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The spider genus *Philodromus* Walckenaer, 1826 *sensu stricto* in the Crimea (Aranei: Philodromidae)

Пауки рода *Philodromus* Walckenaer, 1826 *sensu stricto* Крыма (Aranei: Philodromidae)

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KEY WORDS: Araneae, *Philodromus aureolus*-group, Crimea, Abkhazia, Turkey, new records.
КЛЮЧЕВЫЕ СЛОВА: Araneae, группа видов *Philodromus aureolus*, Крым, Абхазия, Турция, новые находки.

ABSTRACT. Eight species of *Philodromus* Walckenaer, 1826 are recorded from the Crimea: *Ph. aureolus* (Clerck, 1758); *Ph. buchari* Kubcová, 2004; *Ph. cespitum* (Walckenaer, 1802); *Ph. collinus* C.L. Koch, 1835; *Ph. longipalpis* Simon, 1870; *Ph. marmoratus* Kulczyński, 1891; *Ph. praedatus* O. Pickard-Cambridge, 1871; *Ph. splendens* Indzhov, 2020. *Ph. splendens* is recorded from the former Soviet Union for the first time, and for the first time after its description. The species *Ph. marmoratus* is reported from Turkey for the first time. Three species *Ph. aureolus, Ph. buchari* and *Ph. longipalpis* are recorded from Abkhazia for the first time. An identification key, diagnostic drawings, distribution, biotopic preferences, phenology in the Crimea are provided for all species.

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РЕЗЮМЕ. В статье представлены данные о восьми видах рода *Philodromus* Walckenaer, 1826, обнаруженных в Крыму: *Ph. aureolus* (Clerck, 1758); *Ph. buchari* Kubcová, 2004; *Ph. cespitum* (Walckenaer, 1802); *Ph. collinus* C.L. Koch, 1835; *Ph. longipalpis* Simon, 1870; *Ph. marmoratus* Kulczyński, 1891; *Ph. praedatus* O. Pickard-Cambridge, 1871; *Ph. splendens* Indzhov, 2020. Вид *Ph. splendens* впервые зарегистрирован на территории бывшего Советского Союза и впервые отмечен после его описания. Вид *Ph. marmoratus* впервые отмечен для Турции. Три вида: *Ph. aureolus*, *Ph. buchari* и *Ph. longipalpis* впервые обнаружены в Абхазии. Для всех видов приведены определительный ключ, диагностические рисунки, данные о распространении, биотопической приуроченности и фенологии в Крыму.

Introduction

Currently, three philodromid genera, *Thanatus* C.L. Koch, 1837, *Pulchellodromus* Wunderlich, 2012 and *Rhysodromus* Schick, 1965 have been reviewed in the Crimea [Kastrygina, Kovblyuk, 2013, 2014, 2016]. This paper is a continuation of our studies of the Crimean philodromid spiders.

Philodromus Walckenaer, 1826 is the largest genus in the family Philodromidae Thorell, 1870. At present, it includes 216 species, mostly from the Holarctic Region [WSC, 2024]. Recently *Philodromus* was subdivided by Joerg Wunderlich [2012] into several distinct genera. Separation of species and their identification is most difficult in the *aureolus* group (= *Philodromus sensu stricto*) because of high intraspecific variation of pattern and colour, similarity of copulatory organs and also sympartic occurrence of closely related species [Muster, Thaler, 2004]. Therefore, species identification of the Crimean *Philodromus sensu stricto* is quite difficult. This paper aims to resolve this problem by providing new faunistic records and diagnostic drawings. Besides, the distribution, habitat preferences and phenology for all the species found in the Crimea are discussed also.

Material and methods

Ranges of species have been characterized *sensu* K.B. Gorodkov [1984] and many recent workers [Logunov, Marusik, 2000; Marusik *et al.*, 2000]. Each range name includes a longitudinal component (*e.g.* Holarctic, West Palaearctic, Balkanian-Crimean, *etc.*) and a latitudinal component (*e.g.* boreal, nemoral, temperate *etc.*). Altitudinal components of ranges are not considered. After a range characteristic, a species distribution is given indicating the most western, eastern, northern and southern regions of the range.

Drawings were made using both reflecting- and transmitted-light microscopes by using a grid method. Illustrations of epigynes were made after maceration in KOH 20% water solution. Specimens were photographed using Hitachi SU3500 scanning electron microscope at the Institute of Biology of the Southern Seas, Sevastopol.

The following abbreviations of morphological terms were adopted from Muster, Thaler [2004] and Kubcová [2004] with additions (*CO, MPB, D-VScA*) and used in the text and figures.

Abbreviations:

Eyes: AM — anterior median eyes; AL — anterior lateral eyes; PM — posterior median eyes; PL — posterior lateral eyes.

Leg segments: Fm — femur; Pt — patella; Tb — tibia; Mt — metatarsus; Tr — tarsus.

Spines: a — apical; d — dorsal; p — prolateral; r — retrolateral; v — ventral.

Pedipalp: *C* — conductor; *CyP* — cymbial processus; *E* — embolus; *EB* — embolar base; *IR* — intertegular retinaculum; *ITA* — intermediate tibial apophysis; *RTA* — retrolateral tibial apophisis; *rTP* — retrolateral tegular projection; *SD* — sperm duct loop; *Te* — tegulum; *VTA* — ventral tibial apophysis.

Epigyne: *A* — atrium; *GM* — glandular mound; *CD* — copulatory duct; *CO* — copulatory opening; *D-VScA* — diagonal-ventral sclerotised crinkles on the sides of the atrium; *FD* — fertilisation duct; *IF* — internal fold; *MP* — median plate; *MPB* — median plate base; *R* — receptaculum seminis; *REF* — rim of epigynal fold; *SA* — sclerotised arch; *ScF* — sclerotised epigynal fold.

Leg segments were measured on the dorsal side without their separation from the cephalothorax.

Almost all the specimens examined in this study are deposited in the collection of Zoology and Aquaculture Department, V.I. Vernadsky Crimean Federal University, Simferopol, the Crimea, curator M.M. Kovblyuk (TNU). One specimen is housed at the All-Russian Institute for Plant Protection, St. Petersburg (VIZR). In the material reported below the name of collector M.M. Kovblyuk was abbreviated as M.K.

In the text we provide references only to the most important publications, including well known books and revisions. For a complete set of taxonomic references see the World Spider Catalog [WSC, 2024].

Taxonomic part

Genus *Philodromus* Walckenaer, 1826

TYPE SPECIES. *Araneus aureolus* Clerck, 1758.

DIAGNOSIS. Palp has asymmetric cymbium (widened prolaterally in the distal half). Tibia with 3 apophyses (intermediate apophyse can be reduced, for example in *Ph. collinus*). Stiff membrane under the embolus. Epigyne has almost spherical receptaculum, large median plate and pair of large lateral sclerotized epigynal folds [Dondale, Redner, 1976; Wunderlich, 2012; Lecigne *et al*., 2019; Nentwig *et al*., 2024].

DESCRIPTION. Detailed description of the genus *Philodromus sensu stricto* (sub *aureolus* group) was provided by Dondale [1961] and Braun [1965].

COMPOSITION. The genus *Philodromus sensu stricto* includes at least 30 species known to date. According to Wunderlich [2012: 37], it includes «about 15 species» of European spiders, which are not indicated in his paper, but they are listed in the work by Muster & Thaler [2004]. Muster & Thaler [2004] list 15 species as members of the *Ph. aureolus* group (*Philodromus sensu stricto sensu* Wunderlich): 13 from Europe — *Ph. aureolus* (Clerck, 1758); *Ph. azcursor* Logunov et Huseynov, 2008; *Ph. buchari* Kubcová, 2004; *Ph. buxi* Simon, 1884; *Ph. cespitum* (Walckenaer, 1802); *Ph. collinus* C.L. Koch, 1835; *Ph. fuscolimbatus* Lucas, 1846; *Ph. lividus* Simon, 1875; *Ph. longipalpis* Simon, 1870; *Ph. lunatus* Muster et Thaler, 2004; *Ph. marmoratus* Kulczyński, 1891; *Ph. praedatus* O. Pickard-Cambridge, 1871; *Ph. vagulus* Simon, 1875; also, one from Asia Minor — *Ph. krausi* Muster, Thaler, 2004 (later it was also reported from the Balkans [WSC, 2024]); and another one — from Africa (the Atlas mountains of Algeria) — *Ph. bosmansi* Muster et Thaler, 2004. Earlier Dondale, Redner [1976] included 12 species into the *aureolus* group. Except one Holarctic species (*Ph. cespitum*), there are *Ph. barrowsi* Gertsch, 1934; *Ph. californicus* Keyserling, 1884; *Ph. keyserlingi* Marx, 1890; *Ph. laticeps* Keyserling, 1880; *Ph. lutulentus* Gertsch, 1934; *Ph. marginellus* Banks, 1901; *Ph. pernix* Blackwall, 1846; *Ph. pinyonelis* Schick, 1965; *Ph. praelustris* Keyserling, 1880; *Ph. spectabilis* Keyserling, 1880; *Ph. vulgaris* (Hentz, 1847) from the North America [Dondale, Redner, 1976]. In addition, according to published descriptions and drawings, *Ph. bonneti* Karol, 1968 from Turkey, *Ph. digitatus* Yang, Zhu et Song, 2005 from Yunnan Province, China, *Ph. populicola* Denis, 1958 from Afghanistan and *Ph. subaureolus* Bösenberg, Strand, 1906 from Mongolia, China, Korea and Japan should be undoubtedly included into the genus *Philodromus sensu stricto*. Possibly, *Ph. assamensis* Tikader, 1962, *Ph. kalliaensis* Levy, 1977 and *Ph. maliniae* Tikader, 1966 can be also placed in the *Philodromus sensu stricto*, but we not sure. In addition, *Philodromus musteri* Lecigne et Oger, 2020 from Turkey and *Ph. splendens* Indzhov, 2020 from Bulgaria are described recently.

DISTRIBUTION. Holarctic and Indo-Malayan (=Oriental) regions.

Key to the Crimean *Philodromus* species

MALES

1. Ventral tibial apophysis (*VTA*) elongated peak-shaped rhomboid, intermediate tibial apophysis (*ITA*) missing (Figs 22, 53, 59) ..... ***Ph. collinus***

– Ventral tibial apophysis (*VTA*) of different form, intermediate tibial apophysis (*ITA*) present (Figs 3, 10, 16, 28, 35, 41, 47–52, 56–58, 60–62) **2**

2. Embolar base (*EB*) without tubercle and located in the central part of bulbus (in position about 9 o'clock), retrolateral tegular projection (*rTP*) prominently pronounced (Figs 35, 51) ..... ***Ph. marmoratus***

– Embolar base (*EB*) with tubercle and located in the upper third part of bulbus (in position about 10 o'clock) (Figs 10, 47–50, 52–53) **3**

3. Intermediate tibial apophysis (*ITA*) low expressed, and ventral tibial apophysis (*VTA*) have a tubercle at the tip of retrolateral part (Figs 41, 50) ..... ***Ph. praedatus***

– Ventral tibial apophysis (*VTA*) without a tubercle on the top of retrolateral part (Figs 47–49, 51–53) **4**

