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# Small collection of spiders (Aranei) from the Polar Urals and Yamal Peninsula, Russia

# О небольшой коллекции пауков (Aranei) с Полярного Урала и Ямала

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КЛЮЧЕВЫЕ СЛОВА: Пауки, Полярный Урал, Ямал, хорология.

ABSTRACT. A spider collection from Polar Urals and South & Middle Yamal contains 48 species belonging to seven families. 16 species are recorded from Yamal Peninsula for the first time. For four species the middle Yamal area is the northernmost locality of their distribution.

РЕЗЮМЕ. Небольшая коллекция пауков, собранная на Полярном Урале, а также на южном и среднем Ямале содержит 48 видов из 7 семейств. 16 видов впервые отмечены для п-ова Ямал, а для 4 видов средний Ямал — самая северная точка распространения.

## Introduction

Araneofauna of the Polar Urals is known rather well and according to the regional revision [Koponen, Marusik & Tanasevitch, 1998] it contains 174 species. The spider fauna of Yamal Peninsula is known unevenly, there are many species recorded from South Yamal, in the Catalogue of the spiders of the Urals: 160 species [Esyunin & Efimik, 1996]. Conversely, there are no data from Middle Yamal and only two species have been registered from North Yamal, i.e., *Halorates spetsbergensis* (Thorell, 1872) and *Erigone arctica sibirica* Kulczynski, 1908 [Holm, 1973]. The latter determination may be a mistake (see below). So, a small spider material, collected by the author EK, from Middle Yamal is very interesting and important. Even if the new material from Polar Urals and South Yamal did not give any new species for these areas (only new localities and information about biotope distribution), the white spot of the spider fauna of Middle Yamal is now slightly covered. 33 species are recorded from this area, of which one species could be determined only to the genus level.

## Material and methods

Altogether, 370 identifiable spider specimens were caught, the material is deposited in the Zoological Museum, University of Turku. Abbreviations used in the text and figures: AT — Andrei Tanasevitch, CAVM — Circumpolar Arctic Vegetation Map, EK — Elina Kaarlejarvi, EP — embolus proper, SK — Seppo Koponen.

