

***Evagetes leleji* sp.n. — a new species of spider wasps
(Hymenoptera: Pompilidae) from Russia**

***Evagetes leleji* sp.n. — новый вид дорожных ос
(Hymenoptera: Pompilidae) из России**

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Key words: Pompilinae, Pompilini, taxonomy, kleptoparasites, Europe, Palaearctic region.

Ключевые слова: Pompilinae, Pompilini, таксономия, клептопаразиты, Европа, Палеарктическая область.

Abstract. A new species, *Evagetes leleji* sp.n., is described and illustrated, based on a female and male, from desert biotopes of Astrakhan Province, Russia. For the fauna of Russia, the number of species of the genus *Evagetes* has been increased to 21, and the total number of species of the family — 253.

Резюме. Новый для науки вид, *Evagetes leleji* sp.n., описан и проиллюстрирован по самке и самцу из пустынных биотопов Астраханской области, Россия. Для фауны России число видов рода *Evagetes* увеличено до 21, а общее число видов семейства — 253.

Introduction

Evagetes Lepeletier de Saint-Fargeau, 1845 is a genus of kleptoparasitic spider wasps (Pompilidae) from the tribe Pompilini of the subfamily Pompilinae. Their larvae develop on spiders caught and placed in a nest by other spider wasps. The genus contains 72 species distributed predominantly in the Palaearctic (58 species) and Nearctic (11) regions; several species occur in the Afrotropical, Oriental, and Neotropical regions [Loktionov, Lelej, 2009, 2017]. Revision of the genus in Europe and Turkey revealed 19 species [van der Smitten, 2003], and in Russia — 19 species [Loktionov, Lelej, 2009]. In these revisions, the diagnosis, keys to females and males as well as illustrations of hypopygium and genitalia of males were given. Later, the species, *E. trispinosus* (Kohl, 1886), was recorded for Russia from the Altai Territory [Baghirov, 2014]. All data on the genus was summarized in the “Catalogue of spider wasps of Russia” [Loktionov, Lelej, 2017], where 20 species were listed, with updated data on their citation, synonymy, and distribution.

The study of new materials on the genus *Evagetes*, collected in the south of the European part of Russia, revealed a new species, which is described and illustrated in this article. I dedicate the new species, *Evagetes leleji* sp.n., to my teacher, Doctor of Biological Sciences,

Professor Arkady Stepanovich Lelej, a well-known specialist in mutillids, who also significantly contributed to the knowledge of pompilids of the Palaearctic Region.

Material and methods

The holotype and paratype of the new species are deposited in the collection of the Federal Scientific Center of the East Asia Terrestrial Biodiversity, Vladivostok, Russia [FSC]. The terminology for morphology is based on the glossary provided by the Hymenoptera Anatomy Consortium [2013]. F, S, and T are used for flagellomeres, metasomal sterna, and metasomal terga respectively; LID — lower interocular distance; MID — middle interocular distance; OOD — ocellular distance between posterior ocellus and compound eye which is measured from above; POD — postocellar (interocellar) distance between posterior ocelli which is measured from above; UID — upper interocular distance. Photographs of specimens were taken with the stereomicroscope Olympus SZX16 and digital camera Olympus DP74, and stacked using Helicon Focus software. The final illustrations were postprocessed for contrast and brightness using Adobe® Photoshop® software.

The present work is registered in ZooBank (www.zoobank.org) under urn:lsid:zoobank.org:pub:301AB9F0-92AB-47D8-B7AC-3F0C4E5DBF7E

Results

Pompilidae Latreille, 1804

Pompilinae Latreille, 1804

Pompilini Latreille, 1804

***Evagetes* Lepeletier de Saint-Fargeau, 1845**

Type species: *Evagetes bicolor* Lepeletier de Saint-Fargeau, 1845 (= *Aporus dubius* Vander Linden, 1827), by monotypy.

Notes. For the diagnosis, synonymy, species included, distribution, and key to the species of Russia and Europe see van der Smissen [2003] and Loktionov, Lelej [2009, 2014, 2017].

Evagetes leleji Loktionov, **sp.n.**

Figs 1–20.