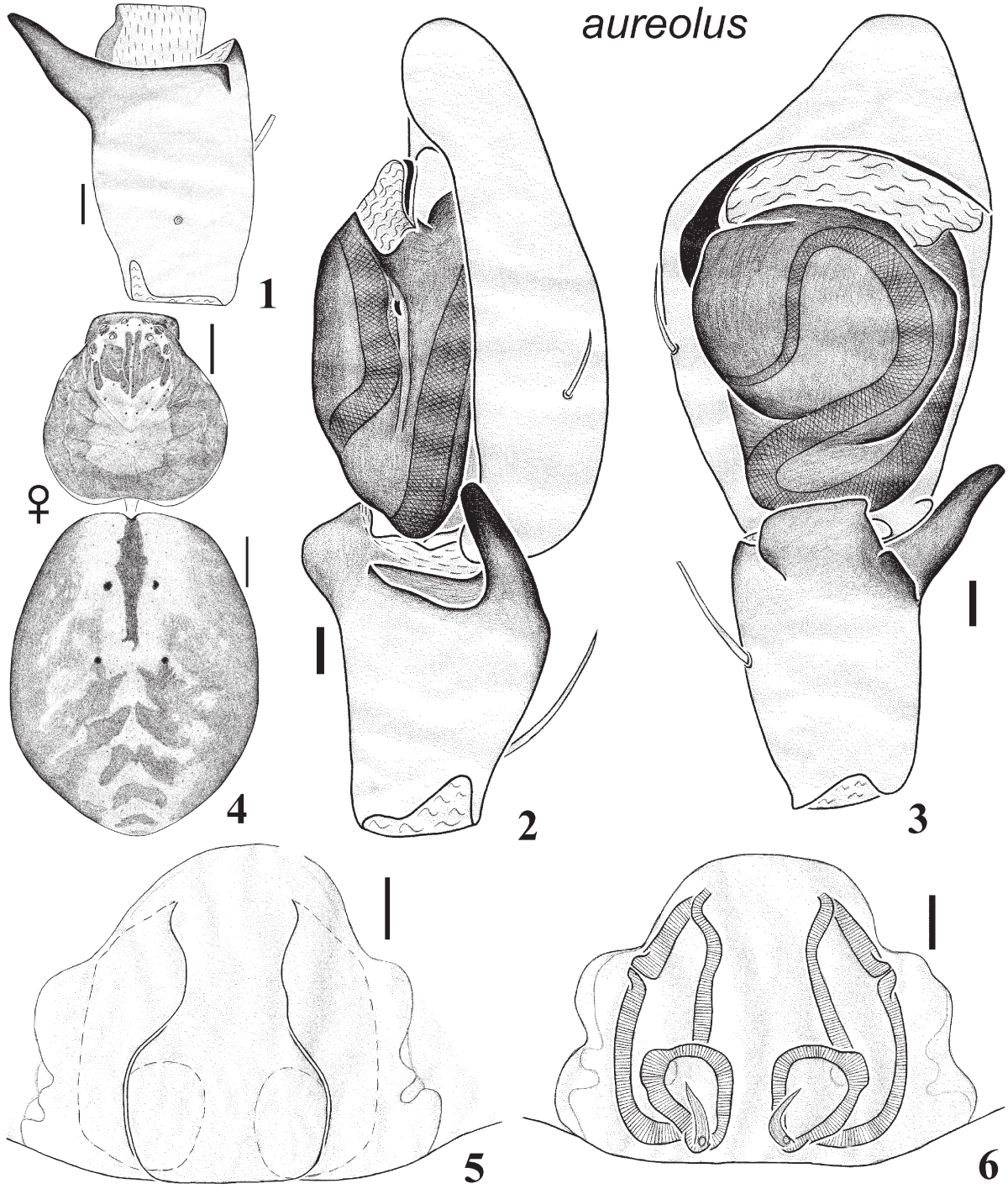
4. A top of the ventral tibial apophysis (*VTA*) almost flat, and intermediate tibial apophysis (*ITA*) low expressed (Figs 3, 47) ..... ***Ph. aureolus***

– A top of the ventral tibial apophysis (*VTA*) triangular or asymmetrical shape (Figs 48–49, 52–53) **5**

5. Ventral tibial apophysis (*VTA*) triangular shape, and intermediate tibial apophysis (*ITA*) is bifurcated (Figs 16, 48) ..... ***Ph. cespitum***

– Ventral tibial apophysis (*VTA*) asymmetric, and intermediate tibial apophysis (*ITA*) is not bifurcated (Figs 49, 52–53) **6**

6. Cymbial processus (*CyP*) located below of the top of retrolateral tibial apophysis (*RTA*) (Fig. 10)..... ***Ph. buchari***



Figs 1–6. *Philodromus aureolus*, male (1–3) and female (4–6): 1 — palpal tibia, dorso-retrolateral; 2 — palp, retrolateral; 3 — palp, ventral; 4 — habitus, dorsal; 5 — epigyne, ventral; 6 — epigyne, dorsal. Scale bars: 0.1 mm (1–3, 5–6), 1 mm (4).

Рис. 1–6. *Philodromus aureolus*, самец (1–3) и самка (4–6): 1 — голень пальпы, дорсо-ретролатерально; 2 — пальпа, ретролатерально; 3 — пальпа, вентрально; 4 — габитус, дорсально; 5 — эпигина, вентрально; 6 — эпигина, дорсально. Масштаб: 0,1 мм (1–3, 5–6), 1 мм (4).

– Cymbial processus (*CyP*) located above of the top of robust retrolateral tibial apophisis (*RTA*) (Fig. 28)..... ..... ***Ph. longipalpis***

FEMALES

1. Median plate (*MP*) of epigyne rectangular with a length three times greater than the width (Figs 45, 70)..... ..... ***Ph. splendens***

– Median plate (*MP*) of epigyne not rectangular and not so long (Figs 5, 11, 17, 23, 30, 36, 42, 64–69)..... **2**

2. Copulatory duct (*CD*) bilobated without visible glandular mounds (*GM*), receptaculum seminis (*R*) extremely small (Fig. 37) ..... ***Ph. marmoratus***

– Copulatory duct (*CD*) simple, not bilobated, with glandular mounds (*GM*), receptaculum seminis (*R*) large (Figs 6, 12, 18, 24, 31, 43)..... **3**

3. Copulatory duct (*CD*) markedly curved C-shaped (Fig. 24) ..... ***Ph. collinus***
– Copulatory duct (*CD*) elongated and slightly curved (Figs 6, 12, 18, 31, 43)..... **4**
4. Sclerotised arch (*SA*) of epigyne missing (Fig. 5) .... ***Ph. aureolus***
– Sclerotised arch (*SA*) of epigyne present (Figs 11, 17, 30, 36, 42)..... **5**
5. Diagonal-ventral sclerotised folds on the sides of the atrium (*D-VScA*) present (Fig. 11) ..... ***Ph. buchari***
– Diagonal-ventral sclerotised folds on the sides of the atrium (*D-VScA*) missing (Figs 17, 30, 36, 42)..... **6**
6. Median plate (*MP*) being about square — with equal length and width (Figs 17, 66)..... ***Ph. cespitum***
– Median plate (*MP*) with other forms (not squared) (Figs 23, 30, 36, 42)..... **7**
7. Copulatory duct (*CD*) 3 times longer than diameter of receptaculum seminis (*R*) (Fig. 43) ..... ***Ph. praedatus***
– Copulatory duct (*CD*) 2 times longer than diameter of receptaculum seminis (*R*) (Fig. 31) ..... ***Ph. longipalpis***

Survey of the Crimean *Philodromus* species

Philodromus aureolus (Clerck, 1758)
Figs 1–6, 47, 56, 64.

Philodromus aureolus tauricus Charitonov, 1937: 138, pl. 12, figs 9–10 (♀).

Philodromus aureolus: Segers, 1990: 12, figs 4–6, 9–10 (♂, ♀); Heimer, Nentwig, 1991: 458, figs 1211 (♂, ♀); Roberts, 1998: 182, figs (♂, ♀); Muster, Thaler, 2004: 309, figs 1, 16a–b (♂, ♀); Kubcová, 2004: 293, fig. 13a–d (♂, ♀); Almquist, 2006: 454, fig. 389a–e (♂, ♀);Wunderlich, 2012: 49, figs 22–24 (♂, ♀); Harvey, 2013: 22, fig. 2, unnumbered figures (♂, ♀).

RECORDS FROM CRIMEA. Thorell, 1875; Greze, 1909; Spassky, 1927 — as *Ph. a.* Olivier; Charitonov, 1932, 1936; Bukovskiy, 1936; Charitonov, 1937; Bukovskiy, 1940; Braun, 1965 — as *Ph. a. tauricus* Charitonov, 1937; Tolstova, Atanov, 1982; Bragina, 1984; Mikhailov, 1997, 2013; Nikitenko, Sviridov, 1999; Kovblyuk, 2001, 2002, 2004a,b, 2012, 2013; Kovblyuk *et al.,* 2008a,b, 2015, 2016; Kovblyuk, Kastrygina, 2015; Kastrygina, Kovblyuk, 2021.

MATERIAL EXAMINED. **Crimea**: Bakhchisaray Distr.: Crimean State Nature Reserve, kordon Asport, wood (*Fagus, Carpinus, Populus*), in litter, 29.06.2001, 1 ♀, M.K. leg. (TNU 1035/8); Simferopol Distr.: SW from Krasnolesye Vil., S slope Kosh-Kaya Mt., on leafs *Ulmus*, 21.06.1998, 1 ♀, M.K. leg. (TNU ЗОЯ-1/1); environs Simferopol water reservoir, on the road near dam, 3.07.1998, 1 ♂; M.K. leg. (TNU); environs Gapka Mt., 2.5 km to Konstantinovka Vil., sweeping on *Cornus mas*, *Crataegus*, *Ligustrum*, *Celtis glabrata*, *Cornus alba*, 5.07.1999, 1 ♂, M.K. leg. (TNU); Krasnolesye Vil., Kosh-Kaya Mt., Zantugai valley, meadow, 21–30.06.2001, 1 ♀, E.Yu. Sviridenko leg. (TNU 2208/21); Perevalnoe-1 Vil. (Ayan), garden, 18.06.2021, 1 ♀, Z.A. Kastrygina leg. (TNU ЗОЯ-5); Sudak Distr.: Shelen River, near the water, 5.06.2000, 1 ♂, M.K. leg. (TNU); Yalta Distr.: Yalta Mountain-Forest Natural Reserve, on *Prunus*, 15.08.1995, 1 ♀, M.K. leg. (TNU); 1 km N Nikita Vil., *Pinus pallasiana* forest, pitfalls, 29.06.–8.07.2001, 1 ♂, M.K. leg. (TNU 1415/5); Nikitskaya Yaila Mt. (=Skrinita), *Pinus kochiana* forest, pitfalls, 3–14.07.2001, 1 ♂, M.K. leg. (TNU 1445/11); Yalta Mountain-Forest Natural Reserve, above Nikita Vil., 14.07.2001, 1 ♀, M.K. leg. (TNU 2497/1); Martyan Cape Reserve, above coastal cliff, sweeping, 28.05.2007, 2 ♂♂, M.K. leg. (TNU 2352/25); same locality and method, 10.06.2007, 1 ♀, M.K. leg. (TNU 2354/16/1); same locality and method, 13.07.2007, 1 ♀, M.K. leg. (TNU 2356/18); **Abkhazia**: Sukhum Distr.: Gumysta Reserve, route from Dzykhva Mt. to kordon Tsymur on East Gumysta River, 26.07.2008, 1 ♀, N.N. Yunakov, A.A. Khaustov, O.S. Bezman-Moseyko, E.G. Sergeeva & M.K. leg. (TNU 2643/2).

NOTE. Species is recorded from Abkhazia for the first time.

DIAGNOSIS. *Ph. aureolus* is most similar to *Ph. buchari*, *Ph. fuscolimbatus* and *Ph. krausi* on males and females. Males of this species differ in: 1) shape of distal border of *VTA* (straight and plateaus in *Ph. aureolus,* but saddle-shaped with raised retrolateral part in *Ph. buchari, Ph. fuscolimbatus* and *Ph. krausi*); 2) shape of top part of *ITA* (plateau-like and less expressed in *Ph. aureolus* in contrast to rounded and more expressed in *Ph. buchari* and *Ph. fuscolimbatus,* but less expressed in *Ph. krausi*). Females of this species differ in availability sclerotised arch *SA* in epigyne (missing in *Ph. aureolus* and present in *Ph. buchari, Ph. fuscolimbatus* and *Ph. krausi*).

DESCRIPTION. The species is well-described by Muster & Thaler [2004] and Almquist [2006].

COMMENTS. The photo by Ramirez [2014: 259, fig. 174A] under the name *Ph. aureolus* is misidentified. The photo is clearly corresponded to the *Ph. longipalpis* by shape of copulatory ducts and presence of sclerotised arch in epigyne.

The drawings in the book of Zhu & Zhang [2011: 422, figs 300A–D] labelled as *Ph. aureolus* are misidentified. Without any doubt the drawings of male [Ibid., figs. 300C–D] refer to *Ph. cespitum,* but the female [Ibid., figs 300A–B] — possibly to *Ph. longipalpis.*

As mentioned by Muster & Thaler [2004], "...the specimens figured as *Ph. aureolus* from Israel by Levy [1977] are clearly different: *VTA* with oblique border, *ITA* well expressed, median septum of epigyne with distinct arch. The male palp cannot be definitely assigned to any species reported here, whereas the female genitalia clearly refer to *Ph. longipalpis*."

DISTRIBUTION. Holarctic temperate range: from Ireland and Portugal in the west to the Japan in the east and from Norwey in the north to the Spain, Sicily, Greece and Turkey in the south [Mikhailov, 2013; Kovblyuk, Kastrygina, 2015; Helsdingen, 2018; Nentwig *et al.*, 2024], Canada and United States also [Chickering, 1940].

HABITATS. Woods with *Fagus, Carpinus, Populus,* Sub-Mediterranean forests with *Pinus pallasiana,* subboreal forests with *P. kochiana,* forests with *Cornus mas*, *Crataegus, Ligustrum*, *Celtis glabrata, Prunus,* on leafs of *Ulmus*, coastal cliff, on the road near dam, near rivers, meadows, steppes [present data].

PHENOLOGY. In the Crimea ♂♂ V–VII, ♀♀ VI–VIII.