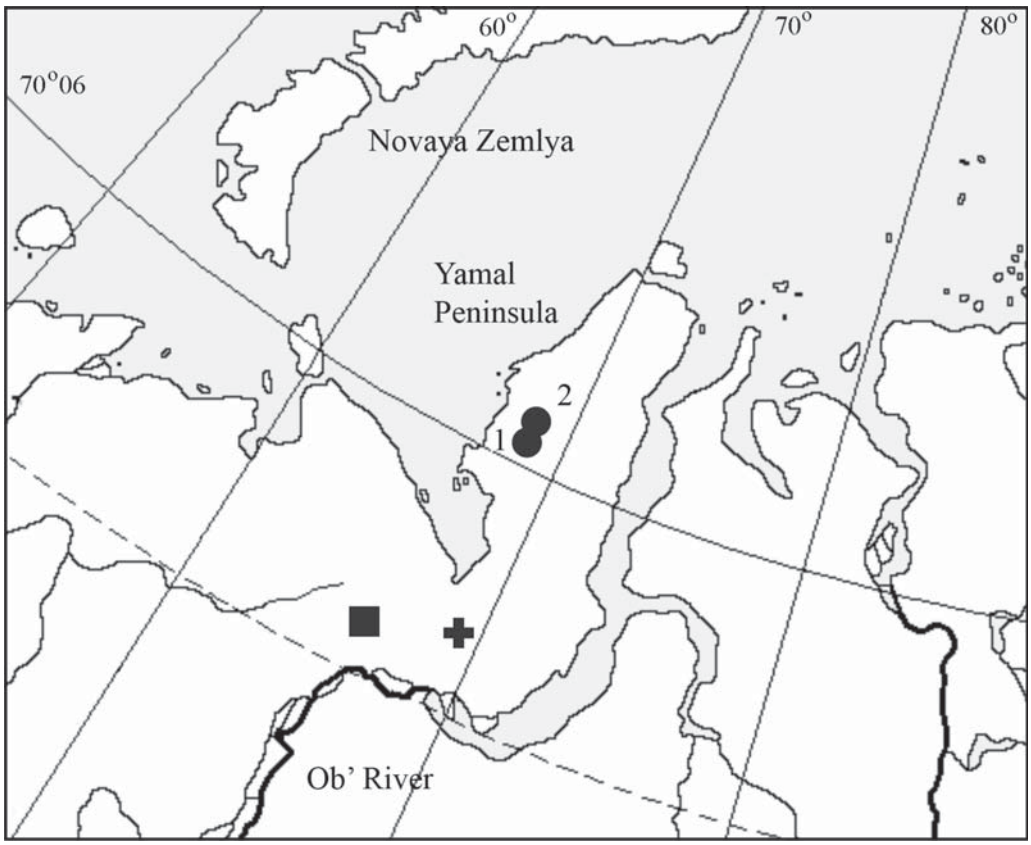
*Polar Urals Mts*

The material was collected by pitfall traps, 10–14.VII.2007, in a locality situated near Red Stones Mts (67.2549°N, 66.8192°E), southern side of Longotjegan River, ca 60 km NE of the Sob' River Valley, leg. EK (see the map).

This locality belongs to southern tundra subzone (subzone E of Circumpolar Arctic Vegetation Map [CAVM Team, 2003]), which is typically dominated by low shrubs. Vegetation type on the collection site was moss-dwarf birch tundra with 0.8–1.0 m high *Alnus fruticosa* shrubs and *Sphagnum* spp., *Eriophorum vaginatum*, *Carex bigelowii*, *Rubus chamaemorus*, *Betula nana*, *Ledum palustre*, etc.

*South Yamal*

The material was collected by pitfall traps, 17–22.VII.2007 & 14–20.VIII.2007, in two closely-situat-




Map. Localities of the collected material: Square — the Polar Urals, Crest — South Yamal, Circles — No1 & No2 — localities in Middle Yamal.

Карта. Места сборов: квадрат — Полярный Урал; крест — южный Ямал; кружки — средний Ямал: точки 1 и 2.

ed localities, and we considered them as one point (67.4500°N, 68.0800°E), leg. EK (see the map).

Also this locality belongs to southern tundra subzone (subzone E of CAVM [CAVM Team, 2003]), and corresponds the zonal community, i.e., moss-dwarf shrub tundra (*Aulacomnium palustre*, *A. turgidum*, *Sphagnum* spp., *Vaccinium uliginosum*, *V. vitis-idea, Empetrum nigrum*, *Rubus chamaemorus*, *Betula nana*).

*Middle Yamal*

The material was collected in July–August 2005 by pitfall traps from two localities in Middle Yamal both of them belonging to typical tundra, subzone D of CAVM [CAVM Team, 2003], (see the map):

**Locality No1**: 20 km S of Bovanenkovo gas field, 70.12°N, 68.3216°E, 20 m a.s.l., 9–24.7.2005, leg. EK.

The pitfall traps were arranged on slope (10–30 m a s.l.) from moist creek side to sandy hill top. At the base of slope vegetation was wet moss-sedge tundra (*Sphagnum* spp., *Carex aquatilis*, *Eriophorum angustifolium*, *Calliergon cordifolium*, *Salix nummularia*). Upper, still moist but less wet, community is situated in moss-sedge-equisetum tundra with sparse willows (*Polytrichum strictum*, *P. hyperboreum*, *Carex aquatilis*, *Equisetum arvense*, *Tanacetum bipinnatum*, *Salix nummularia*). The community near the top of hill on dry sandy soil is rather xerotic: lichen-moss-dwarf shrubs tundra with *Cetraria nigricans*, *C. islandica*, *Polytrichum hyperboreum*, *Polygonum viviparum*, *Pogonatum dentatum*, *Festuca rubra*, *Equisetum arvense*, *Tanacetum bipinnatum*, *Artemisia tilesii*, *Salix nummularia* & *Betula nana*. In whole, this locality corresponds to the intrazonal type of tundra communities (for details, see Tanasevitch & Koponen [2007]).

