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A review of Agelenini (Araneae: Agelenidae: Ageleninae) of Iran and Tajikistan, with descriptions of four new genera

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Abstract

Agelenini occurring in Iran and Tajikistan are reviewed. As a result, four new genera are established: *Persiscape* **gen. n.**, to include *P. caspica* **sp. n.** (♂♀, Mazandaran, northern Iran), *P. ecbatana* **sp. n.** (♂♀, Hamedan, western Iran), *P. nassirkhanii* **sp. n.** (♂, Lorestan, southwestern Iran), *P. zagrosensis* **sp. n.** (♂, Ilam, western Iran), *P. caucasica* (Guseinov, Marusik & Koponen, 2005) **comb. n.** (♀, Greece, Turkey, Georgia, Azerbaijan), *P. gideoni* (Levy, 1996) **comb. n.** (♂♀, Turkey to Israel, Iran), and *P. levyi* (Guseinov, Marusik & Koponen, 2005) **comb. n.** (♂♀, Azerbaijan) (all three comb. n. ex. *Agelescape*). Extreme morphological variation occurs in the copulatory organs of females of this genus leading us to synonymize *Agelescape dunini* Guseinov, Marusik & Koponen, 2005 **syn. n.** (♂♀, Azerbaijan) with *P. gideoni* and *A. talyshica* Guseinov, Marusik & Koponen, 2005 **syn. n.** (♀, Azerbaijan) with *P. levyi*, recorded in Iran for the first time. *Agelescape* Levy, 1996 is redefined to include only two species: *A. livida* (Simon, 1875) and *A. affinis* (Kulczyński, 1911); *Gorbiscape* **gen. n.**, to include *G. gorbachevi* **sp. n.** (♂♀, Dushanbe, Khatlon, western Tajikistan) and *G. agelenoides* (Walckenaer, 1841) **comb. n.** (♂♀, Western Mediterranean, ex. *Agelena*); *Asiascape* **gen. n.**, to include *A. parthica* **sp. n.** (♂♀, Golestan, North Khorasan, northeastern Iran); *Persilena* **gen. n.**, to include *P. sengleti* **sp. n.** (♀, Ilam, western Iran). In addition, *Agelena tadzhika* Andreeva, 1976 (♂♀, Tajikistan and northern Ciscaspian region) is transferred to *Benoitia* Lehtinen, 1967 (= *Benoitia tadzhika* (Andreeva, 1976) **comb. n.**).

Keywords: Central Asia • revision • systematics • taxonomy

Introduction

Agelenidae C. L. Koch, 1837 is a relatively large spider family with 1327 extant species belonging to 83 genera (World Spider Catalog 2020). Limits of the family as well as its infrafamilial classification remain subjects of debate (Bolzern, Burckhardt & Hänggi 2013). In the global revision of cribellate spiders, Lehtinen (1967) considered two subfamilies in Agelenidae: Ageleninae C. L. Koch, 1837 and Coelotinae F. O. Pickard-Cambridge, 1893. Furthermore, Lehtinen (1967) split Ageleninae into four tribes: Agelenopsini Lehtinen, 1967, Agelenini C. L. Koch, 1837, Tegenariini Lehtinen, 1967, and Textricini Lehtinen, 1967.

If Lehtinen's diagnosis for Agelenini and the recent publication by Zhu, Wang & Zhang (2017) are followed, there are ten Old World (Eurasia and Africa) genera. Three of these are monotypic and known from females only.

Ageleninae is relatively well studied in the west and east Palaearctic (de Blauwe 1980; Levy 1996; Zhu, Wang & Zhang 2017), but the fauna in the central part of the region, i.e. Central Asia, remains poorly known, with few species described and no revisions. While studying spiders from Iran and Tajikistan, we found several species of Agelenini that resemble *Agelescape* Levy, 1966, a genus known across the Mediterranean to northern Iran. Detailed study of these species reveals that none fit the diagnosis of the type species, *A. livida* (Simon, 1875), and therefore require placement in other genera. Additionally, we found that a species described from Tajikistan, *Agelena tadzhika* Andreeva, 1976, is misplaced in the genus and belongs to *Benoitia* Lehtinen, 1967. The main goal of our paper is to survey the species of Agelenini known from Iran and Tajikistan.

Materials and methods

This paper is primarily based on material collected by A. Senglet in Iran, which is stored in the Muséum d'histoire naturelle, Genève, and on material collected by the second author in 2000 in Iran and 2015 in Tajikistan, which are temporarily housed in the Zoological Museum of University of Turku (ZMUT). Specimens were photographed using an Olympus Camedia E-520 camera attached to an Olympus SZX16 stereomicroscope, or to the eye piece of an Olympus BH2 transmission microscope, and a JEOL JSM-5200 scanning electron microscope at ZMUT. Digital images were prepared using CombineZP image-stacking software. Illustrations of endogynes were made after clearing them in a 10% KOH aqueous solution and placing them in an alcohol/water solution of Chlorazol Black for a few minutes. Lengths of leg segments were measured on the dorsal side. Measurements are provided for leg I only and listed as: total length (femur, patella, tibia, metatarsus, tarsus). Terminology follows Guseinov, Marusik & Koponen (2005), and all measurements are given in millimeters. Global distribution ranges follow Mikhailov (2013), Helsdingen (2020), and the World Spider Catalog (2020), and regional distribution data (Iran) follow Zamani *et al*. (2020).

Abbreviations used throughout the text: ALE = anterior lateral eye, AME = anterior median eye, PLE = posterior lateral eye, PME = posterior median eye. Depositories of the studied material are: the Manchester Museum of the University of Manchester, UK (MMUE); the Muséum d'histoire naturelle, Genève, Switzerland (MHNG); Steinhardt Museum of Natural History, Tel-Aviv (SMNH); and the Zoological Museum of Moscow University, Moscow, Russia (ZMMU).

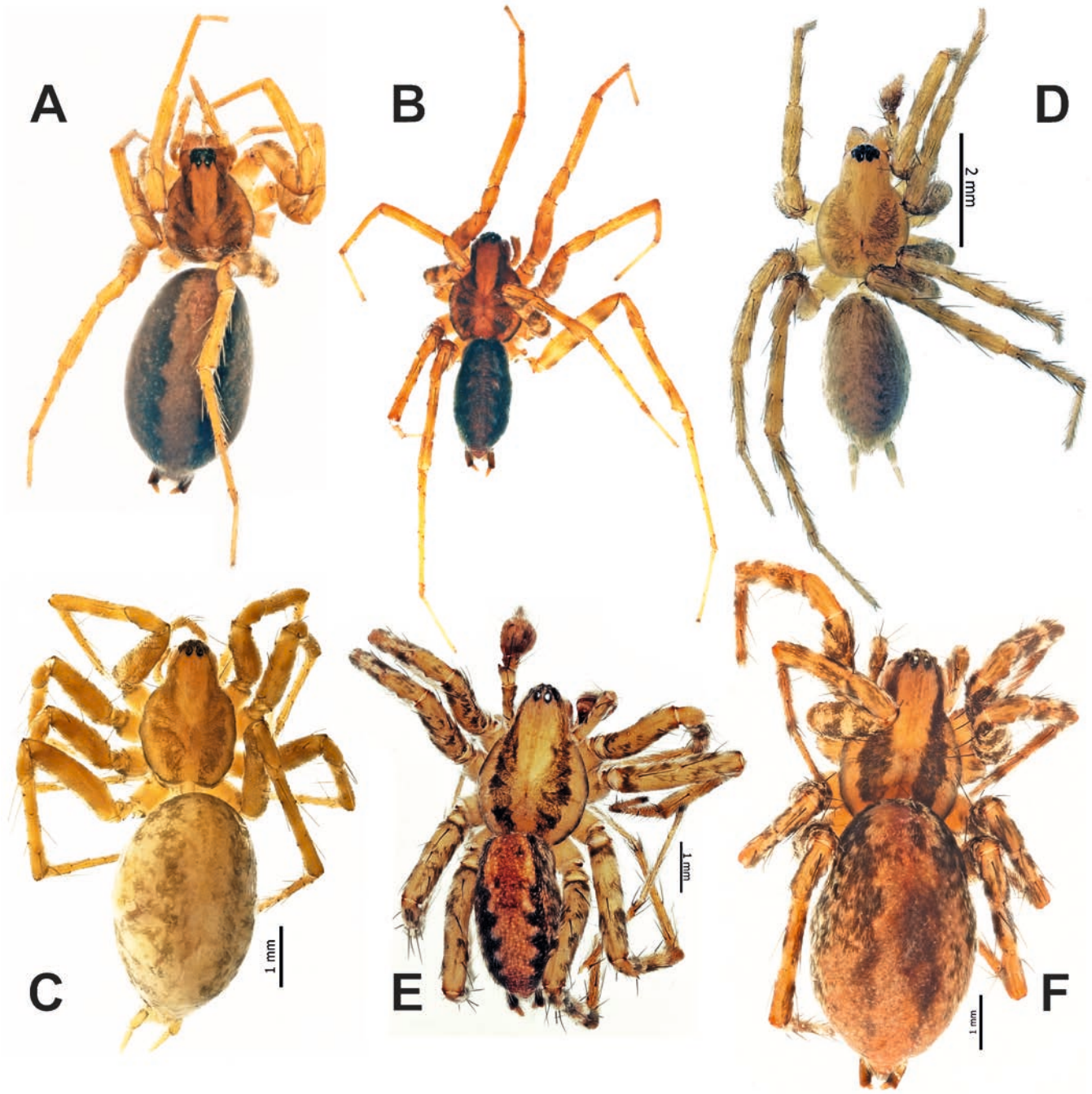

Fig. 1: **A** *Persiscape caspica* sp. n., ♀ habitus; **B** same, ♂ habitus; **C** *Persilena sengleti* sp. n., ♀ habitus; **D** *Asiascape parthica* sp. n., ♂ habitus; **E** *Gorbiscape gorbachevi* sp. n., ♂ habitus; **F** same, ♀ habitus.

Agelenidae C. L. Koch, 1837

Ageleninae C. L. Koch, 1837

Agelenini C. L. Koch, 1837

Agelenini: Lehtinen 1967: 344; Bolzern, Burckhardt & Hänggi 2013: 822.

Remarks: This tribe was mentioned in the two publications cited above, and the limits of the group were discussed in Lehtinen (1967) only. He included 11 genera in this tribe, four from the New World and the other seven restricted to Eurasia and Africa. Since Lehtinen's (1967) revision, more genera have been described, and currently ten genera are assigned to this tribe in the Old World: *Agelena* Walckenaer, 1805, *Agelenella* Lehtinen, 1967, *Ageleradix* Xu & Li, 2007, *Agelescape* Levy, 1996, *Allagelena* Zhang, Zhu & Song, 2006, *Benoitia* Lehtinen, 1967, *Huangyuania* Song & Li, 1990, *Kidugua* Lehtinen, 1967, *Mistaria* Lehtinen, 1967, and *Tikaderia* Lehtinen, 1967. Three of these genera are monotypic and known by females only: *Agelenella*, *Kidugua*, and *Tikaderia*. Two genera, *Ageleradix* and *Huangyuania*, placed by Zhu, Wang & Zhang (2017) in Ageleninae, seem to be misplaced. They lack a patellar apophysis, and the conductor lacks a thumb-like base (Cb) in the middle part of the tegulum, two features that are present in all other members of this group. The placement of