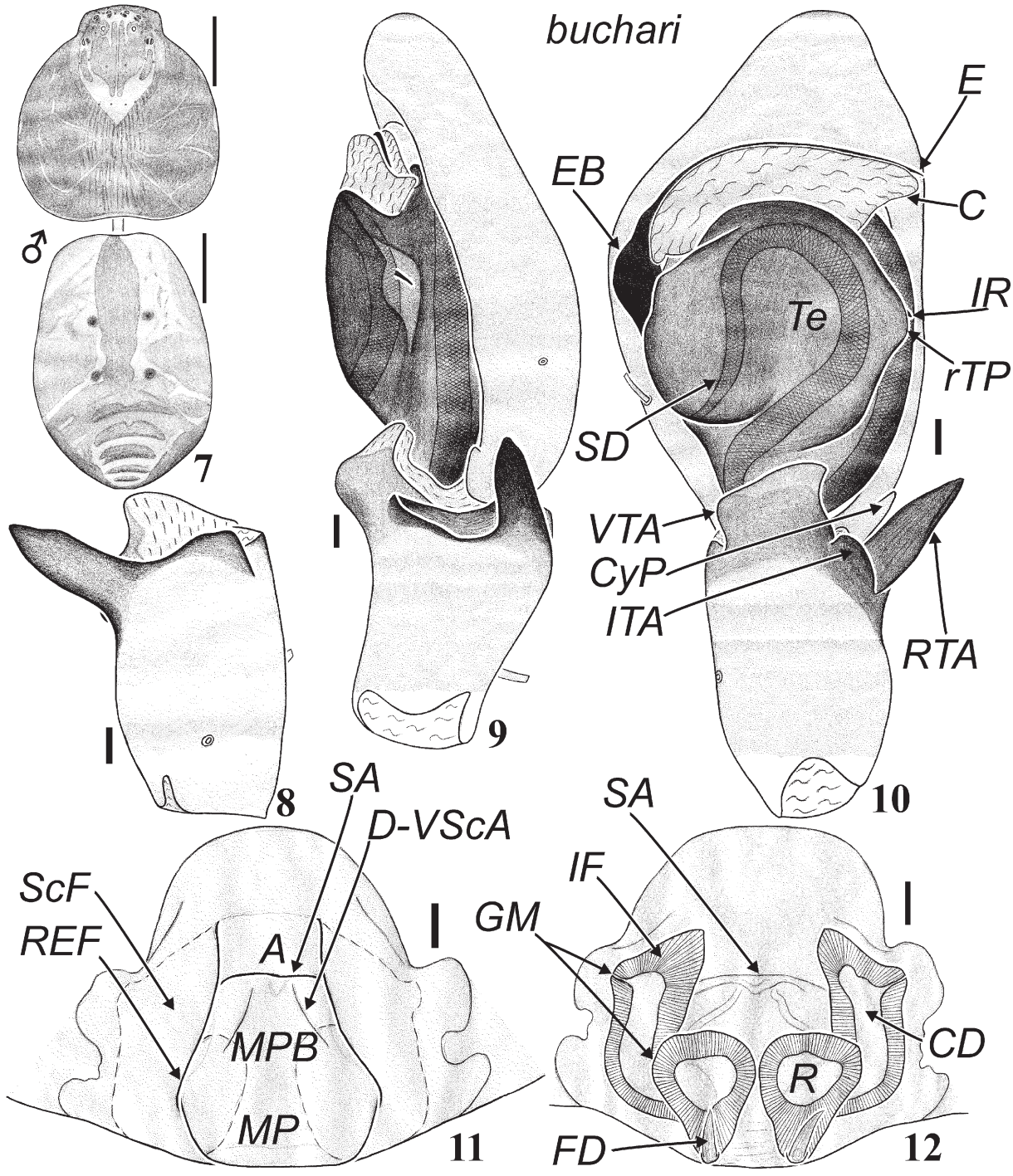
Philodromus buchari Kubcová, 2004
Figs 7–12, 49, 57, 65.

Philodromus buchari Kubcová, 2004: 297, figs 1a–c, 2a–c, 3a–c, 5–7, 14a–c (♂, ♀).

Philodromus buchari: Muster, Thaler, 2004: 312, figs 7, 17a–b (♂, ♀); Crespo *et al.*, 2018: 259, fig. 9a–e (♂, ♀); Lecigne, 2018: 73, fig. 10A–C (♀); Mezőfi, Markó, 2019: 30, figs 1–8 (♂, ♀).

RECORDS FROM CRIMEA. Kovblyuk *et al.,* 2015; 2016; Kastrygina, Kovblyuk, 2021.

MATERIAL EXAMINED. **Crimea**: Feodosiya Distr.: Karadag Nature Reserve, Shapka Monomakha rock, beating of crown of *Quercus pubescens*, 5.07.2007, 1 ♀, A.A. Nadolny leg. (TNU 2403/1); Karadag beams [44°55′10.9″ N 35°12′17.6″ E, 37 m], submediterranean maquis of *Quercus pubescens*, pitfalls, 23.05.–6.06.2008, 1 ♂, M.K. leg. (TNU 2738/9); Simferopol Distr.: SW from Krasnolesye Vil., S slope Kosh-Kaya Mt., on leafs *Ulmus*, 21.06.1998, 1 ♀, M.K. leg. (TNU ЗОЯ-1/2); environs Fersmanovo Vil., Kesslers' forest, grassland, *Brachypodium pinnatum*, *Elytrigia maeotica*, *Filipendula vulgaris*, pitfalls, 23.06.–13.07.2000, 1 ♂, M.K. leg. (TNU x-3); Simferopol, Mar'yino, 4.07.2001, 1 ♂, M.K. leg. (TNU 2210/1); **Kiev Area**: Kiev city, a wasp nest *Sceliphron curvatum*, 2007, 1 ♀, A.V. Fateryga leg. (TNU 2668/6); **Abkhazia**: Gagra Distr.: Gagra Range, Mamdzyshkha Mt., from border of forest to peak [43°18′25″ N 40°19′35″ E, 1705–1866 m], wood *Abies*, *Fagus*, *Acer* and alpine meadows, 7–15.07.2009, 2 ♂♂, 8 ♀♀, M.K. leg. (TNU 2652/13/1); way from Mamdzyshkha

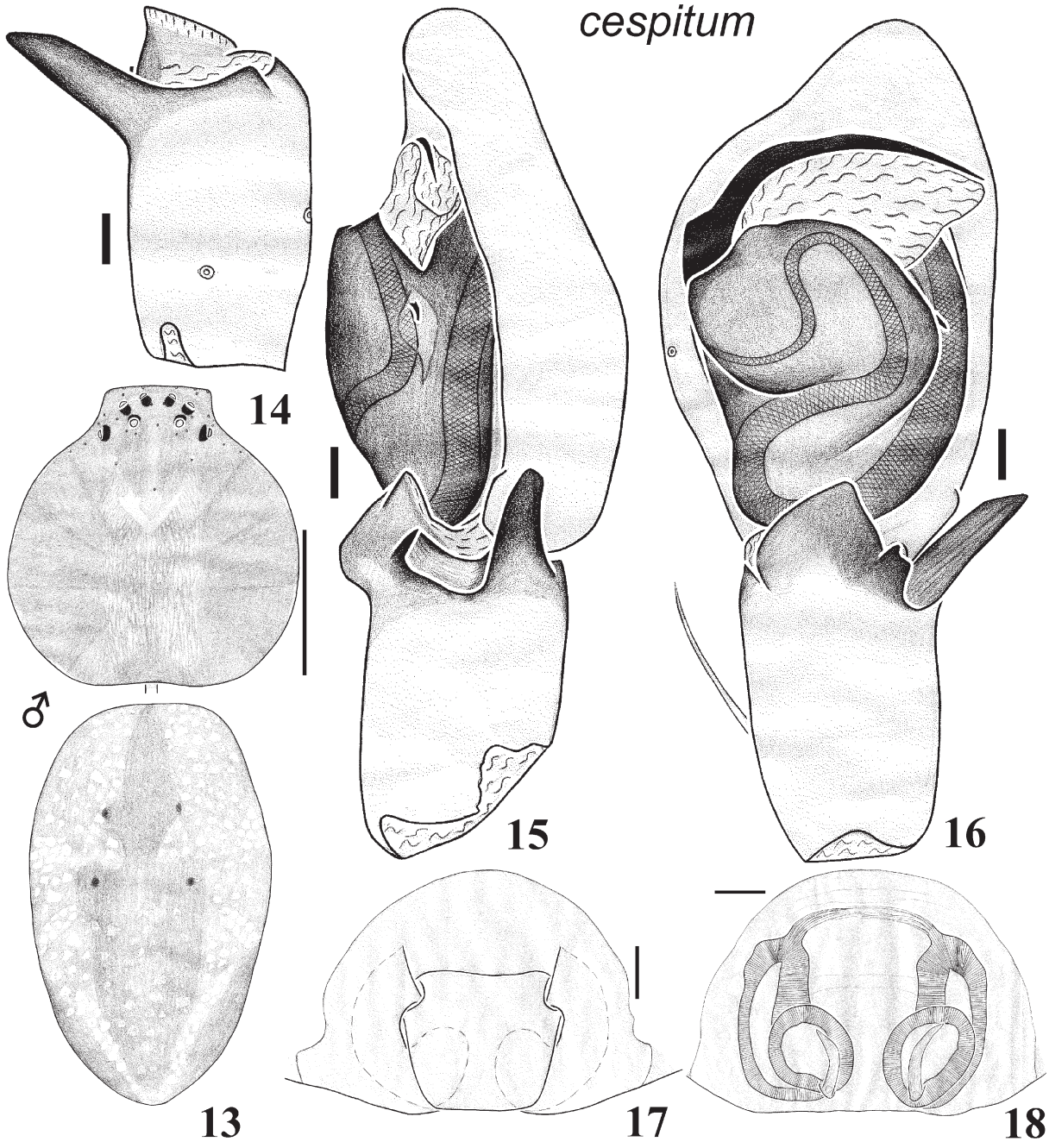


Figs 7–12. *Philodromus buchari*, male (7–10) and female (11–12): 7 — habitus, dorsal; 8 — palpal tibia, dorso-retrolateral; 9 — palp, retrolateral; 10 — palp, ventral; 11 — epigyne, ventral; 12 — epigyne, dorsal. Scale bars: 0.1 mm (8–12), 1 mm (7).

Рис. 7–12. *Philodromus buchari*, самец (7–10) и самка (11–12): 7 — габитус, дорсально; 8 — голень пальпы, дорсо-ретролатерально; 9 — пальпа, ретролатерально; 10 — пальпа, вентрально; 11 — эпигина, вентрально; 12 — эпигина, дорсально. Масштаб: 0,1 мм (8–12), 1 мм (7).

Mt. to Gagra city, wood, 15.07.2009, 1 ♂, M.K. leg. (TNU 2655/3); Sukhum Distr.: Buru Range, Dzykhva Mt., headwater Kot-Kot River [43°13′35″ N 41°7′39″ E, 2200–2300 m], alpica, 19–26.07.2008, 1 ♂, N.N. Yunakov, A.A. Khaustov, O.S. Bezman-Moseyko, E.G. Sergeeva & M.K. leg. (TNU 2641/14).

DIAGNOSIS. *Philodromus buchari* is most similar to *Ph. aureolus*, *Ph. longipalpis* and *Ph. musteri*. Males of this species differ in: 1) shape of distal border of *VTA* (saddle-shaped with raised retrolateral part in *Ph. buchari,* but plateaus in *Ph. aureolus* and *Ph. longipalpis*, raised obliquely in *Ph. musteri* (in addition in *Ph. longipalpis* is more forward-stretched *VTA*)); 2) shape of top part of *ITA* (rounded and more expressed in *Ph. buchari*, but plateau-like and less expressed in *Ph. aureolus*, in contrast to much more expressed in *Ph. longipalpis* and *Ph. musteri*); 3) shape of *CyP* (pointed in *Ph. buchari*, and rounded in *Ph.*



Figs 13–18. *Philodromus cespitum*, male (13–16) and female (17–18): 13 — habitus, dorsal; 14 — palpal tibia, dorso-retrolateral; 15 — palp, retrolateral; 16 — palp, ventral; 17 — epigyne, ventral; 18 — epigyne, dorsal. Scale bars: 0.1 mm (14–18), 1 mm (13).