**Locality No2** (ca 40 km to the North from locality No1): Bovanenkovo gas field, 70.3942°N, 68.4368°E, 35 m a.s.l., 26.7–3.8.2005, leg. EK. The material was collected by pitfall traps in a flat lowland on Sejaha River, occupied by moss-grass-willow shrub tundra which corresponds to a typical intrazonal tundra community: *Aulacomnium turgidum*, *Calliergon cordifolium*, *Bryum pseudotriquetrum*, *Brachythecium mildeanum*, *Sanionia uncinata*, *Carex aquatilis*, *Eriophorum angustifolium*, *Calamagrostis stricta*, *Poa colpodea*, *Stellaria peduncularis*, *Equisetum arvense*, *Rubus arcticus*, *Betula nana*, *Salix lanata* & *S. glauca*.

## Results and Discussion

Twelve species from Polar Urals and ten from South Yamal (see Table 1) are common elements for the

Table 1. A list of species from the Polar Urals Mts, and South & Middle Yamal Peninsula.
Таблица 1. Список видов пауков, собранных на Полярном Урале, южном и среднем Ямале.

| List of species | Range | Polar Urals | South Yamal | Middle Yamal | |
|---|---|---|---|---|---|
| | | | | Locality No1 | Locality No2 |
| **Fam. Linyphiidae** | | | | | |
| *Agyneta allosubtilis* Loksa, 1965 | S–N | | | 2 ♂♂ | |
| *Agyneta brusnewi* (Kulczyński, 1908)* | S | | | 2 ♂♂ | |
| *Agyneta nigripes* (Simon, 1884)* | H | | | 12 ♂♂, 18 ♀♀ | |
| *Agyneta ripariensis* Tanasevitch, 1984 | S | 1 ♀ | | | |
| *Bathyphantes eumenis* (L. Koch, 1879) | H | | 1 ♂ | | |
| *Bathyphantes gracilis* (Blackwall, 1841)* | H | | | | 1 ♂, 6 ♀♀ |
| *Bathyphantes humilis* (L. Koch, 1879) | S | | | 2 ♂, 1 ♀ | |
| *Bathyphantes setiger* F.O. Pickard-Cambridge, 1894 | P | | | 1 ♀ ** | |
| *Diplocephalus barbiger* (Roewer, 1955)* | S–WN | | | 1 ♀ | |
| *Erigone arctica palaearctica* Brændegaard, 1934* | E | | 3 ♂♂, 1 ♀ | 30 ♂♂, 5 ♀♀ | |
| *Erigone psychrophila* Thorell, 1872 | H | | | 1 ♂ | |
| *Erigone remota* L. Koch, 1869* | P | | | 5 ♂♂ | |
| *Erigone tirolensis* L. Koch, 1872* | H | | | 5 ♂♂ | |
| *Erigone whymperi* O. Pickard-Cambridge, 1877* | H | | | 1 ♂ | |
| *Gibothorax tchernovi* Eskov, 1989* | S | | | 1 ♂, 3 ♀♀ | |
| *Halorates holmgreni* (Thorell, 1871) | H | | | 1 ♂, 6 ♀♀ | |
| *Halorates spetsbergensis* (Thorell, 1872) | H | | | 44 ♂♂&♀♀ | |
| *Hilaira nubigena* Hull, 1911 | P | | | | 3 ♂♂, 4 ♀♀ |
| *Hilaira proletaria* (L. Koch, 1879) | S–A | | | 1 ♂ | |
| *Hypselistes jacksoni* (O. Pickard-Cambridge, 1902)* | H | | | | 1 ♂ |
| *Mecynargus paetulus* (O. Pickard-Cambridge, 1875) | H | | 1 ♂, 3 ♀♀ | | 2 ♂♂ |