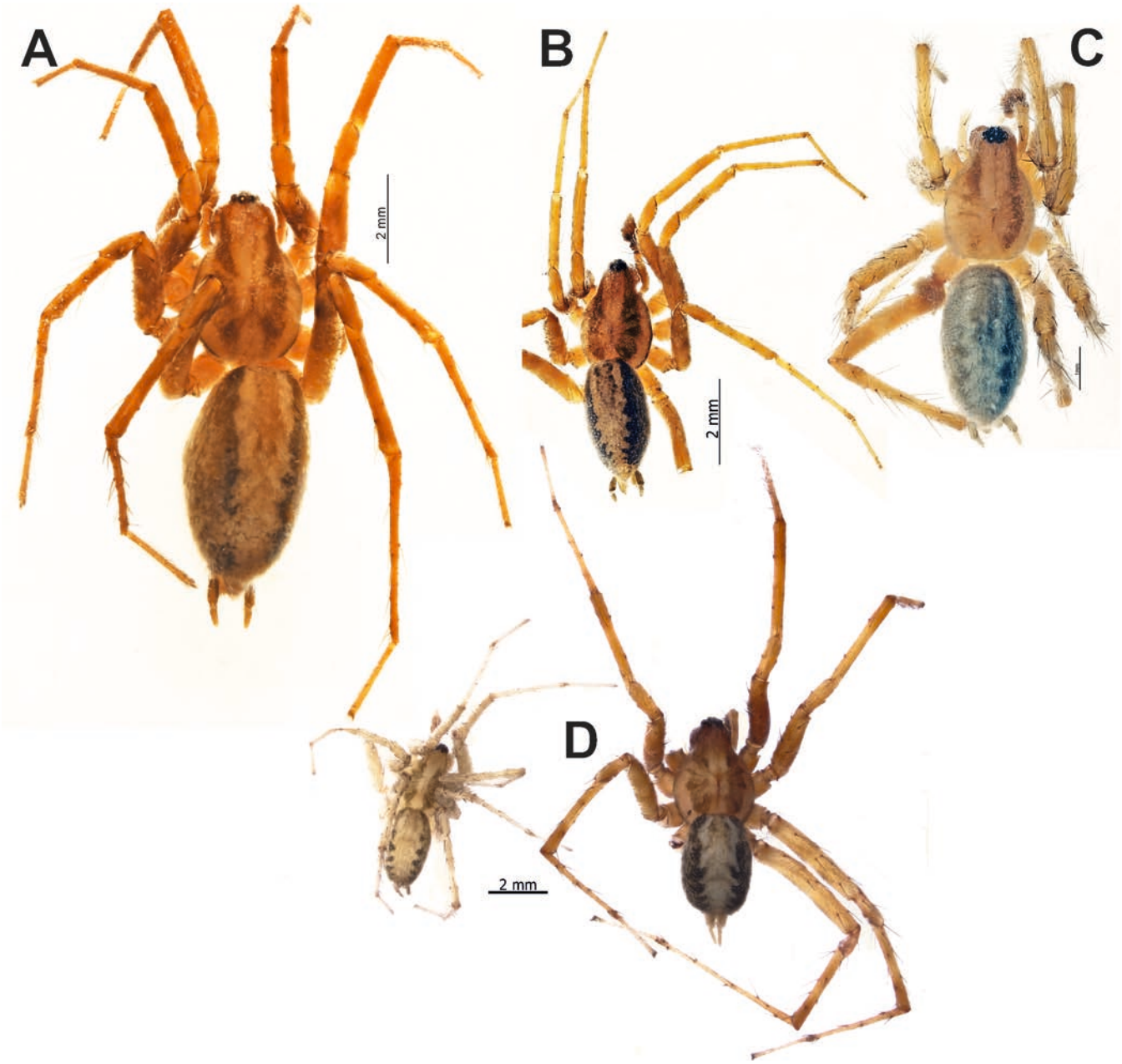

Fig. 2: **A** *Persiscape ecbatana* sp. n., ♀ habitus; **B** same, ♂ habitus; **C** *P. nassirkhanii* sp. n., ♂ habitus; **D** *Agelescape* cf. *livida*, ♂ habitus, from Galilee, northern slope of Mt Meron, Israel, showing extreme size variation observed between two males of the same population.

three monotypic genera known exclusively by females is also doubtful.

Agelena Walckenaer, 1805

Agelena: Lehtinen 1967: 346; Zhu, Wang & Zhang 2017: 66.

Type species: *Araneus labyrinthicus* Clerck, 1757 by original designation.

Remarks: *Agelena*, with 48 valid species, is the largest genus in Agelenini. It is known from Africa, the Palaearctic and south Asia (India, Nepal and South-East Asia). Almost half of the species are known by one sex, or even juveniles (21♀, 2♂, 1 juv.). Judging by the shape of the copulatory organs, it seems that all species occurring outside of the Palaearctic, and some Palaearctic species, are misplaced in the genus. Below, we provide a diagnosis only for species which have male palps similar to that in the generotype: *A. babai* Tanikawa, 2005, *A. chayu* Zhang, Zhu & Song, 2005, *A. cuspidata* Zhang, Zhu & Song, 2005, *A. labyrinthica* (Clerck, 1757), *A. limbata* Thorell, 1897, *A. orientalis* C. L. Koch, 1837, and *A. sylvatica* Oliger, 1983.

Diagnosis: Males of *Agelena* can be distinguished from other Agelenini by having a prolateral bulge on the bulb (embolic base extending the tegulum), which is lacking in other genera.

Agelena labyrinthica (Clerck, 1757)

Agelena labyrinthica: Kovblyuk & Kastrygina 2011: 278, figs. 4–6, 10–12, 16–18, 21–22, 25–26, 28 (♂♀); Zhu, Wang & Zhang 2017: 72, figs. 1–2, 7A–C, 9A–B, 11E, 18A–E (♂♀).

For a complete list of taxonomic references (total of 91), see World Spider Catalog (2020).

Remarks: This species is well known; therefore, we do not provide figures or a redescription.

Distribution: This is the only species of the genus that is known across the entire Palaearctic, from the Iberian Peninsula to Japan.

Records in Iran and Tajikistan: Iran: Ardabil, Gilan, Golestan, Mazandaran, Semnan, Tehran (Zamani *et al*. 2020). Tajikistan: northwest and southwest (Andreeva 1976).

Agelena orientalis C. L. Koch, 1837

Agelena orientalis: Levy 1996: 86, figs. 4–8 (♂♀); Kovblyuk & Kastrygina 2011: 274, figs. 1–3, 7–9, 13–15, 19–20, 23–24, 27 (♂♀).

For a complete list of taxonomic references, see World Spider Catalog (2020).

Remarks: This species is well known; therefore, we do not provide figures or a redescription.

Distribution: West Palaearctic, from Italy to Kyrgyzstan, south to Israel.

Records in Iran: Alborz, Gilan, Golestan, Khuzestan, Kurdistan, Mazandaran, North Khorasan, Qazvin, Tehran (Zamani *et al*. 2020).

Agelescape Levy, 1996

Agelescape Levy 1996: 88; Guseinov, Marusik & Koponen 2005: 155.

Type species: *Agelena livida* Simon, 1875 by original designation.

Remarks: *Agelescape* has only been taxonomically considered in the two publications mentioned above. Levy (1996: 88) diagnosed the genus as having an epigynal scape and by "the particular configuration of the male palpal sclerite". Guseinov, Marusik & Koponen (2005) mentioned a character that allowed the separation of *Agelescape* from *Agelena*: the number of retrolateral tibial apophyses, one in *Agelescape* and two in *Agelena*; however, both of these genera are poorly delimited and encompass species that are quite different from their generotypes.

Additionally, comparison of *A. gideoni* Levy, 1996 and species occurring in the Caucasus to *A. livida*, the type species, revealed differences in the number of bulbal sclerites of the palps and the presence/absence of tubular ducts of the epigynes (Guseinov, Marusik & Koponen 2005); however, these differences do not occur between *A. livida* and *A. affinis*. Thus, we split *Agelescape* into two genera, with *A. livida* and *A. affinis* remaining, and others placed in *Persiscape* gen. n.

Diagnosis: Males of *Agelescape* differ from all other Old World Agelenini (except for *Benoitia* Lehtinen, 1967) by having a long, filamentous embolus (>½ tegulum length), and a long (>½ tegulum length), gradually tapering, straight conductor (*v*. embolus not filamentous, with a distinct base, and a twisted conductor) (Figs. 4A–B, 5A–B, 6D). *Agelescape* males differ from those of *Benoitia* by the straight conductor. Females differ from other Old World Agelenini by having distinct tubular ducts (*v*. absent in other genera) and lack of globular receptacles (*v*. present in other genera) (Fig. 8D–E, G).

Remarks: Levy (1996) indicated that *Agelescape* has 3–4 prolateral teeth and 2–4 retrolateral teeth on the chelicera. Based on our material, in the two species remaining in the genus there are 3 prolateral and 3–4 retrolateral teeth.

Included species: *A. livida* and *A. affinis*.

Distribution: From the Iberian Peninsula to Israel (Fig. 15A).

Agelescape livida (Simon, 1875) (Figs. 2D, 3A–B, 4A–B, 5A–B, 6D, G–H, 8A–E, 15A)

Agelena livida Simon 1875: 112, pl. 6, fig. 10 (♂♀).
Agelena livida: Kulczyński 1911: 44, pl. 2, figs. 54, 56 (♂♀).
Agelena livida: Brignoli 1977: 14, figs. 3–4 (♀).
Agelena livida: de Blauwe 1980: 23, figs. 36–41 (♂♀).
Agelescape livida: Levy 1996: 89, figs. 14–17 (♂♀).

Material examined: ISRAEL: 3♀ (SMNH), 0.4 km S Latrun Monastery, 31°50′N 34°59′E, 220 m, 29 October 2011 (S. L. Zonstein); 1♀ (SMNH), Adulam, 20 May 2008 (O. Skutelsky); 13♂ (SMNH, tentative identification as there are no females in the collection), Upper Galilee, N slope of Mt Meron, Meron Field School, 900 m, 33°01′N 35°23.5′E, 25 May 2013 (S. L. Zonstein).

Diagnosis: Females differ from those of *A. affinis* by the trapezoidal scape widening posteriorly (*v*. rounded) and the C-shaped anterior loop (Ac) of the copulatory duct (*v*. U-shaped) (cf. Figs. 8A–D and 8F–G). Males of the two species are indistinguishable (Levy 1996).

Description: See Levy (1996) and de Blauwe (1980). This species exhibits extreme size variation in both sexes, even within individuals from the same population (Fig. 2D).

Distribution: Mediterranean, from Spain to Israel, although unreported between Spain and Albania (Helsdingen 2020) (Fig. 15A).

Agelescape affinis (Kulczyński, 1911) (Figs. 8F–H, 15A)

Agelena affinis Kulczyński 1911: 45, pl. 2, fig. 53 (♀).
Agelena affinis: de Blauwe 1980: 2, figs. 1–2 (♀).
Agelescape affinis: Levy 1996: 90, figs. 14–15, 18–19 (♂♀).

Material examined: ISRAEL: 1♀ (SMNH), Mt Meron, 22 February 2010 (C. Drees); 1♀ (SMNH), Upper Galilee, 900 m, N slope of Mt Meron, Meron Field School, 33°01′N 35°23.5′E, 25 April 2013 (S. L. Zonstein); 1♀ (SMNH), Upper Galilee, 900 m, N slope of Mt Meron, Meron Field School, 33°01′N 35°23.5′E, 25 April 2013 (S. L. Zonstein); 1♀ (SMNH), Ziv'on, woodland, 33°02′N 35°25′E, 773 m, 01 September 2005 (A. Timm, T. Assmann).

Description: See Levy (1996).

Remarks: The male of this species was first described by Levy (1996) who did not find any differences between it and

Fig. 3: **A, B** Live females of *Agelescape livida* from Negev, Israel; **C, D** live females of *Persiscape gideoni* from Mazandaran, Iran. Courtesy of Amir Weinstein (A–B) and Alireza Zamani (C–D).

A. livida (in both palpal and somatic characters). The palp of *A. livida* depicted by Levy (1996) differs from other illustrations available for this species (e.g. position of the embolic base, shape of the RTA, etc., cf. Figs. 4A and 4B), but we conclude this is because of differences in his illustrations rather than in the spiders, as no such palpal conformation was found in the extensive collections from Israel.

Distribution: Syria, Israel, and Lebanon (?) (Fig. 15A). Despite being reported from Turkey in the World Spider Catalog (2020), the identifications of Turkish material by Brignoli (1978) refer to *A. gideoni* (per Levy 1996). The records of this species from Lebanon could refer to *A. livida* (per Levy 1996).

***Persiscape* gen. n.**

Type species: *Agelescape levyi* Guseinov, Marusik & Koponen, 2005 from Azerbaijan.

Etymology: A combination of Persia and scape, referring to the similarity with *Agelescape*. The gender is feminine.