<https://zoobank.org/NomenclaturalActs/2B9F88C5-8817-4364-AEC5-43324F71EBEF>

Material. Holotype, ♀, Russia, Astrakhan Province, Enotaeviskiy District, surroundings of Volzhskiy, 46.965°N, 47.53°E, 29.VI.2019, coll. M. Mokrousov [FSC]. Paratype, 1♂, same label as for holotype [FSC].

Description. *Female* (holotype). Length: body 5.5 mm; forewing 3.6 mm.

Head in frontal view 1.2 times as wide as height; MID 0.6 times as long as head width, half of MID 1.4 times as long as eye width. Ocellar triangle right-angled (Fig. 7); POD : OOD = 1.4. Head in frontal view with vertex distinctly produced beyond eye top (Fig. 5). Posterior margin of vertex in dorsal view straight. Head in lateral view with frons slightly convex (Fig. 4). Malar space long (Figs 4, 5), as long as width of pedicel. Clypeus slightly convex, as wide as LID, and 3.5 times as wide as height; anterior margin straight. Labrum with straight anterior margin. Flagellum filiform (Fig. 5); ratio of antennal segments 22(scape), 10(pedicel), 24(F1), 20(F2), 18(F3), 16(F4), 15(F5), 16(F6), 14(F7), 13(F8), 11(F9), 14(F10); scape 0.5 times as long as UID; F1 2.7 times as long as maximum width and 0.6 times as long as UID; F2 2.3 times as long as maximum width; F10 obliquely truncated apically (Fig. 5), with flat smooth area.

Mesosoma. Pronotum in dorsal view medially 0.4 times as long as maximum width; posterior border rounded (Fig. 7). Dorsum of mesoscutellum and metanotum convex. Metapostnotum short (Fig. 6), 0.2 times as long as metanotum medially. Propodeum (Fig. 6) in dorsal view 0.9 times as long as wide; dorsum in lateral view convex; dorsum roundly merging with lateral and posterior faces.

Legs. Fore leg with well developed spines of tarsal comb on tarsomeres 1–3 (Fig. 3); spines flattened and widened in apical half. Fore tarsomere 1 with five spines; apical spine almost reaching apex of tarsomere 4 and 1.2 times as long as tarsomere 1 or tarsomeres 2 and 3 combined. Fore tarsomere 2 with two spines; apical spine reaching middle of tarsomere 5 and 1.8 times as long as tarsomere 2, and 1.4 times as long as tarsomeres 3 and 4 combined. Fore tarsomere 3 with one preapical spine reaching middle of claw and 1.9 times as long as tarsomere 3, and 1.1 times as long as tarsomeres 4 and 5 combined. Fore tarsomere 4 with one apical spine, 0.8 times as long as tarsomere 5. Ratio of 1–5 fore tarsomeres 29:16:14:9:13. Longest apical spur of hind tibia 0.7 times as long as hind tarsomere 1. Orbicula of all claws very small and triangle shaped. Tarsal claws of all legs symmetrical, slender, not bifid; inner tooth indistinct.

Wings translucent (Figs 8, 9). Fore wing with three submarginal cells and brown apical band.

Metasoma as in Figs 1, 2.

Sculpture is hidden by pubescence, especially in head and mesosoma. Propodeum somewhat polished and reticulated (Fig. 6). T1 (in area where pubescence lost) reticulated.

Colour. Head, mesosoma, and all coxae black. Antenna black, except yellowish scape and pedicel (Fig. 4). Mandible yellowish with brown apex. Femur, tibia and basal portion of tarsomere 1 of all legs yellowish-orange. Rest tarsi brownish. Spines of tarsal comb yellowish (Fig. 3). Metasoma (Figs 1, 2) completely yellowish-orange, with brown apex of apical segment (hidden portion of terga noticeably darker).

Pubescence. Body mostly setae less. Vertex with a few short gray setae. Gena and fore coxa with long gray setae. All femurs with scattered gray setae. Head, mesosoma, metasoma, and legs covered with pubescence of varying intensity. F3–10 ventrally with yellowish pubescence forming stripe on each segment. Head, mesosoma, and all coxae with very dense yellowish-gray pubescence, almost completely hiding sculpture of body (Figs 2–6). Legs and metasoma with finer silverish pubescence.

Male (paratype). Length: body 4.3 mm; forewing 3.1 mm.