Рис 13–18. *Philodromus cespitum*, самец (13–16) и самка (17–18): 13 — габитус, дорсально; 14 — голень пальпы, дорсо-ретролатерально; 15 — пальпа, ретролатерально; 16 — пальпа, вентрально; 17 — эпигина, вентрально; 18 — эпигина, дорсально. Масштаб: 0,1 мм (14–18), 1 мм (13).

aureolus, *Ph. longipalpis* and *Ph. musteri*); 4) shape of top part of *RTA* in retrolateral view (pointed in *Ph. buchari*, elongated in *Ph. aureolus*, abruptly "broken" in *Ph. longipalpis* and blunt in *Ph. musteri*). Females of this species differ in 1) availability of sclerotised arch *SA* in epigyne (present in *Ph. buchari* and *Ph. longipalpis*, but missing in *Ph. aureolus*); 2) availability of *D-VScA* (present in *Ph. buchari* and missing in *Ph. aureolus* and *Ph. longipalpis*); 3) shape of *REF* anteriorly (slightly curved to centre in *Ph. buchari*, march more bent to centre in *Ph. aureolus*, but recurved out from centre in *Ph. longipalpis*). Female of *Ph. musteri* is unknown.

DESCRIPTION. The species is well-described by Kubcová [2004].

COMMENTS. This species is recorded for the first time from the Abkhazia.

Crespo *et al.* [2018] illustrated the "*Ph. buchari*", and also mentioned that it is the first record of species from Iberian Peninsula. But photos provided by Crespo *et al.* [2018: 259, fig. 9a–e]

better correspond to the male and female of *Ph. fuscolimbatus* illustrated in paper of Muster & Thaler [2004: figs 13, 18a–b] by shape of epigyne, absence diagonal-ventral sclerotised crinkles on the sides of the atrium and availability crinkles on the atrium of epigyne, shape of the ventral tibial apophysis and top part of tegulum in male palp. Thus, the record of *Ph. buchari* from Spain [Crespo *et al.*, 2018] is the misidentification and without any doubt refers to *Ph. fuscolimbatus*.

DISTRIBUTION. West Palaearctic nemoral range: from France in the west to the Abkhazia in the east, and from Great Britain and Denmark in the north to the Sardinia and Turkey in the south [Muster, Thaler, 2004; Helsdingen, 2018; Nentwig *et al.*, 2024; present data].

HABITATS. Alpine meadows, woods with *Abies*, *Fagus* and *Acer*, forests with *Quercus pubescens*, leafs of *Ulmus*, grasslands with *Brachypodium pinnatum*, *Elytrigia maeotica* and *Filipendula vulgaris* [present data].

PHENOLOGY. In the Crimea ♂♂ V–VII, ♀♀ VI–VII.

Philodromus cespitum (Walckenaer, 1802)
Figs 13–18, 48, 58, 66.

Philodromus cespiticolis: Dondale, 1961: 216, figs 6–7, 10, 27, 40 (♂, ♀)

Philodromus cespitum: Dondale, Redner, 1978: 45, figs 68, 102–105 (♂, ♀); Segers, 1992: 24, figs 16, 19–20, 23 (♂, ♀); Roberts, 1998: 183, figs (♂, ♀); Muster, Thaler, 2004: 313, figs 12, 22a–b (♂, ♀); Kubcová, 2004: 293, fig. 12a–c (♂, ♀); Almquist, 2006: 456, fig. 390a–f (♂, ♀); Logunov, Huseynov, 2008: 120, fig. 6 (♀).

RECORDS FROM CRIMEA. Kovblyuk, 2000, 2004a, 2014; Kovblyuk, Kastrygina, 2015; Kovblyuk *et al.*, 2016; Kastrygina, Kovblyuk, 2021.

MATERIAL EXAMINED. **Crimea**: Belogorsk Distr.: environs Vasilievka Vil., near water, sweeping on *Elaeagnus commutata*, 21.06.1999, 1 ♀, M.K. leg. (TNU); 5 km NE Zarechnoe Vil., sweeping in forest belt on trees, *Robinia pseudoacacia*, *Cotinus coggygria*, *Elaeagnus commutata*, *Fraxinus*, *Lonicera*, *Prunus*, *Crataegus*, *Rosa canina*, *Galium aparine*, 21.06.1999, 1 ♂, M.K. leg. (TNU); 2 km S-W Lechebnoe Vil., sweeping on meadow, 10^{40}-14^{00}, 22.06.1999, 1 ♂, 1 ♀, M.K. leg. (TNU); Lenino Distr.: 7 km N Yakovenkovo Vil., in a windbreak of *Ulmus*, *Conium*, 21^{00}-22^{15}, by hand, 6.10.1999, 1 ♀, M.K. leg. (TNU); Sevastopol Distr.: Sarych cape, on *Juniperus excelsa*, 3.07.1997, 1 ♀, M.K. leg. (TNU); Yalta Distr.: Martyan Cape Reserve, 22.07.2007, 1 ♀, M.K. leg. (TNU 2269/4); **Kiev Area**: Tetiiv Distr.: Tetiiv, riverside Ros' River, 3.08.2006, 1 ♀, A.A. Nadolny leg. (TNU 20/2).

DIAGNOSIS. *Philodromus cespitum* is most similar to *Ph. fuscolimbatus.* Males of this species differ in 1) shape of distal part of *VTA* (triangular in *Ph. cespitum* and saddle-shaped in *Ph. fuscolimbatus*); 2) shape of *ITA* (bifurcate in *Ph. cespitum* and rounded in *Ph. fuscolimbatus*); 3) shape of *EB* (angular in *Ph. cespitum* and rounded in *Ph. fuscolimbatus*). Females of this species differ in 1) shape of *R* (round in *Ph. cespitum* and pear-shaped in *Ph. fuscolimbatus*); 2) availability of *GM* (not expressed in *Ph. cespitum* and well expressed in *Ph. fuscolimbatus*); 3) size of *FD* (long in *Ph. cespitum* and short in *Ph. fuscolimbatus*).

DESCRIPTION. The species is well described by Dondale [1961 — sub *Ph. cespiticolis*], Muster & Thaler [2004], Almquist [2006].

DISTRIBUTION. Circum-Holarctic polyzonal range: from Ireland in the west to the Kurile Islands in the east and from Norwey in the north to the North Africa, Sicilia, Greece, Turkey in the south; North America [Dondale, 1961; Dondale, Redner, 1976; Mikhailov, 2013; Helsdingen, 2018; Nentwig *et al.*, 2024; WSC, 2024].

COMMENTS. The male specimens figured as *Ph. cespitum* from Turkey by Lecigne [2011: 38, photo 20–21] clearly refer to *Ph. marmoratus* (see below the Diagnosis and drawings for *Ph. marmoratus*).

HABITATS. Forests with *Juniperus excelsa*, windbreaks with *Robinia pseudoacacia*, *Cotinus coggygria*, *Elaeagnus commutata*, *Fraxinus*, *Lonicera*, *Prunus*, *Crataegus*, *Rosa canina*, *Galium aparine*, *Ulmus*, *Conium*, riversides, meadows [present data].

PHENOLOGY. In the Crimea ♂♂ VI, ♀♀ VI–VII, X.

Philodromus collinus C.L. Koch, 1835
Figs 19–24, 53–55, 59.

Philodromus collinus: Tullgren, 1944: 114, fig. 43A, pl. 16, figs 218–219 (♂, ♀); Roberts, 1998: 184, figs (♂, ♀); Muster, Thaler, 2004: 315, figs 9, 23a–b (♂, ♀); Kubcová, 2004: 293, fig. 9a–c (♂, ♀); Almquist, 2006: 456, fig. 391a–e (♂, ♀); Wunderlich, 2012: 50, fig. 25 (♂).

RECORDS FROM CRIMEA. Kovblyuk *et al.*, 2008a, Mikhailov, 2013; Kovblyuk, Kastrygina, 2015; Kastrygina, Kovblyuk, 2021.

MATERIAL EXAMINED. **Crimea**: Yalta Distr.: Uch-Kosh canyon, Guva River, 21.06.2002, 1 ♂, G.A. Prokopov leg. (TNU 2161/2); Martyan Cape Reserve, above coastal cliff, sweeping, 28.05.2007, 1 ♂, M.K. leg. (TNU 2352/23); same locality and method, 10.06.2007, 1 ♀, M.K. leg. (TNU 2354/15); ABKHAZIA: Gagra Distr.: Gagra Range, Mamdzyshkha Mt., from border of forest to peak, 43°18′25″ N 40°19′35″ E, 1705–1866 m, wood *Abies*, *Fagus*, *Acer* and alpine meadows, 7–15.07.2009, 3 ♀♀, M.K. leg. (TNU 2652/14). **Leningrad Region**: Gatchina Distr.: env. Menkovo Vill., 59°25′N 30°01′E, the edge of the field, 24.06.2019, 1 ♂, Koval A.G. leg. (VIZR No.57).

DIAGNOSIS. *Ph. collinus* is most similar to *Ph. pinyonelis* Schick, 1965 from the USA. Males of these species differ in 1) shape of distal part of *VTA* (peak shape in *Ph. collinus* and "shark fin" shape in *Ph. pinyonelis*); 2) shape of *RTA* (straight and long in *Ph. collinus* and bifurcate and short in *Ph. pinyonelis*); 3) relative length of palpal tibia (shorter than cymbium in *Ph. collinus* and equal to cymbium in *Ph. pinyonelis*). Females of these species differ in 1) shape of *MPB*; 2) position of *R* (anteriorly from sperm duct loop in *Ph. collinus* and posteriorly from it in *Ph. pinyonelis*).

COMMENTS. Male of *Ph. collinus* has the apophysis in the inner (median) side of embolar base (indicated by arrow in the Fig. 55). All other *Philodromus* species, studied by us, have no such apophysis. Such apophysis was not indicated by any other authors.

DESCRIPTION. The species is well-described by Tullgren [1944], Muster & Thaler [2004].

DISTRIBUTION. West Palaearctic polyzonal range: from Spain in the west to Georgia in the east and from Scandinavia in the north to Anatolia and Crete in the south [Mikhailov, 2013; Kovblyuk, Kastrygina, 2015; Helsdingen, 2018; Nentwig *et al.*, 2024; WSC, 2024].

NOTE. It is the first record of *Ph. collinus* in the Leningrad Region and Western European Russia. The finding represents one of the northernmost occurrences, although in Scandinavia the species extends as far north as 65° N [Almquist, 2006].

HABITATS. Alpine meadows, woods with *Abies*, *Fagus*, *Acer*, near rivers, coastal cliffs [present data].

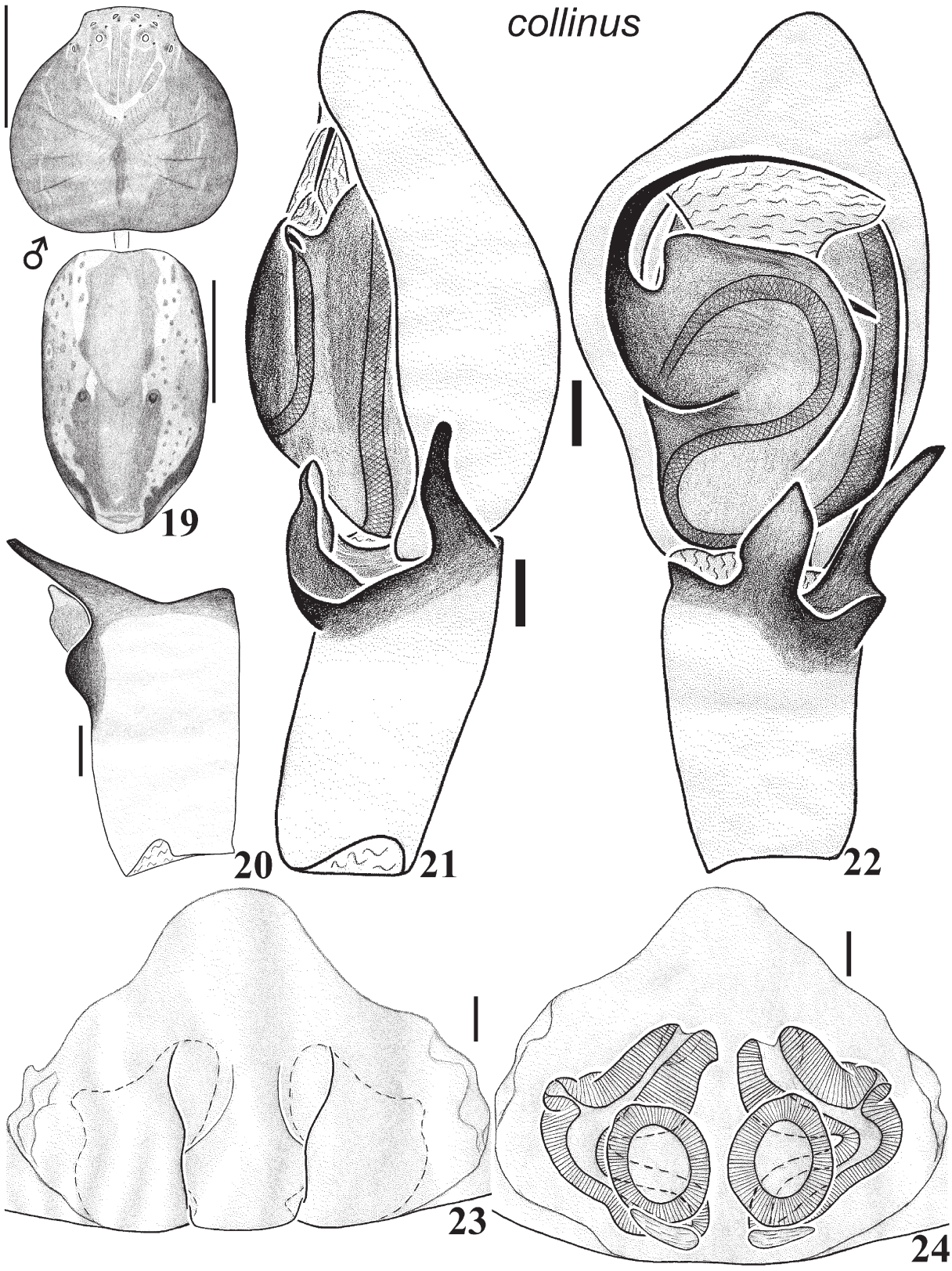
PHENOLOGY. In the Crimea ♂♂ V–VI, ♀♀ VI.