Diagnosis: *Persiscape* gen. n. differ from *Agelescape* by the number of the teeth on the promargin of the chelicera, 2 in the new genus and 3–4 in *Agelescape*. Males of this genus differ from those of *Agelescape* by having a complex embolus with a thumb-like base, a short embolus proper (stick-like portion) (not longer than tegular apophysis), an embolar lamellar process (Pe), conductor twisted around its axis with a thumb-like base and rounded tip (*v.* embolus unmodified, filamentous, longer than tegular apophysis, conductor gradually tapering, untwisted, with a sharp tip) and by the shape of the tegular apophysis in lateral view: apophysis straight, longer than wide, with parallel lateral margins and an abrupt tip (*v.* apophysis with diverging margins and rounded tip) (Figs. 6A–C, E, I, 7B–C, 9A–F, 10A–F, 11A–F). Females of the two genera differ by the presence of wide and straight copulatory ducts and the receptacles subdivided into 2–3 globular chambers in the new genus (*v.* tube-like, bent, true copulatory ducts and an undivided receptacle in *Agelescape*) (Figs. 12A–O). *Persiscape* gen. n. differs from *Asiascape* gen. n. by the presence of an embolar process (Pe) (*v.* absent) and globular receptacles subdivided into 2–3 chambers (*v.* tubular receptacles).

Description: Total length: male 5.30–8.55, female 6.78–11.20. Carapace length: male 2.50–4.25, female 2.30–4.30, width: male 1.60–3.00, female 1.90–3.00. Chelicera with 2 prolateral and 3 retrolateral teeth.

Carapace and abdomen with distinct pattern (Figs. 1A–B, 2A–C, 3C–D). Yellowish to reddish-brown, with two wide submarginal bands and a thin gray margin. Sternum grayish with yellow median stripe. Legs usually the same color as carapace, with obscure annulations in some species.

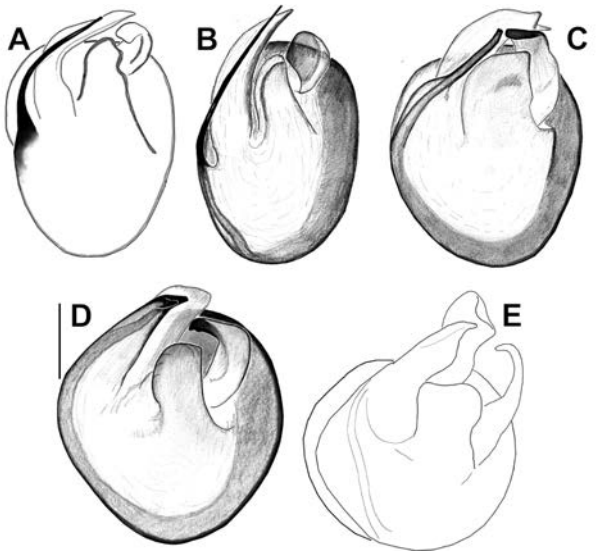

Fig. 4: Bulb, ventral view. **A, B** *Agelescape* cf. *livida*, from Israel; **C** *Asiascape parthica* sp. n.; **D** *Gorbiscape gorbachevi* sp. n.; **E** *G. agelenoides*. A after Levy (1996), E after de Blauwe (1980), both with modification. Scale bar = 0.2 mm

Abdomen dark gray with a pattern of lighter spots dorsally, ventrally light gray. Spinnerets yellowish.

Male palp (Figs. 6A–C, E, I, 7B–C, 9A–F, 10A–F, 11A–F) with one patellar and one tibial apophysis. Tegular apophysis strongly sclerotized, broad, with abrupt or rounded tip in lateral view; conductor complex, with thumb-like base and roundly bent lamellate terminal part (Ct); embolus complex, with thumb-like base wider than base of conductor, with a lamellar process and short or stick-like embolus proper.

Epigyne (Figs. 12A–O) with distinct fovea (atrium) and subdivided scape that is wider than long; copulatory opening hidden, originating laterad of scape, anterior portion of copulatory duct membranous, as long as wide; other part of copulatory duct straight, broad; receptacle subdivided into several globular chambers.

Included species: *Persiscape caspica* sp. n., *P. caucasica* (Guseinov, Marusik & Koponen, 2005), *P. ecbatana* sp. n., *P. gideoni* (Levy, 1996), *P. nassirkhanii* sp. n., *P. levyi*, and *P. zagrosensis* sp. n. Based on the shape of the embolus, we consider two species groups in this genus: the *levyi*-group and the *gideoni*-group. Members of the former have a short spine- or claw-like embolus and include *P. levyi*, *P. ecbatana* sp. n., and *P. caspica* sp. n., and the latter have a stick-like embolus and include *P. gideoni*, *P. nassirkhanii* sp. n., and *P. zagrosensis* sp. n.

Distribution: The genus is known from Lesbos, Central Anatolia, and Israel to Iran (western, northern, and southeastern) (Fig. 15).

***Persiscape levyi* (Guseinov, Marusik & Koponen, 2005) comb. n.** (Figs. 6C, 7B, 9F, 10A–B, 12A–G, 15B)

Agelescape levyi Guseinov, Marusik & Koponen 2005: 158, figs. 3–5 (♂).

Agelescape sp.: Guseinov, Marusik & Koponen 2005: 159, figs. 22–25 (♂).

Agelescape talyshica Guseinov, Marusik & Koponen 2005: 158, figs. 13–16 (♀), **syn. n.**

Material examined: IRAN: Tehran Province: 4♂ 10♀ (ZMMU), 5 km N of Tehran, Tochal Mountains, 35°53′N 51°20′E, 2000–2900 m, 16 June 2000 (Y. M. Marusik, F. Mozaffarian, R. Bahramishad); 2♂ 1♀ (ZMMU), E of Tehran, Ab-Ali, 35°46′N 51°57′E, 02 June 2000 (Y. M. Marusik).

Diagnosis: Males of *P. levyi* differ from congeners by the short, claw-like embolus (*v.* spine- or stick-like embolus) (Figs. 6C, 7B, 9F). Females of *P. levyi* are most similar to those of *P. gideoni* due to the subdivided scape, but differ by having a smaller fovea that is 2× wider than the scape (*v.* 2.5× wider than the scape) (Figs. 12A–G).

Description: Described by Guseinov, Marusik & Koponen (2005).

Remarks: *Persiscape levyi* was described on the basis of the male holotype from north-central Azerbaijan (sub *Agelescape*), and *A. talyshica* was described based on female specimens collected in southeastern Azerbaijan. Recently, Iranian material containing both sexes revealed that these names require synonymization. Strangely, in the same paper that the description of *Agelescape levyi* was provided, other specimens collected in Iran were identified as *Agelescape* sp.; as these specimens are identical to the type series of *A. levyi* from Azerbaijan, they are identified as such herein.

Distribution: central-northern Azerbaijan to northern Iran (first record) (Fig. 15B).

***Persiscape caspica* sp. n.** (Figs. 1A–B, 9D, 10E–F, 13A–C, 15B)

Type material: Holotype ♂ and paratype 1♀ (MMUE), IRAN: Mazandaran Province: Javaher-Deh Vil., 36°52′N 50°28′E, 09 June 2000 (Y. M. Marusik).

Etymology: This species is named after the Caspian region where the specimens were collected.

Diagnosis: *Persiscape caspica* sp. n. is most similar to *P. ecbatana* sp. n., but it can be distinguished by having the embolus shorter than the lamellar process (*v.* embolus and lamellar process equal in length), relatively shorter patellar apophysis (cf. Figs. 10C and 10E), elongate tegulum, *c.* 1.2× longer than wide (*v.* as long as wide), and by the scape which is *c.* 1.4× wider than long (*v.* 2× wider than long) (Fig. 13A).

Description of male: Habitus as in Fig. 1B. Total length 5.90. Carapace 2.86 long, 1.94 wide. Eye sizes and PME interdistance: AME: 0.10, ALE: 0.15, PME: 0.12, PLE: 0.16, PME–PME: 0.11. Carapace, sternum, labium, chelicera, and maxilla reddish brown. Carapace with dark margins, two wide, light submarginal bands, two wide, brown lateral bands, and a wide, light median band (Fig. 1A–B). Legs the same colour as the carapace, with distinct annulations. Abdomen dark reddish brown, with two distinct dark gray submarginal bands dorsally with numerous small light

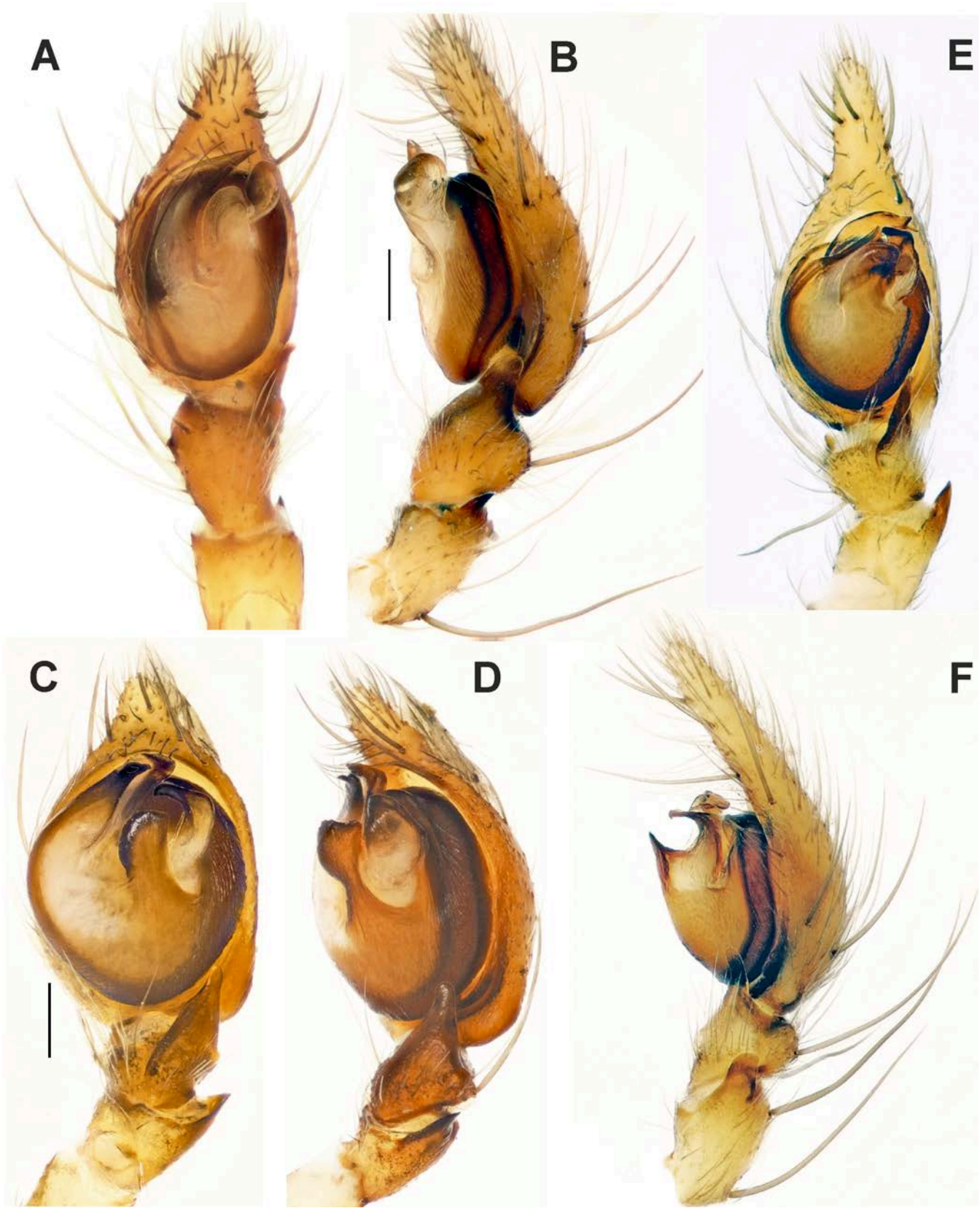

Fig. 5: Palps. **A** *Agelescape* cf. *livida*, from Israel, ventral view; **B** same, retrolateral view; **C** *Gorbiscape gorbachevi* sp. n., ventral view; **D** same, retrolateral view; **E** *Asiascape parthica* sp. n., ventral view; **F** same, retrolateral view. Scale bars = 0.2 mm, if indicated.

gray patches, and a dark reddish cardiac mark. Spinnerets dark brown, apical segment lighter. Leg I measurements: 9.48 (2.53, 1.04, 2.08, 2.29, 1.54).

Palp as in Figs. 9D, 10E–F; tegulum *c*. 1.2× longer than wide; embolus and lamellar process subequal in length; embolus with triangular extension near the base.

