

New and poorly known Palaeartic species of the genus *Phlegra* Simon, 1876 (Araneae, Salticidae)

by Galina N. AZARKINA*

Summary

Twelve species of *Phlegra* have been treated, of which five species are described as new to science: *P. bicognata* sp. nov. (male and female, from the steppe zone of Eurasia), *P. dunini* sp. nov. (female, from Azerbaijan and Turkey), *P. kulczynskii* sp. nov. (male and female, from the mountains of S. Siberia and Mongolia), *P. logunovi* sp. nov. (male and female, from Central Asia), and *P. obscurimagna* sp. nov. (male and female, from Kyrgyzstan and S. Kazakhstan). *P. fuscipes* Kulczyński in Chyzer & Kulczyński, 1891, is newly synonymized with *P. cinereofasciata* Simon, 1868. New records for *P. sierrana*, *P. tetralineata* and *P. yaelae* are provided. All species are (re)described, and distributional maps for each are provided as well.

Резюме

Изучено двенадцать видов *Phlegra*, из которых пять описаны как новые для хайки: *P. bicognata* sp. nov. (самец и самка, степная зона Евразии), *P. dunini* sp. nov. (самка, из Азербайджана и Турции), *P. kulczynskii* sp. nov. (самец и самка, из гор Южной Сибири и Монголии), *P. logunovi* sp. nov. (самец и самка, из Центральной Азии), и *P.*

obscurimagna sp. nov. (самец и самка, из Кыргызстана и Южного Казахстана). *P. fuscipes* Kulczyński in Chyzer & Kulczyński, 1891, впервые синонимизирована с *P. cinereofasciata* Simon, 1868. Приводятся новые находки для *P. sierrana*, *P. tetralineata* и *P. yaelae*. Все виды (пере)описаны, карты распространения для каждого вида.

Résumé

Douze espèces de *Phlegra* ont été traitées, parmi lesquelles cinq espèces sont décrites comme nouvelles pour la science.: *P. bicognata* sp. nov. (mâle et femelle, de la zone steppique de l'Eurasie), *P. dunini* sp. nov. (femelle, d'Azerbaïdjan et de Turquie), *P. kulczynskii* sp. nov. (mâle et femelle, des montagnes du sud de la Sibérie et de la Mongolie), *P. logunovi* sp. nov. (mâle et femelle, de l'Asie centrale) et *P. obscurimagna* sp. nov. (mâle et femelle, du Kirghizstan et sud du Kazakstan). *P. fuscipes* Kulczyński in Chyzer & Kulczyński, 1891, est mise en synonymie de *P. cinereofasciata* Simon, 1868. De nouvelles localisations pour *P. sierrana*, *P. tetralineata* et *P. yaelae* sont données. Toutes les espèces sont décrites ou redécrites et des cartes de distributions sont données pour toutes les espèces.

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Introduction

Phlegra is a salticid genus comprising more than 60 species (PRÓSZYŃSKI, 2000), of which a half is known from single sexes only and usually (or often) pose problems in their identifications.

For instance, LOGUNOV (1996) described two morphs (A and B) for *Phlegra fuscipes*, of which the morph A was later assigned to *P. cinereofasciata* (see LOGUNOV & RAKOV, 1998). However, LOGUNOV and MARUSIK (2000b) have recently assumed that *P. fuscipes* might proven to be a junior synonym of *P. cinereofasciata*, while a taxonomic status of the morph B of *P. fuscipes* remains unclear. I re-examined most of the material hitherto determined as either *P. fuscipes* or *P. cinereofasciata*, including the syntypes of the former species, and arrived at the conclusion that both names are to be synonymized. Moreover, the material on the morph B of *P. fuscipes* (*sensu* LOGUNOV, 1996) turned out to be heterogeneous and are to be assigned to the three closely related species described hereinafter: *P. kulczynskii* sp. nov., *P. bicognata* sp. nov., and *P. obscurimagna* sp. nov.

Similarly, the morphological forms A and B described by LOGUNOV (1996) for *Phlegra sogdiana* have been proven to belong to two species, of which one is here described as new, *P. logunovi* sp. nov.

Thus, the goals of the present study are: 1) to reconsider the taxonomic status of *P. sogdiana*, *P. fuscipes* and *P. cinereofasciata*; 2) to describe new and poorly known species found during the current study; and 3) to refine distribution of all the species examined (twelve altogether).

Material and methods

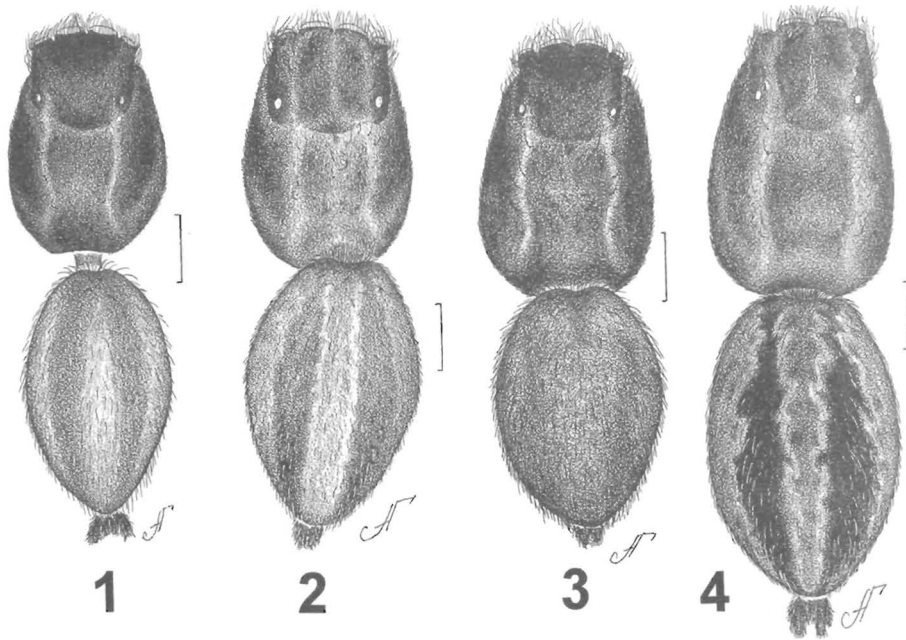
The present work is based on museum collections and on material newly col-

lected in Russia and adjacent territories (Central Asia), as well as in Iran, Hungary, Romania and Spain. A total of 259 specimens of *Phlegra* has been studied.

Specimens for this study were borrowed or distributed among the following museums: – ISEA: Siberian Zoological Museum of the Institute for Systematic and Ecology of Animals, Novosibirsk, Russia (Ms G.A. Azarkina). – IZW: Institute of Zoology PAN, Warszawa, Poland (Prof. J. Prószyński). – NMP: National Museum Praha, Praha, Czech Republic (Prof. J. Buchar). – HMNH: Hungarian Museum of Natural History, Budapest, Hungary (Dr. S. Mahunka). – MMUM: The Manchester Museum, The University of Manchester, Manchester, UK (Dr. D.V. Logunov). – PSU: Zoological Department of the Perm State University, Perm, Russia (Dr. S.Yu. Esyunin). – SMF: Senckenberg Museum, Frankfurt am Main, Germany (Dr. M. Grasshoff). – ZISP: Zoological Institute of the Russian Academy of Science, St. Petersburg, Russia (Dr. V.A. Krivokhatskii). ZMMU: Zoological Museum of the Moscow State University, Moscow, Russia (Dr. K.G. Mikhailov). – ZMTU: Zoological Museum of the University of Turku, Finland (Dr. M. Saaristo).

In most cases the names of collectors are abbreviated as follows: Dr. E.M. Andreeva (E.A.), Dr. V.V. Dubatolov (V.D.), Dr. P.M. Dunin (P.D.), Mr. A.A. Fyodorov (A.F.), Mr. A.V. Gromov (A.G.), Dr. D.V. Logunov (D.L.), Mr. O.V. Lyakhov (O.L.), Dr. Yu.M. Marusik (Y.M.), Dr. K.G. Mikhailov (K.M.), Mr. A.B. Nenilin (A.N.), Mr. S.V. Ovchinnikov (S.O.), Dr. S.L. Zonshtein (S.Z.), Dr. A.A. Zyunin (A.Z.).

Abbreviations used in the text. — AME: anterior median eyes. PLE: posterior lateral eyes. The sequence of leg segments in measurements data is as follows: femur, patella, tibia, metatarsus, tarsus. All measurements are in millimetres. For the leg spination, the system adopted is that used by ONO (1988).



Figures 1-4. — Body coloration of *Phlegra sogdiana* Charitonov, 1946 (1-2) and *Phlegra logunovi* sp. nov. (3-4). — 1, 3, males. 2, 4, females. — Scale bars: 0.5 mm.

Survey of species

Phlegra andreevae Logunov, 1996

(figures 9-10, 15-16, 29-31, 36)

Phlegra andreevae LOGUNOV, 1996: 541-544, figures 6-16 (the paratypes in the ISEA, examined).

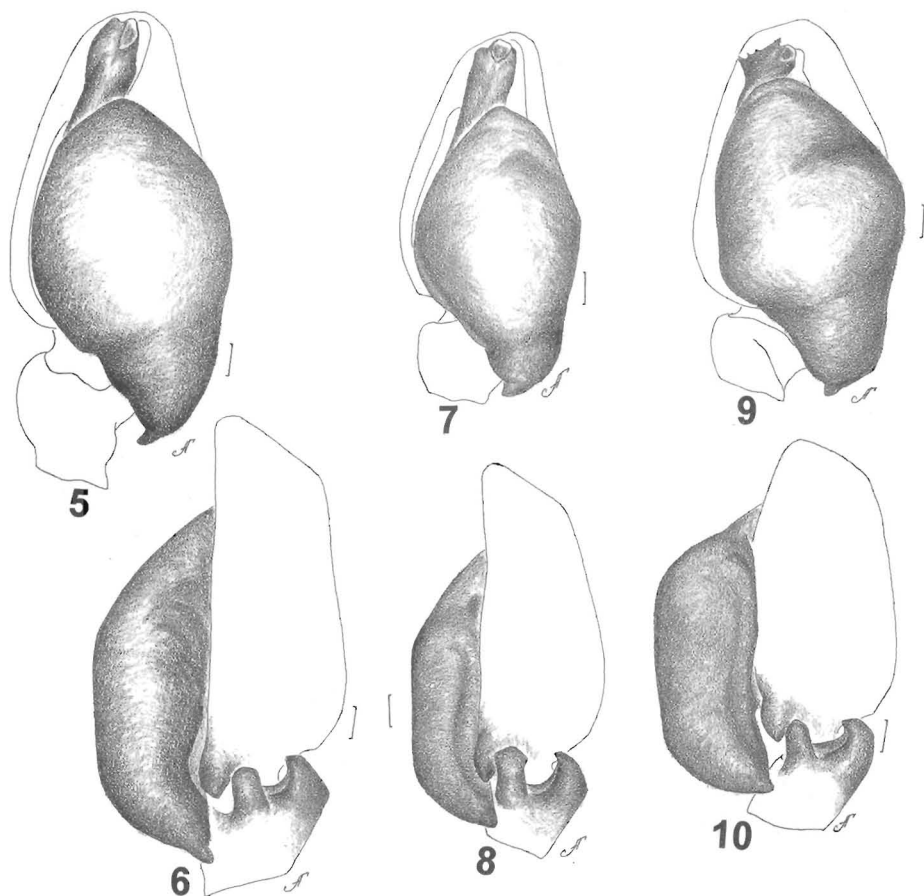
Diagnosis. See comments below under "diagnosis" of *P. logunovi* sp. nov. and *P. sogdiana*. For other details see LOGUNOV (1996).

Distribution. Central Asia (figure 36).

Description. *Male* (from Kazakhstan, Akkol'). Measurements. Carapace 2.9 long, 1.95 wide, 1.3 high at PLE. Ocular area 1.0 long, 1.45 anteriorly wide and 1.45 posteriorly wide. Diameter of AME 0.45. Abdomen 3.0 long, 2.0 wide. Cheliceral length 0.75. Clypeal height 0.25. Length of legs segments. Leg I: 1.4, 0.8, 0.9, 0.45, 0.6. Leg II: 1.3, 0.6, 0.8, 0.45,

0.5. Leg III: 1.5, 0.6, 0.9, 0.7. Leg IV: 1.8, 0.9, 1.3, 1.4, 0.8. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia prolaterally 0-1, ventrally 1-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 0-1, ventrally 1-1-2 apical; metatarsus prolaterally 1 apical, ventrally 2-2 apical. Leg III: femur dorsally 1-0-2-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, prolaterally and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 2-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-0-2 apical, retrolaterally 1-1-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace dark brown, with a pair of white longitudinal bands. Clypeus dark brown, densely covered

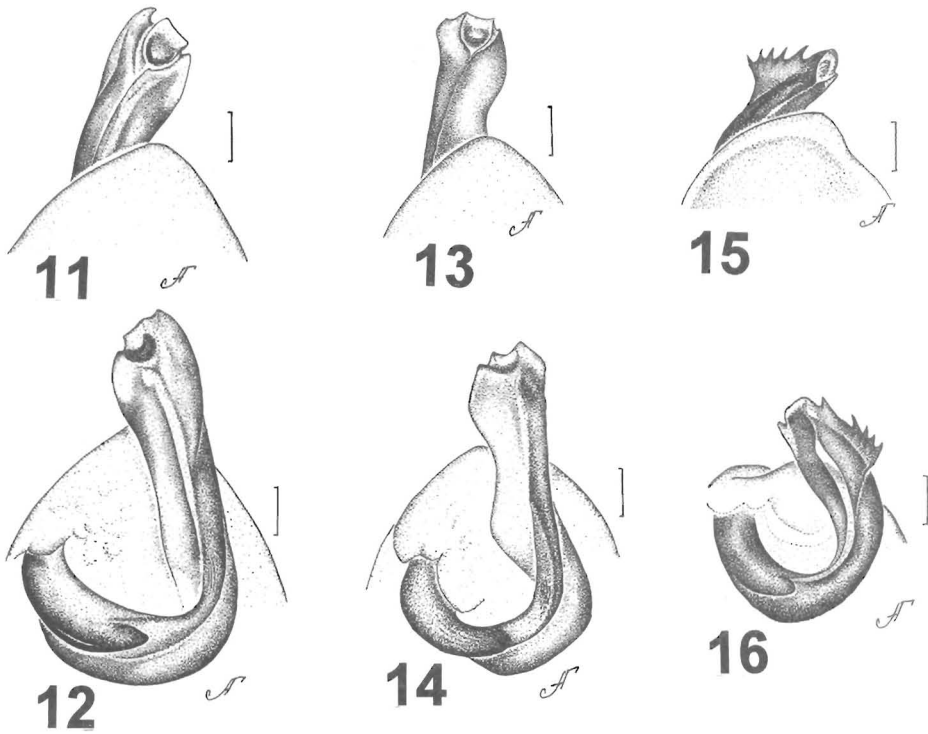


Figures 5-10. — Male palps of *Phlegra logunovi* sp. nov. (5-6), *Phlegra sogdiana* Chirtonov, 1946 (7-8) and *Phlegra andreevae* Logunov, 1996 (9-10). — 5, 7, 9, dorsal view; 6, 8, 10, retrolateral view. — Scale bars: 0.1 mm.

with white hairs on the front margin. Chelicerae brown. Sternum brown. Maxillae and labium dark brown. Abdomen grey. Dorsum with a pair of longitudinal dark brown bands. Scutum is about 1/3 of the length of abdomen. Book-lung covers yellow-grey. Spinnerets brown. Legs brown. Palp dark brown. Palpal structure as in figures 9-10 and 15-16.