| *Oreoneta leviceps* (L. Koch, 1879) | S–N | 2 ♂♂ | | | |
| *Oreoneta uralensis* Saaristo et Marusik, 2004* | WS | | | | 1 ♂ ** |
| *Oreonetides* sp. | | | | 1 ♂ | |
| *Pelecopsis mengei* (Simon, 1884) | H | | | | 18 ♂♂, 3 ♀♀ |
| *Praestigia groenlandica* Holm, 1967* (?) | H | | | 1 ♂, 2 ♀♀ | |
| *Pseudocyba miracula* Tanasevitch, 1984 | S | | | 1 ♂ | 2 ♂♂, 1 ♀ |
| *Semljicola alticola* (Holm, 1950)* | F–S | | | | 2 ♂♂ ** |
| *Semljicola lapponicus* (Holm, 1939) | FS–WN | | | 1 ♂ | |
| *Styloctetor lehtineni* Marusik et Tanasevitch, 1998* | S | | | 1 ♂, 18 ♀♀ ** | |
| *Tarsiphantes latithorax* Strand, 1905* | H | | | 2 ♀♀ | |
| *Tmeticus nigriceps* (Kulczyński, 1916) | WS | | 1 ♂, 1 ♀ | 50 ♂♂ | 21 ♂, 2 ♀♀ |
| *Zornella cultrigera* (L. Koch, 1879) | H | 1 ♀ | | | |
| **Fam. Tetragnathidae** | | | | | |
| *Pachygnatha clercki* Sundevall, 1823 | H | | | 1 ♂, 1 ♀ | 1 ♂, 4 ♀♀ |
| **Fam. Araneidae** | | | | | |
| *Araneus marmoreus* Clerck, 1757 | H | | 1 ♀ | | |
| **Fam. Lycosidae** | | | | | |
| *Alopecosa hirtipes* (Kulczyński, 1907) | S–N | | 1 ♂ | | |
| *Alopecosa mutabilis* (Kulczyński, 1908) | S–A | | | 1 ♂ | |
| *Arctosa alpigena* (Doleschall, 1852) | H | 1 ♀ | 1 ♀ | | |
| *Pardosa indecora* L. Koch, 1879 | S | | 1 ♀ | | |
| *P. lapponica* (Thorell, 1872) | H | 2 ♀♀ | 1 ♀ | | |
| *P. septentrionalis* (Westring, 1861) | P | 4 ♂♂, 10 ♀♀ | 1 ♂ | | |
| **Fam. Gnaphosidae** | | | | | |
| *Gnaphosa orites* Chamberlin, 1922 | H | 2 ♂♂ | | | |
| *Haplodrassus moderatus* (Kulczyński, 1897) | P | 8 ♂♂ | | | |
| *Micaria constricta* Emerton, 1894* | H | | | 6 ♂♂ | |

Table 1 (contituing).
Таблица 1 (продолжение).

| List of species | Range | Polar Urals | South Yamal | Middle Yamal | |
|---|---|---|---|---|---|
| | | | | Locality No1 | Locality No2 |
| **Fam. Philodromidae** | | | | | |
| *Thanatus arcticus* Thorell, 1872 | H | 2 ♂♂ | | | |
| **Fam. Thomisidae** | | | | | |
| *Ozyptila arctica* Kulczyński, 1908 | H | 1 ♂, 2 ♀♀ | | | |
| *Xysticus albidus* Grese, 1909 | F–S | | | 3 ♂♂ | |
| *Xysticus britcheri* Gertsch, 1934 | S–N | 11 ♂♂, 3 ♀♀ | | | |

(*) — species recorded from Yamal Peninsula for the first time; (**) — northernmost point of distribution. Range: F–S — Fennoscandian–Siberian, H — Holarctic, P — Palaearctic, P–WN — Palaearctic–West Nearctic, S — Siberian, S–A — Siberian–Alaskan, S–N — Siberian–Nearctic, S–WN — Siberian–West Nearctic, WS — West Siberian.