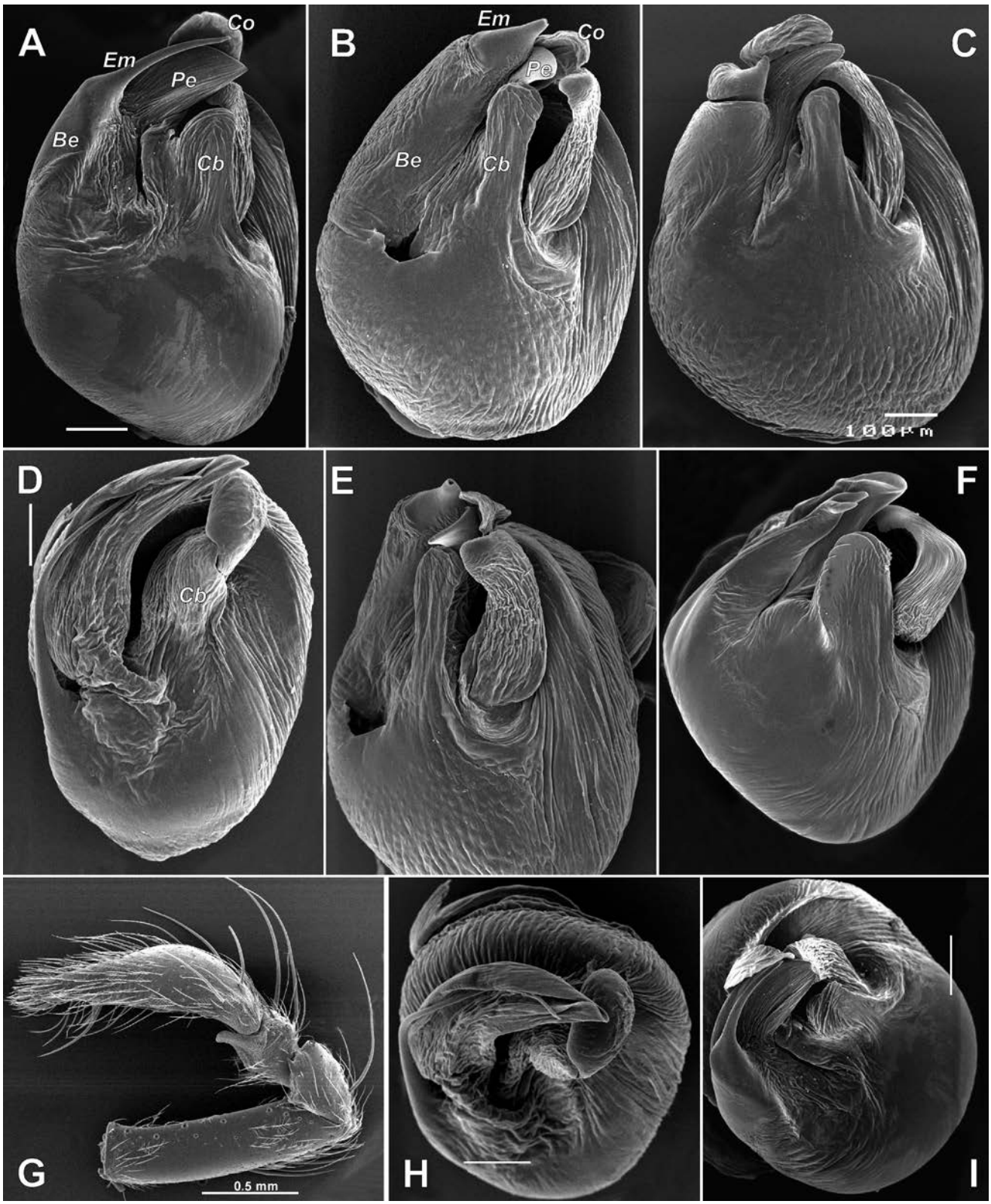

Fig. 6: SEM micrographs of male palps. **A** *Persiscape gideoni*, bulb, ventral view; **B** *P. ecbatana* sp. n., bulb, ventral view; **C** *P. levyi*, bulb, ventral view; **D** *Agelescape* cf. *livida*, from Israel, bulb, ventral view; **E** *P. ecbatana* sp. n., bulb, retrolateral view; **F** *Gorbiscape gorbachevi* sp. n., bulb, ventral view; **G** *Agelescape* cf. *livida*, from Israel, whole palp with removed bulb; **H** same, bulb, anterior view; **I** *Persiscape gideoni*, bulb, anterior view. Scale bars = 0.1 mm, if not otherwise indicated. Abbreviations: Be = base of embolus, Cb = base of conductor, Co = conductor, Em = embolus, Pe = embolar process.

Description of female: Habitus as in Fig. 1A. Total length 6.78. Carapace 2.32 long, 1.90 wide. Eye sizes and PME interdistance: AME: 0.08, ALE: 0.16, PME: 0.11, PLE: 0.15, PME–PME: 0.10. Colouration as in male. Leg I measurements: 7.87 (2.03, 1.0, 1.68, 1.84, 1.32).

Epigyne as in Figs. 13A–C; scape large, occupies most of the fovea, *c.* 1.35× wider than long; receptacle with 2 globular chambers.

Distribution: Known only from the type locality in Mazandaran Province, northern Iran (Fig. 15B).

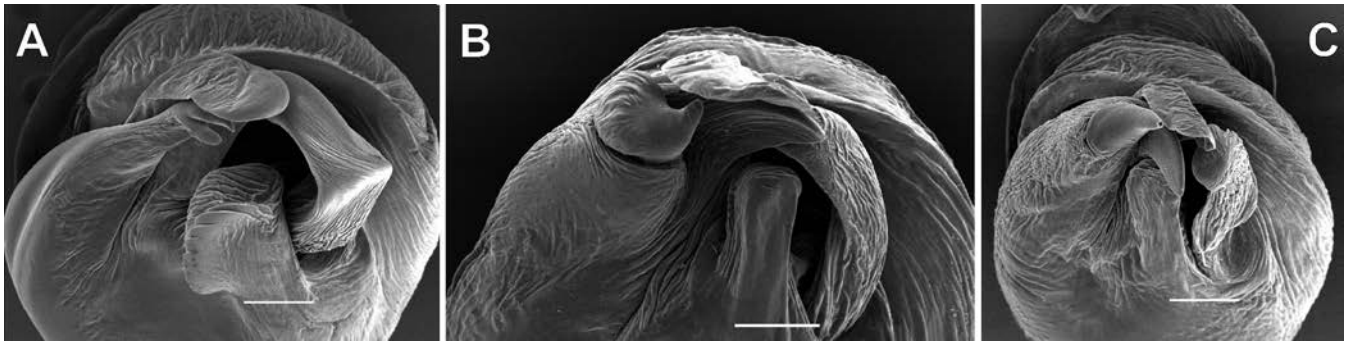

Fig. 7: SEM micrographs of terminal part of bulb, anterior view. **A** *Gorbiscape gorbachevi* sp. n.; **B** *Persiscape levyi*; **C** *P. ecbatana* sp. n. Scale bars = 0.1 mm.

***Persiscape caucasica* (Guseinov, Marusik & Koponen, 2005) comb. n.** (Figs. 12M–O, 15A)

Agelescape caucasica Guseinov, Marusik & Koponen 2005: 157, figs. 9–12, 69–71, 105 (♀).

Diagnosis: This species differs from congeners by a scape that is longer than wide (Fig. 12M) and large membranous parts of the copulatory duct which are bent posteriorly (Fig. 12O) (*v.* scape not longer than wide, membranous parts of copulatory ducts short and not bent posteriorly).

Description: See Guseinov, Marusik & Koponen (2005).

Distribution: Lesbos (Bosmans *et al*. 2009), Central Anatolia (Demir, Seyyar & Türkeş 2014), Georgia, and Azerbaijan (Otto 2018) (Fig. 15A).

***Persiscape ecbatana* sp. n.** (Figs. 2A–B, 6B, E, 7C, 9E, 10C–D, 13D–J, 15B)

Type material: Holotype ♂ and paratypes 3♂ 4♀ (MHNG), IRAN: Hamedan Province: Hamedan, 34°44′N 48°47′E, 2600 m, 16 June 1975 (A. Senglet).

Etymology: This species is named after Ecbatana, an ancient city of Hagmatana Hill, and an archaeological mound in Hamedan, the type locality of the new species.

Diagnosis: The male of the new species differs from *P. caspica* sp. n. by the embolus being as long as the lamellar process (*v.* shorter), the relatively longer patellar apophysis (cf. Figs. 6B, E, 9E, 10C), and the globular tegulum (*v.* longer than wide); the female differs from the similar *P. caspica* sp. n. by the scape being 2× wider than long (*v.* < 1.5×) (Figs. 13E, F).

Description of male: Habitus as in Fig. 2B. Total length 5.72. Carapace 2.59 long, 1.63 wide. Eye sizes and PME interdistance: AME: 0.08, ALE: 0.12, PME: 0.12, PLE: 0.13, PME–PME: 0.07. Carapace, sternum, labium, chelicera, and maxilla brown. Carapace with dark margins, wide, light submarginal bands, two wide, brown lateral bands, and a wide, light median band (Figs. 2A–B). Legs the same colour as the carapace and without annulations. Abdomen light brown, with two distinct dark gray submarginal bands dorsally with numerous small light gray patches, a distinct cardiac mark, and distinct light gray submarginal bands ventrally. Spinnerets uniformly light brown. Leg I measurements: 8.30 (2.13, 0.90, 1.92, 2.02, 1.33).

Palp as in Figs. 6B, E, 7C, 9E, 10C–D; tegulum almost as wide as long; base of embolus wide, with subparallel sides, embolus spine-like, as long as lamellar process.

Description of female: Habitus as in Fig. 2A. Total length 9.0. Carapace 3.71 long, 2.45 wide. Eye sizes and PME interdistance: AME: 0.15, ALE: 0.16, PME: 0.14, PLE: 0.17, PME–PME: 0.13. Body colouration generally as in male, but abdomen slightly darker and with less distinct patterns. Leg I measurements: 10.59 (2.74, 1.29, 2.35, 2.58, 1.63).

Epigyne as in Figs. 13D–J; scape approximately 2× wider than long, occupies most of foveal plate, slightly subdivided in some specimens; fovea *c*. 1.6× wider than scape; receptacles with two globular or oval chambers.

Distribution: Known only from the type locality in Hamedan Province, northwestern Iran (Fig. 15B).

***Persiscape gideoni* (Levy, 1996) comb. n.** (Figs. 3C–D, 6A, I, 9A, 11C–D, 12H–L, 15C)

Agelescape gideoni Levy 1996: 91, figs. 20–23 (♂♀).
Agelescape dunini Guseinov, Marusik & Koponen 2005: 158, figs. 1–2, 6–8 (♂♀), **syn. n**.
Agelescape gideoni: Zamani *et al*. 2016: 101, figs. 1–3 (♀).

Material examined: IRAN: Chaharmahal & Bakhtiari Province: 1♀ (MHNG), Farsan, 32°17′N 50°31′E, 11 August 1973 (A. Senglet); Golestan Province: 1♀ (MHNG), Tang-e Rah, 37°25′N 55°45′E, 28 July 1974 (A. Senglet); Isfahan Province: 1♀ (MHNG), Riz-e-Landjan, 32°24′N 51°19′E, 1600 m, 11 August 1973 (A. Senglet); Kerman Province: 3♂ (MHNG), Baft, Kuh-e Shah, August 2018 (A. Zamani); Qazvin Province: 1♀ (MHNG), Hassanabad, 36°26′N 50°13′E, 1750 m, 03 July 1975 (A. Senglet); Tehran Province: 1♂ 1♀ 15 juv. (MMUE), ~80 km E of Tehran, Damavand area, Aroo Vil., 35°40′N 52°27′E, 15 June 2000 (Y. M. Marusik, F. Mozaffarian); 2♂ 1♀ 1 juv. (MMUE), Latian Dam, 35°48′N 51°08′E, 06–19 June 2000 (Y. M. Marusik); 3♂ 3♀ 1 juv. (MMUE), 5 km N of Tehran, Tochal Mountain, 35°53′N 51°20′E, 2000–2900 m, 16 June 2000 (Y. M. Marusik, F. Mozaffarian, R. Bahramishad).