Female (from Kazakhstan, Akkol'). Measurements. Carapace 2.9 long, 1.8 wide, 1.3 high at PLE. Ocular area 1.1

long, 1.4 wide anteriorly, and 1.4 wide posteriorly. Diameter of AME 0.45. Abdomen 3.65 long, 1.9 wide. Cheliceral length 0.6. Clypeal height 0.2. Length of leg segments. Leg I: 1.2, 0.75, 0.7, 0.4, 0.5. Leg II: 1.2, 0.7, 0.7, 0.4, 0.5. Leg III: 1.3, 0.7, 0.9, 0.9, 0.6. Leg IV: 1.55, 1.05, 1.03, 0.7. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-0-1-



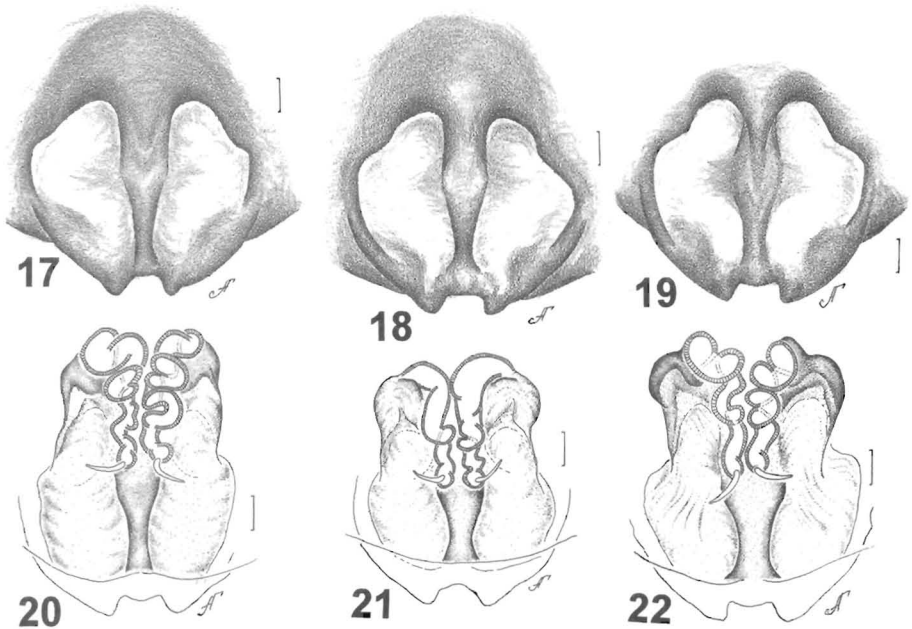
Figures 11-16. — Embolic division of *Phlegra logunovi* sp. nov. (11-12), *Phlegra sogdiana* Charitonov, 1946 (13-14) and *Phlegra andreevae* Logunov, 1996 (15-16). — 11, 13, 15, ventral view. 12, 14, 16, apical views. — Scale bars: 0.1 mm.

4; patella pro- and retrolateral, 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 0-1-0 apical, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-3; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-0-2 apical, retrolaterally 1-1-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace brown, with yellowish brown median field and a pair of white longitudinal bands. Clypeus yellow. Chelicerae, maxillae and labium brown. Sternum yellowish brown. Abdomen yellow-grey, dorsum with a pair of

longitudinal brown bands. Book-lung covers yellow-grey. Spinnerets brown. Legs and palp brown. Epigyne and spermathecae as in figures 29-31.

Material examined. — KAZAKHSTAN: 1 female (ISEA), Zhezkazgan Area, ca. 10 km S-SW of Soryshagai, near Aktogai, 5.05.1999, A.G.; 1 female (ISEA), Kazakhstan, Almaty Area, near Kapchagai, 17.05.1998, A.G.; 1 male, 3 females (ISEA), Dzhambul [=Zhamdy] Area, ca. 11 km S-SE of Akkol', 43° 20' N, 70° 49' E, 14-15.04.1999, A.G. — TURKMENISTAN: 2 males (ISEA, the paratypes), 20-25 km SE of Polekhatum, Gezgyadyk Mt. Range, ca. 1000-1100 m a.s.l., 15-16.04.1993, D.L.; 2 females (ISEA, the paratypes), ca. 10 km SE Bakharden, 3-



Figures 17-22. — Female copulatory organs of *Phlegra logunovi* sp. nov. — 17-19, epigyne, 20-22, spermathecae. — Scale bars 0.1 mm.

4.04.1993, D.L.; 1 female (ISEA), Kopetdagh Mts, Kopetdagh Reserve, Kalininskii Zakaznik, 18.05.1987, V.D.; 1 male, 2 females (ISEA, paratypes), Dzambul [=Zhambyl] Area, Moiynkum Distr., ca. 21 km S of Furmanovka, loam plots of Moiynkum desert, 15-16.05.1992, A.F. & A.Z.; 2 males, 5 females (ISEA, the paratypes), Dzambul [=Zhambyl] Area, Talasskii District, ca. 21 km of the highway Akkol'-Ulanbel', 15.05.1991, S.I. Ibraev and A.Z.; 4 females (ISEA, the paratypes), Gur'ev Area, Ustyurtskii Reserve, Ustyurt Plateau, E of Kenderly, 20.05.1989, A.Z. — KYRGHYZSTAN: 1 male (ISEA), Osh Area, Suzak District, near Yangi-Dekhkan, 3.11.1986, D.L.

***Phlegra bicognata* sp. nov.**

(figures 42-43, 57-60, 76-79, 97-100, 102)

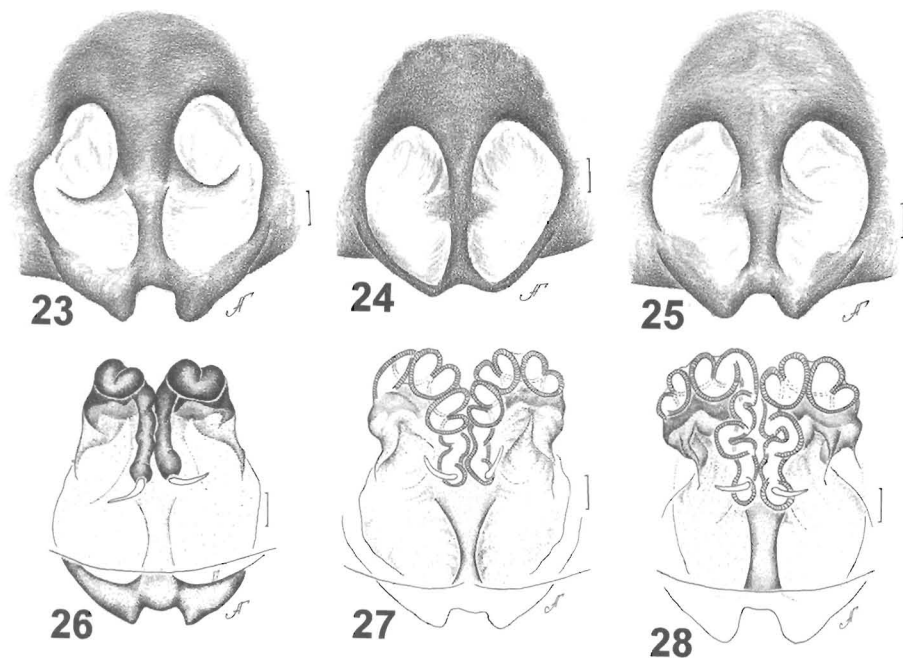
Phlegra fuscipes (misidentified): MINORANSKI, 1995: 49; PROSZYŃSKI, 1979 :

315-316, figures 260-267; ESYUNIN *et al.*, 1998: 325; ASHIKBAEV, 1981 (in part): 20. ASHIKBAEV, 1976: 20; LOGUNOV & MARIUSIK, 2000b (in part): 177-178

Male holotype (ZMMU), Kazakhstan, Ural'sk Area, near Dzanybek, wormwood steppe, 10.09.1982, K.M.

Etymology. The new species is very similar both to *P. kulczynskii* sp. nov. (males) and to *P. cinereofasciata* (females), therefore its specific name is derived from the Latin "bi-" and "cognata", viz being related to both.

Diagnosis. This species is closely related to *P. cinereofasciata*, but both sexes differ in body coloration (cf. figures 37-39 and 42-43). Besides, males of *P. bicognata* sp. nov. possess the compact embolus lacking "the crest" (figures 78-79) (present in *P. cinereofasciata*; arrowed in figures 66-67). Females of both species are indistinguishable (figures 80-86, 97-100). The males of *P. bicognata* sp. nov. are also similar to and poorly separable



Figures 23-28. — Female copulatory organs of *Phlegra sogdiana* Charitonov, 1946. — 23-25, epigynes. 26-28, spermathecae. — Scale bars: 0.1 mm.

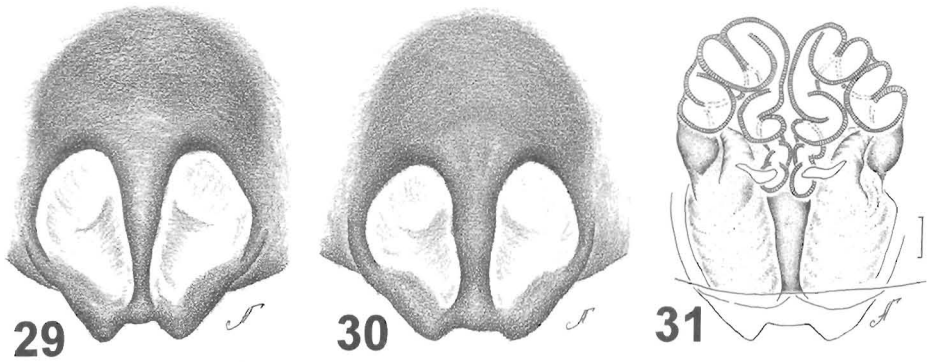
from those of *P. kulczynskii* sp. nov., but females of both species can be easily distinguished by the coloration of the clypeal hair coverage: white in this new species and black in *P. kulczynskii* sp. nov. (fig. 47).

Distribution. The steppe zone of Ukraine, the European part of Russia and W. Siberia (fig. 102), where the species was hitherto recorded under the name *P. fuscipes* (see LOGUNOV & MARUSIK, 2000b: map 37).

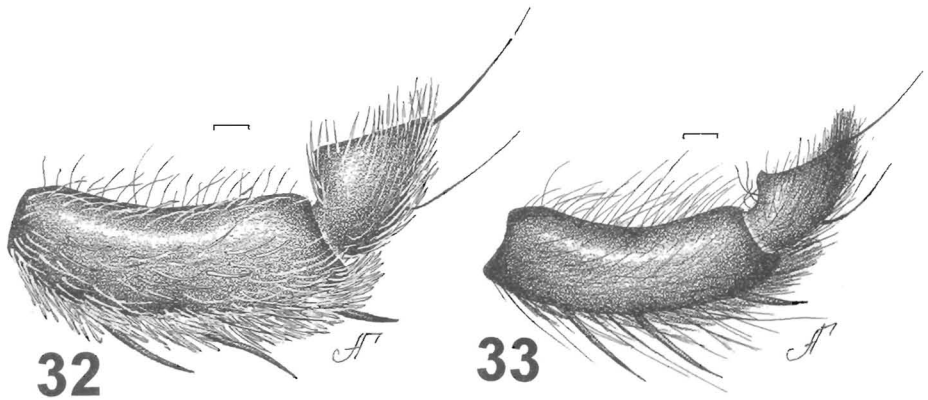
Description. Male (the paratype). Measurements. Carapace 2.5 long, 1.6 wide, 0.8 high at PLE. Ocular area 0.9 long, 1.2 anteriorly wide and 1.2 posteriorly wide. Diameter of AME 0.35. Abdomen 2.8 long, 1.5 wide. Cheliceral length 0.8. Clypeal height 0.25. Length of leg segments. Leg I: 1.1, 0.7, 0.7, 0.45, 0.5. Leg II: 1.1, 0.7, 0.7, 0.5, 0.45. Leg III: 1.3, 0.7, 0.8, 0.6, 0.5. Leg IV: 1.7,

0.8, 1.2, 1.4, 0.65. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia prolaterally 0-1, ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-0-2-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, prolaterally 2-1-1, retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical; Leg IV: femur dorsally 1-0-1-3; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-1-2 apical, retrolaterally 1-0-2 apical, ventrally 1-0-2 apical.

Coloration. Carapace brown, with a pair of poorly marked white longitudinal bands. Clypeus yellowish brown, covered with white hairs. Chelicerae red-brown.



Figures 28-31. — Female copulatory organs of *Phlegra andreevae* Logunov, 1996. — 29-30, epigynes. 31, spermathecae — Scale bar: 0.1 mm.



Figures 32-33. — Palpal femora and patellae of *Phlegra logunovi* sp. nov. (32) and *Phlegra sogdiana* Charitonov, 1946 (33). — Scale bars: 0.1 mm.

Sternum, maxillae and labium dark brown. Abdomen brownish grey, dorsum with a pair of brown longitudinal bands (figure 42). Dorsal scutum about 1/3 of the length of abdomen. Book-lung covers greyish brown to yellow-brown. Spinnerets greyish brown. Legs and palps dark brown. Palpal structure as in figure 76-79.

Female (paratype). Measurements. Carapace 2.9 long, 1.8 wide, 1.1 high at PLE. Ocular area 1.0 long, 1.3 wide anteriorly and 1.35 wide posteriorly. Diameter of AME 0.45. Abdomen 3.4 long, 2.4

wide. Cheliceral length 0.9. Clypeal height 0.3. Length of leg segments. Leg I: 1.2, 0.9, 0.8, 0.45, 0.5; leg II: 1.2, 0.8, 0.75, 0.45, 0.5; leg III: 1.5, 0.8, 0.9, 0.8, 0.65; leg IV: 1.8, 1.0, 1.4, 1.5, 0.8. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-0-2-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 0-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-

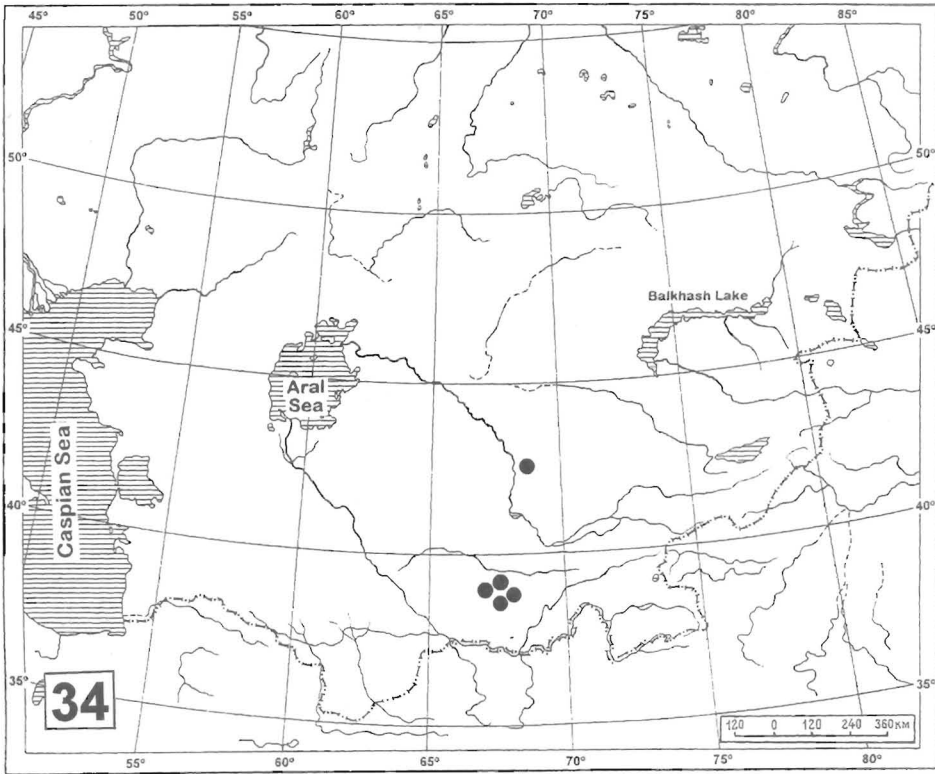


Figure 34. — Distribution of *Phlegra logunovi* sp. nov. One dot may represent more than one close locality.

3, patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-0-0, pro- and retrolaterally 1-1-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace brown, with a pair of poorly marked white longitudinal bands. Clypeus brown, covered with white hairs. Chelicerae red-brown. Sternum, maxillae and labium yellowish brown. Abdomen brown-grey, with a dorsal colour marking as in figure 43. Booklung covers yellowish grey. Spinnerets brownish grey. Legs and palps brown, but femora of all legs dark brown. Epigyne, including its variation, and spermathecae as in figures 57-60 & 97-100.

Material examined (paratypes). — **RUSSIA:** 2 females (PSU), Orenburg Area,

near Aituar, mountain steppe (under stones), 31.05.1996, N.S. Mazura; 1 female (PSU), Orenburg Area, Sol'-Ilets-kii District, Shybyndy, steppe, 7-10.06.2000, S.L. Esyunin. — **KAZAKHSTAN:** 4 males, 1 female (ZMMU), Ural'sk Area, near Dzhan'ybek, wormwood steppe, 10-14.09.1982, K.M.; 2 males (ZMMU), same locality and habitat, 20.08-7.09.1984, K.M.; 1 male (ISEA), Pavlodar Area, Maiskii District, south edge of Beistauakiy Kupol, hill steppe, 26.08.1990, O.L.; 1 female (ISEA), Pavlodar Area, Bayanaul District, Babaly Mts., scree, 7.08.1990, O.L. — **UKRAINE:** 7 males, 4 females (ZISP), Taganrog Area near Artemovka, 3-6.06.-5.07.1912, S. Spassky.

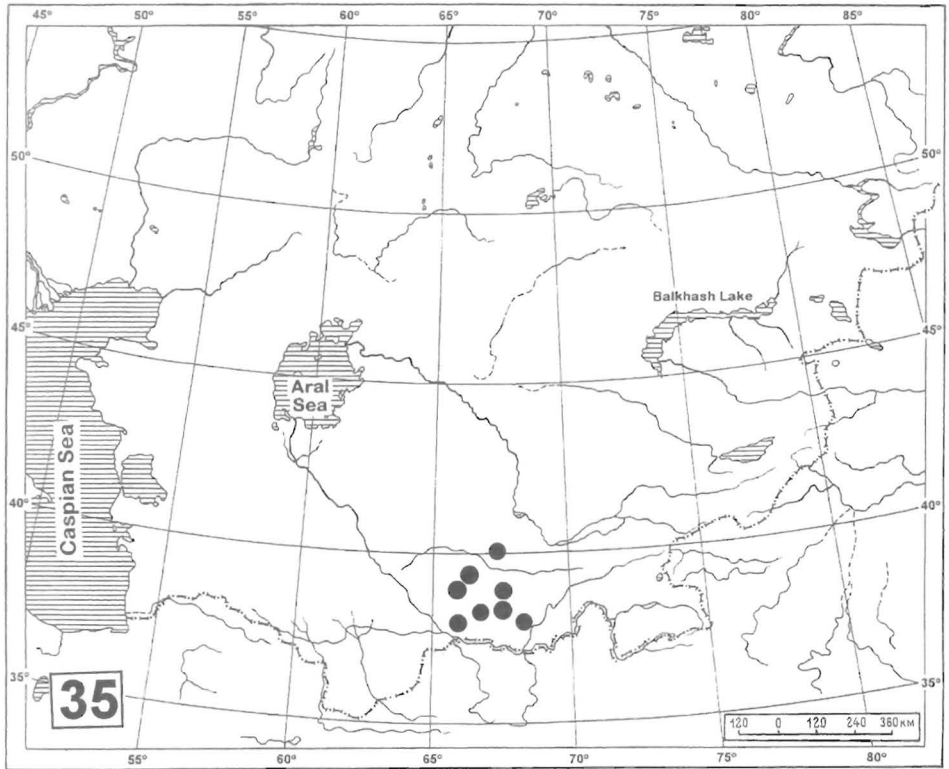


Figure 35. — Distribution of *Phlegra sogdiana* Charitonov, 1946. One dot may represent more than one close locality.

***Phlegra cinereofasciata* Simon, 1868**
(figures 37-40, 46 48-53, 64-67, 80-86, 104)

Phlegra cinereofasciata: CHYZER & KULCZYŃSKI, 1891: 33-35; SIMON, 1937: 1266; DUNIN, 1984: 58; NENILIN, 1985 (in part): 130; LOGUNOV & RAKOV, 1998 (in part): 128, figures 37-42.

Phlegra fuscipes KULCZYŃSKI in CHYZER & KULCZYŃSKI, 1891: 32 (male and female syntypes; one female syntype in the HMNH, examined). **New synonymy.**

Phlegra fuscipes: GUSEINOV, 1998: 10; FUHN & GHERASIM, 1995: 62-64, figures 23, 26-2; METZNER, 1999: 69-70, 188, figures 34a-k, map 36.

Diagnose. This species is most close to *P. kulczynskii* sp. nov., *P. bicognata* sp. nov. and *P. obscurimagina* sp. nov., but can be easily separated from all of them

by the general appearance in both males and females (figures 37-39), while males additionally differ in having a well-developed "crest" on the embolar tip (arrowed figures 66-67).

Remarks. The female syntype of *P. fuscipes* showed no differences from *P. cinereofasciata* neither in the structure of the copulatory organs (cf. figures 80, 83 and 81-85, etc.), nor in the general appearance (cf. figures 37 and 39), therefore both names are to be synonymized. Moreover, a strong variation of the median crest-like septum of the epigyne (its shape and height) (figures 48-63) is evidence that this character is of poor taxonomic value and cannot be further taken into consideration for distinguishing species.

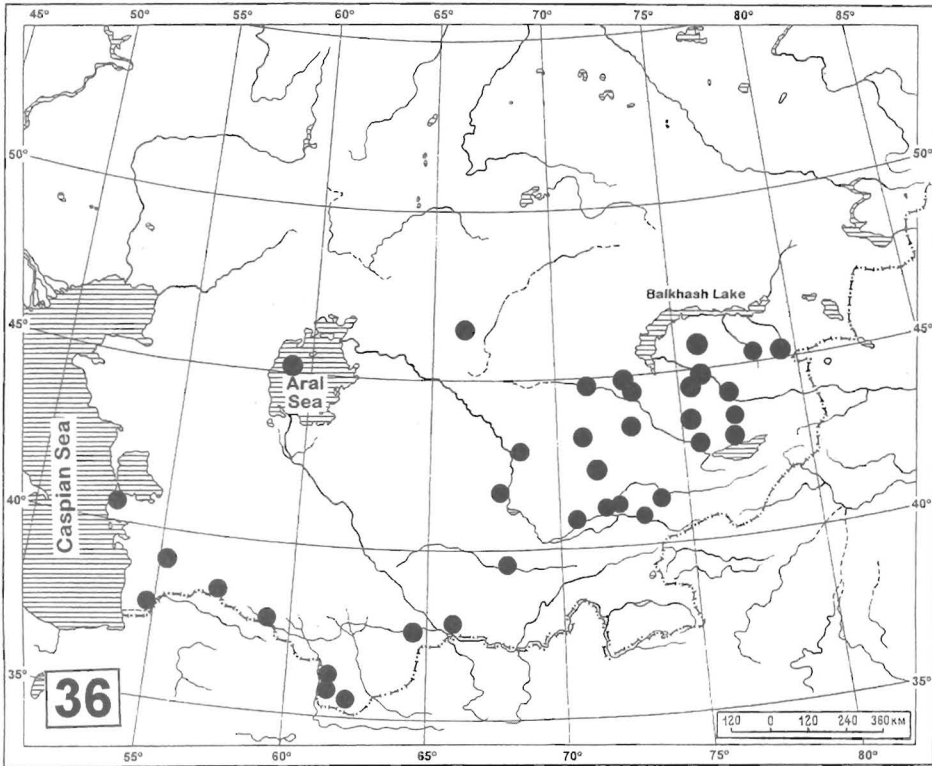


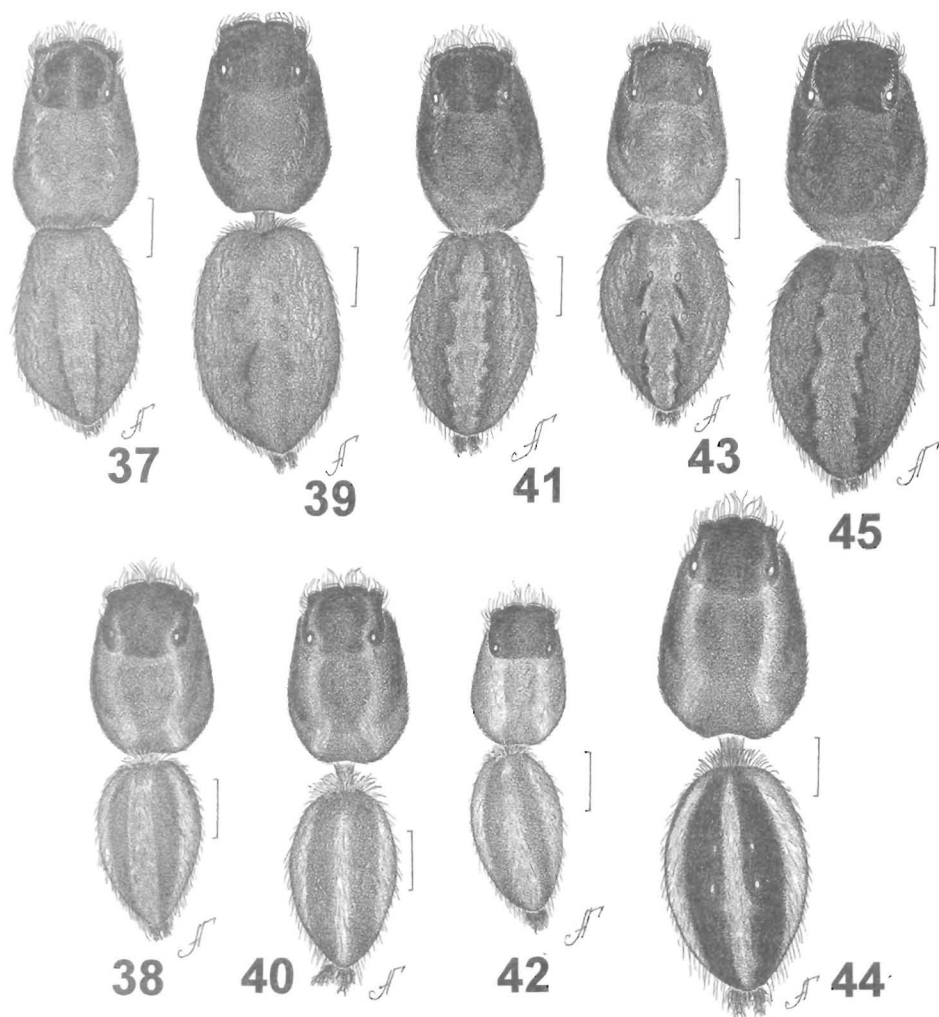
Figure 36. — Distribution of *Phlegra andreevae* Logunov, 1996. One dot may represent more than one close locality.

Distribution. Central Europe, eastward to the E. Caucasus (figure 104).

Description. Male (from Azerbaijan, Gokhmukh). Measurements. Carapace 3.2 long, 2.2 wide, 1.3 high at PLE. Ocular area 1.1 long, 1.4 anteriorly wide and 1.5 posteriorly wide. Diameter of AME 0.45. Abdomen 3.3 long, 1.9 wide. Cheliceral length 0.75. Clypeal height 0.35. Length of leg segments. Leg I: 1.65, 0.9, 1.1, 0.65, 0.6. Leg II: 1.6, 0.9, 0.95, 0.6, 0.55. Leg III: 1.8, 0.9, 0.9, 1.0, 0.8. Leg IV: 2.3, 1.0, 1.6, 1.8, 0.9. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dor-

sally 1-0-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 2-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical. Leg IV: femur dorsally 1-0-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 1-0-2 apical or 2-0-2 apical.

Coloration. Carapace red-brown to brown, with a pair of white longitudinal bands. Clypeus yellowish brown, densely covered with white hairs. Chelicerae, sternum, maxillae and labium red-brown to brown. Abdomen grey, dorsum with a pair of brown longitudinal bands (figure 38). Dorsal scutum small, about 1/3 of

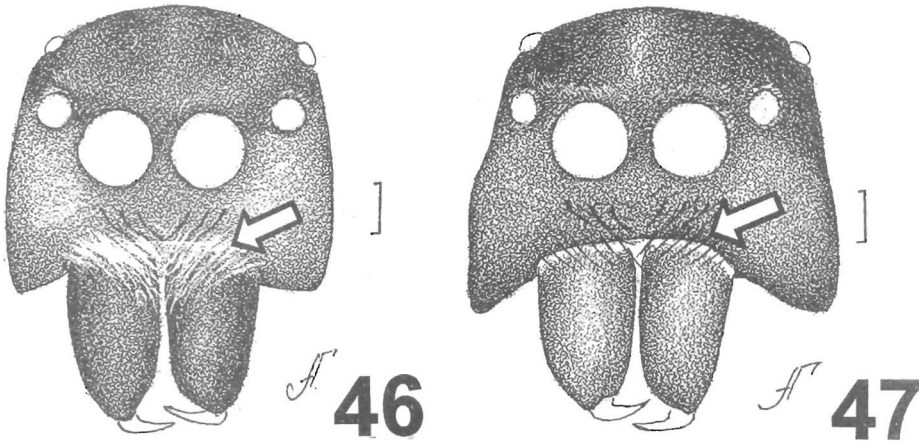


Figures 37-45. — Body coloration of *Phlegra cinereofasciata* Simon, 1868 (37-39), *Phlegra kulczynskii* sp. nov. (40-41), *Phlegra bicognata* sp. nov. (42-43) and *Phlegra obscurimagna* sp. nov. (44-45). — 38, 40, 42, 44: males. 37, 39, 41, 43, 45: females. — Scale bars: 0.5 mm.

the length of abdomen. Book-lung covers yellow. Spinnerets brownish grey. Legs red-brown. Palpal structure as in figures 64-67.

Female (from Azerbaijan, Lerik). Measurements. Carapace 3.0 long, 2.0 wide, 1.25 or 1.4 high at PLE. Ocular area 1.0 long, 1.35 wide anteriorly and 1.35 wide posteriorly. Diameter of AME 0.4. Abdo-

men 3.6 long, 2.6 wide. Cheliceral length 0.8. Clypeal height 0.25. Length of leg segments. Leg I: 1.3, 0.95, 1.3, 0.6, 0.4. Leg II: 1.25, 0.8, 0.75, 0.7, 0.55. Leg III: 1.45, 0.75, 0.85, 0.85, 0.5. Leg IV: 1.85, 1.4, 1.3, 1.45, 0.65. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia



Figures 46-47. — Female face colour patterns of *Phlegra cinereofasciata* Simon, 1868 (46) and *Phlegra kulczynskii* sp. nov. (47). — Scale bars: 0.5 mm.

ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-0-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 0-1-0, pro- and retrolaterally 1-1-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-3; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 2-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-1-2 apical; retrolaterally 1-0-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace brown with a pair of ambiguous longitudinal white bands. Clypeus yellowish brown, covered with thin white and black hairs. Chelicerae brown. Sternum, maxillae and labium yellowish brown. Abdomen brown-grey, dorsum with a poorly marked colour pattern (figures 37 & 39). Book-lung covers yellowish grey. Spinnerets brownish grey. Legs and palp brown. Epigyne, including its variations, and spermathecae as in figures 48-53 & 80-86.