Philodromus longipalpis Simon, 1870
Figs 25–31, 52, 60, 68.

Philodromus longipalpis: Segers, 1992: 19, figs 1–6 (♂, ♀); Roberts, 1998: 183, figs (♂, ♀); Muster, Thaler, 2004: 318, figs 10, 25a–b (♂, ♀); Ponomarev *et al.*, 2018: 251, fig. 17 (♂).

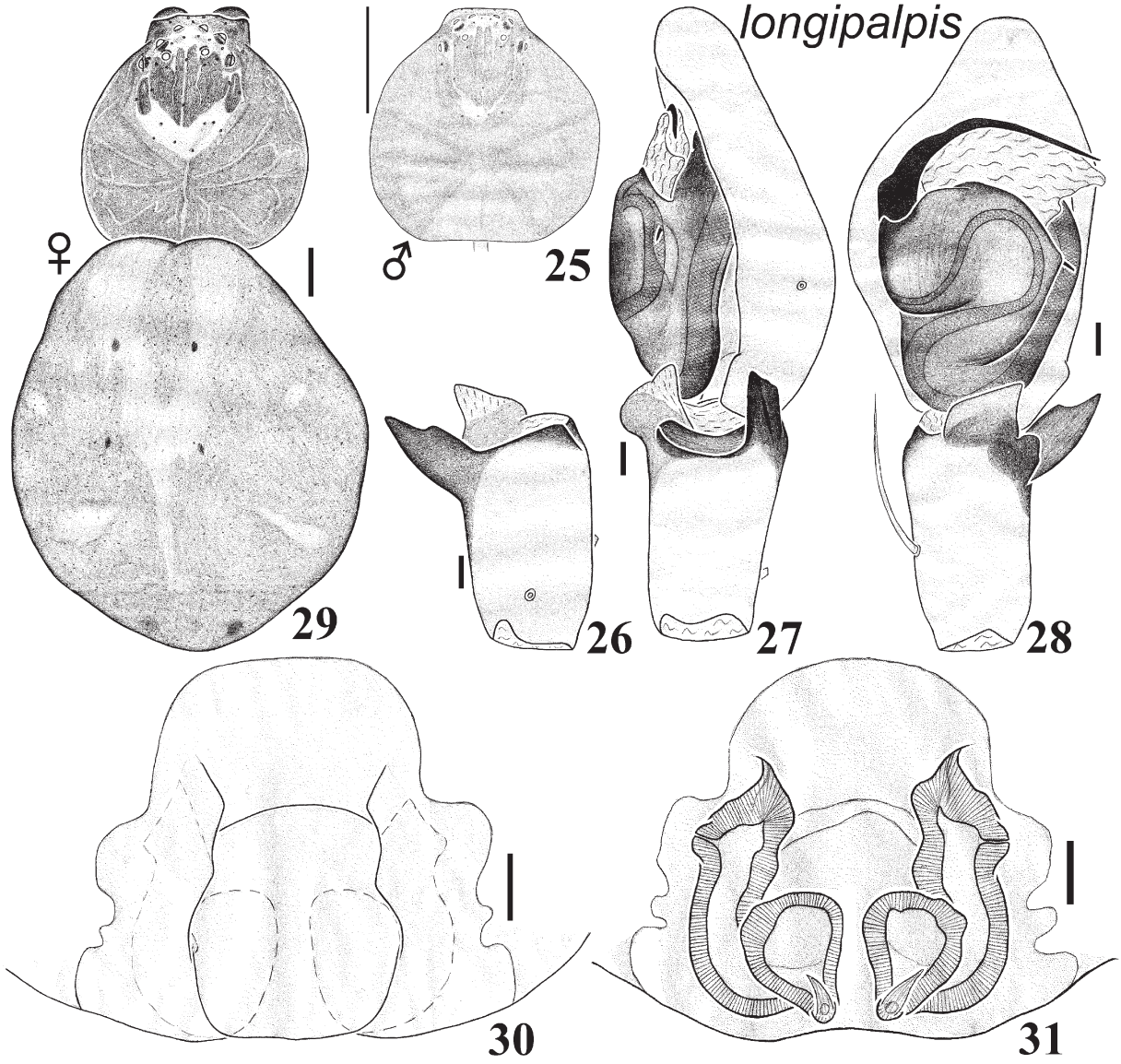
RECORDS FROM CRIMEA. Kovblyuk *et al.*, 2015, 2016; Kastrygina, Kovblyuk, 2021.

MATERIAL EXAMINED. **Crimea**: Belogorsk Distr.: environs Vasilievka Vil., near water, sweeping on *Elaeagnus commutata*,



Figs 19–24. *Philodromus collinus*, male (19–22) and female (23–24): 19 — habitus, dorsal; 20 — palpal tibia, dorso-retrolateral; 21 — palp, retrolateral; 22 — palp, ventral; 23 — epigyne, ventral; 24 — epigyne, dorsal. Scale bars: 0.1 mm (20–24), 1 mm (19).

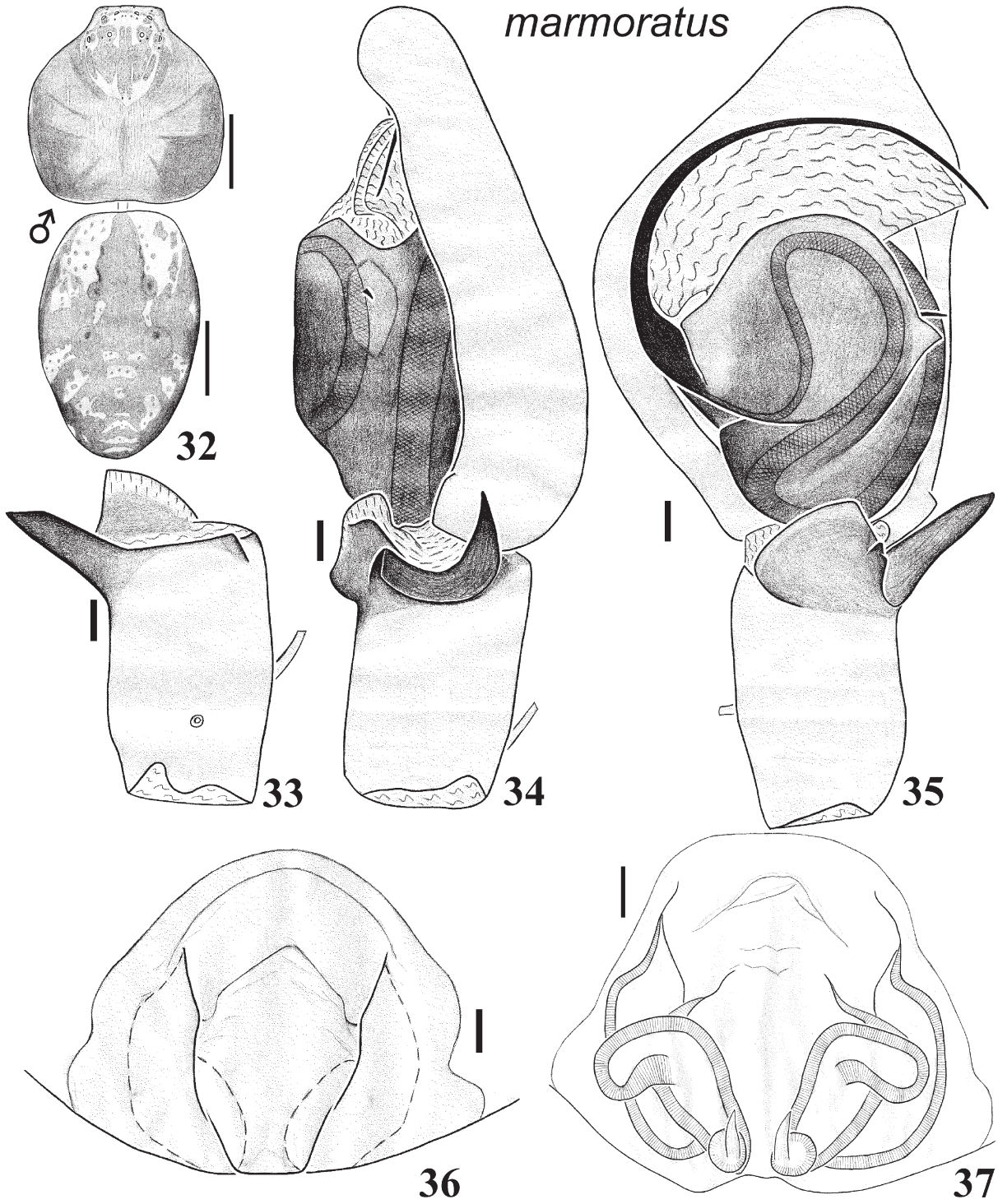
Рис 19–24. *Philodromus collinus*, самец (19–22) и самка (23–24): 19 — габитус, дорсально; 20 — голень пальпы, дорсо-ретролатерально; 21 — пальпа, ретролатерально; 22 — пальпа, вентрально; 23 — эпигина, вентрально; 24 — эпигина, дорсально. Масштаб: 0,1 мм (20–24), 1 мм (19).



Figs 25–31. *Philodromus longipalpis*, male (25–28) and female (29–31): 25 — carapace, dorsal; 26 — palpal tibia, dorso-retrolateral; 27 — palp, retrolateral; 28 — palp, ventral; 29 — habitus, dorsal; 30 — epigyne, ventral; 31 — epigyne, dorsal. Scale bars: 0.1 mm (26–28, 30–31), 1 mm (25, 29).

Рис. 25–31. *Philodromus longipalpis*, самец (25–28) и самка (29–31): 25 — карапакс, дорсально; 26 — голень пальпы, дорсо-ретролатерально; 27 — пальпа, ретролатерально; 28 — пальпа, вентрально; 29 — габитус, дорсально; 30 — эпигина, вентрально; 31 — эпигина, дорсально. Масштаб: 0,1 мм (26–28, 30–31), 1 мм (25, 29).