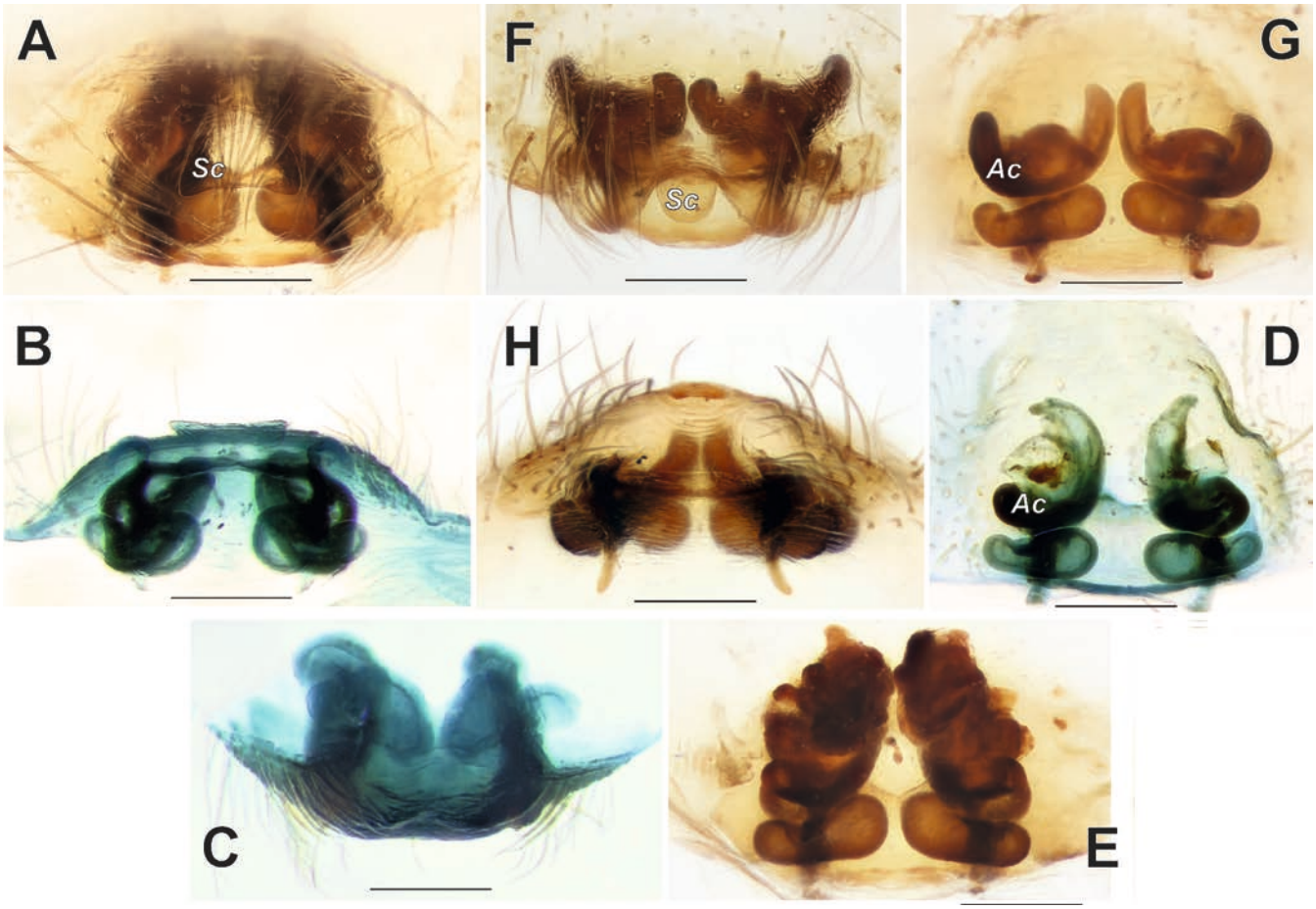

Fig. 8: Epigynes. **A** *Agelescape livida*, from Israel, ventral view; **B** same, posterior view; **C** same, anterior view; **D** same, dorsal view of macerated specimen; **E** same, dorsal view of unmacerated specimen; **F** *A. affinis*, from Israel, ventral view; **G** same, dorsal view of macerated specimen; **H** same, posterior view. Scale bars = 0.2 mm. Abbreviations: Ac = anterior loop of copulatory duct, Sc = epigynal scape.

Diagnosis: Males of *P. gideoni* differ from *P. nassirkhanii* sp. n. and *P. zagrosensis* sp. n. by lacking round or triangular extensions (Ee) near the base of the embolus (Figs. 6A, I, 9A). Females of *P. gideoni* are most similar to those of *P. levyi* by having a bifurcate scape. The two species can be separated by the relative width of the scape and fovea: in *P. gideoni*, the fovea is 2.5× wider than the scape and in *P. levyi* it is 2× wider (Fig. 12H).

Description: Described by Levy (1996) and Guseinov, Marusik & Koponen (2005, sub *A. dunini*).

Remarks: Zamani *et al*. (2016) mentioned that the shape of the epigyne is highly variable in *A. dunini* (Azerbaijan), showing left-right asymmetry. Therefore, *A. dunini* differs from *P. gideoni* only by the bifurcated scape, the anchor-shaped foveal plate, and body size, all of which are highly variable even within the same population. Considering this, and that the males of *A. dunini* and *P. gideoni* do not differ morphologically, we consider *A. dunini* a junior synonym of *P. gideoni*.

Records in Iran: Alborz, Mazandaran, Tehran, (Zamani *et al*. 2020), Chaharmahal & Bakhtiari, Golestan, Isfahan, Kerman, Qazvin (current data).

Distribution: Israel to Iran (15C).

***Persiscape nassirkhanii* sp. n.** (Figs. 2C, 9B, 11E–F, 15B)

Type material: Holotype ♂ (MHNG), IRAN: Lorestan Province: Malavi-Shahabad, 33°35′N 47°14′E, 1400 m, 25 June 1974 (A. Senglet).

Etymology: This species is named after Iranian arachnologist and friend of the first author, Dr Mahrad Nassirkhani, in recognition of his substantial contributions to the taxonomy and faunistics of Iranian pseudoscorpions.

Diagnosis: This species is most similar to *P. zagrosensis* sp. n. from which it can be distinguished by the embolus proper directed retrolaterally (*v.* antero-retrolaterally) and by the semi-round extension at the base of the embolus proper (Ee) (*v.* triangular) (Figs. 9B, 11E).

Description of male: Habitus as in Fig. 2C. Total length 6.02. Carapace 2.67 long, 1.78 wide. Eye sizes and PME interdistance: AME: 0.13, ALE: 0.17, PME: 0.12, PLE: 0.12, PME–PME: 0.06. Carapace, sternum, labium, chelicera, and maxilla light brown. Carapace with dark margins, wide, light submarginal bands, two wide, brown lateral bands, and a wide, light median band. Legs the same colour as the carapace, without annulations. Abdomen light gray with two distinct dark gray lateral bands dorsally, without any pattern ventrally. Spinnerets uniformly light yellow. Leg I measurements: 9.3 (2.40, 0.93, 2.15, 2.33, 1.49).

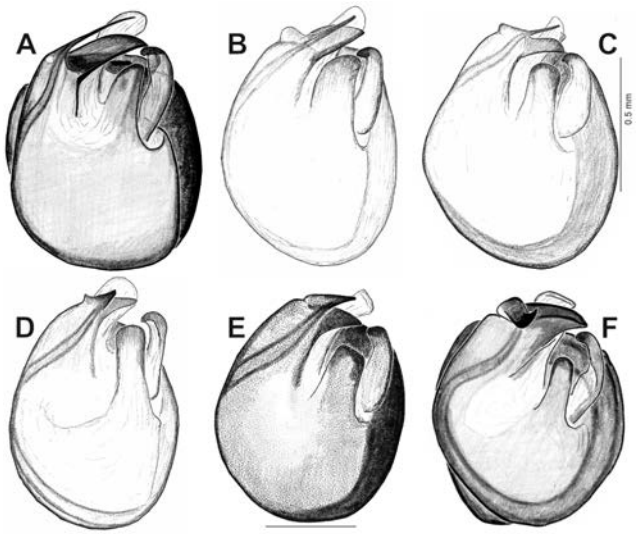

Fig. 9: Bulb, ventral view. **A** *Persiscape gideoni*; **B** *P. nassirkhanii* sp. n.; **C** *P. zagrosensis* sp. n.; **D** *P. caspica* sp. n.; **E** *P. ecbatana* sp. n.; **F** *P. levyi*. Scale bar = 0.2 mm, if not stated otherwise.

Palp as in Figs. 9B, 11E–F. Patella and tibia with blunt triangular retrolateral apophyses; median apophysis almost straight, tegular apophysis wide; lamellar process slightly shorter than embolus.

Female: Unknown.

Distribution: Known only from the type locality in Lorestan Province, southwestern Iran (Fig. 15B).

***Persiscape zagrosensis* sp. n.** (Figs. 9C, 11A–B, 15B)

Type material: Holotype ♂ (MHNG), IRAN: Ilam Province: Eyvan, Sarab, 33°42′N 46°25′E, 27 June 1974 (A. Senglet).

Etymology: The specific epithet refers to the Zagros Mountains, a long mountain range in Iran, Iraq, and southeastern Turkey, from where the type specimen was collected.

Diagnosis: This species is most similar to *P. nassirkhanii* sp. n. from which it can be distinguished by the embolus proper directed antero-retrolaterally (*v.* retrolaterally) and by the triangular extension at the base of embolus proper (Ee) (*v.* rounded) (Figs. 9C, 11A).

Description of male: Total length 8.21. Carapace 4.24 long, 2.97 wide. Eye sizes and PME interdistance: AME: 0.16, ALE: 0.24, PME: 0.15, PLE: 0.19, PME–PME: 0.12. Carapace, sternum, labium, chelicera, and maxilla light brown. Carapace with dark margins, two wide, light submarginal bands, two wide, brown lateral bands, and a wide, median light band. Legs the same colour as the carapace, without annulations. Abdomen light gray with two distinct dark gray lateral bands dorsally, without any pattern ventrally. Spinnerets uniformly light yellow. Leg I measurements: 7.24 (1.87, 0.79, 1.63, 1.67, 1.28).

Palp as in Figs. 9C, 11A–B. Patella and tibia with blunt, triangular retrolateral apophyses; extension of the embolus proper triangular, embolus proper directed retrolaterally, lamellar process slightly shorter than embolus proper.

Female: Unknown.

Distribution: Known only from the type locality in Ilam Province, western Iran (Fig. 15C).

***Gorbiscape* gen. n.**

Type species: *Gorbiscape gorbachevi* sp. n. from Tajikistan.

Etymology: A combination of Gorbi, the nickname for Mikhail S. Gorbachev, the first and last president of the USSR, and scape, referring to the similarity with the genus *Agelescape*. The gender is feminine.

Diagnosis: *Gorbiscape* gen. n. differs from *Agelescape* by having only 2 prolateral teeth (*v.* 3–4), a thick and nearly straight embolus (*v.* filamentous), and the twisted conductor with a rounded tip (*v.* gradually tapering, sharply pointed and straight) (Figs. 4D–E), endogyne lacking twisted ducts, and receptacles directed laterally (Figs. 14B–C). *Gorbiscape* gen. n. can be distinguished from *Persiscape* gen. n. by the absence of an embolar lamellar process (*v.* presence), a subtriangular scape (*v.* bifurcated, nearly square), and undivided receptacles (*v.* receptacles divided into 2–3 chambers). The new genus can be separated from *Asiascape* gen. n. by the subtriangular scape (*v.* slightly extended and rounded scape), receptacles spaced more than one receptacle radius (*v.* almost touching), bifurcate embolus (*v.* stick-like), base of conductor longer than wide, and tegular apophysis rounded in retrolateral view, strongly bent (90°) in ventral view (*v.* tegular apophysis bent in lateral view, and straight in ventral view). Males of the new genus differ from other Agelenini by the broad cymbium (1.5× longer than wide) with a short tip (as long as base of conductor); in all other genera, the length/width ratio is greater than 1.5, and the tip of the cymbium is longer than the base of the conductor. *Gorbiscape* gen. n. differs from other Ageleninae genera occurring in Central Asia by having leg annulations (Figs. 1E–F).