Material examined. — ROMANIA: 1 female (ISEA), Bestepe, Danube Delta, 12.09.1996, V. Bryja. — HUNGARY: 1 female, 3 juv. (HMNH, the syntypes) Francikova, 5.07.(year unclear). — AZER-

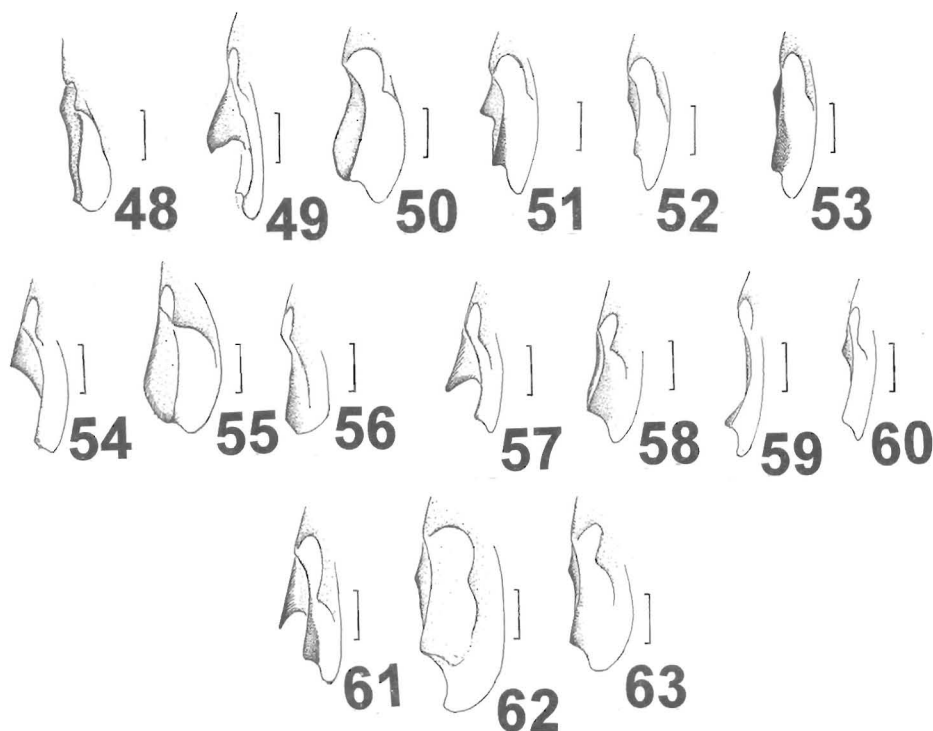
BAIJAN: 1 male (ISEA), Shemakha District, Gokhmukh, 27.06.1977, P.D.; 1 male (ISEA), Gazakh District, Gazakh, clayey slopes, 29.05.1981, A.Z.; 1 male, 1 female (ISEA), Lerik District, Dyugyakh, 3.08.1985, P.D.; 1 female (ISEA), same district, Amburdara, 12.05.1985, P.D.; 1 female (ISEA), same district, Kyalvaz, 1600 m a.s.l., 13.05.1985, P.D.; 1 female (ISEA), same district, Gosmalyan, 25.07.1983, P.D.; 2 females (ISEA), same district, Kelokhan, 13.05.1985, P.D.; 1 female (ISEA), Nakhchyvan, Kel'tsor, 1500 m a.s.l., 9.07.1988, P.D. — ARMENIA: 3 females (ISEA), Sevan Lake, ca. 2000 m a.s.l., 28.07.1983, D.L. & V.I. Ovtsharenko. — RUSSIA: 1 male, 1 female (ISEA), Daghestan, Derbent, 20.05.1989, P.D.

***Phlegra dunini* sp. nov.**

(figures 110-113)

Female holotype (ISEA): Azerbaijan, Nakhchyvan', near Sadarak, 700 m a.s.l., 10.07.1988, P.D.

Etymology. The species is named after Dr. Peter M. Dunin, who successfully examined the spiders of Azerbaijan over many years.



Figures 48-63. — Variation of the median septum of epigyne in *Phlegra cinereofasciata* Simon, 1868 (48-53), *Phlegra kulczynskii* sp. nov. (54-56), *Phlegra bicognata* sp. nov. (57-60) and *Phlegra obscurimagna* sp. nov. (61-63). — Scale bars: 0.1 mm.

Diagnosis. This species can be easily separated from other *Phlegra* species by the structure of the copulatory organs, viz the epigynal plate strongly extending over the epigastric furrow (figures 112-113), as well as by the poorly marked (practically invisible) stripes on carapace and colour markings on dorsum (figure 111).

Distribution. The species is recorded in Azerbaijan and Turkey only (fig. 110).

Description. *Female* (the holotype). Measurements. Carapace 2.5 long, 1.55 wide, 0.9 high at PLE. Ocular area 0.8 long, 1.15 wide anteriorly and 1.2 wide posteriorly. Diameter of AME 0.4. Abdomen 3.5 long, 2.6 wide. Cheliceral length 1.4. Clypeal height 0.4. Length of the leg segments. Leg I: 1.1, 0.55, 0.9, 0.35,

0.35. Leg II: 1.1, 0.45, 0.6, 0.4, 0.4. Leg III: 1.2, 0.4, 0.6, 0.65, 0.6. Leg IV: 1.2, 0.45, 1.0, 1.05, 0.75. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 1, ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 0-1-0, pro- and retrolaterally 1-0-2 apical. Leg IV: femur dorsally 1-0-1-1, patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-0-0, pro- and retrolaterally 1-1-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace brown, with a pair of poorly marked light longitudinal bands. Clypeus yellow-brown. Sternum, maxillae and labium yellow-brown. Chelicerae brown. Abdomen yellowish grey, dorsum with a poorly marked colour-markings (figure 111). Book-lung covers and spinnerets yellowish grey. Legs and palp yellowish brown. Epigyne and spermathecae as in figure 112-113.

Material examined. — TURKEY: 1 female (paratype) (NMP) Turkey, central part, Nemrut Dagi, 14.05.1997, V. Bryja.

***Phlegra fasciata* (Hahn, 1826)**

(figures 110, 118, 120-121)

For a complete set of taxonomic references see PRÓSZYŃSKI & STAREGA, 1971: 280, NENILIN, 1984: 25, NENILIN, 1985: 130, MIKHAILOV, 1997: 218; BONNET, 1958: 3594, 3597, 3598, RÆWER, 1954: 1139-1141, PLATNICK, 1989: 613, LOGUNOV & MARUSIK, 2000b: 176-177, map 36.

Diagnosis. This species is closest to *P. cinereofasciata* and *P. tetralineata*, but the females of *P. fasciata* can be easily separated by the structure of the median septum, which is much wider than in the former species and narrower than in the latter one (cf. figures 120 and 48, 80, 122), as well as by the spermathecae, which are much more complicated than in *P. tetralineata* (cf. figures 121 and 123) and more compact than in *P. cinereofasciata* (cf. figures 121 and 53, 86). For diagnosis of the males, see LOGUNOV (1996).

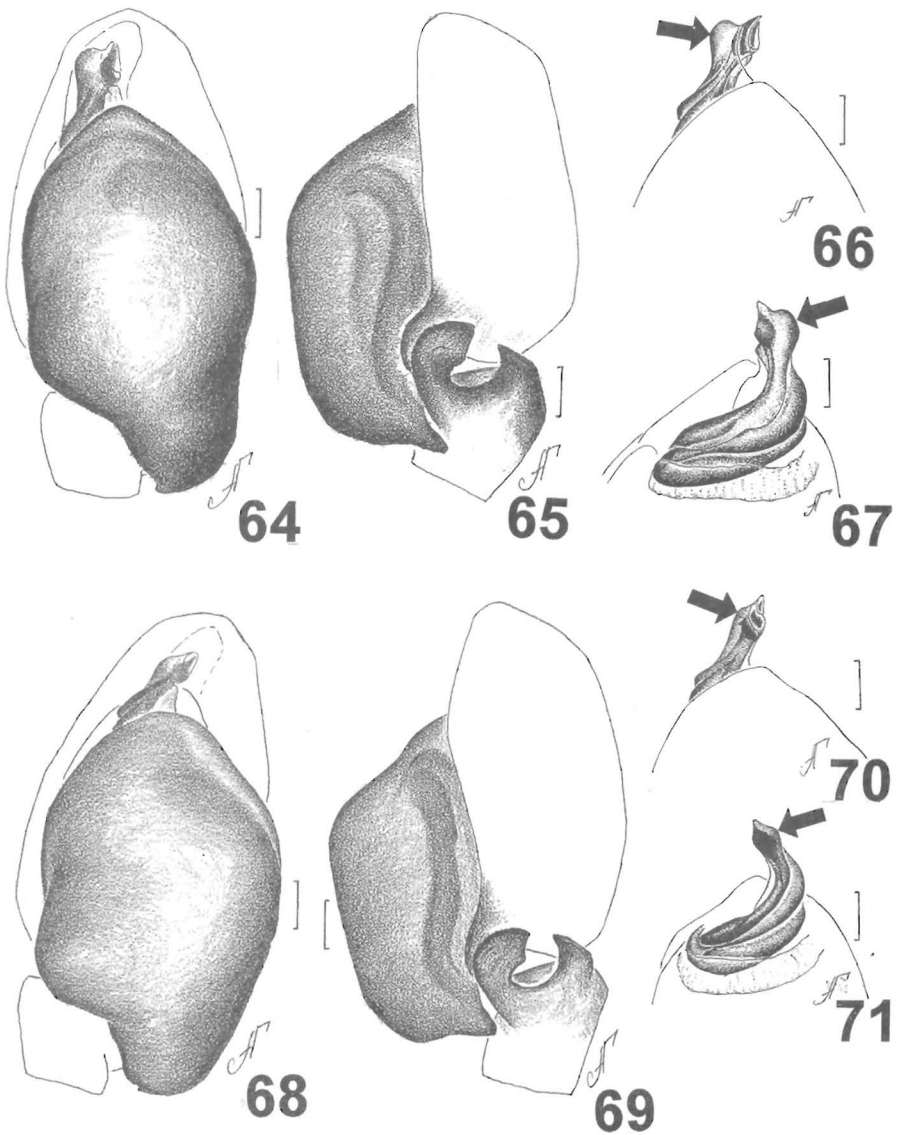
Distribution. Trans-Eurasian temperate-subtropical range, with the localities of examined material being shown in figure 110.

Description. *Male* (from Ukraine, Kherson Area). Measurements. Carapace 2.8 long, 2.0 wide, 1.3 high at PLE. Ocular area 1.0 long, 1.3 anteriorly wide and 1.3 posteriorly wide. Diameter of AME 0.4. Abdomen 2.8 long, 1.85 wide. Cheliceral length 0.8. Clypeal height 0.25.

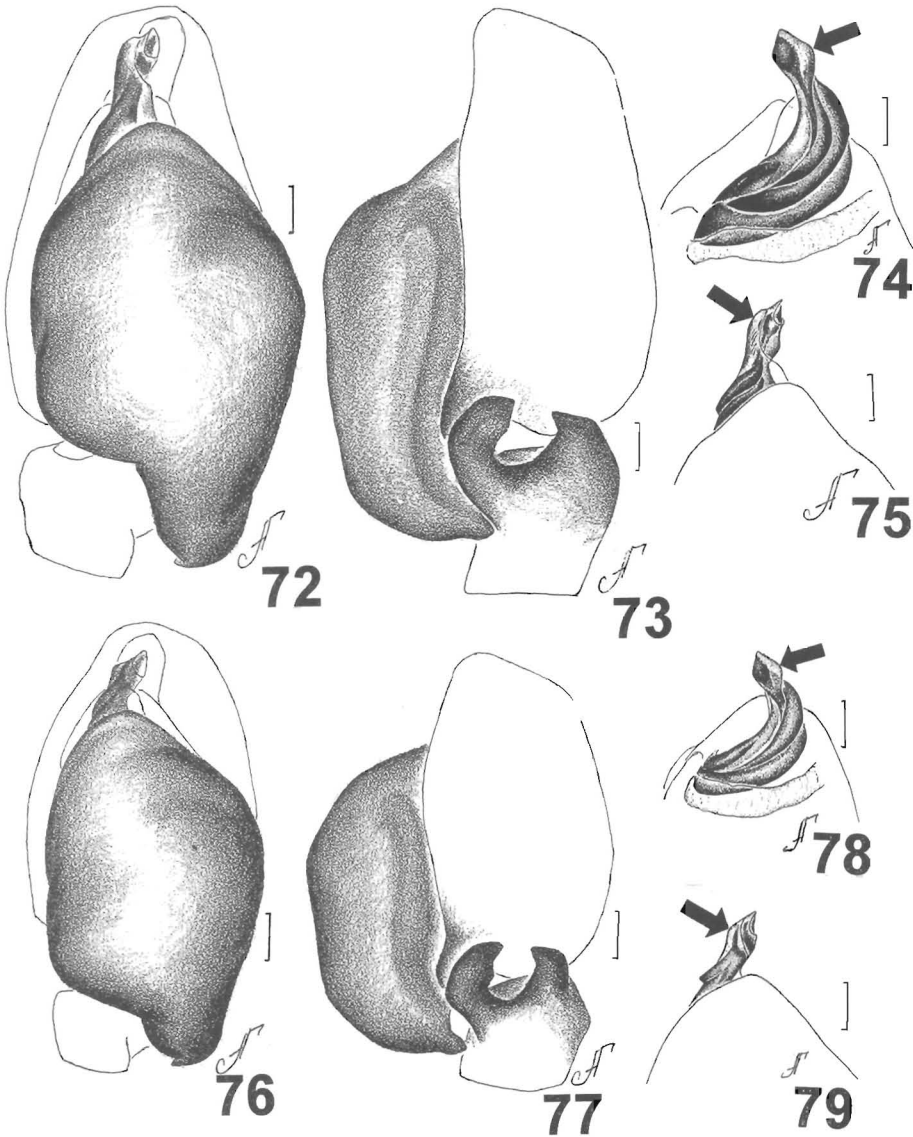
Length of leg segments. Leg I: 1.3, 0.7, 0.8, 0.5, 0.55. Leg II: 1.3, 0.8, 0.8, 0.5, 0.55. Leg III: 1.4, 0.7, 0.9, 0.95, 0.7. Leg IV: 1.8, 0.8, 1.4, 1.4, 0.85. Leg spination. Leg I: femur dorsally 0-1-1-3; patella prolaterally 1; tibia prolaterally 1-1, ventrally 2-2-2 apical; metatarsus prolaterally 1 apical, ventrally 2-2 apical. Leg II: femur dorsally 1-2-4; patella prolaterally 1; tibia prolaterally 1-1, ventrally 1-1-2 apical; metatarsus prolaterally 1-1 apical, ventrally 2-2 apical. Leg III: femur dorsally 1-0-3-5; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1-1; ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-2-5; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-1-2 apical, retrolaterally 1-0-2 apical, ventrally 1-1-2 apical or 2-0-2 apical.

Coloration. Carapace brown with a black eye field and a pair of white longitudinal bands. Clypeus, chelicerae, sternum, maxillae and labium yellow. Abdomen yellow. Dorsum dark, with an ambiguous pattern. Dorsal scutum about 1/3 of the length of abdomen. Book-lung covers yellow. Spinnerets grey. Legs: femora and patellae yellow-brown, tibiae, metatarsi and tarsi brown. Palp yellow-brown. Palps as in LOGUNOV (1996: fig. 17-21).

Female (from Kyrghyzstan, Malinovoe Canyon). Measurements. Carapace 3.4 long, 2.35 wide, 1.5 high at PLE. Ocular area 1.2 long, 1.6 wide anteriorly and 1.65 wide posteriorly. Diameter of AME 0.45. Abdomen 3.8 long, 2.7 wide. Cheliceral length 1.0. Clypeal height 0.25. Length of leg segments. Leg I: 1.3, 1.0, 0.8, 0.6, 0.6. Leg II: 1.3, 0.9, 0.8, 0.6, 0.6. Leg III: 1.5, 1.0, 0.9, 1.05, 0.8. Leg IV: 2.2, 1.05, 1.5, 1.5, 0.8. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3;



Figures 64-71. — Male palps of *Phlegra cinereofasciata* Simon, 1868 (64-67) and *Phlegra kulczynskii* sp. nov. (68-71). — 64, 68, palp, ventral view. 65, 69, ditto, retrolateral view. 66, 70, embolic division, ventral view. 67, 71, ditto, apical view. — Specimens. 64-67: Daghستان. 68: the paratype from Khakassia. 69: the paratype from Yakutia. 70-71, the paratype from Tuva. — Scale bars: 0.1 mm.