21.06.1999, 2 ♀♀, M.K. leg. (TNU); 5 km NE Zarechnoe Vil., sweeping in windbreaks on trees *Robinia pseudoacacia*, *Cotinus coggygria*, *Elaeagnus commutata*, *Fraxinus*, *Lonicera*, *Prunus*, *Crataegus*, *Rosa canina*, *Galium aparine*, 21–22.06.1999, 1 ♂, M.K. leg. (TNU); Dzhankoy Distr.: on leaves of *Prunus*, 21.06.2000, 1 ♂, M.V. Onchurov leg. (TNU); Feodosiya Distr.: Karadag Nature Reserve, Biological station, in room, 30.05.–2.06.2003, 1 ♀, M.K. leg. (TNU 1777/2); same locality, actinometric station, 3.06.2003, 1 ♂, O.V. Kukushkin leg. (TNU 1827/3); same locality, Karadag Valley, 1–15.07.2004, 1 ♂, O.V. Kukushkin leg. (TNU 2018/9); same locality, kordon Verkhnie Trassy, fallow fields, 2–3.07.2004, 2 ♀♀, M.K. leg. (TNU 2029/10); same locality, Kara-Agach Mt., S slope, on rocks, by night, 6–7.07.2005, 1 ♂, M.K. & O.V. Kukushkin leg. (TNU 1977/2); same locality, Biological station, wall of laboratory building, 1–31.07.2006, 1 ♀, O.V. Kukushkin leg. (TNU 2308/11); same locality, kordon Verkhnie Trassy, by night, 4–5.07. 2007, 1 ♀, M.K. leg. (TNU 3298/5); same locality, 2–5.07.2008, 1 ♀, A.A. Nadolny leg. (TNU 3269/3); same locality, kordon Verkhnie Trassy, fallow fields, by night, 4–5.07.2008, 1 ♀, O.V. Kukushkin leg. (TNU 3241/5); same locality, Beregovoi Mt. range, 44°54′57.6″ N 35°13′05.0″ E, 226 m, sub-Mediterranean forest with *Juniperus excelsa*, pitfalls, 3–22.07.2008, 1 ♀, M.K. leg. (TNU 2975/17); same locality, Magnityi Mt., near Chertov palets rock, 44°55′55.3″ N 35°14′22.4″ E, 353 m, pitfalls, 5–16.08.2008, 1 ♀, A.A. Nadolny leg. (TNU 2998/2); same locality, Biological station, 17–31.08.2008, 1 ♀, O.V. Kukushkin leg. (TNU 3221/2); same locality, from Gyaur-Cheshme spring to Cherny Yar, sifting, 28–31.05.2010, 1 ♂, M.K. & N.N. Yunakov leg. (TNU 3259/38/2); same locality, Biological station, 22–24.06.2011, 1 ♂, O.V. Kukushkin leg. (TNU 3258/4); environs Karadag Nature Reserve, 18–26.06.2014, 1 ♂, 1 ♀, O.V. Kukushkin leg. (TNU 3354/20); Krasnogvardeysk Distr.: Novopokrovka Vil., 27.06.2015, 1 ♂, Z.A. Kastrygina & E.A. Kastrygina leg. (TNU ЗОЯ/2/1); Sevastopol Distr.: Sarych cape, 2.07.1997, 4 ♂♂, 1 ♀, M.K. leg. (TNU); same locality, sea coast, sweeping, 7.07.1998, 1 ♂, M.V. Onchurov leg. (TNU); Simferopol Distr.: environs Fersmanovo Vil., 8.08.2006, 1 ♀, M.K. leg. (TNU 2121/1); Yalta Distr.: Martyan Cape Reserve, above coastal cliff, sweeping, 10.06.2007, 2 ♀♀, M.K. leg. (TNU 2354/16); same locality and

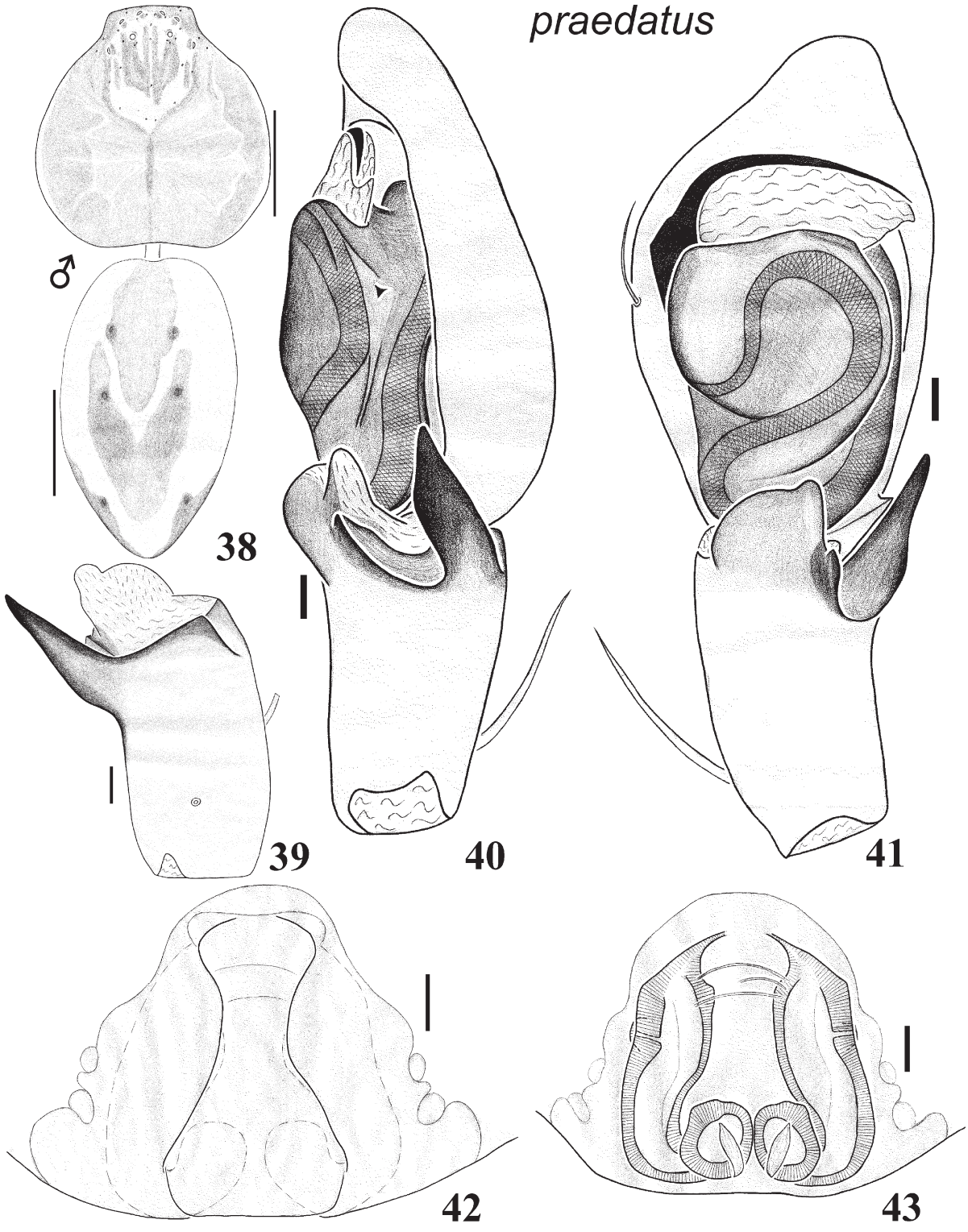


Figs 32–37. *Philodromus marmoratus*, male (32–35) and female (36–37): 32 — habitus, dorsal; 33 — palpal tibia, dorso-retrolateral; 34 — palp, retrolateral; 35 — palp, ventral; 36 — epigyne, ventral; 37 — epigyne, dorsal. Scale bars: 0.1 mm (33–37), 1 mm (32).

Рис. 32–37. *Philodromus marmoratus*, самец (32–35) и самка (36–37): 32 — габитус, дорсально; 33 — голень пальпы, дорсо-ретролатерально; 34 — пальпа, ретролатерально; 35 — пальпа, вентрально; 36 — эпигина, вентрально; 37 — эпигина, дорсально. Масштаб: 0,1 мм (33–37), 1 мм (32).

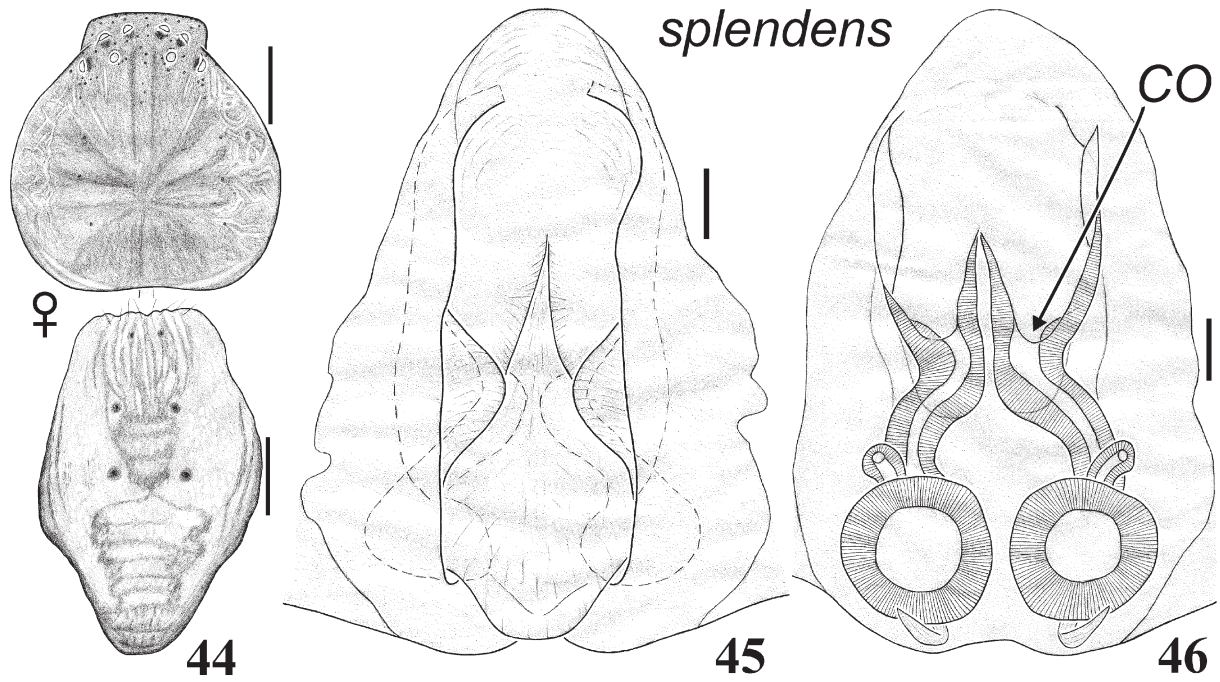
method, 13.07.2007, 4 ♀♀, M.K. leg. (TNU 2356/18/1); Yalta city, wasp nest *Sceliphron curvatum*, 5 cells, 23.07.2010, 3 ♀♀, A.V. Fateryga leg. (TNU 2679/3); ABKHAZIA: Gagra Distr.: Gagra Range, Mamdzyshkha Mt., from border of forest to peak [43°18′25″ N 40°19′35″ E, 1705–1866 m], wood *Abies*, *Fagus*, *Acer* and alpine meadows, 7–15.07.2009, 4 ♂♂, 4 ♀♀, M.K. leg. (TNU 2652/13/2); Gudauta Distr.: environs of Pitsunda, Myusser Distr. of Pitsundo-Myusser Reserve, left bank of Ryapsh River [43°10′ N 40°25′ E, 23 m], kolkhida wood, 15–24.07.2009, 3 ♀♀, N.N. Yunakov & M.K. leg. (TNU 2651/68).

DIAGNOSIS. *Ph. longipalpis* is most similar to *Ph. aureolus* and *Ph. buchari.* Males of these species reliably differ in



Figs 38–43. *Philodromus praedatus*, male (38–41) and female (42–43): 38 — habitus, dorsal; 39 — palpal tibia, dorso-retrolateral; 40 — palp, retrolateral; 41 — palp, ventral; 42 — epigyne, ventral; 43 — epigyne, dorsal. Scale bars: 0.1 mm (39–43), 1 mm (38).

Рис. 38–43. *Philodromus praedatus*, самец (38–41) и самка (42–43): 38 — габитус, дорсально; 39 — голень пальпы, дорсо-ретролатерально; 40 — пальпа, ретролатерально; 41 — пальпа, вентрально; 42 — эпигина, вентрально; 43 — эпигина, дорсально. Масштаб: 0,1 мм (39–43), 1 мм (38).



Figs 44–46. Female of *Philodromus splendens*: 44 — habitus, dorsal; 45 — epigyne, ventral; 46 — epigyne, dorsal. Scale bars: 0.1 mm (45–46), 1 mm (44).

Рис. 44–46. Самка *Philodromus splendens*: 44 — габитус, дорсально; 45 — эпигина, вентрально; 46 — эпигина, дорсально. Масштаб: 0,1 мм (45–46), 1 мм (44).

the shape of distal part of *RTA* (beveled in *Ph. longipalpis* and conical in *Ph. aureolus* and *Ph. buchari*). Females of these species differ in shape of *REF* in anterior part (directed from centre in *Ph. longipalpis* and bent to centre in *Ph. aureolus* and *Ph. buchari*).

DESCRIPTION. The species is well-described by Segers [1992], Muster & Thaler [2004].

DISTRIBUTION. West Palaearctic nemoral-subtropical range: from Portugal in the west to the Iran in the east and from France and Slovakia in the north to Crete in the south [Ono, Martens, 2005; Mikhailov, 2013; Helsdingen, 2018; Ponomarev *et al.*, 2018; Nentwig *et al.*, 2024; WSC, 2024].

COMMENTS. This species is recorded for the first time from the Abkhazia.

HABITATS. Alpine meadows, woods with *Abies*, *Fagus*, *Acer*, Euxine-Colchic deciduous forests, forest with *Juniperus excelsa*, windbreaks with *Robinia pseudoacacia*, *Cotinus coggygria*, *Elaeagnus commutata*, *Fraxinus*, *Lonicera*, *Prunus*, *Crataegus*, *Rosa canina*, leaves of *Prunus* in garden, steppes, fallow fields, wall of buildings, near springs, rivers and sea coasts [present data].