(*) — виды, впервые отмеченные на п-ове Ямал; (**) — самая северная точка ареала вида. Тип ареала: F–S — фенноскандинавско-сибирский, H — голарктический, P — палеарктический, P-WN — палеарктический западно-неарктический, S — сибирский, S–A — сибирско-аляскинский, S–N — сибирско-неарктический, S–WM — сибирский западно-неарктический, WS — западно-сибирский.

southern tundra communities and do not add anything to the faunistic lists of these areas. Note here, that according to the revision of Saaristo & Marusik [2004], some previous information about a few species have been changed, e.g. all records of *Hilaira frigida frigida* (Thorell, 1872) & *H. tatrica tatrica* Kulczyński, 1915 from the Urals and South Yamal are actually concerning *Oreoneta uralensis* Saaristo et Marusik, 2004 [Saaristo & Marusik, 2004].

Certainly, the material collected by short-term pitfall trapping from Middle Yamal, does not give a full picture of the studied fauna, but, nevertheless, it is very interesting: among 33 species, 16 of them are recorded in Yamal Peninsula for the first time. For four linyphiid species, *Bathyphantes setiger* F.O. Pickard-Cambridge, 1894, *Oreoneta uralensis* Saaristo et Marusik, 2004, *Semljicola alticola* (Holm, 1950) and *Styloctetor lehtineni* Marusik et Tanasevitch, 1998, this middle Yamal area is the northernmost locality of their distribution.

For *Erigone whymperi* O. Pickard-Cambridge, 1877 Middle Yamal is the second record in Eurasia: this species was earlier known only from the Vorkuta Area in the East of the Bolshezemelskaya tundra [Tanasevitch & Koponen, 2007].

A male of *Oreonetides* sp. is very similar to *O. badzhalensis* Eskov, 1991, of which the male is still undescribed, but existing in the Tanasevitch's personal collection; probably it is unknown male for *O. beringianus* Eskov, 1991, described based on females from Magadan Area and Chukotka [Eskov, 1991].

The *Erigone arctica* material from Middle Yamal contents *Erigone arctica palaearctica* Brændegaard, 1934 (Figs 1–14), instead of expected *Erigone arctica sibirica* Kulczyński, 1908, so, the determination of *Erigone a. sibirica* from North Yamal [Holm, 1973], based on females only, may be doubtful.

Taxonomic status of *Praestigia groenlandica* Holm, 1967 found is not clear. The present first author (AT) is treating *P. groenlandica* as a Holarctic circumpolar species. The second author (SK) follows Marusik et al. [2008], in which case *P. groenlandica* lives only in Greenland and adjacent northern Canada, and the present material may contain other species, described in the paper mentioned above.

The majority of registered species have widespread distribution (H, P, P–WN, S–N, see legend in Table 1), but most of them are according to their zonal preference arctic, arcto-alpine, or arcto-boreal species, and only a few species, e.g., *Araneus marmoreus* Clerck, 1757, *Bathyphantes gracilis* (Blackwall, 1841), *Pelecopsis mengei* (Simon, 1884), *Pachygnatha clercki* Sundevall, 1823, etc are polyzonals. In Table 1, distribution pattern of species from the studied areas is proposed.