Figures 72-79. — Male palps of *Phlegra obscurimagna* sp. nov. (72-75) and *Phlegra biconata* sp. nov. (76-79). — 72, 76, palp, ventral view. 73, 77, ditto, retrolateral view. 74-78, emboic division, ventral view. 75-79, ditto, apical view. — Specimens. 72-75: the paratypes from Kyrgyzstan. 76-77: the paratyp from Taganrog Area. 78-79: the paratype from Dzhanybek. — Scale bars: 0.1 mm.

tibia prolaterally 0-1, ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-0-2-4; patella dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 2-0-2 apical; metatarsus dorsally 1-1-0 apical, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-1-2 apical, retrolaterally 1-0-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace brown, with a black eye field and a pair of poorly marked white longitudinal bands. Clypeus, chelicerae and sternum yellow. Maxillae and labium yellow-brown. Abdomen yellowish grey, dorsum with a pair of broad dark brown bands (figure 118). Book-lung covers yellow-grey. Spinnerets brownish grey. Legs and palp yellow-brown. Epigyne and spermathecae as in fig. 120-121.

Material examined. — RUSSIA: 1 male (ISEA), Mari-El, Yal'chik, 27.06.1988, E. Matveev; 1 male (ISEA), Maritime Territory, Vladivostok, Uglovaya Bay (NE shore), 22.07.1995, Y.M.; 1 male (ISEA), same territory, Furugel'ma Isl., 18.07.1985, M.T. Shternbergs. — UKRAINE: 1 male (ISEA), Dnepropetrovsk Area, Pyatikhatki District, near Zholtoe, *Ulmus* forest, 31.05.1996, V.K. Evtushenko; 1 female (ISEA), Odessa Area, near Sergeevka, steppe slope, 1-7.07.1994, Y.M.; 1 male (ISEA), Kherson Area, Chernomorskiy Res., shore drifts, 30.07.1996, V.K. Evtushenko. — GEORGIA: 1 female (ISEA), Bakuriani, 29.06.1983, A.V. Abramov. — AZERBAIJAN: 1 female (ISEA), Lenkoran District, Gaftoni, 20.06.1985, P.D.; 1 male (ISEA), Oguz District, near Oguz (= Vartashen), 15.07.1984, P.D. — KAZAKHSTAN: 1 female (ISEA), Taldy-Kurgan (= Taldy-Korgan) Area, 15-20 km SE of Kospal, acclivity on pass, ca. 3200 m a.s.l., 21.06.1993, V.D.; 1 male (ISEA), East-Kazakhstan Area, near Zaisan Lake,

Dzheminey Canyon, 2-4.06.1990, K. Yu. Eskov; 1 male (ISEA), South-Kazakhstan (=Shymkent) Area, Suzak District, ca. 20 km E of Suzak, 26.06.1989, A.Z.; 1 male (ISEA), Almaty Area, ca. 70 km E-SE of Chilik, left bank of Charyn River, 43°21'N, 79°05'E, 7-8.06.2000, A.A. Cherkashin. — KYRGHYZSTAN: 1 female (ISEA), Kirghizskiy Mt. Range, Malinovoe Canyon, ca. 20 km S of Bishkek (=Frunze), 28.07.1984, S.O.; 1 female (ISEA), Sary-Chelek Res., W of Arkit, right bank of Khodzhaata, 41°49'N, 71°57'E, 6.07.2000, A.G. — CZECH REPUBLIC: 1 male (ISEA), Prague, in park, 16.07.1994, D.L. — MONGOLIA: 1 male (ISEA), Tov Aimak, 48°22'N, 106°18'E, 1100 m a.s.l., 18-23.06.1997, Y.M.

***Phlegra kulczynskii* sp. nov.**

(figures 40-41, 47, 54-56, 68-71, 87-91, 101)

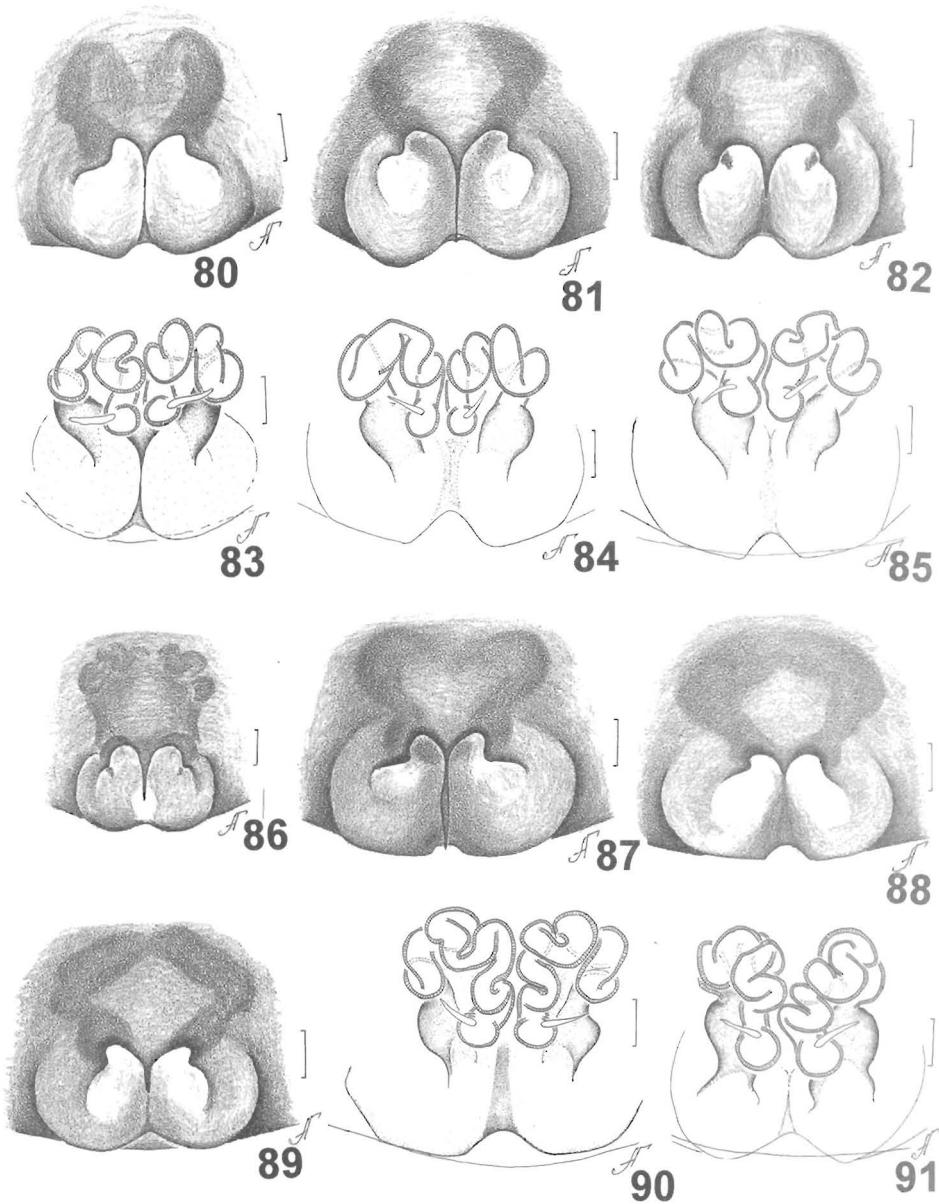
Phlegra fuscipes (misidentified): ERMO-LAEV, 1937: 605; NENILIN, 1984b: 140; NENILIN, 1985 (in part): 130; RAKOV, 1998: 309-310; MARUSIK *et al.*, 2000: 100; DANILOV & LOGUNOV, 1994: 35; LOGUNOV *et al.*, 1998: 141; DANILOV, 1990: 89; Savelyeva, 1979: 144; KOPONEN & MARUSIK, 1992: 166; LOGUNOV & MARUSIK, 2000b (in part): 177-178.

Phlegra cinereofasciata (misidentified): SAVELYEVA, 1970: 6, 8; SAVELYEVA, 1976: 52; SAVELYEVA, 1979: 145.

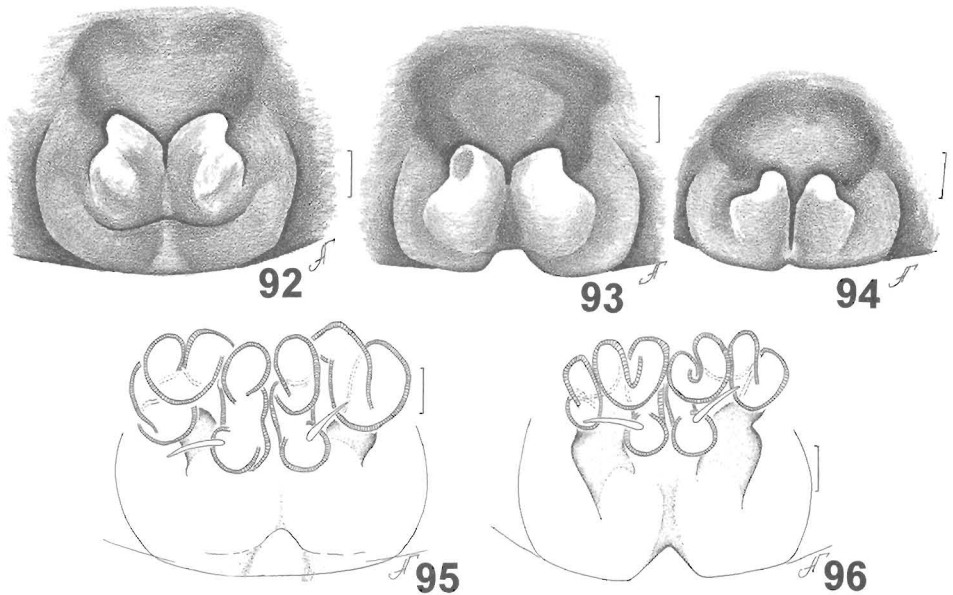
Female holotype (ISEA), Russia, Tuva, Ulug-Khem District, 5-7 km E of Shagonar, Khaiyrkan Mt., under stones, 10.05.1990, D.L.

Etymology. This species is dedicated to W. Kulczyński, a famous Polish arachnologist, who described a lot of Siberian spider species.

Diagnosis. This species is most closely related to *P. bicognata* sp. nov., with males being almost indistinguishable from it (cf. figures 68-71 and 76-79), but the females of *P. kulczynskii* sp. nov. can be easily separated by the black clypeus (see figure 47) (white haired in *P. bicognata* sp. nov.). See also comments under



Figures 80-91. — Female copulatory organs of *Phlegra cinereofasciata* Simon, 1868 (80-86) and *Phlegra kulczynskii* sp. nov. (87-91). — 80-82, 86-89, epigyne. 83-85, 90-91, spermathecae. — Specimens. 80, 83: from Francikovac. 81-82: from Azerbaijan. 84: from Daghestan. 85: from Armenia. 86: from Romania. 87-91: from Chita Area. 88-89: from Khakassia. 90: from Tuva. — Scale bars: 0.1 mm.



Figures 92-96. — Female copulatory organs of *Phlegra obscurimagna* sp. nov., 92-94, epi-gyne. 95-96, spermathecae. — Specimens. 92-94, 96: the paratypes from Kyrgyzstan. 95: the paratype from Taldy-Korgan Area. — Scale bars: 0.1 mm.

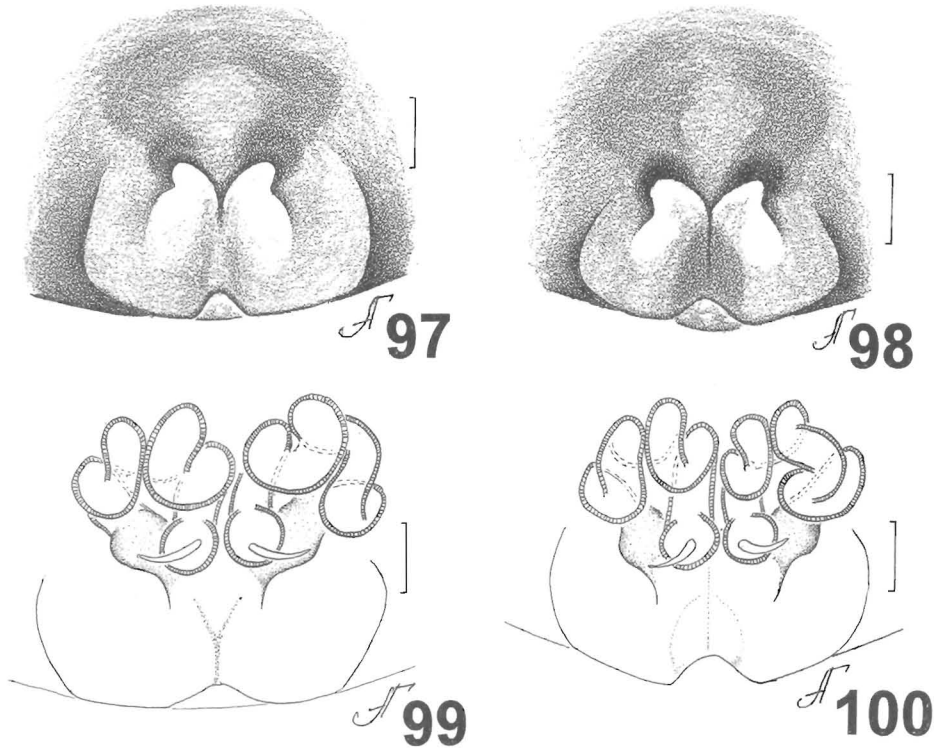
gnata sp. nov.). See also comments under “diagnosis” of *P. cinereofasciata*.

Distribution. South and Central Siberia, Mongolia and East Kazakhstan (figure 101). This species has hitherto been recorded from Siberia under the name *P. fuscipes* and *P. cinereofasciata* (see LOGUNOV & MARUSIK, 2000b).

Description. *Male* (the paratype from Khakassia, 25-29 km NE of Askiz). Measurements. Carapace 3.2 long, 2.1 wide, 1.1 high at PLE. Ocular area 1.1 long, 1.3 anteriorly wide and 1.4 posteriorly wide. Diameter of AME 0.35. Abdomen 3.5 long, 2.1 wide. Cheliceral length 0.9. Clypeal height 0.3. Length of legs segments. Leg I: 1.4, 0.9, 1.0, 0.7, 0.55. Leg II: 1.3, 0.9, 0.9, 0.7, 0.55. Leg III: 1.7, 0.9, 1.0, 1.0, 0.7. Leg IV: 2.1, 1.1, 1.5, 1.6, 0.9. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ven-

trally 1-1-2 apical; metatarsus prolaterally 1-1 apical, ventrally 2-2 apical. Leg III: femur dorsally 1-0-3-5; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-3-5; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 2-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-1-2 apical; retrolaterally 1-0-2 apical, ventrally 1-1-2 apical or 2-0-2 apical.

Coloration. Carapace brown, with a pair of white longitudinal bands. Clypeus brown, covered with white hairs. Chelicerae dark brown. Sternum, maxillae and labium dark brown. Abdomen brownish grey, dorsum with a pair of greyish brown longitudinal bands (figure 40). Dorsal scutum is about 1/3-1/2 of the length of abdomen. Book-lung covers grey to yel-



Figures 97-100. — Female copulatory organs of *Phlegra bicognata* sp. nov. **97-98**, epigyne. **99-100**, spermathecae. — Specimens. **97**: the paratype from Orenburg Area. **98, 100**: the paratype from Dzhanybek. **99**: the paratype from Taganrog Area. — Scale bars 0.1 mm.

lowish grey. Spinnerets brown. Legs and palp dark brown. Palpal structure as in figures 68-71.