Head in frontal view 1.1 times as wide as height; MID 0.6 times as long as head width, half of MID 1.8 times as long as eye width. Ocellar triangle right-angled (Fig. 17); POD : OOD = 1.7. Head in frontal view with vertex strongly produced beyond eye top (Fig. 13). Posterior margin of vertex in dorsal view straight. Head in lateral view with frons convex (Fig. 14). Malar space long (Figs 13, 14), as long as width of pedicel. Clypeus slightly convex, as wide as LID, and 3.7 times as wide as height; anterior margin slightly acutely emarginated. Labrum with straight anterior margin. Flagellum filiform (Fig. 17); ratio of antennal segments 16(scape), 10(pedicel), 10(F1), 10(F2), 9(F3), 9(F4), 9(F5), 9(F6), 9(F7), 9(F8), 9(F9), 9(F10), 12(F11); scape 0.4 times as long as UID; F1 1.4 times as long as maximum width and 0.25 times as long as UID; F11 hardly truncated apically, with indistinct smooth area.

Mesosoma. Pronotum in dorsal view medially 0.5 times as long as maximum width; posterior border weakly rounded. Dorsum mesoscutum flat. Dorsum of mesoscutellum and metanotum convex. Metapostnotum short (Fig. 12), 0.25 times as long as metanotum medially. Propodeum (Fig. 11) in dorsal view 0.8 times as long as wide; dorsum in lateral view convex; dorsum roundly merging with lateral and posterior faces.

Genitalia as in Fig. 18. Hypopygium ventrally (Fig. 19) oval shaped in apical portion, with stout bristles along margin; in lateral view (Fig. 20) weakly convex.

Legs. Longest apical spur of hind tibia 0.7 times as long as hind tarsomere 1. Orbicula of all claws very small and triangle shaped. Tarsal claws of fore leg asymmetrical, inner claw bifid and strongly bent, outer claw slender, not bifid. Tarsal claws of mid and hind legs symmetrical, slender, not bifid.

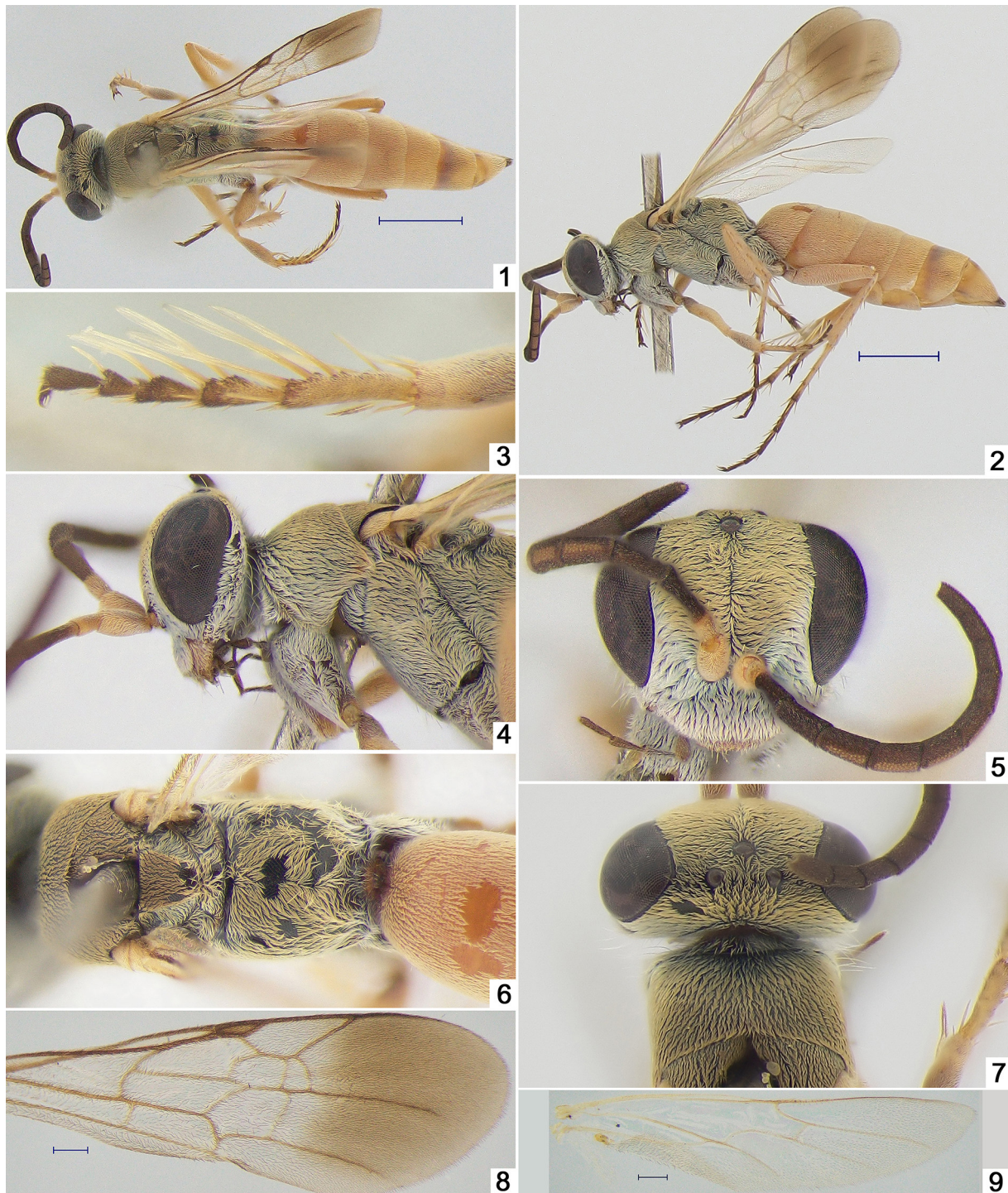
Wings translucent (Figs 15, 16). Fore wing with three submarginal cells and brown apical band.