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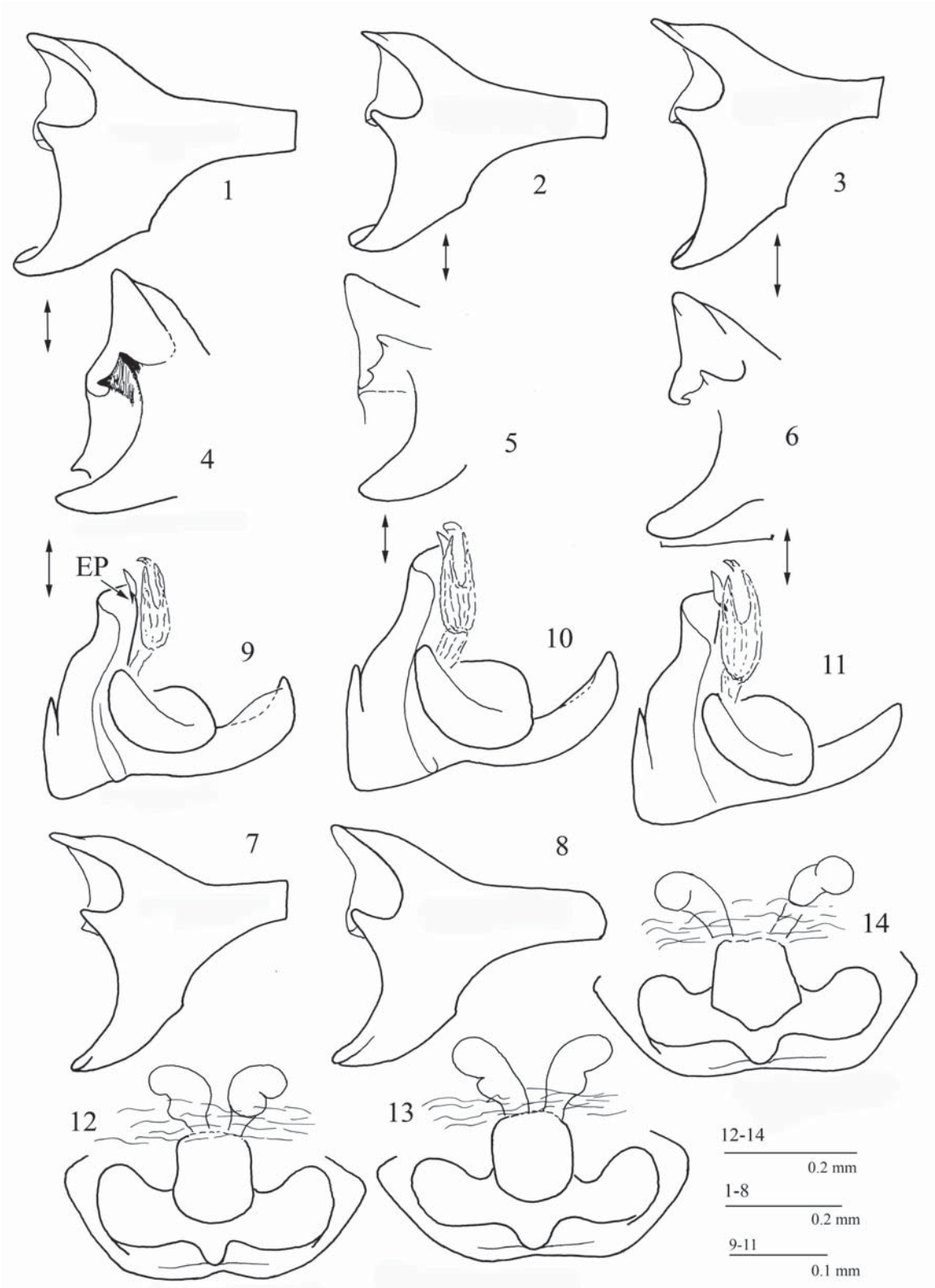


Figs 1–14. Variability of the genitalic structure of *Erigone arctica palaearctica* Brændegaard, 1934: 1–8 — left palpal tibia (1–3, 7, 8 — lateral view, 4–6 — ventro-lateral view); 9–11 — embolic division, 12–14 — epigyne (dorsal view). Arrows show the same specimen. Abbreviation: EP — embolus proper.

Рис. 1–14. Изменчивость генитальных структур у *Erigone arctica palaearctica* Brændegaard, 1934: 1–8 — голень левой пальпы (1–3, 7, 8 — вид сбоку, 4–6 — вид снизу и сбоку); 9–11 — эмболюсный отдел; 12–14 — эпигина (вид сверху). Стрелки указывают на один и тот же экземпляр. Сокращения: EP — собственно эмболюс.

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