy pattern (Figs 6,7).

Palp: F with a prolateral furrow and two dorsal rows of thick-walled sensory hairs (Fig. 8). Bulb: L 0.55 (0.55), W 0.37 (0.4). Palp (Figs 9, 10): conductor with a comparatively thin post and a rather small, narrowly rounded, alar corner. Inner conductor corner with a small acute tooth. Embolus like in other *Atypus*, i.e. straight and spiniform [Gertsch & Platnick, 1980; Schwendinger, 1990]. Loops of ductus seminalis distinctly visible.

Abdomen: L 7.4 (6.4), W 5.8 (4.5); with short thick hairs and fine granular texture, latter especially clear on lung cover; scutum: L 5.2 (4.9), W 2.4 (2.5), with a yellow stellar spot (Fig. 11). L of second pair of lung covers 1.0 (1.0), distance between them and epigastric furrow 0.7 (0.2).

Spinnerets: PLS with four segments: 0.75 + 1.0 + 0.75 + 0.75 = 3.25 (0.75 + 1.0 + 0.8 + 0.7 = 3.25). Tips of spinneret pairs 1 and 2 as well as ventral sides of PLS light yellow (Fig. 12). Distance between epigastric furrow and spinnerets 3.67 (2.5).

Female: unknown.

HABITAT: All specimens have been caught in pitfall traps on dry mountain slopes of southern exposure in oak groves.

DIAGNOSIS: The male is indistinguishable from that of *A. coreanus* Kim, 1985 and *A. muralis* Bertkau, 1890 by the characters Schwendinger [1990] examined and grouped (see Table) only as based on the revision of European *Atypus* by Kraus & Baur [1974]. A careful analysis of these and additional features holding true of the whole genus, including the Asian and American species, points to only one valid taxonomic character in *Atypus* males, i.e. presence and structure of granulation on the chelicerae and front legs.

Agreeing with Schwendinger [1990] concerning this basic conclusion, I also consider some ratios as species-specific characters. So Table is also based on the descriptions and figures by Wiehle [1953], Kim [1985], Namkung [1986], Kim & Kim [1996] as well as on the original data.

The new species is closely related to *A. coreanus* and *A. magnus* but differs from the former in shape of the genitalia, FI, scutum, sigilla, by the obtuse inner angle of the endite, and by the proportions of the chelicerae, sternum and carapace. From the latter species, *A. medius* sp.n. is distinguished by certain details of palp structure (a narrower upper corner of the conductor and a different disposition of the loops of the ductus seminalis), the cheliceral promargin with 11 vs. 12 teeth as well as by lack of FI apophyses. Similarly, the proportions of the spinnerets, scutum, palpal T and conductor are different. Unfortunately, males of all these species have been scarcely documented, so some distinctions may not hold when larger material has been analyzed.

Table.  
Some measurements of *Atypus medius* and related species.

Таблица.  
Некоторые промеры *Atypus medius* и близких видов.

Character	<i>A. medius</i>	<i>A. coreanus</i>	<i>A. magnus</i>
MEF: L/W	0.5	2.48=?	?
AM-AM/AM	0.83	?	2.0*;0.33**
Conductor: revolved	no	?	no
upper corner W / embolus L	0.32	?	0.46
Endite: W/L	0.62	0.40	0.57
inner angle	120o	90o	?
Carapace L/ "med.leg"L	0.37	0.42	0.35
Chelicera L/ carapace L	1.03	0.86	1.09
Scutum L/ carapace L	0.93	?	0.75
Carapace W/L	0.95	0.70	0.96
Cheliceral W/L	0.40	0.44	0.40
Cheliceral teeth	11	11=?	12
Palpal T: L/W	1.57	?	1.81
PLS L/carapace L	0.58	?	0.49
F I: prolateral apophysis	no	no	2
Total L	18.50	19.25	22.27

\* Namkung [1986: 30]: possibly this author did not take into account the external cornea and measured only the length between AM eyeground.

\*\* Measured directly in the figure of Namkung [1986, fig.2].

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