PHENOLOGY. In the Crimea ♂♂ V–VII, ♀♀ VI–VIII.

Philodromus marmoratus Kulczynski, 1891
Figs 32–37, 51, 61, 69.

Philodromus buddenbrocki Braun, 1965: 403, figs 79–80 (♂, ♀); Jäger, 1995: 17, figs 1–2 (♂).

Philodromus marmoratus: Kubcová, 2004: 292, fig. 11a–d (♂, ♀); Bryja *et al.*, 2005: 187, fig. 1A (♂); Mezőfi, Markó, 2018: 4, fig. 6a–e (♂, ♀).

RECORDS FROM CRIMEA. Kastrygina, Kovblyuk, 2021.

MATERIAL EXAMINED. **Crimea**: Alushta Distr.: park of the sanatorium "Solnechnyi Kamen' ", beams Voron River, 13.07.2000, 1 ♀, M.V. Onchurov leg. (TNU); Simferopol Distr.: Simferopol, Ryleeva str. 4, floor No. 9, room 915, 22^{00}, on a table, 18.06.2000, 1 ♂, M.K. leg. (TNU).

DIAGNOSIS. Males of *Ph. marmoratus* is most similar to *Ph. lunatus* Muster, Thaler, 2004 but differs by 1) shape of *ITA* (pointed and less expressed in *Ph. marmoratus* and rounded and more expressed in *Ph. lunatus*); 2) shape of *rTP* (pointed and well expressed in *Ph. marmoratus* and absent in *Ph. lunatus*).

Females of *Ph. marmoratus* is most similar to *Ph. auricomus* L. Koch, 1878, but differs by 1) shape of *MP* of epigyne (expanded in the center part in *Ph. marmoratus* and constricted in the center part in *Ph. auricomus*); 2) shape of *R* (rounded and extremely small in *Ph. marmoratus* and barrel-shaped and large in *Ph. auricomus*).

DESCRIPTION. The species is well described by Braun [1965 — sub *Ph. buddenbrocki*].

COMMENTS. Male palp of *Ph. marmoratus* from Turkey was illustrated by Lecigne [2011: 39, fig. 21] under the name *Ph. cespitum.* However, its palp structure, namely shape of conductor and position of base of embolus, well corresponds to those of *Ph. marmoratus.* So, based on the photo by Lecigne [2011: 39, fig. 21], here *Ph. marmoratus* is recorded from Turkey for the first time.

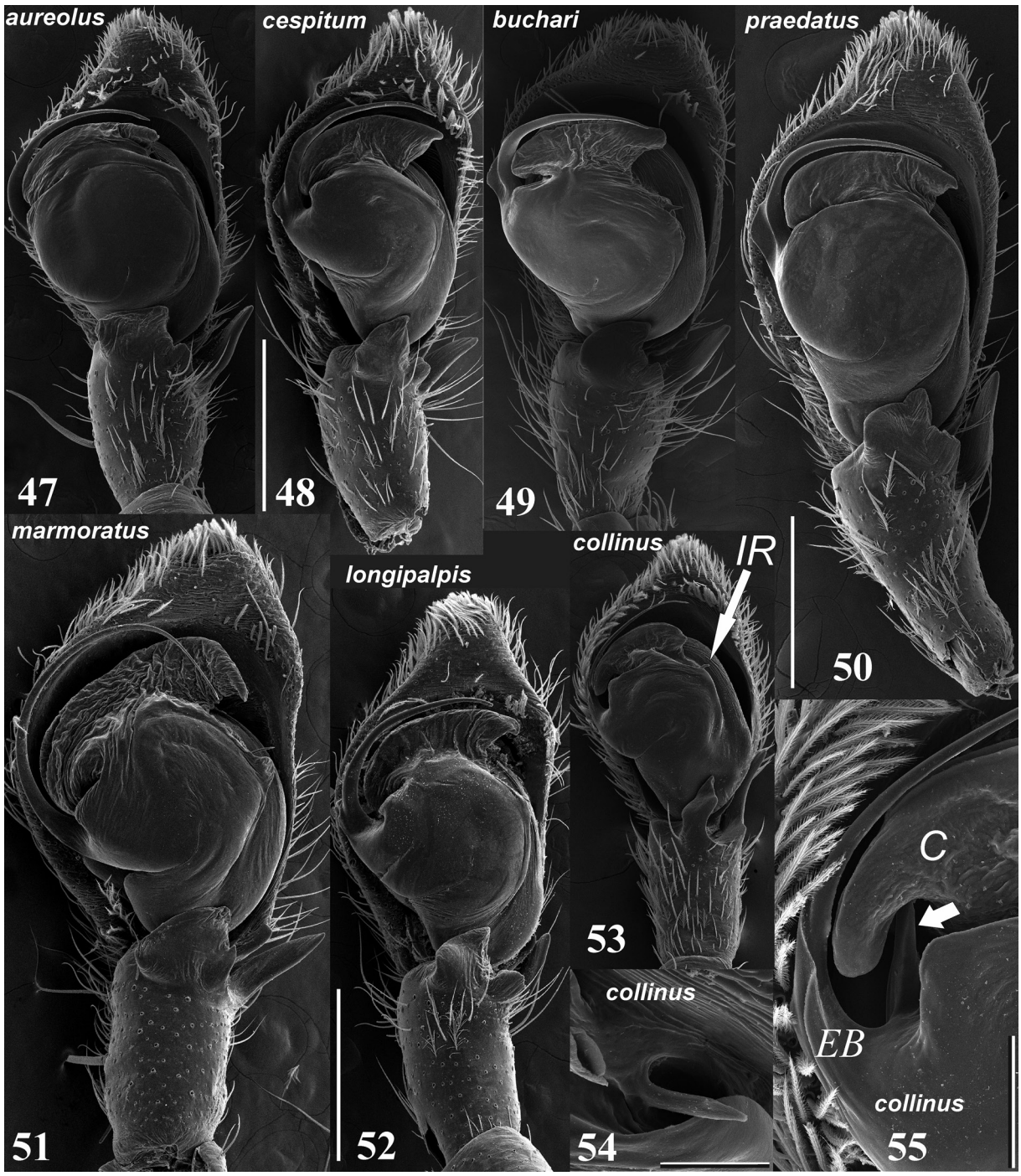
DISTRIBUTION. West Palaearctic subboreal range: Austria, Czech Republic, Hungary, Slovakia, Serbia, Bulgaria, Turkey, Ukraine [Mikhailov, 2013; Helsdingen, 2018; Nentwig *et al.*, 2024; WSC, 2024; personal data].

HABITATS. In the Crimea — human settlements [present data].

PHENOLOGY. In the Crimea ♂♂ VI, ♀♀ VII.

Philodromus praedatus O. Pickard-Cambridge, 1871
Figs 38–43, 50, 62–63, 67.

Philodromus praedatus: Segers, 1990: 12, figs 1–3, 7–8 (♂, ♀); Harvey, 1991: 3, figs 2, 4A–D (♂, ♀); Roberts, 1998: 183, figs (♂, ♀); Muster, Thaler, 2004: 321, figs 8, 15a–b (♂, ♀); Kubcová, 2004: 293, fig. 10a–d (♂, ♀); Almquist, 2006: 458, fig. 392a–e (♂, ♀).

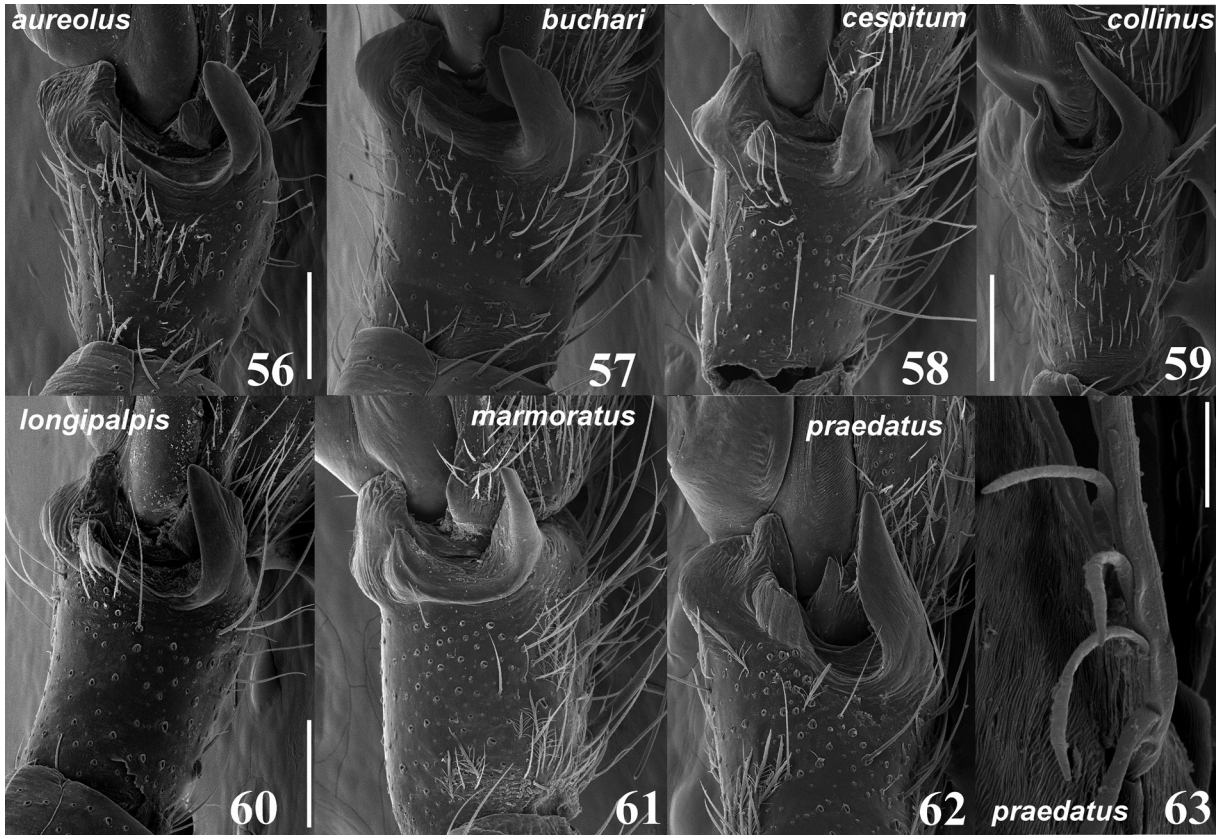


Figs 47–55. Male palps of *Philodromus aureolus* (47), *Ph. cespitum* (48), *Ph. buchari* (49), *Ph. praedatus* (50), *Ph. marmoratus* (51), *Ph. longipalpis* (52), *Ph. collinus* (53–55): 47–53 — palp, ventral; 54 — intertegular retinaculum (*IR*), apical (anterior) view; 55 — apophyse (indicated by arrow) in base of embolus, ventral. Scale bars: 0.5 mm (47–53), 0.05 mm (54), 0.1 mm (55).

Рис. 47–55. Пальпы самцов *Philodromus aureolus* (47), *Ph. cespitum* (48), *Ph. buchari* (49), *Ph. praedatus* (50), *Ph. marmoratus* (51), *Ph. longipalpis* (52), *Ph. collinus* (53–55): 47–53 — пальпа, вентрально; 54 — отросточек на тегулюме (*IR*), вид апикально (спереди); 55 — отросток (указан стрелочкой) в основании эмболюса, вентрально. Масштаб: 0,5 мм (47–53), 0,05 мм (54), 0,1 мм (55).

RECORDS FROM CRIMEA. Apostolov, Onchurov, 1998; Onchurov, 1998; Mikhailov, 2000, 2013; Kovblyuk, 2001, 2004a, 2012; Kovblyuk *et al.*, 2008a, 2015, 2016; Kovblyuk, Kastrygina, 2015; Kastrygina, Kovblyuk, 2021.

MATERIAL EXAMINED. **Crimea**: Feodosiya Distr.: Karadag Nature Reserve, North pass [44°56′14.6″ N 35°13′19.4″ E, 297 m], *Quercus petraea*, pitfalls, 3–22.07.2008, 1 ♀, A.A. Nadolny leg. (TNU 3169/4); Simferopol Distr.: environs of Krasnolesye Vil., 3.07.1996, 1 ♂, M.K. leg. (TNU); Krasnolesye Vil., S-E slope Kosh-Kaya Mt., *Ulmus*, under stones, 24.06.1998, 1 ♀, M.K. leg. (TNU); environs of Fersmanovo Vil., Kessler's Wood, *Quercus pubescens* forest, 350-400 m, pitfalls, 6–23.06.2000, 1 ♂, M.K. leg. (TNU); environs of Krasnolesye Vil.,



Figs 56–63. Male palp tibia of *Philodromus aureolus* (56), *Ph. buchari* (57), *Ph. cespitum* (58), *Ph. collinus* (59), *Ph. longipalpis* (60), *Ph. marmoratus* (61), *Ph. praedatus* (62–63): 56–62 — tibia, retrolateral; 63 — base of barbes, which covered by edge of modified seta, peculiar for male cymbium and tibia in all studied *Philodromus* species. Scale bars: 0.2 mm (56–62), 0.01 mm (63).