Female (the paratype from Khakassia, 25-29 km NE of Askiz). Measurements. Carapace 3.3 long, 2.1 wide, 1.3 high at PLE. Ocular area 1.2 long, 1.4 wide anteriorly and 1.45 wide posteriorly. Diameter of AME 0.45. Abdomen 4.1 long, 2.9 wide. Cheliceral length 0.9. Clypeal height 0.35. Length of leg segments. Leg I: 1.5, 0.9, 0.8, 0.6, 0.5. Leg II: 1.4, 1.0, 0.7, 0.6, 0.5. Leg III: 1.6, 0.8, 0.8, 0.9, 0.8. Leg IV: 2.0, 1.0, 1.5, 1.6, 0.7. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia prolaterally 0-1, 1-3; tibia prolaterally 0-1, ventrally 2/1-2-2 apical; metatarsus ventrally 2-2 apical. Leg II:

femur dorsally 0-1-1-3; tibia prolaterally 0-1 apical, ventrally 1/2-2-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-0-2-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 0/1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-3; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 1-1/2-2 apical.

Coloration. Carapace dark brown, with a pair of poorly marked white longitudinal bands. Clypeus brown, sparsely covered with black hairs. Chelicerae, ster-

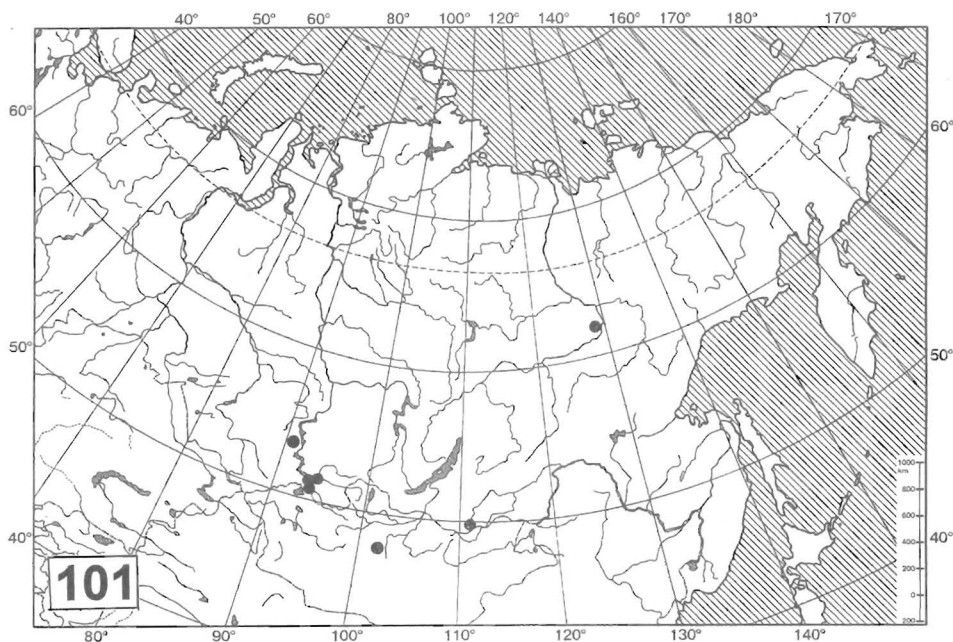


Figure 101. — Distribution of *Phlegra kulczynskii* sp. nov. One dot may represent more than one close locality. Localities in NE China (see LOGUNOV & MARUSIK, 2000b: map 37, sub *P. fuscipes*) are not shown.

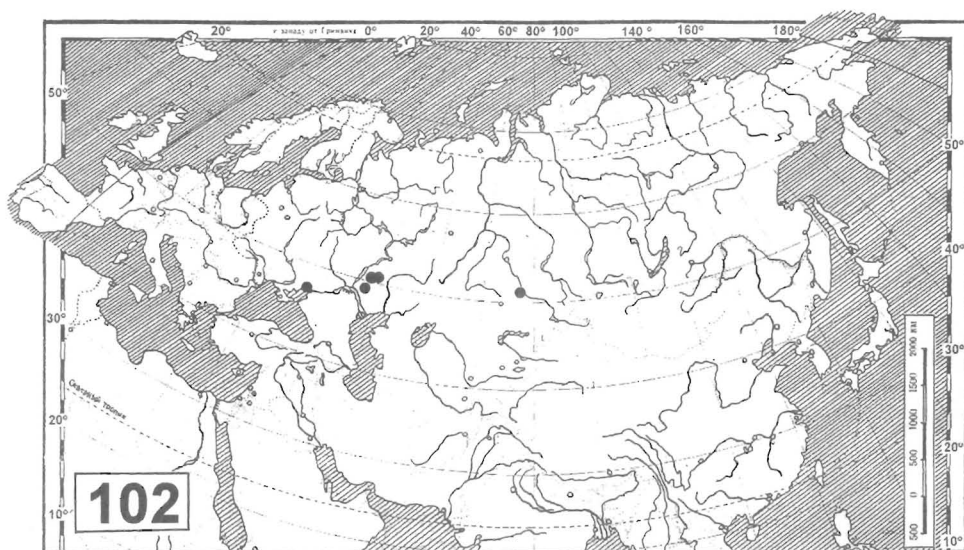


Figure 102. — Distribution of *Phlegra bicognata* sp. nov. One dot may represent more than one close locality. Localities in N Kazakhstan (see LOGUNOV & MARUSIK, 2000b: map 37, sub *P. fuscipes*) are not shown.

num maxillae and labium dark brown to brown. Abdomen brown-grey, dorsum with a dark colour-markings (figure 41). Book-lung covers yellowish grey. Spinnerets dark brown. Legs dark brown. Palp brown. Epigyne, including its variation, and spermathecae as in figures 54-56 & 87-91.

Material examined (paratypes). — **RUSSIA:** 2 females (ZISP), Chita Area, locality unknown (label illegible), stony slopes, 21.06.1982, S.N. Danilov; 2 males (MMUM), Buryatia, ca. 24 km NW of Mukhorshibir', Tugnuiskaya Hollow (51° 12' N, 107° 33' E), dry steppe (under stones), 760-800 m a.s.l., 28-29.06.2001, D.L.; 1 male (MMUM), Buryatia, Selenga District, W of Lake Gusinoe Ozero (51° 12' N, 106° 16' E), dry bunchgrass stony steppe, 670-700 m a.s.l., 21-22.06.2001, D.L.; 1 male 3 females (ZMMU), Khakassia, Askiz District, ca. 8 km E of Birichul', ca. 1 km N of Maika, ca. 1100 m a.s.l., 16-18.07.1990, D.L.; 2 males 5 females (ISEA), Askiz District, 25-27 km NE of Askiz, stony hill near Abakan River, under stones, 15.07.1990, D.L.; 1 female (ISEA), Tuva, near Kyzyl, dry steppe (under stones), 700-800 m a.s.l., 20.05.1989, D.L.; 2 females (ISEA), Tuva, 3-5 km S Kyzyl, left bank of Yenisei River, dry stony steppe (under stones), 700-750 m a.s.l., 25-06.1989, D.L.; 2 males (ZMMU), Tuva, Tes-Khem District, 10-12 km NW of Khol'-Oozhu, Belengisch boundary, shrub-stony sloping steppe (under stones), 1700-1800 m a.s.l., 9-11.07.1989, D.L.; 1 male 1 female (ISEA), Tuva, Ulug-Khem District, 5-7 km E of Shagonar, Khairkan Mt. and 15-20 km SW of Shagonar, bridge over Chaaty River, 8-10.05.1990, D.L.; 1 male 1 juv. (ZMTU), Yakutia, ca. 5 km W of Oktemtsy, meadow slopes between steppe and taiga, 10.07.1977, S. Koponen; 1 male (ZISP), Yakutia, Kuturga, 200 m a.s.l., scree, 21.07.1977, S.Z. — **MONGOLIA:** 1 female (HMNH), Archangaj Aimak, Changaj Aimak,

Changaj Mts, ca. 8 km W of Somon Urd-tamir, 1620-1750 m a.s.l., 21-22.07.1966, Exp. Kaszab.

***Phlegra logunovi* sp. nov.**

(figures 3-6, 11-12, 12-22, 32, 34)

Phlegra sogdiana (misidentified): NENILIN, 1984a (in part): 26; NENILIN, 1985: 130; LOGUNOV, 1996 (in part, form B): 556-561, figures 67-72; ZYUZIN *et al.*, 1993: 280.

Male holotype (ISEA), Uzbekistan, ca. 7 km N of Kitab, South foothills of Zeravshanskii Mt. Range, ca. 800 m a.s.l., 26.04.1993, D.L. & A.Z.

Etymology. This species is named after Dr. D. V. Logunov (the Manchester Museum, U.K.), who hitherto distinguished this new species as the form B of *P. sogdiana* and who collected the holotype.

Diagnosis. This species is most closely related to *P. sogdiana*, but can easily distinguished from it by the larger size and coloration in both sexes (cf. figures 3-4 and 1-2), the presence of white hairs on the palpal femora and tibiae of males (cf. figures 32 and 33) and the structure of the copulatory organs: viz the stronger straight rather than bent embolus (cf. figures 11-12 and 13-14) and the fossae not divided into two section (cf. figures 17-19 and 23-25).

Distribution. Uzbekistan, Tajikistan, Turmenistan and Kazakhstan (figure 34), where this species has hitherto been recorded under the form B of *P. sogdiana* (see LOGUNOV, 1996).

Description. *Male* (the paratype from Uzbekistan, Zeravshanski Mt. Range). Measurements. Carapace 3.8 long, 2.6 wide, 1.45 high at PLE. Ocular area 1.25 long, 1.6 anteriorly wide and 1.6 posteriorly wide. Diameter of AME 0.5. Abdomen 3.7 long, 2.5 wide. Cheliceral length 1.3. Clypeal height 0.35. Length of legs segments. Leg I: 1.7, 0.9, 1.2, 0.85, 0.75. Leg II: 1.6, 0.8, 1.0, 0.75, 0.6. Leg III: 2.05, 0.9, 1.0, 1.3, 0.75. Leg IV: 2.3, 1.0, 1.7, 1.8, 0.9. Leg spination. Leg I: femur

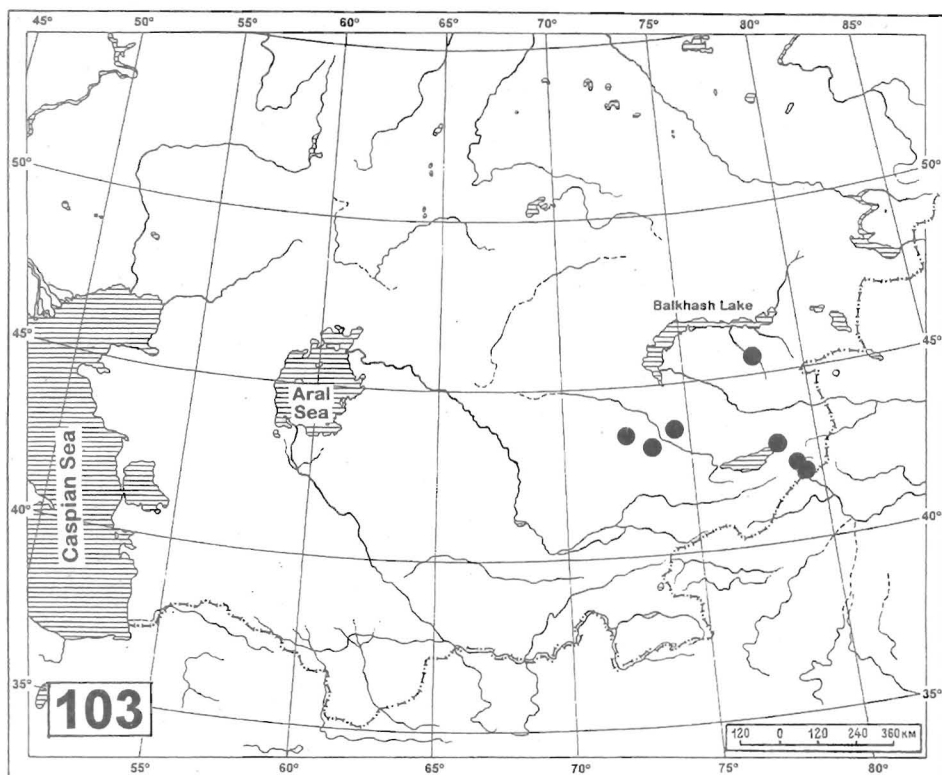


Figure 103. — Distribution of *Phlegra obscurimagna* sp. n. One dot may represent more than one close locality.

dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-3-5; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical. metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-2 apical. Leg IV/ femur dorsally 1-1-5; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-1-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace dark brown, with a pair of white longitudinal bands. Clypeus covered with short white hairs and with a row of long dark hairs. Ster-

num, maxillae and labium brown to dark brown. Chelicerae brown to dark brown. Abdomen brownish grey, with long dark hairs, dorsum usually having a pair of poorly marked longitudinal dark brown bands bordered by a pair of white narrow bands (figure 3). Book-lung covers yellow to yellowish grey. Spinnerets brown. Legs I and II dark brown, their patellae and tibiae covered with dark long hairs. Legs III and IV brown. Palp dark brown, femora and patellae covered anteriorly with white hairs (figure 32). Palpal structure as in figures 5-6 & 11-12.

Female (the paratype from Uzbekistan, Zeravshanskiy Mt. Range). Measurements. Carapace 3.9 long, 2.7 wide, 1.5 high at PLE. Ocular area 1.3 long, 1.6

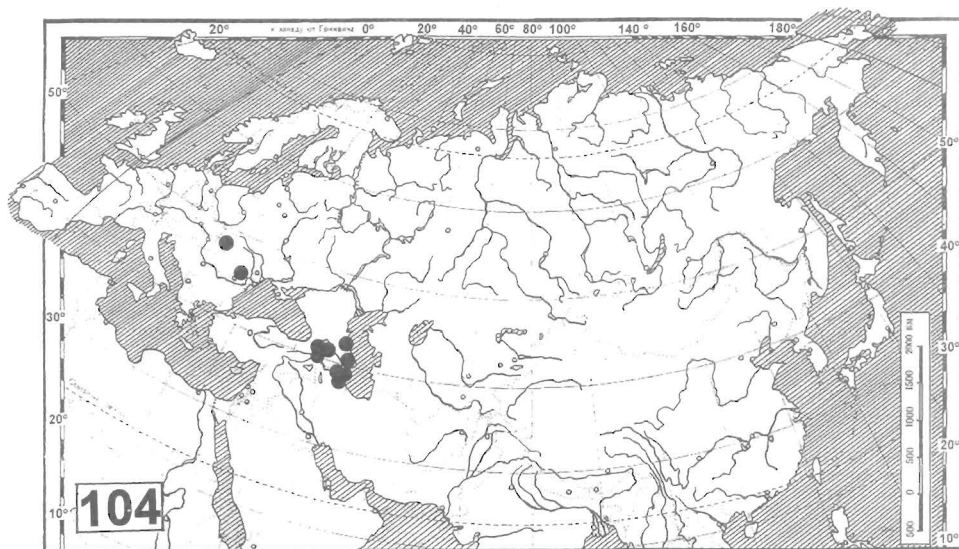
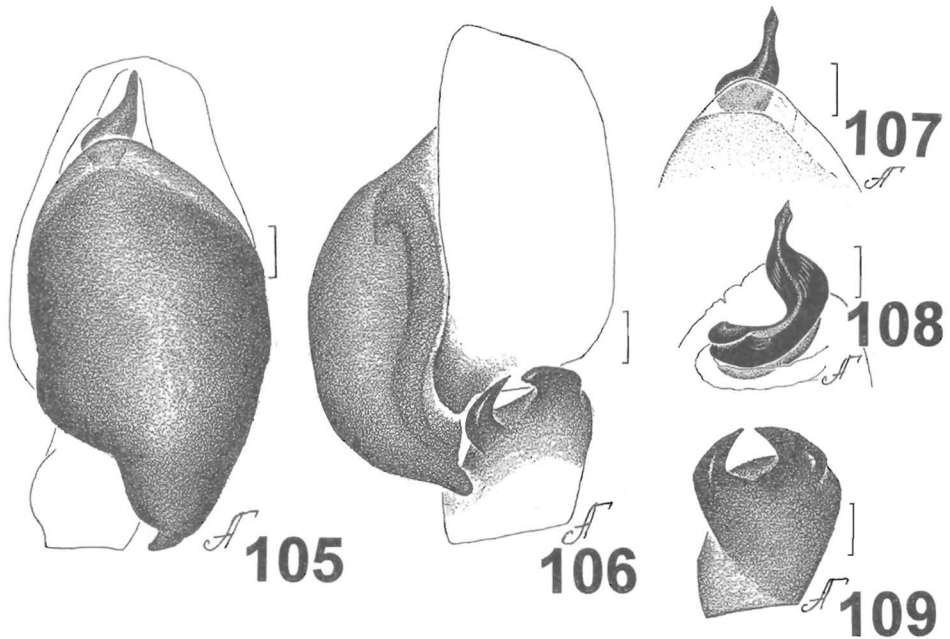