Metasoma as in Figs 10, 12. Apical margin of S6 deeply roundly emarginated.

Colour. Head, mesosoma, all coxae, and metasoma black. Antenna black, with somewhat brownish scape and pedicel (Fig. 4). Mandible yellowish, with darker apex. Femur, tibia and basal portion of tarsomere 1 of all legs yellowish-orange. Rest tarsi of all legs brownish.

Pubescence. Body setae less, except vertex, gena with a few gray setae. Head and mesosoma with dense white-yellowish pubescence, almost completely hiding sculpture of body (Figs 10–14). Metasoma with white-yellowish pubescence finer than on head. Scape, pedicel, and legs with fine whitish pubescence.

Diagnosis. The female of the new species differs from those of other species of the genus by the combination of the following characters: (1) apical flagellomere obliquely truncated apically; (2) fore tarsomere 1 with five flattened and widened spines of tarsal comb, apical spine almost reaching apex of tarsomere 4; (3) fore tarsomere 2 with two very long flattened and widened spines, apical spine reaching middle of tarsomere 5; (4) malar space well developed, as long as width of pedicel; (5) head and mesosoma with very dense yellowish-gray pubescence; (6) metasoma completely yellowish-orange.



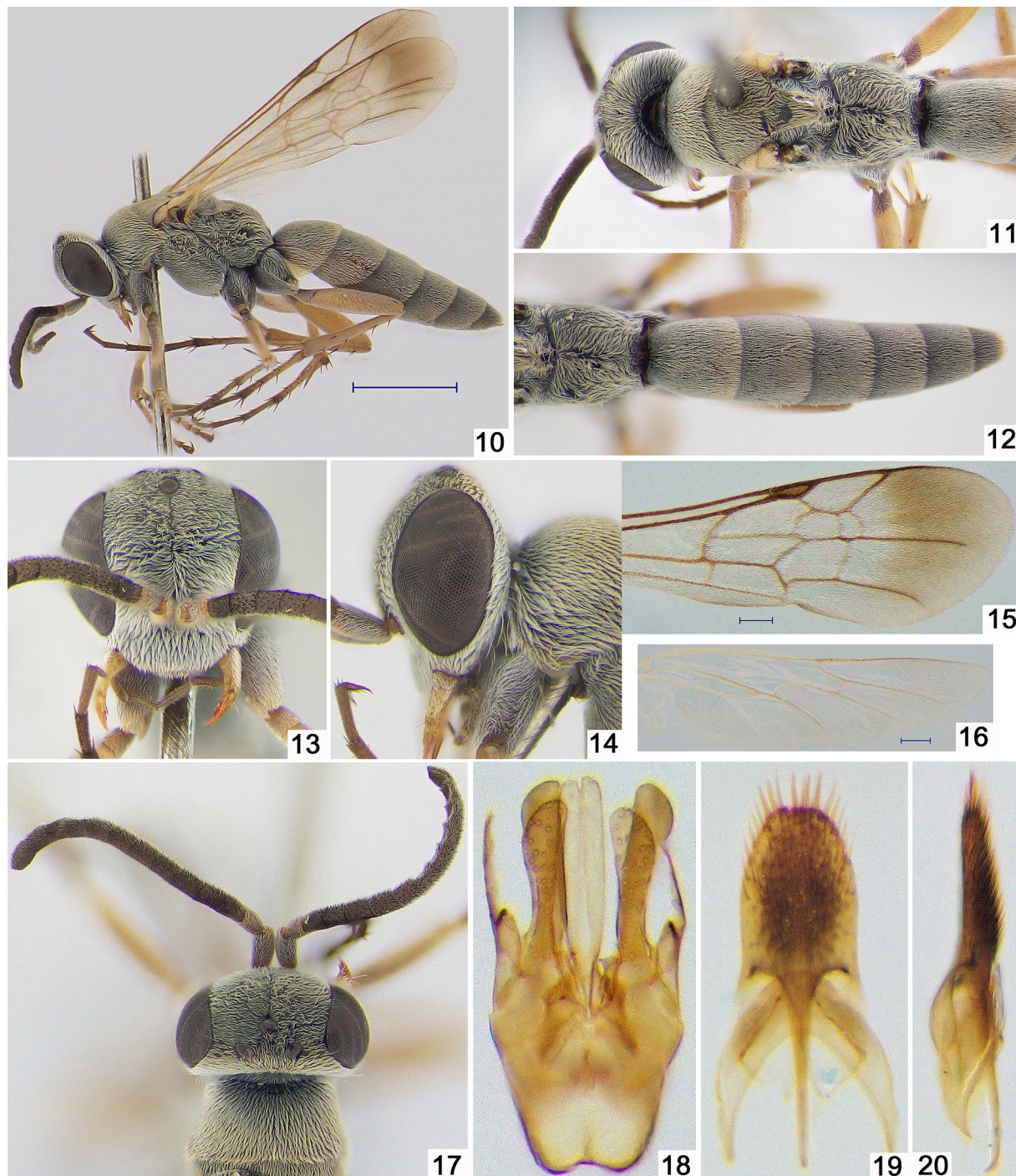
Figs 1–9. *Evagetes leleji* sp.n., holotype, female. 1 — habitus, dorsal view; 2 — habitus, lateral view; 3 — fore tarsus with comb spines; 4 — head and mesosoma part., lateral view; 5 — head, frontal view; 6 — mesosoma and T1, dorsal view; 7 — head and pronotum, dorsal view; 8 — fore wing; 9 — hind wing. Scale bars: 1.0 mm (1, 2); 0.2 mm (8, 9).

Рис. 1–9. *Evagetes leleji* sp.n., голотип, самка. 1 — габитус, вид сверху; 2 — габитус, вид сбоку; 3 — передняя лапка с шипами тарзального гребня; 4 — голова и мезосома част., вид сбоку; 5 — голова, вид спереди; 6 — мезосома и T1, вид сверху; 7 — голова и пронотум, вид сверху; 8 — переднее крыло; 9 — заднее крыло. Масштаб: 1.0 мм (1, 2); 0.2 мм (8, 9).

The male of the new species can be distinguished by the combination of the following characters: (1) hypopygium in ventral view oval shaped in apical half, with long stout bristles along margin in apical portion only, in lateral view weakly convex; (2) head, mesosoma, and metasoma with intensive

white-yellowish pubescence; (3) body mostly setae less; (4) metasoma black; (5) legs mostly yellowish-orange; (6) mandible yellowish.