Рис. 56–63. Голени пальп самцов *Philodromus aureolus* (56), *Ph. buchari* (57), *Ph. cespitum* (58), *Ph. collinus* (59), *Ph. longipalpis* (60), *Ph. marmoratus* (61), *Ph. praedatus* (62–63): 56–62 — голень, ретролатерально; 63 — волоски в основании модифицированных щетинок, характерных для цимбиума и голени пальпы у всех изученных нами видов рода *Philodromus*. Масштаб: 0,2 мм (56–62), 0,01 мм (63).

27.06.–7.07.2003, 1 ♀ (TNU 1773/8); Perevalnoe-1 Vil. (Ayan), garden, 14.06.2021, 1 ♀, Z.A. Kastrygina leg. (TNU ЗОЯ-4); same place, 25.06.2021, 1 ♀, Z.A. Kastrygina leg. (TNU ЗОЯ-6); Sudak Distr.: 10 km W Sudak, Mezhdurechie Vil., forest, pitfalls, 17.07.–2.08.2010, 1 ♀, M.K. Yusufova leg. (TNU 2823/5); Yalta Distr.: Martyan Cape Reserve, above coastal cliff, sweeping, 28.05.2007, 1 ♂, M.K. leg. (TNU 2352/24).

DIAGNOSIS. Males of *Ph. praedatus* are most similar to *Ph. bosmansi* Muster et Thaler, 2004 from Algeria but differs in 1) shape of retrolateral top part of *VTA* (rounded in *Ph. praedatus* and pointed in *Ph. bosmansi*); 2) width of *RTA* (wider in *Ph. praedatus* and narrower in *Ph. bosmansi*); 3) shape of retrolateral part of *Te* (rounded in *Ph. praedatus* and saddle-shaped in *Ph. bosmansi*).

Females of *Ph. praedatus* are most similar to those of *Ph. bosmansi* from Algeria, but differs by 1) direction of sclerotised crinkles (horizontal / transverse in *Ph. praedatus* and vertical / longitudinal in *Ph. bosmansi*); 2) shape of *REF* at the anterior part (closer to the centre to each other in *Ph. praedatus* and more separated in *Ph. bosmansi*).

DESCRIPTION. The species is well-described by Muster & Thaler [2004], Almquist [2006].

DISTRIBUTION. West-Central-Palearctic nemoral-subtropical: from Portugal in the west to Central Siberia in the east and from Sweden in the north to Sicily, Greece and Azerbaijan in the south [Mikhailov, 2013; Kovblyuk, Kastrygina, 2015; Helsdingen, 2018; Nentwig *et al.*, 2024; WSC, 2024].

HABITATS. Forests with *Ulmus*, *Quercus petraea*, *Q. pubescens*, sometimes under stones [present data].

PHENOLOGY. In the Crimea ♂♂ V–VII, ♀♀ VI–VII.

Philodromus splendens Indzhov, 2020
Figs 44–46, 70–71.

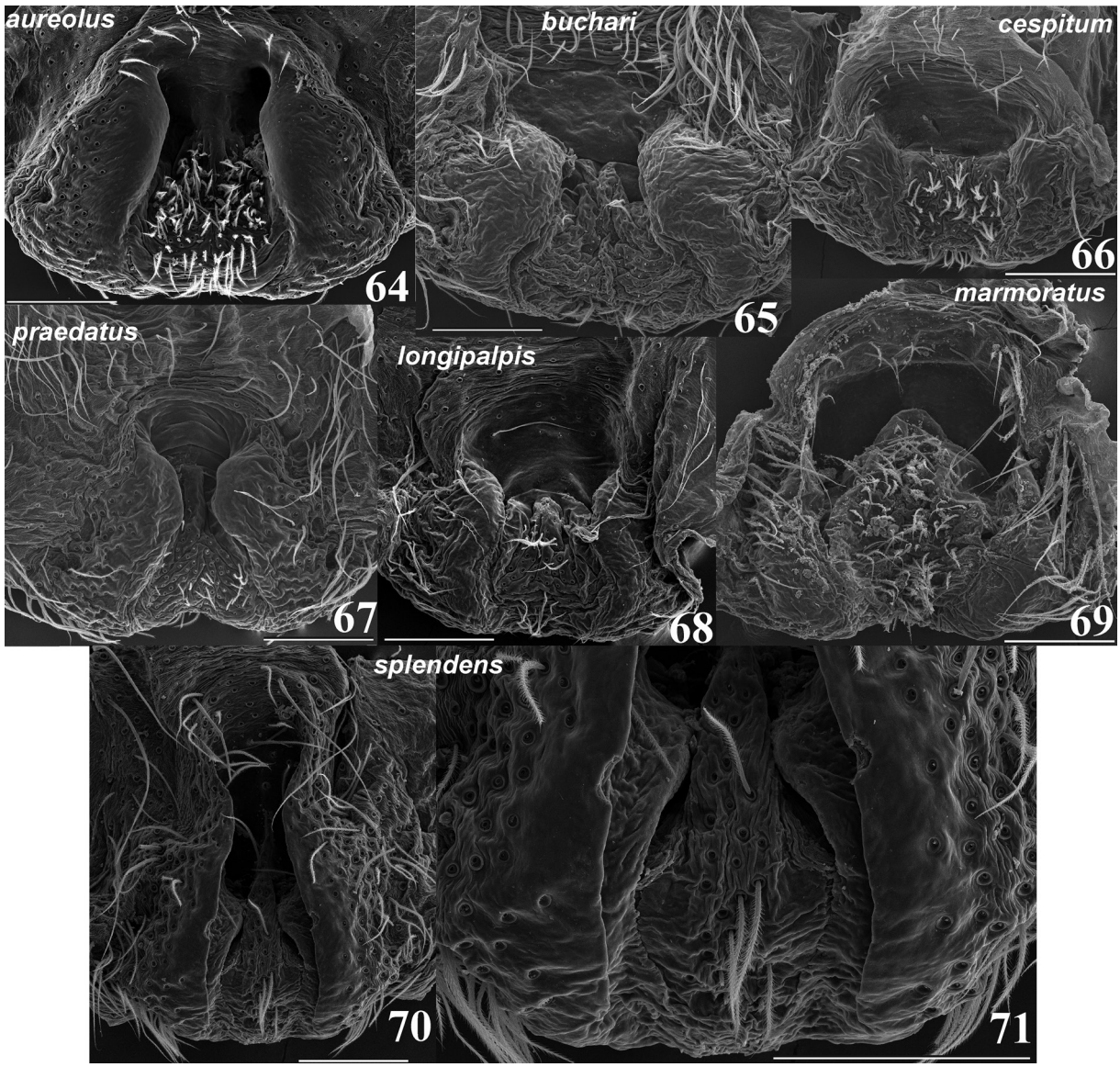
Ph. splendens Indzhov, 2020: 39, fig. 1a–e, 2a–e, 3 (♂, ♀).

RECORDS FROM CRIMEA. Kastrygina, Kovblyuk, 2021 — as *Philodromus* sp.

MATERIAL EXAMINED. **Crimea**: Yalta Distr.: Yalta Mountain-Forest Natural Reserve, Nikitskaya Yaila Mt. (=Skrinita), above Vasilievka Vil., 31.07.2004, 1 ♀, E.Yu. Sviridenko leg. (TNU 2442/9).

DIAGNOSIS. Female of *Ph. splendens* is most similar to *Ph. marginellus* Banks, 1901 from south-western states of the USA and NW Mexico, but differs in 1) size of *CO* (not large in *Ph. splendens* and very large in *Ph. marginellus*); 2) shape of *R* (round in *Ph. splendens* and barrel-shaped in *Ph. marginellus*).

DESCRIPTION. Female. *Measurements.* Carapace 3.75 long, 3.5 wide. Eyes and interdistances: AM 0.15, AL 0.20, PM 0.15, PL 0.18, AM-AM 0.28, AM-AL 0.13, PM-PM 0.59, PM-PL 0.18, AL-PL 0.33, AM-PM 0.35. Abdomen 4.3 long, 2.9 wide. Length of basal segment of chelicera 1.2 (from the border of the clypeus) or 1.5 (with the intact chelicera, when measured from the proximal end through the carapace). Clypeus height (from AM eyes) 0.56. Length of leg segments (right side, from femur to tarsus): leg I 3.4 + 1.8 + 2.8 + 2.5 + 1.6; leg II 4.5 + 2.1 + 3.8 + 3.2 + 2.0; leg III 3.6 + 1.6 + 2.7 + 2.4 + 1.5; leg IV 3.4 + 1.5 + 2.6 + 2.4 + 1.4. Leg spination: I (right side) Fm d 1-1-1, p and r 1-1; Pt d and r 1;Tb d, p and r 1-1-1, v 2-2-2a; Mt d 1, p



Figs 64–71. Epigynes of *Philodromus aureolus* (64), *Ph. buchari* (65), *Ph. cespitum* (66), *Ph. praedatus* (67), *Ph. longipalpis* (68), *Ph. marmoratus* (69), *Ph. splendens* (70–71), ventral. Scale bars: 0.2 mm.

Рис. 64–71. Эпигины *Philodromus aureolus* (64), *Ph. buchari* (65), *Ph. cespitum* (66), *Ph. praedatus* (67), *Ph. longipalpis* (68), *Ph. marmoratus* (69), *Ph. splendens* (70–71), вентрально. Масштаб: 0,2 мм.

and r 1-1, v 2-2; Tr 0; II Fm d and r 1-1-1, p 1; Pt d and r 1;Tb d, p and r 1-1-1, v 2-2-2a; Mt d 1, p and r 1-1, v 2-2; Tr 0; III Fm d 1-1-1, r 1; Pt d and r 1;Tb d, p and r 1-1-1, v 2-1-2-2a; Mt d 1, p and r 1-1, v 2-2; Tr 0; IV Fm d 1-1-1, r 1; Pt d and r 1;Tb d 1-1, p and r 1-1-1, v 2-1-2-2a; Mt d 1, p 1-1, r 1-1-1, v 2-2-1a; Tr 0. *Coloration*. Carapace brown without any pattern. Sternum light brown, without pattern also. Labium and maxillae brown, with light tips. Abdomen with a herringbone (ladder-like) dorsal pattern. All legs brown without any pattern, annulation or marks. Tarsi and metetrasi with scopulae (only metatarsi III–IV in proximal half without scopulae). Palps brown, tarsi of palps darkened.

COMMENTS. This is the first record of the species *Ph. splendens* from the former Soviet Union, and first record of the species after its first description. Crimea is the both northernmost and easternmost known locality of the species.

DISTRIBUTION. Balkanian-Crimean boreal range: Bulgaria, Crimea.

HABITATS. Forests with *Pinus sylvestris* (in Bulgaria) and *P. kochiana* (yaila in the Crimea) [present data].

PHENOLOGY. In the Crimea ♀ VII [present data]. In Bulgaria ♂♂ II, V, XI; ♀♀ II–IV, XII [Indzhov, 2020].

Discussion

Traditionally, seven natural (landscape, altitudinal, geographical) zones are identified in the Crimean peninsula [Kovblyuk, 2004a; Kovblyuk, Kastrygina, 2015]. The distribution of *Philodromus* species in these zones is presented in Table 1.

The zone of the sub-Mediterranean forests of southern Crimea is the richest in the number of recorded *Philodromus* species. *Philodromus* was not found in the semidesert steppes and saline lands.

Table 1. Distribution of *Philodromus* species in the landscape zones of the Crimea.
Таблица 1. Распределение видов рода *Philodromus* по ландшафтным зонам Крыма.

Landsape zones	*Philodromus* species								**Number of species**
	aureolus	*buchari*	*cespitum*	*collinus*	*longipalpis*	*marmoratus*	*praedatus*	*splendens*	
Semi-desert steppe and saline lands									0
Genuine steppe			+		+				2
Submontaneous forest-steppe	+	+	+		+	+			5
Forests of the northern slope	+	+	+				+		4
Montain meadows and yaila steppe	+							+	2
Forests of the southern slope	+	+		+			+		4
Sub-Mediterranean vegetation of the southern coast	+	+	+	+	+	+	+		7
Number of zones	5	4	4	2	3	2	3	1	

Compliance with ethical standards

Conflict of interests: The authors declare that they have no conflict of interest.

Ethical approval: No ethical issues were raised during our research.

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