Figure 104. — Distribution map of *Phlegra cinereofasciata* Simon. One dot may represent more than one close locality.

wide anteriorly and 1.6 wide posteriorly. Diameter of AME 0.5. Abdomen 4.5 long, 3.0 wide. Cheliceral length 1.4. Clypeal height 0.35. Length of leg segments. Leg I: 1.7, 1.0, 1.1, 0.75, 0.55. Leg II: 1.5, 0.9, 1.0, 0.7, 0.55. Leg III: 1.8, 1.1, 1.1, 1.1, 0.8. Leg IV: 2.3, 1.1, 1.8, 1.9, 0.95. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 0-1, ventrally 1-1-2 apical or 1-2-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-0-2-5; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-1 apical, pro- and retrolaterally 1-2 apical, ventrally 2-2 apical. Leg IV: femur dorsally 1-1-3, patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-1-2 apical, retrolaterally 1-0-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace dark brown, with a pair of white longitudinal bands. Clypeus yellow. Sternum, maxillae and laium brown. Chelicerae brown. Abdomen brown, dorsum with well developed colour markings consisting of a pair of dark brown bands (figure 4). Book-lung covers yellowish grey. Spinnerets brown. Legs brown. Epigyne and spermathecae as in figures 17-22.

Material examined (paratypes).— UZBEKISTAN: 22 males, 33 females (ISEA), ca. 7 km N of Kitab, South foothills of Zeravshanskii Mt. Range, ca. 800 m a.s.l., 26.04.1993, D.L. & A.Z.; 1 male (ISEA), Zeravshanskii Mt. Range, near Ruskishlak and Kainar-Bulak, 10.09.1991, S.O.; 1 female (ISEA), Surkhandarya Area, Baisun District, near Khatal Kishlak, Baglydara Canyon, 1500-1800 m a.s.l., 28.04.1984, coll. ?; 4 males, 1 female (ISEA), Surkhandarya Area, Sariasia District, Babatagh Mt. Range, 3-5 km W of Ak-Mechet', 06.1994, O.L.; 4 females (ISEA), Samar-kand Area, Sovetabad District, Zerav-



Figures 105-109. — Male palp of *Phlegra sierrana* (Simon, 1868). — 105, ventral view. 106, retrolateral view. 107, embolic division, ventral view. 108, ditto, apical view. 109, tibial apophysis. — Scale bars: 0.1 mm.

shanskii Mt. Range, 1.5-1.6 km from Dzham (near Chon-Kaimysh), 8-9.06.1991, E.E. Kondykbaev & A.Z. — KAZAKHSTAN: 1 male (ISEA), South Kazakhstan (= Chimkent) Area, near Arys', *Artemisia* steppe, 25.04-3.05.1988, D.L.

***Phlegra obscurimagna* sp. nov.**

(figures 44-45, 61-63, 72-75, 92-96 & 103)

Phlegra fuscipes (misidentified): NENILIN, 1984a: 25-26; NENILIN, 1985 (in part): 130; LOGUNOV & RAKOV, 1998 (in part): 128; ASHIKBAEV, 1981 (in part): 20.

Male holotype (ISEA), Kyrgyzstan, Kaindy Mt. Range, 3000 m a.s.l., 17.07.1983, S.O.

Etymology. The specific name is derived from Latin words "*obscura*" and "*magna*", meaning "dark" and "large" correspondingly, this species being darker

and larger than *P. cinereofasciata* and all other new species described in the present work.

Diagnosis. This species is most closely related to *P. cinereofasciata*, *P. bicognata* sp. nov. and *P. kulczynskii* sp. nov., but both sexes differ in larger body size, darker body coloration and the well-developed colour markings on dorsum (cf. figures 44-45 and 37-43). Besides, the male embolus has no "crest", being by its structure an intermediate form between all the three related species (cf. figures 72-75 and 68-71 & 76-79). The females of *P. obscurimagna* sp. nov. possess larger loops of the spermathecae (figures 95-96) as compared to related species (figures 83-85, etc.).

Distribution. Kyrgyzstan and S. Kazakhstan (figure 103). This species has been hitherto recorded in Middle Asia either under the name of *P. fuscipes* (see

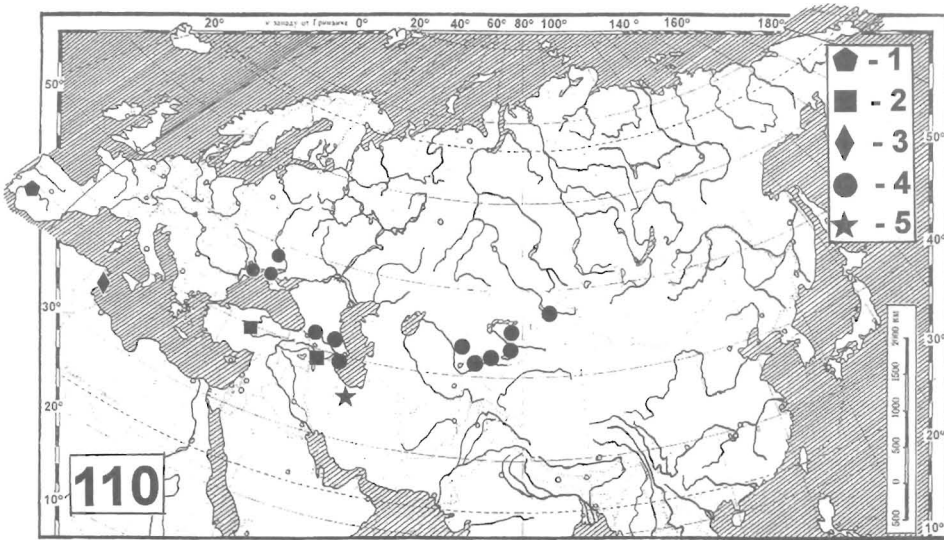


Figure 110. — Collection localities of *Phlegra* species (only examined material are mapped). — 1, *P. sierrana* (Simon, 1868). 2, *P. dunini* sp. n., 3, *P. yaelae* Prószyński, 1998, 4, *P. fasciata* (Hahn, 1826), 5, *P. tetralineata* (Caporiacco, 1939). One dot may represent more than one close locality.

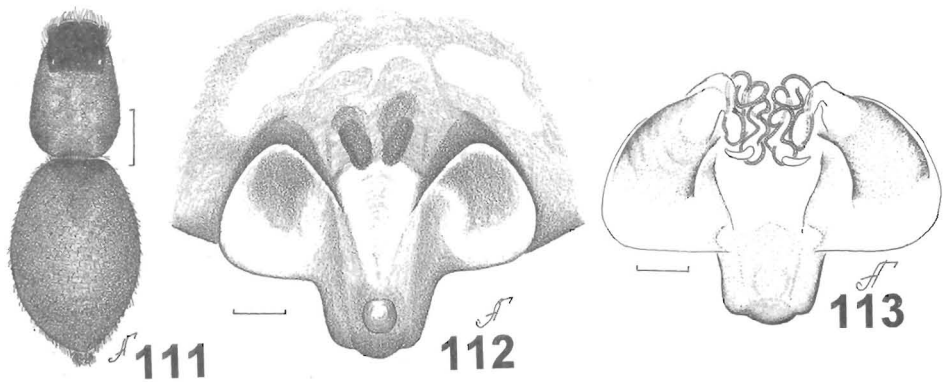
LOGUNOV, 1996), or under *P. cinereofasciata* (see LOGUNOV & RAKOV, 1998).

Description. *Male* (the paratype from Kyrghyzstan, Sary-Dzhaz). Measurements. Carapace 3.4 long, 2.2 wide, 1.3 high at PLE. Ocular area 1.1 long, 1.45 anteriorly wide and 1.45 posteriorly wide. Diameter of AME 0.45. Abdomen 3.3 long, 2.0 wide. Cheliceral length 0.95. Clypeal height 0.35. Length of leg segments. Leg I: 1.55, 1.0, 1.1, 0.6, 0.55. Leg II: 1.5, 0.9, 1.0, 0.55, 0.55. Leg III: 1.65, 0.9, 1.0, 1.6, 0.7. Leg IV: 2.1, 1.1, 1.6, 1.7, 0.8. Leg spination. Leg I: femur dorsally 0-1-11-3; tibia prolaterally 1-1, ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-1-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 0-2-2 apical or 1-1-2 apical. Leg IV: femur dorsally 1-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolate-

rally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace dark brown, with a pair of white longitudinal bands. Clypeus yellowish brown, densely covered with white hairs. Chelicerae dark brown. Sternum, maxillae and labium brown. Abdomen brownish grey, dorsum with a pair of dark brown longitudinal bands (figure 44). Dorsal scutum very small, about 1/4-1/5 length of abdomen. Book-lung covers yellow to yellowish grey. Spinnerets dark brown. Legs and palp dark brown. Palpal structure as in figures 72-75.

Female (the paratype from Kyrghyzstan, Sary-Dzhaz). Measurements. Carapace 3.8 long, 2.55 wide, 1.5 high at PLE. Ocular area 1.4 long, 1.6 wide anteriorly and 1.7 wide posteriorly. Diameter of AME 0.5. Abdomen 4.8 long, 3.9 wide. Cheliceral length 1.0. Clypeal height 0.4. Length of leg segments. Leg I: 1.7, 1.05, 1.0, 0.6, 0.6. Leg II: 1.6, 1.1, 1.0, 0.6, 0.6.



Figures 111-113. — Female copulatory organs and somatic characters of the holotype of *Phlegra dunini* sp. nov. — **111**, general appearance. **112**, epigyne. **113**, spermathecae. — Scale bars: body, 0.5 mm, copulatory organs, 0.1 mm.

Leg III: 1.85, 1.05, 1.15, 0.8. Leg IV: 2.4, 1.25, 1.7, 1.75, 0.9. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 2-0-2 apical or 1-0-1 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-1-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-3; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 2-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-0-2 apical, retrolaterally 1-1-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace dark brown, with a pair of white longitudinal bands. Clypeus yellowish brown, covered with thin white and black hairs. Chelicerae, maxillae and labium dark brown. Sternum brown. Abdomen brown, dorsum with well-developed colour markings (figure 45). Book-lung covers yellowish grey. Spinnerets brownish grey. Legs and palp dark brown to brown. Epigyne, including its variations, and spermathecae, as in figures 61-63 & 92-96.

Material examined (paratypes). — **KYRGHYZSTAN**: 1 female (ISEA), Kyrgyzstan, Kaindy Mt. Range, 3000 m a.s.l., 17.07.1983, S.O.; 1 male 1 female (ISEA), Koilyu River valley, 2800 m a.s.l., 16.07.1983, S.O.; 1 male (ISEA), south slope of Terskei Ala-Too Mt. Range, Sary-Dzhaz River valley, Bol'shoi Berkut Canyon, 3200 m a.s.l., 19.07.1983, S.O.; 1 male (ISEA), West spur of Inyl'chehtau Mt. Range, Sary-Dzhaz, 18-19.07.1993, D.A. Mil'ko; 1 female (ISEA), Boomscoe Canyon, Kirghizskii Mt. Range, Malinove Canyon, ca. 20 km S of Bishkek, 1600 m a.s.l., 1-27.07.1983, S.O. — **KAZAKHSTAN**: 2 females (ISEA), Taldy-Korgan Area near Kospal, 10.06.1995, O.L.; 1 female (ISEA), Almaty Area, Dzhambul (= Zhambyl) District, Alma-Ata-Georgievka highway, ca. 8 km W of Targan, 13.05.1991, S.I. Ibraev & A.Z.

***Phlegra sierrana* (Simon, 1868)**
(figures 105-110)

Attus sierranus SIMON 1868: 557.
Pseudomogrus pennatus Henis 1957: 289, fig. 13.
Yllenus pennatus: BRIGNOLI 1983: 658.

Diagnosis. This species is similar to *P. cinereofasciata* and its related species, but can be separated from all of them by the long, thin and stretched out embolar tip (figures 107-108) and the unusual structure of the tibia apophysis (figure 109).

Distribution. The species has so far been recorded from Spain only (SIMON, 1986; DENIS, 1957; BRIGNOLI, 1983) (figure 110).

Description. *Male.* Measurements. Carapace 3.2 long, 2.0 wide, 1.1 high at PLE. Ocular area 1.05 long, 1.3 anteriorly wide and 1.4 posteriorly wide. Diameter of AME 0.4. Abdomen 3.2 long, 1.9 wide. Cheliceral length 0.9. Clypeal height 0.3. Length of leg segments. Leg I: 1.4, 0.8, 0.85, 0.5, 0.6. Leg II: 1.4, 0.9, 0.8, 0.6, 0.6. Leg III: 1.5, 0.8, 0.8, 1.0, 0.6. Leg IV: 2.0, 0.9, 1.4, 1.5, 0.85. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 1-1-2 apical; metatarsus prolaterally 1-1 apical, ventrally 2-2 apical. Leg III/ femur dorsally 1-0-2-4; patella, pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-2 apical. Leg IV: femur dorsally 1-0-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 2-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-1-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace brown, with a pair of white longitudinal bands. Clypeus yellow-brown, densely covered with white hairs. Chelicerae red-brown. Sternum brown. Maxillae and labium yellow-brown. Abdomen grey, dorsum with a pair of brown longitudinal bands. Booklung covers yellowish brown. Spinnerets brown. Legs dark brown, but metatarsi and tarsi of all legs brown. Palps brown. Palpal structure as in figure 105-109.

Material examined. — SPAIN: 2 males (SMF), 2 males (ISEA), Spain, 200-250 km SW of Madrid, Extramadura (= Estremadura), "El Baldio", 1996, P. Jäger.

***Phlegra sogdiana* Charitonov, 1946**

(figures 1-2, 7-8, 13-14, 23-28, 33, 35)

Phlegra sogdiana: CHARITONOV, 1946: 80, fig. 55-56; ANDREEVA, 1975: 339; PRÓSZYŃSKI, 1979: 316, figures 268-270; NENILIN, 1984a (in part): 26; NENILIN, 1984b: 140; MIKHAILOV & FET, 1994: 518, 520; LOGUNOV, 1996 (in part): 556-561, figures 57-66; LOGUNOV & MARUSIK, 2000: 287.

Male lectotype and female paralectotype (PSU), Uzbekistan, Kashkadarya Area, Yakkabagh District, near Ishkent, 16.04-28.06.1942, D.M. Fedotov.

Diagnosis. See above comments under "diagnosis" of *P. logunovi* sp. nov.

Distribution. Tajikistan and adjacent territories (figure 35).