Description: Total length ♂ 6.2–10, ♀ 7.8–14. Carapace ♂ 3.2–4.5 long, ♀ 3.35–5.5. Males and females with distinct pattern (pattern described for the type species only). Chelicera with 2 prolateral and 3 retrolateral teeth. Light median and submarginal bands subequal in length to lateral brown bands; median light band with subparallel mesal margins, slightly tapering posteriorly. Legs with distinct annulations. Abdomen with distinct median band and darker sides. Pattern more distinct in male.

Male palp with acute or rounded patellar apophysis. Tibia with elongated retrolateral apophysis and a small dorso-retrolateral apophysis. Tegulum rounded, as long as wide, with apophysis strongly bent (90°), a broad base, and a broad terminal part of conductor. Embolus broad, gradually tapering, not sharply pointed at the tip.

In the type species, epigyne with distinct fovea and subtriangular scape; the scape is lacking in *G. agelenoides*. Endogyne with subparallel receptacles, very short membranous copulatory duct, copulatory ducts 2× longer than wide

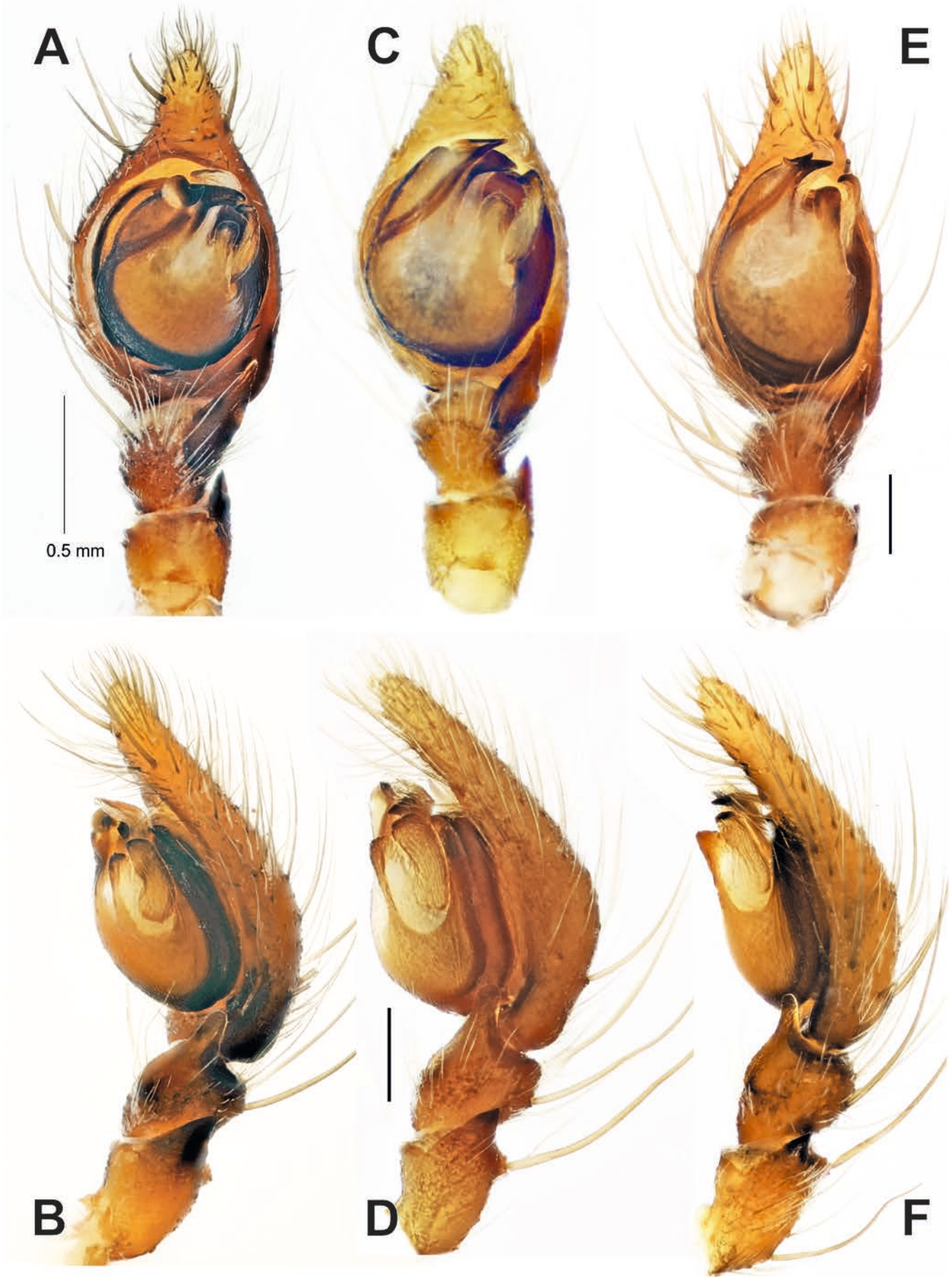

Fig. 10: Male palp. **A** *Persiscape levyi*, ventral view; **B** same, retrolateral view; **C** *P. ecbatana* sp. n., ventral view; **D** same, retrolateral view; **E** *P. caspica* sp. n., ventral view; **F** same, retrolateral view. Scale bars = 0.2 mm, if not stated otherwise.

Fig. 11: Male palps. **A** *Persiscape zagrosensis* sp. n., ventral view; **B** same, retrolateral view; **C** *P. gideoni*, retrolateral view; **D** same, ventral view; **E** *P. nassirkhanii* sp. n., ventral view; **F** same, retrolateral view. Scale bars = 0.2 mm. Abbreviation: Ee = extension of embolus proper.

Included species: *G. agelenoides* (Walckenaer, 1841) comb. n. and *G. gorbachevi* sp. n. The former is included in the genus tentatively due to the similar embolus shape, the broad base of the conductor, and the broad terminal part of the conductor. Proper figures of *G. agelenoides* are lacking in the literature.

Distribution: Western Europe, Tajikistan.

***Gorbiscape gorbachevi* sp. n.** (Figs. 1E–F, 4D, 5C–D, 6F, 7A, 14A–D, 15B)

Type material: Holotype ♂ and paratypes 1♂ 4♀ (ZMMU), TAJIKISTAN: Khatlon: Dangara Distr., Sanglogh Mt Range, above Shar-Shar Pass, 38°17′N 69°13′E, 1700–2060 m, 29 April 2015 (Y. M. Marusik); 1♀

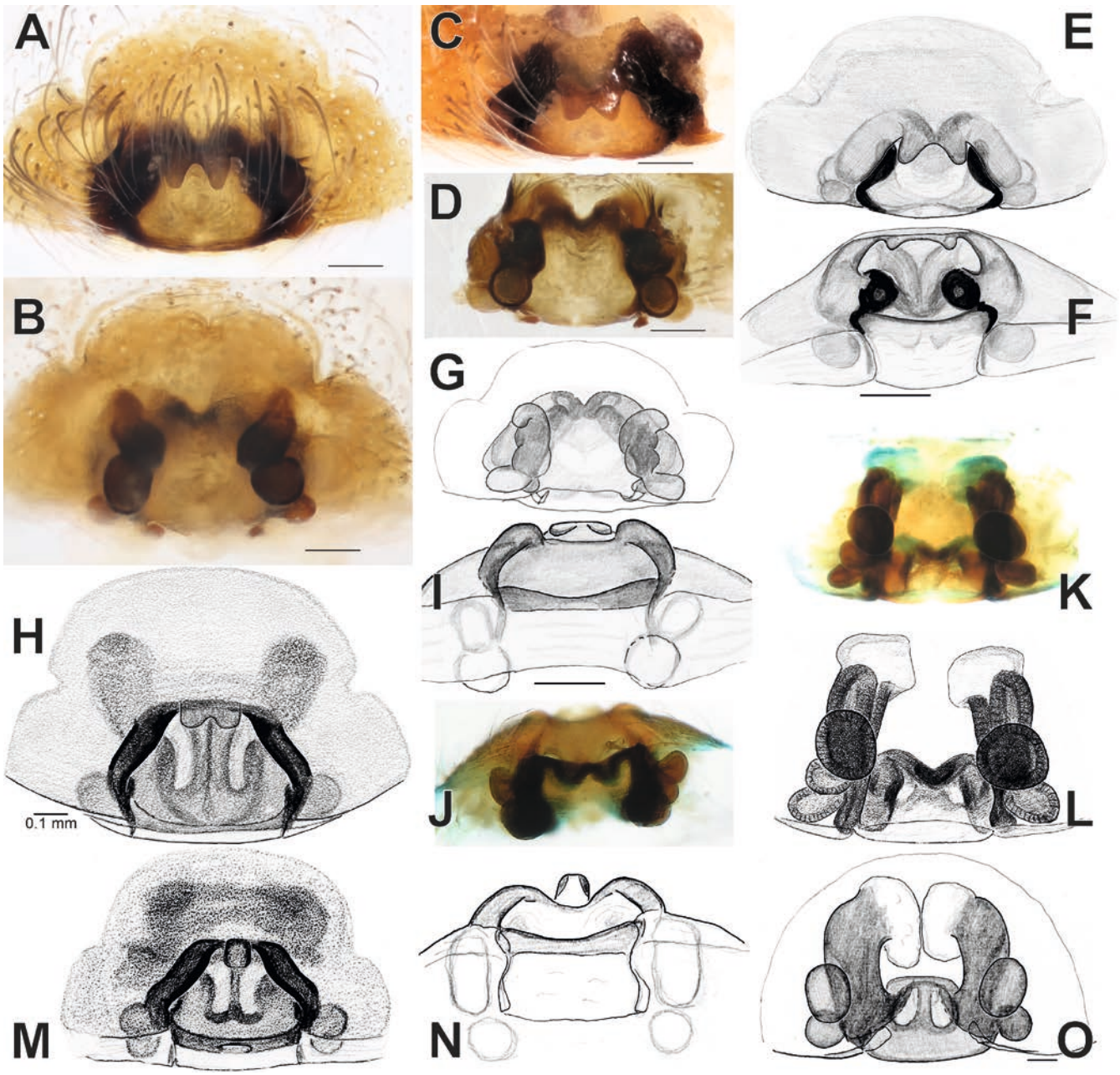

Fig. 12: Epigynes, different specimens showing variation. **A** *Persiscape levyi*, ventral view; **B** same, dorsal view; **C** same, ventral view; **D** same, dorsal view; **E** same, ventral view; **F** same, posterior view; **G** same, dorsal view; **H** *P. gideoni*, ventral view; **I, J** same, posterior views; **K, L** same, dorsal views; **M** *P. caucasica*, ventral view; **N** same, posterior view; **O** same, dorsal view. E–G, H–I, L–O after Guseinov, Marusik & Koponen (2005). Scale bars = 0.2 mm, unless otherwise indicated.

(MMUE), Khatlon: Hissar Mt Range, near Ramit Reserve, Sardai-Miyona River Gorge, *c.* 12 km NW of Ramit, *Juglans* Stand, 1400 m, 02 May 2015 (Y. M. Marusik); Khatlon: 2♂ (MMUE), Dangara Distr., Sanglogh Mt Range, above Shar–Shar Pass, 38°17′N 69°13′E, 1700–2060 m, 29 April 2015 (S. L. Zonstein); 1♂ 3♀ (MMUE), Dushanbe: Hissar Mt Ridge, 20 km of Varzob Hwy, Gusgarf Vil., N exposed slope with *Acer* leaf litter and cliffs, 08 May 2015 (Y. M. Marusik).

Etymology: The species is named after Mikhail S. Gorbachev, the first and last president of the Soviet Union, on the occasion of his 89th birthday (02 March 2020).

Diagnosis: The new species differs from *G. agelenoides* by the smaller size (♂ 6.2, and ♀ 7.8 *v.* 10 and 14, respectively), bifurcate tip of the embolus (*v.* not bifurcate), tegular apophysis strongly bent (90°) in ventral view (*v.* rounded bend) (Figs. 4D, 5C), and the presence of an epigynal scape (*v.* absent) (14A). *Gorbiscape gorbachevi* sp. n. is also similar to '*Agelena*' *canariensis* Lucas, 1839 by the shape of the embolus and course of the seminal duct, but the former differs by having a distinct base of the conductor.