Sex association. The female and male are considered as the same species based on the following characters shared in



Figs 10–20. *Evagetes leleji* sp.n., paratype, male. 10 — habitus, lateral view; 11 — head, mesosoma, and T1, dorsal view; 12 — propodeum and metasoma, dorsal view; 13 — head, frontal view; 14 — head and pronotum, lateral view; 15 — fore wing; 16 — hind wing; 17 — pronotum, head, and antennae, dorsal view; 18 — genitalia, ventral view; 19 — hypopygium, ventral view; 20 — hypopygium, lateral view. Scale bars: 1.0 mm (10); 0.2 mm (15, 16).

Рис. 10–20. *Evagetes leleji* sp.n., паратип, самец. 10 — габитус, вид сбоку; 11 — голова, мезосома и Т1, вид сверху; 12 — пропodeум и метасома, вид сверху; 13 — голова, вид спереди; 14 — голова и пронотум, вид сбоку; 15 — переднее крыло; 16 — заднее крыло; 17 — пронотум, голова и усики, вид сверху; 18 — гениталии, вид снизу; 19 — гипопигиум, вид снизу; 20 — гипопигиум, вид сбоку. Масштаб: 1.0 мм (10); 0.2 мм (15, 16).

both sexes: the head and mesosoma are covered with dense light pubescence; the legs are mostly yellow-orange; the malar space is long; venation of the wings is same. Moreover, both the female and male were collected in same place and date by the same collector.

Distribution. Russia: Astrakhan Province.

Biology. Inhabits desert sandy biotopes.

Etymology. I am pleased to name the new species in honor of the outstanding Russian entomologist Prof. Arkady Stepanovich Lelej (FSC Biodiversity FEB RAS, Vladivostok, Russia) on the occasion of his 80th birthday. Treat as a noun in apposition.

Discussion

The new species, *Evagetes leleji* sp.n., is remarkable within all 20 species of the genus *Evagetes* known from Russia because of the female possesses the following peculiar characters: apical flagellomere obliquely truncated at the apex; the body with well developed pubescence; legs and metasoma yellowish-orange. The male of the new species is also easily recognizable within all Russian species of *Evagetes* by having: intensive white-yellowish pubescence on the head, mesosoma, and metasoma; black color of the metasoma; and yellowish-orange legs.

Heinrich Wolf [1970] proposed a new classification of the genus *Evagetes*, in the result of which four subgenera were established: nominative subgenus *Evagetes*; newly described subgenera *Carinevagetes* Wolf, 1970 and *Contempevagetes* Wolf, 1970; and *Leuchimon* Haupt, 1930, status of which was changed from the genus to the subgenus. Later, the subgenera *Carinevagetes*, *Contempevagetes*, and *Leuchimon* were synonymized under *Evagetes* (see details in Loktionov, Lelej [2017]). At the present time, there are no subgenera in *Evagetes*. Heinrich Wolf [1970] included in the subgenus *Leuchimon* eight species, all of which are distributed in the North Africa: *E. palmatus* (Haupt, 1930) (type species), *E. almoravidus* Wolf, 1970, *E. ophirus* Wolf, 1970, *E. barbarescus* Wolf, 1970 (with one subspecies), *E. haupti* (Priesner, 1955), *E. pseudoleucopterus* Wolf, 1970, *E. mochii* (Priesner, 1955), and *E. petiolatus* (Priesner, 1955). The female and male of the new species, *E. leleji* sp.n. share common characters with the congeners of the former “*Leuchimon*” (currently the *palmatus* species-group), but can be distinguished from all of them by the combination of characters presented in the

diagnosis above. Currently, there are five species-groups in *Evagetes*: *dubius*, *crassicornis*, *palmatus*, *pectinipes*, and *siculus* [Lelej, Loktionov, 2009]; all of them are now known from Russia. *Evagetes leleji* sp.n. is a first representative of the *palmatus* species-group in Russia, 21st species of the genus in Russia, and 73rd species of the genus in the World. The spider wasp fauna of Russia numbers 253 species from 39 genera and three subfamilies.

Acknowledgements

I am grateful to Mikhail Mokrousov (Nizhny Novgorod, Russia) for the materials on spider wasps that were gifted to the collection of FSC. The research was carried out within the state assignments of the Ministry of Science and Higher Education of the Russian Federation (No. 124012400285-7).

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Поступила в редакцию 4.5.2026