Description. *Male* (from Uzbekistan, Derbent). Measurements. Carapace 3.3 long, 2.1 wide, 1.4 high at PLE. Ocular area 1.2 long, 1.5 anteriorly wide and 1.5 posteriorly wide. Diameter of AME 0.5. Abdomen 3.3 long, 1.9 wide. Cheliceral length 0.8. Clypeal height 0.3. Length of leg segments. Leg I: 1.6, 1.0, 1.0, 0.6, 0.6. Leg II: 1.6, 0.7, 1.0, 0.6, 0.6. Leg III: 1.7, 1.0, 1.0, 1.0, 0.7. Leg IV: 2.0, 1.0, 1.4, 1.5, 0.8. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia prolaterally 0-1, ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-4; tibia prolaterally 0-1, ventrally 1-1-2 apical; metatarsus prolaterally 1-0, ventrally 2-2 apical. Leg III: femur dorsally 1-0-2-4; patella pro- and retrodorsally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-4, patella pro- and retrolaterally 1; tibia

dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 1-1-2 apical.

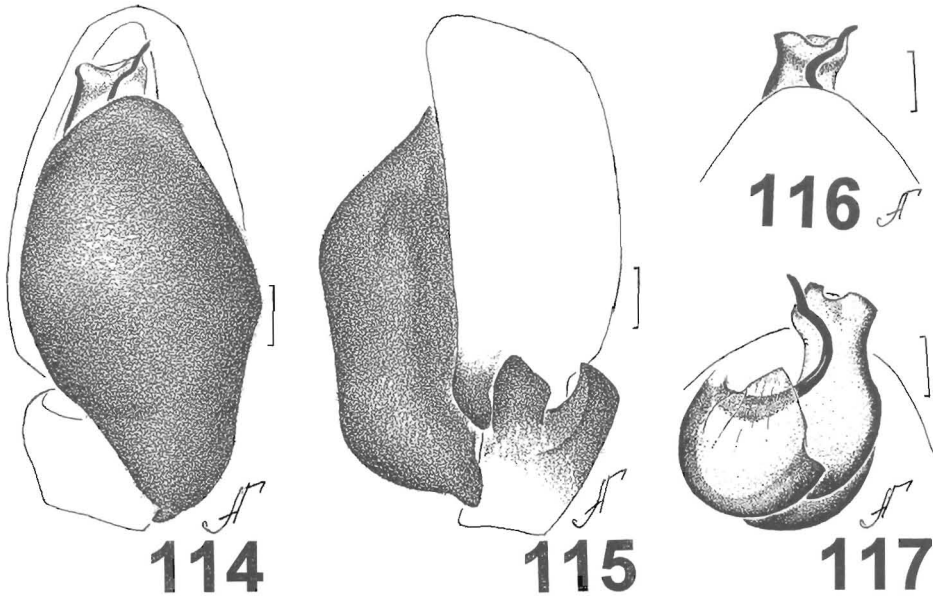
Coloration. Carapace dark brown with a pair of white longitudinal bands. Clypeus covered with dark hairs. Chelicerae and clypeus dark brown. Sternum, maxillae and labium brown. Abdomen grey. Dorsum with poorly marked colour markings (figure 1). Dorsal scutum is about 1/3 of the length of abdomen. Book-lung covers yellowish grey. Spinnerets grey. Legs I, II and palps dark brown; legs III and IV brown. Palpal femur and patella covered dorsally with dark hairs (figures 33). Palpal structure as in figures 7-8 & 13-14.

Female (from Uzbekistan, Derbent). Measurements. Carapace 3.1 long, 2.0 wide, 1.5 high at PLE. Ocular area 1.3 long 1.3 long, 1.5 wide anteriorly and 1.5 wide posteriorly. Diameter of AME 0.5. Abdomen 4.6 long, 3.3 wide. Cheliceral length 0.9. Clypeal height 0.2. Length of leg segments. Leg I: 1.5, 0.9, 0.9, 0.6, 0.65. Leg II: 1.3, 0.9, 0.9, 0.5, 0.6. Leg III: 1.6, 0.9, 1.0, 0.8, 0.75. Leg IV: 2.0, 1.0, 1.5, 1.6, 0.8. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 0-1, ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-0-1-3; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 0-1-0 apical, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-3; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-1-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace brown with a pair of poorly marked longitudinal white bands. Clypeus and sternum yellow-brown. Chelicerae, maxillae and labium brown. Abdomen yellow-brown-grey,

dorsum with a poorly marked colour pattern as in figure 2. Book-lung covers yellow-grey. Spinnerets brownish grey. Legs and palps brown to dark brown. Epigyne and spermathecae as in figure 17-22.

Material examined. — TAJIKISTAN: 5 males 3 females (ISEA), Kurgan-Tyube Area, Il'ichevsk District, Aktau Mt. Range, Gandzhina, 800 m a.s.l., 13.04.-19.06.1986, A.Z. and S.Z.; 5 males 1 female (ISEA), same locality, 10.04.1988, S.Z. & A.S. Zor'kin; 1 male 1 female (ISEA), Kurgan-Tyube Area, Gizimailik Mt. Range, above Gandzhino, 1800 m a.s.l., 13-19.04.1991, S.O.; 1 male (IZW), same locality, 9.04.-15.05.1967, E.A.; 3 males 2 females (IZW), same locality, 12.06.-7.07.1967, E.A.; 1 female (IZW), Beshkentskaya Valley, Chiluchor-Chashma Spring, 27.06.1967, E.A.; 2 males (ZMMU), Gissarskii Mt. Range, Ramit Reserve, 2-7.05.1986, S.Z.; 1 male 1 female (ZMMU; palp only), Zeravshanskii Mt. Range, Iman-Kutan, 28.05.1965, Chikatunov; 2 males (ZISP), Kuibyshevskii District, 4.05.1948, E. Luppova; 1 male 1 female (ZISP), Kondara, 12.08.1948, E. Luppova; 1 female (IZW), near Dushanbe, Gul'bista, (27.07.1970, L. Zharkov. — TURKMENIA: 1 male (ISEA), West Kugitang, 1800-2500 m a.s.l., 9-16.05.1991, V.D.; 2 males 1 female (ISEA), West Kugitang, Kara-Belent Mt., Khole-Bata and ca. 5 km SE of Bazar-Depe, 5-16.04.1991, V.D. & V.K. Zinchenko; 2 males 1 female (ISEA), Kugitangtau Mt. Range, Bagly-Dara and Kampyrtepa stands, 17-19.05.1983, A.N.; 1 male (ISEA), Kugitangtau Mt. Range, Khadzhafil' stand, 1000 m a.s.l., 10.05.1984, S.Z. — UZBEKISTAN: 3 females (ISEA), Surkhandarya Area, 40-47 km SE of Deinau, Babatagh Mt. Range, 5-13.05.1994, A.Z.; 7 males 5 females (ISEA), near Derbent, 15.05.1994, O.L. & A.Z.; 5 males (ISEA), Surkhandarya Area, Saryassia District, Babatagh Mt. Range, 3-5 km W



Figures 114-117. — Male palp of *Phlegra yaelae* Prószyński, 1998. 114, dorsal view. 115, retrolateral view. 116, embolic division, ventral view. 117, ditto, apical view. — Scale bars 0.1 mm.

of Ak-Mechet', 06.1994, O.L.; 1 male 1 female (ISEA), Kashkadaria Area, ca. 50 km SE of Guzar, 15.05.1994, A.Z.; 1 male (ZMMU), Samarkand Area, Sovetobed District, Ulus, 1.06.1986, A.Z.; 1 male (ISEA), Dzhizakh Area, Tashkent-Samarkand highway, near turn to Bakhmal, 5.05.1990, A.F. & A.Z.

***Phlegra tetralineata* (Caporiacco, 1939)**
(figures 110, 119, 122-123)

Menemerus tetralineatus CAPORIAMCO, 1939: 370, fig. 21.

Menemerus tetralineatus: RIEWER 1954: 1267.

Phlegra tetralineata: PRÓSZYŃSKI, 1987: 77.

Menemerus tetragrammus: BONNET, 1955-1959: 2775.

Menemerus tetralineatus: PLATNICK 1989: 613.

Diagnosis. The females of *P. tetralineata* are dark, lacking bands on both

carapace and dorsum (figure 119). The copulatory organs are similar to those of *P. fasciata*, but both the epigyne and the spermathecae are distinct (cf. figures 122-123 and 120-121). However, the structure of the spermathecae of our specimen is slightly different from PRÓSZYŃSKI's drawings of *P. tetralineata* (cf. PRÓSZYŃSKI, 1987: 77), suggesting that the female from Tunisia might prove to belong to another species. Males and additional females are required to tackle the problem.

Distribution. Ethiopia (CAPORIAMCO, 1939; PRÓSZYŃSKI, 1987) and Iran (present data) (figure 110).

Description. Female. Measurements. Carapace 2.8 long, 1.9 wide, 1.2 high at PLE. Ocular area 1.0 long, 0.85 wide anteriorly and 0.9 wide posteriorly. Diameter of AME 0.4. Abdomen 3.4 long, 2.5 wide. Cheliceral length 0.8. Clypeal height 0.25. Length of leg segments. Leg

I: 1.3, 0.7, 0.8, 0.4, 0.5. Leg II: 1.2, 0.7, 0.75, 0.45, 0.55. Leg III: 1.4, 0.7, 0.8, 0.7, 0.65. Leg IV: 1.8, 0.9, 1.3, 1.2, 0.65. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia ventrally 2-2-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-1-3; tibia prolaterally 0-1, ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg III: femur dorsally 1-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-1-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-1-2 apical, retrolaterally 1-0-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace dark brown, with black eye field. Clypeus brown. Chelicerae dark brown. Sternum, maxillae and labium brown. Abdomen greyish brown, dorsum without colour pattern (figure 119). Book-lung covers yellowish-grey. Spinnerets yellowish brown. Legs and palps dark brown: metatarsi and tarsi of all legs brown. Epigyne and spermathecae as in figures 122-123.

Material examined. – IRAN: 1 female (ISEA), Tehran Province, ca. 5 km N of Tehran, Tachal Mt., 2000-2900 m a.s.l., 51° 20' E, 35° 53' N, 16.06.2000, Y.M., F. Mozaffarian & R. Bahramishad.

***Phlegra yaelae* Prószyński, 1998**

(figures 110, 114-117)

Phlegra yaelae PRÓSZYŃSKI, 1998/ 183-184, fig. 30-36.

Diagnosis. This species is most close to *P. fasciata*, but its males are much smaller and show a distinctly different structure of the embolar division (cf. figures 116-117 and LOGUNOV, 1996: figures 17-21).

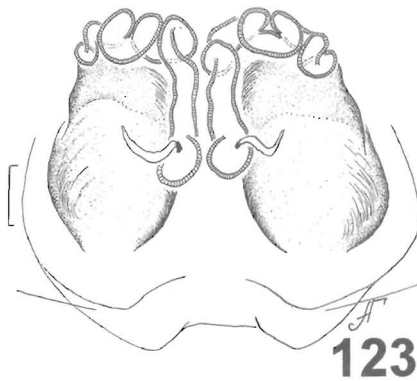
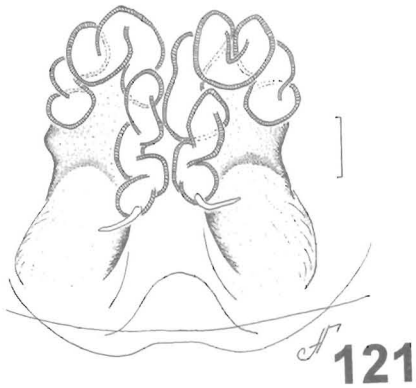
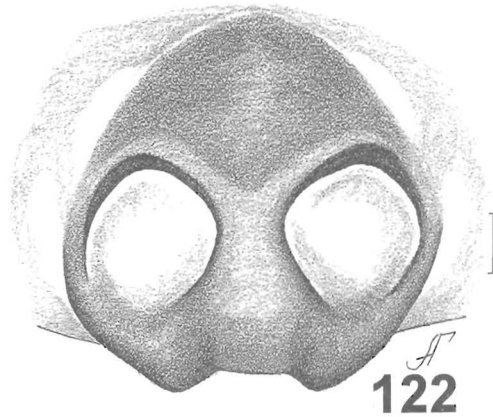
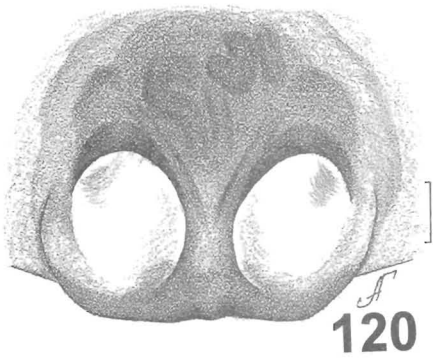
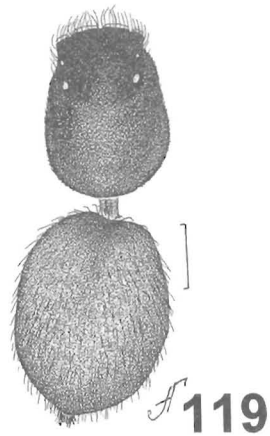
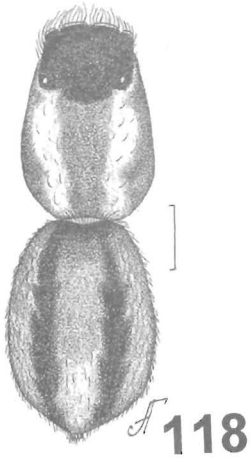
Distribution. Israel (PRÓSZYŃSKI, 1998) and Tunisia (present data). This is

a first record of this species outside the type locality (figure 110).

Description. *Male.* Measurements. Carapace 2.3 long, 1.6 wide, 0.8 high at PLE. Ocular area 0.8 long, 1.1 anteriorly wide and 1.1 posteriorly wide. Diameter of AME 0.3. Abdomen 2.1 long, 1.5 wide. Cheliceral length 0.55. Clypeal height 0.2. Length of leg segments. Leg I: 0.9, 0.5, 0.7, 0.4, 0.4. Leg II: 0.9, 0.45, 0.55, 0.45, 0.4. Leg III: 1.2, 0.6, 0.5, 0.55, 0.45. Leg IV: 1.3, 0.5, 0.9, 1.0, 0.7. Leg spination. Leg I: femur dorsally 0-1-1-3; tibia prolaterally 1-1, ventrally 1-1-2 apical; metatarsus ventrally 2-2 apical. Leg II: femur dorsally 0-1-2-4; tibia prolaterally 1-1, ventrally 1-1-2 apical; metatarsus prolaterally 1 apical, ventrally 2-2 apical. Leg III: femur dorsally 1-0-3-5; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, pro- and retrolaterally 1-0-2 apical, ventrally 2-0-2 apical. Leg IV: femur dorsally 1-0-2-4; patella pro- and retrolaterally 1; tibia dorsally 1-0-0, pro- and retrolaterally 1-1-1, ventrally 1-0-2 apical; metatarsus dorsally 1-1-0, prolaterally 1-1-2 apical, ventrally 1-1-2 apical.

Coloration. Carapace brown, with a pair of white longitudinal bands. Clypeus yellowish brown, densely covered with a white hairs and with a transverse row of black hairs. Chelicerae yellowish brown. Sternum, maxillae and labium yellow. Abdomen grey. Dorsum with a pair of broad brown longitudinal bands. Book-lung covers yellow. Spinnerets grey. Legs yellowish brown, femora of all legs greyish brown. Palps: femora yellow, patellae, tibiae and cymbiae dark brown. Palpal structure as in figure 114-117.

Material examined. – TUNISIA 1 male (IZW), Hamamet, 8-19.05.1997, J. Dolanský.



Figures 118-123. — Female copulatory organs and somatic characters of *Phlegra fasciata* (Hahn, 1826) (**118, 120-121**) and *Phlegra tetralineata* (Caporiacco, 1939) (**119, 122-123**). — **118, 119**, general appearance. **120, 122**, epigyne. **121, 123**, spermathecae. — Scale bars: body, 0.5 mm; copulatory organs: 0.1 mm.

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