Description of male: Habitus as in Fig. 1E. Total length 6.20. Carapace 3.20 long, 2.15 wide. Eye sizes and PME interdistance: AME: 0.12, ALE: 0.13, PME: 0.14, PLE: 0.13, PME–PME: 0.08. Carapace, sternum, labium, chelicera, and maxilla light brown. Carapace with dark margins, wide submarginal light bands, two wide dark brown lateral bands, and wide median light band. Sternum with

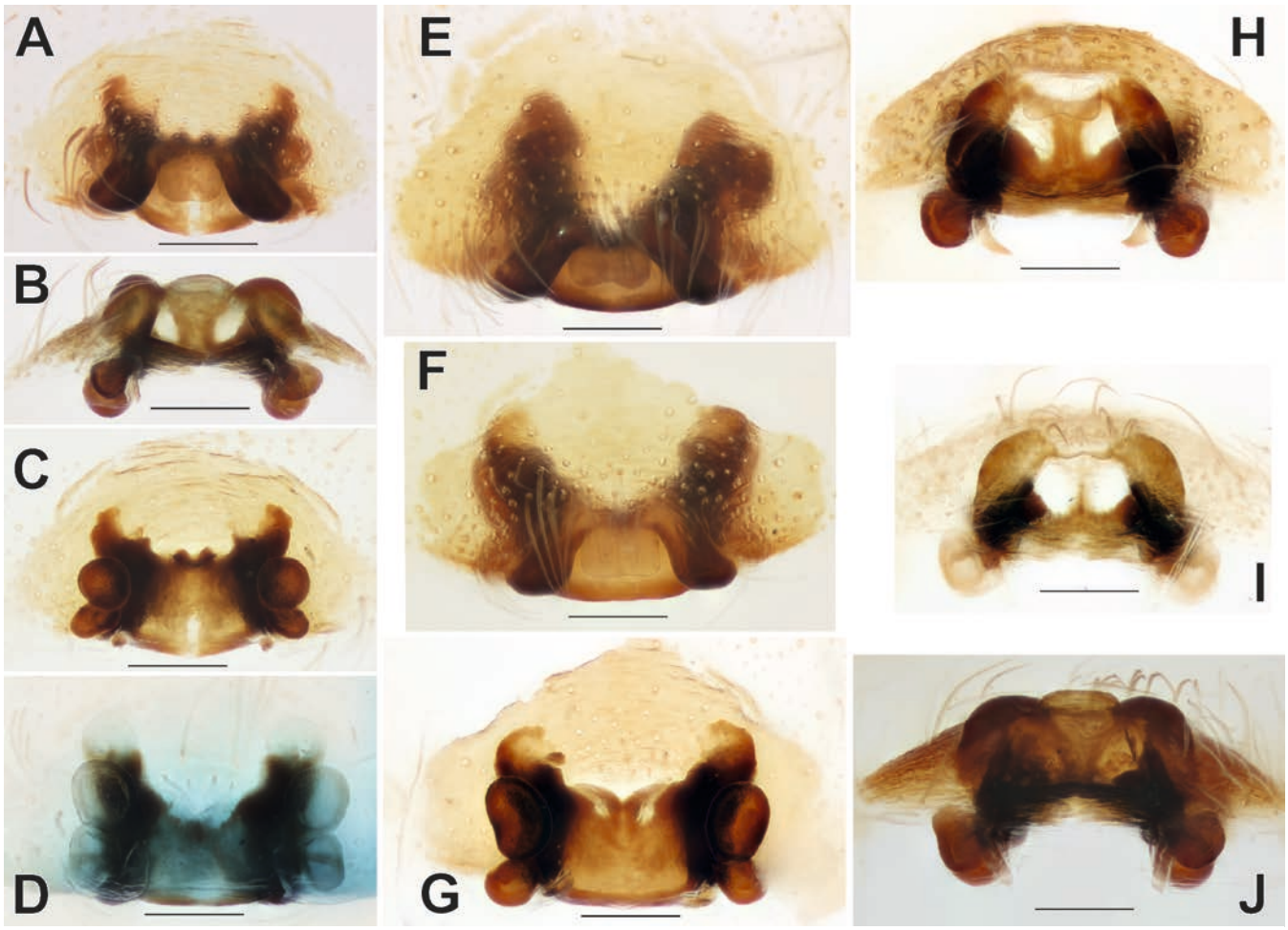

Fig. 13: Epigynes, showing variations. **A** *Persiscape caspica* sp. n., ventral view; **B** same, posterior view; **C** same, dorsal view; **D** *P. ecbatana* sp. n., dorsal view; **E** same, antero-ventral view; **F** same, ventral view; **G** same, dorsal view; **H–J** same, posterior views. E and F show variation of the scape. Scale bars = 0.2 mm.

wide gray marginal pattern. Legs the same colour as the carapace, with distinct annulations. Abdomen dark gray with a reddish foliate medial pattern on dorsum, and two longitudinal dark gray bands ventrally. Spinnerets dark gray, apical segment lighter. Leg I measurements: 9.68 (2.47, 1.08, 2.07, 2.28, 1.78).

Palp as in Figs. 4D, 5C–D, 6F, 7A; patella with short, sharply pointed apophysis; tibia with 2 apophyses, a digitiform retrolateral apophysis and a short, dorso-retrolateral knob-like apophysis; cymbium broad, 1.5× longer than wide, with short tip (equal in length to base of conductor); bulb round, as long as wide, with broad subtriangular tegular apophysis in lateral view, strongly bent (90°) in ventral view; terminal part as long as basal (Figs. 5C, 7A); base of conductor broad with rounded promargin; terminal part strongly sclerotized, tip subtriangular; embolus broad, gradually tapering, originating at about 10 o'clock, tip bifurcated (bifurcation almost indistinct in ventral view, but distinct in anterior view).

Description of female: Habitus as in Fig. 1F. Total length 7.82. Carapace 3.35 long, 2.19 wide. Eye sizes and PME interdistance: AME: 0.12, ALE: 0.17, PME: 0.12, PLE: 0.16, PME–PME: 0.09. Body colouration generally as in male, with darker cephalic bands and less distinct opisthosomal pattern. Leg I measurements: 8.85 (2.24, 1.06, 2.03, 2.07, 1.45).

Epigyne as in Figs. 14A–D, fovea and subtriangular scape distinct; endogyne with subparallel receptacles, very short membranous copulatory duct, receptacle with copulatory duct twice as long as wide.

Distribution: Known only from the type localities in western Tajikistan (15B).

Gorbiscape agelenoides **(Walckenaer, 1841) comb. n.** (Fig. 4E)

Dolomedes agelenoides Walckenaer 1841: 454 (D).
Agelena agelenoides: Simon 1937: 1012, 1042, figs. 1564–1565 (♂♀).
Agelena agelenoides: de Blauwe 1980: 5, figs. 3–7 (♂♀).
For the complete list of taxonomic entries see World Spider Catalog (2020).

Remarks: This species is tentatively placed in this genus because of the similarity of the male palp with that of the generotype. This species is clearly different from *Agelena labyrinthica*, the type of its genus, and therefore cannot be placed in *Agelena*. Perhaps, it would belong to its own genus, but as we are reluctant to erect monotypic genera, for

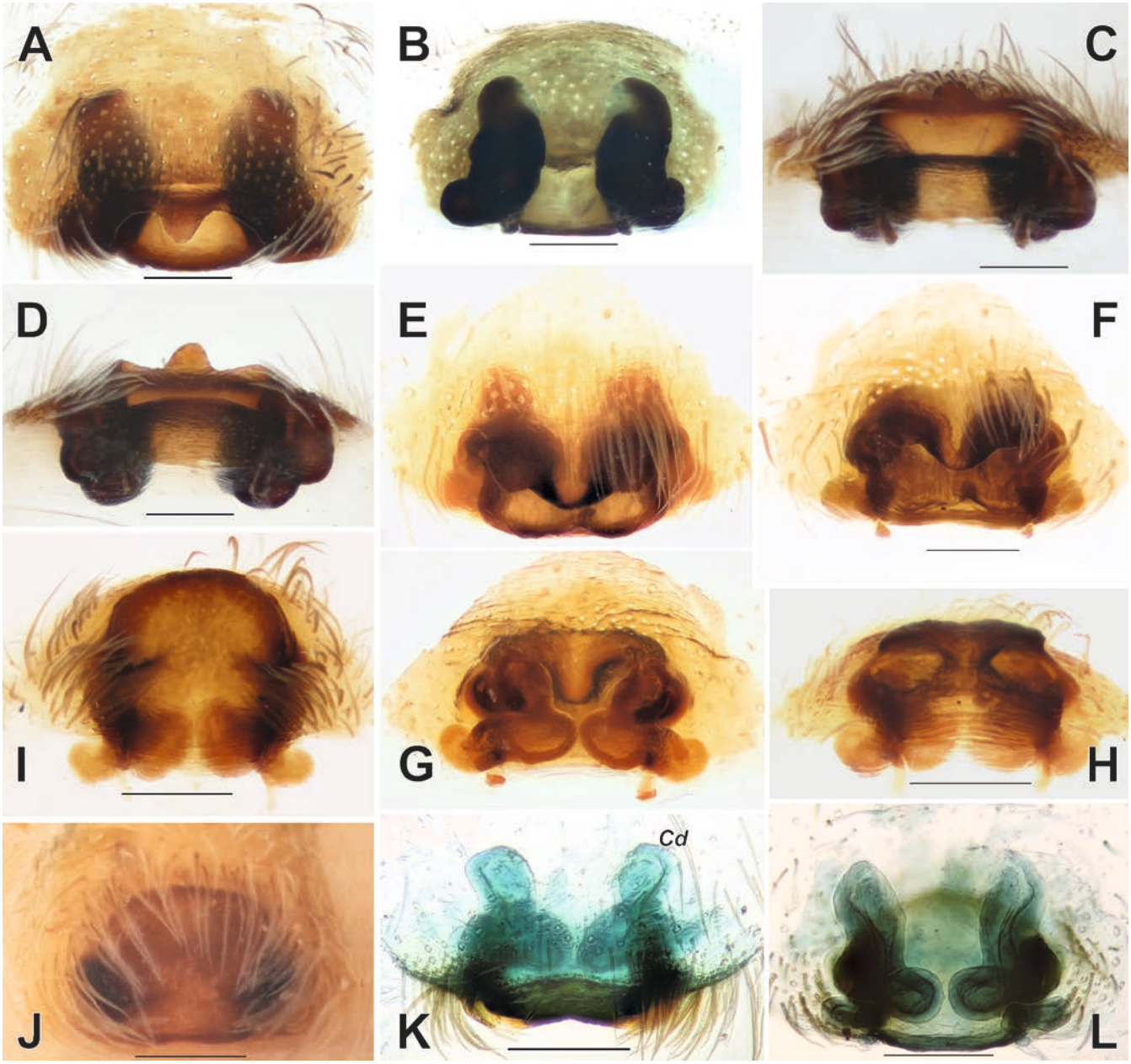

Fig. 14: Epigynes. **A** *Gorbiscape gorbachevi* sp. n., intact, ventral view; **B** same, macerated, dorsal view; **C, D** same, posterior views; **E, F** *Asiascape parthica* sp. n., intact, ventral views; **G** same, macerated, dorsal view; **H** same, posterior view; **I** *Persilena sengleti* sp. n., posterior view; **J** same, intact, ventral view; **K** same, antero-ventral view; **L** same, dorsal view. Scale bars = 0.2 mm. Abbreviation: Cd = copulatory duct.

now, we transfer it to *Gorbiscape* gen. n. and leave the question open for future phylogenetic studies.

Diagnosis: The male of *G. agelenoides* differs from the type species by the broader base of the conductor (cf. Figs. 4E and 4D), the rounded tip of the patellar apophysis (*v.* sharply pointed), and not subdivided tip of the embolus (*v.* subdivided). Females of two congeners differ by the absence (*G. agelenoides*) *v.* presence of the scape (*G. gorbachevi* sp. n.). This species is also similar to '*Agelena*' *canariensis* by the shape of the embolus and very broad conductor but differs by having a distinct and wide base of the conductor, which is lacking in the other species.

Description: See de Blauwe (1980).

Distribution: This species is known from the western Mediterranean, from the Iberian Peninsula to Italy (Helsdingen 2020).

***Asiascape* gen. n.**

Type species: *Asiascape parthica* sp. n. from northern Iran.

Etymology: A combination of Asia and scape, referring to the similarity with the genus *Agelescape*. The gender is feminine.

Diagnosis: *Asiascape* gen. n. differs from similar genera by the shape and composition of the embolic division with a stick-like embolus and absence of a lamellar process (*gideoni*-group of *Persiscape* gen. n. has a stick-like embolar process and the presence of a lamellar process), tegular apophysis strongly bent (90°) in retrolateral view (*v.* rounded or straight), a rounded patellar apophysis, and 2 tibial apophyses (Figs. 4C, 5E–F), a shallow scape (*c.* 4× wider than long, *v.* as long as wide), and closely spaced

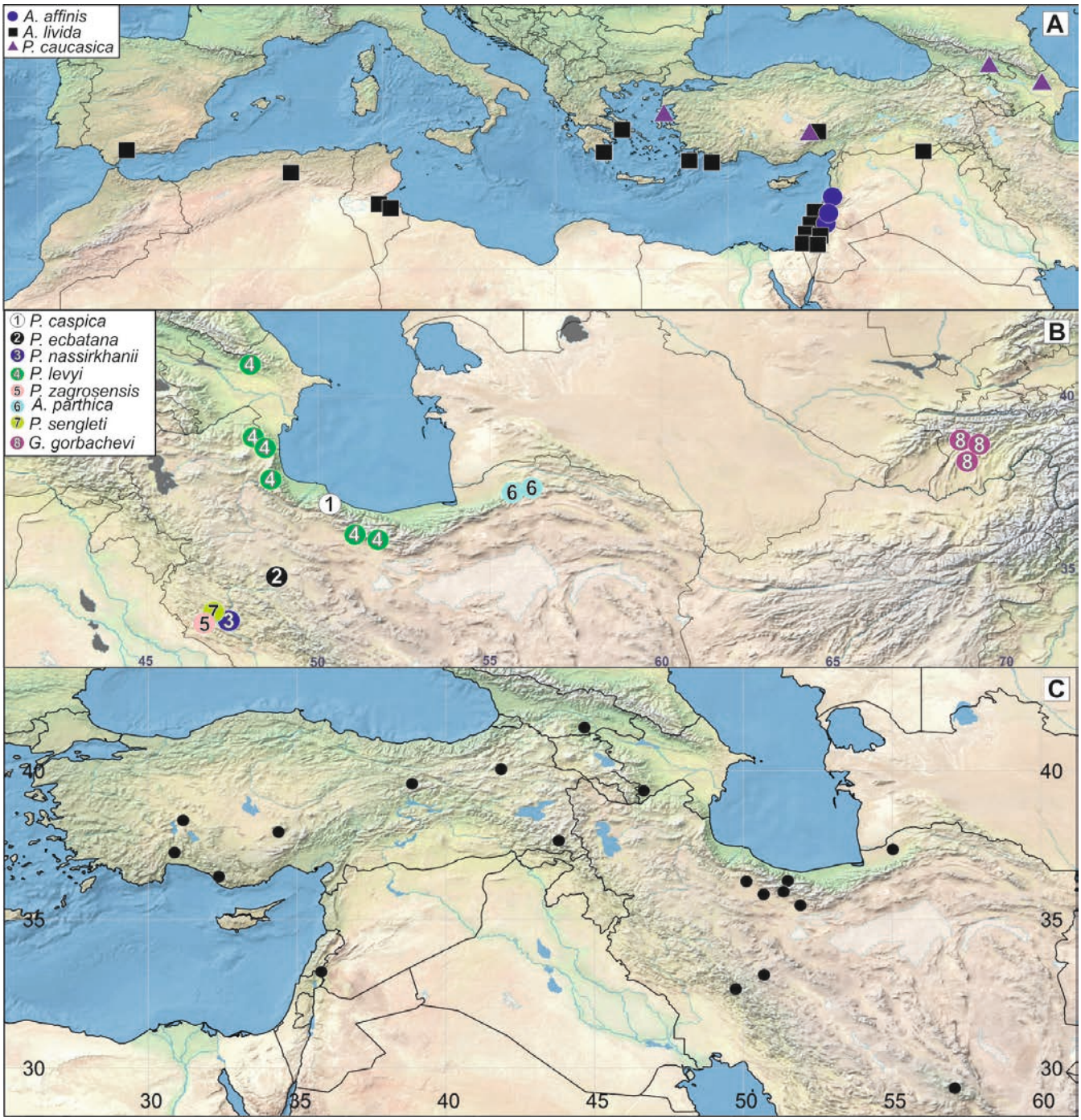

Fig. 15: Distribution maps. **A** *Agelescape affinis*, *A. livida*, and *Persiscape caucasica*; **B** *P. caspica* sp. n., *P. ecbatana* sp. n., *P. nassirkhanii* sp. n., *P. levyi*, *P. zagrosensis* sp. n., *Asiascape parthica* sp. n., *Persilena sengleti* sp. n., and *Gorbiscape gorbachevi* sp. n.; **C** *Persiscape gideoni*.

receptacles, directed laterally (*v.* either widely separated receptacles or directed mesally) (Figs. 14E–H).

Remarks: A broad base of the conductor, a rounded tip of the patellar apophysis, and 2 tibial apophyses as in *A. parthica* sp. n. is also known in *Gorbiscape agelenoides*, a species tentatively placed in the genus because of the similarity of the embolus and conductor to the generotype. *Asiascape parthica* sp. n. and *G. agelenoides* differ by the shape of the embolus and the tegular apophysis.

Description: As for the species.

Composition: Only the type species.

***Asiascape parthica* sp. n.** (Figs. 1D, 4C, 5E–F, 14E–H, 15B)

Type material: Holotype ♂ (MHNG), IRAN: Golestan Province: SSE of Gol-e Loveh, 37°18′N 55°43′E, 1200 m, 21 August 1975 (A. Senglet); paratypes: ♀ (MHNG), same data as holotype; ♀ (MHNG), North Khorasan Province: near Dasht, 37°19′N 56°04′E, 27 July 1974 (A. Senglet).

Etymology: This species is named after Parthia, a historical region located in northeastern Iran.

Diagnosis: Same as for genus.

Description of male: Habitus as in Fig. 1D. Total length 5.45. Carapace 2.34 long, 1.63 wide. Eye sizes and PME

interdistance: AME: 0.11, ALE: 0.14, PME: 0.13, PLE: 0.14, PME–PME: 0.07. Chelicera with 2 prolateral and 3 retrolateral teeth. Carapace, sternum, labium, chelicera, and maxilla light brown. Carapace with two patches of light gray setae on pars thoracica. Legs the same colour as the carapace, without annulations. Abdomen light cream without any pattern. Spinnerets uniformly light yellow. Leg I measurements: 6.14 (1.64, 0.31, 1.41, 1.47, 1.31).

Palp as in Figs. 4C, 5E–F. Patellar apophysis ca 1.5× longer than wide, with subparallel margins, rounded at tip. Tibia with thin retrolateral apophysis, slightly bent ventrally, and small knob-like dorso-retrolateral apophysis. Cymbium with long tip (as long as tegulum length). Tegulum ovoid, slightly longer than wide; tegular apophysis strongly bent (90°) in retrolateral view; base of conductor very broad, 1/3 of the tegulum width, terminus of conductor gently bent, abrupt, with extended tip of the dorsal ridge (Dr). Embolus with wide base and stick-like embolus proper.

Description of female: Total length 6.55. Carapace 3.01 long, 1.91 wide. Eye sizes and PME interdistance: AME: 0.11, ALE: 0.16, PME: 0.11, PLE: 0.15, PME–PME: 0.10. Body colouration as in male. Leg I measurements: 7.53 (1.98, 0.91, 1.59, 1.70, 1.35).

Epigyne as in Figs. 14E–H; with distinct fovea and broad, rounded scape (3× wider than long), fovea with ambiguous lateral margins. Receptacle with copulatory ducts narrower than wide; copulatory duct as wide as receptacles, straight, receptacles directed laterally, almost 3× longer than wide.

Distribution: Known only from the type localities in Golestan and North Khorasan Provinces, northeastern Iran (Fig. 15B).

Persilena gen. n.

Type species: *Persilena sengleti* sp. n. from western Iran.

Etymology: A combination of Persia and *lena* referring to similarity with the genus *Agelena*. The gender is feminine.

Diagnosis: The new genus differs from all other Old World Agelenini by lacking an epigynal fovea (atrium) (*v.* present) and the slit-like copulatory openings (*v.* copulatory openings located in fovea) (Figs. 14I–L).

Description: As for the species.

Remarks: Even though, according to the standards currently considered in the modern spider taxonomy, it is not advisable to describe new genera solely on the basis of the female sex, due to the peculiar lack of a fovea on the epigyne, a character so distinct that disabled us from assigning the species to any other genera (even tentatively), we place this species in a separate, monotypic genus. Of course, more spider sampling in Central Asia and the Middle East is desirable, but unfortunately this has long been (and still is) difficult due to political issues, and there is a chance that this species (and especially, its male) will not be collected in near future, if ever.

Included species: The type species only.

Persilena sengleti sp. n. (Figs. 1C, 14I–L, 15B)

Type material: Holotype ♀ and paratype 1♀ 1juv. (MHNG), IRAN: Ilam Province: Dizgaran, 33°44′N 46°59′E, 16 May 1974 (A. Senglet).

Etymology: This species is named after the late Antoine Senglet, an eminent arachnologist, who collected an extensive number of Iranian spiders.

Diagnosis: As for the genus.

Description of female: Habitus as in Fig. 1C. Total length 10.04. Carapace 3.76 long, 2.30 wide. Eye sizes and PME interdistance: AME: 0.18, ALE: 0.20, PME: 0.20, PLE: 0.21, PME–PME: 0.10. Chelicera with 2 prolateral and 3 retrolateral teeth. Carapace, sternum, labium, chelicera, and maxilla light brown. Carapace with dark margins, two wide, light submarginal bands, two wide, brown lateral bands, and a wide, light median band. Legs the same colour as the carapace and lacking distinct annulations. Abdomen light gray with scattered darker patches dorsally and with two longitudinal dark gray bands ventrally. Spinnerets uniformly light yellowish. Leg I measurements: 11.47 (2.94, 1.29, 2.52, 2.64, 2.08).

Epigyne as in Figs. 14I–L, plate slightly extends over epigastric furrow, suboval, rebordered anteriorly; fovea absent, copulatory openings slit-like, indistinct; endogyne almost as long as wide and as deep as wide, with the copulatory ducts extended dorsally.

Male: Unknown.

Distribution: Known only from the type locality in Ilam Province, western Iran (Fig. 15B).

Benoitia Lehtinen, 1967

Benoitia Lehtinen 1967: 347; Levy 1996: 92.

Type species: *Agelena bornemiszai* Caporiacco, 1947 by original designation.

Diagnosis: *Benoitia* differs from other genera of Agelenini by bifurcated patellar apophysis of the male palp (*v.* not bifurcated or absent), epigynal fovea divided by septum in two parts (*v.* septum absent or divides fovea only posteriorly).

Remarks: Males of this genus have a bifurcated patellar apophysis (*v.* non bifurcated in other Agelenini), and females have the epigynal fovea divided (*v.* undivided). Sub-Saharan species are lacking a modified base of the conductor which is present in the Palaearctic *Benoitia* and all other Agelenini.

Included species: Nine valid species occurring in the southern Palaearctic and Ethiopian Realm.

Benoitia lepida (O. Pickard-Cambridge, 1876)

Agelena lepida: de Blauwe 1980: 19, figs. 30–35 (♂♀).
Benoitia lepida: Levy 1996: 95, figs. 36–39 (♂♀).
For all taxonomic references see World Spider Catalog (2020).

Remarks: This species is well known, and therefore we do not provide figures or a redescription.

Records in Iran: Fars, Kerman, Razavi Khorasan (Zamani *et al*. 2020).

Distribution: Western Palaearctic, across the Mediterranean to the Middle East.

Benoitia tadzhika (Andreeva, 1976) comb. n.

Agelena tadzhika Andreeva 1976: 33, figs. 38–41 (♂♀).

Remarks: This species is known from a single taxonomic entry. It was described based on 16 specimens from southern Tajikistan. Later, it was reported from Kalmykia (Minoranski & Ponomarev 1984) and several localities in northwestern Kazakhstan (Piterkina & Mikhailov 2009; Ponomarev & Dvadnenko 2013). The original description and figures of the male palp and epigyne indicate that it is misplaced in *Agelena* and belongs to *Benoitia* (twisted conductor, epigynal fovea divided by septum). Therefore, we suggest a new combination. Because *B. tadzhika* is unknown between southern Tajikistan and northwestern Kazakhstan, and that specimens from distant populations have never been compared, it is quite possible that Kazakhstan and Kalmykia specimens belong to separate species.

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