Andreeva, E. M., A. P. Kononenko, and J. Prószyński. 1981. Remarks on genus *Mogrus* (Aranei, Salticidae). Annales zoologici, Warszawa 36 (4): 85-104, figs. 1-42.

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E. M. ANDREEVA, A. P. KONONENKO, J. PRÓSZYŃSKI

Remarks on genus *Mogrus* SIMON, 1882 (*Aranei*, *Salticidae*)

[With 42 figures in the text]

The genus *Mogrus* SIMON, 1882 has rather southern Palaearctic distribution, occurring from the Mediterranean area to Arabian Peninsula in the south and Mongolia in the east. The knowledge of that distribution is apparently very incomplete and one may expect much broadening of it in a result of further research, at least in the same climatic zones. We have no comments yet on species of *Mogrus* described from Africa south of Sahara, because we have not studied them, and the figures in the literature are not sufficient to determine systematic position of particular forms. The two Oriental species, revised in this paper, are not congeneric with *Mogrus*. It appears that *Mogrus* has not penetrated north from Mediterranean, where at least three species are known. One of these — *M. neglectus* (SIMON, 1868) is very closely related, if not conspecific with Middle Asian *M. antoninus* ANDREEVA, 1976, which has a close relative in Mongolia. The type species — *M. fulvovittatus* SIMON, 1882 has been described from Aden, a related species has been recently recognized from Afghanistan.

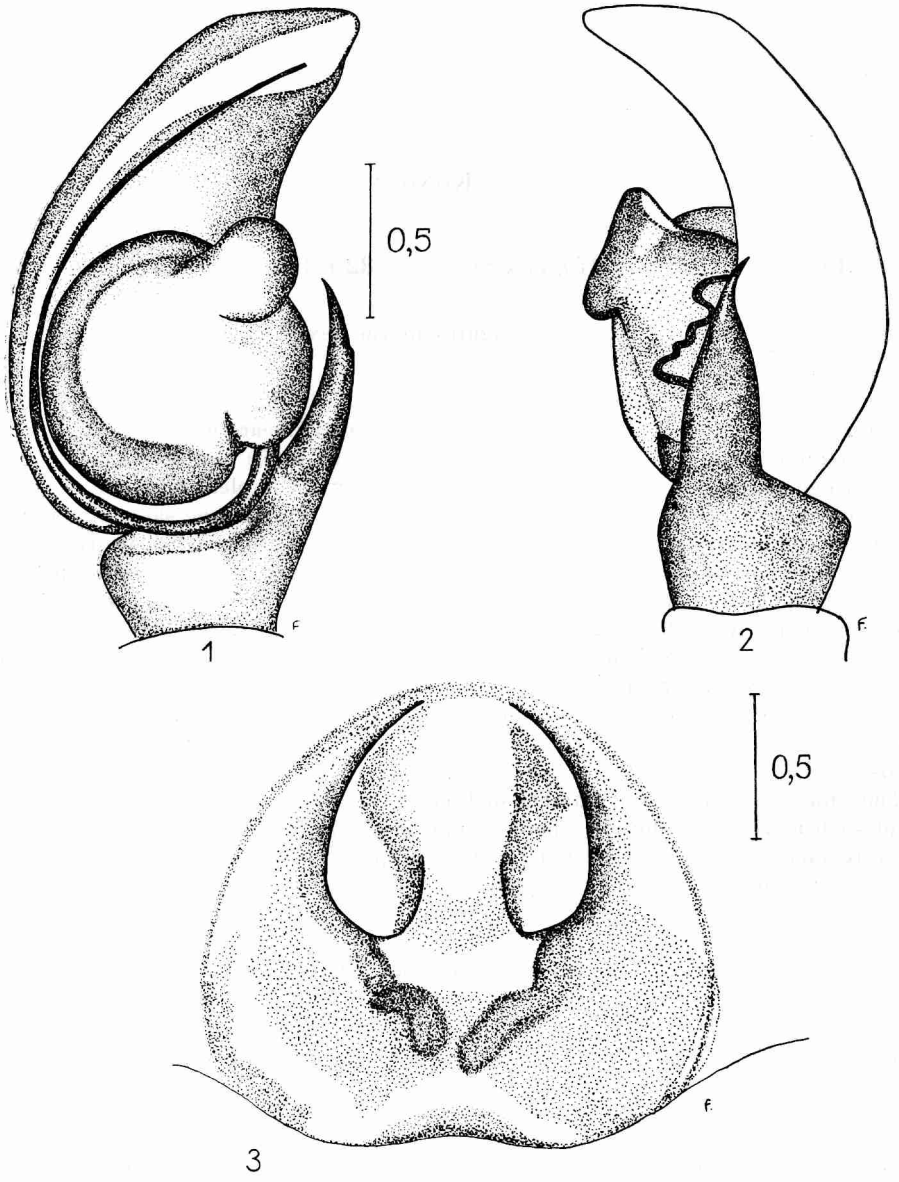
The number of forms and number of their specimens known is very small as for the genus of such a wide distribution, there should be much more species not yet discovered. In order to facilitate further research the present paper gives figures and descriptions of several poorly known species of this genus.

Mogrus fulvovittatus SIMON, 1882

Material: 1 ♂, 1 ♀ [syntypes] — "4934. *M.* [*ogrus*] *fulvovittatus* E. S. Aden." — coll. E. SIMON, MNHN-Paris.

This is the type-species of the genus *Mogrus* and displays a number of characters common with other related species. These are in male: round bulbus with the characteristic protuberance located above the arising point of embolus;

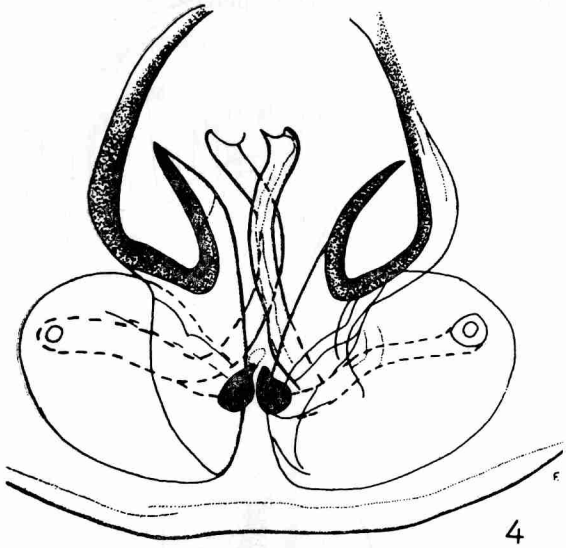
long embolus making a part of a turn around bulbus, long slightly bent tibial apophysis. The bulbus protuberance is located in the "1 hour" position (in comparison with a watch dial hour position), with embolus arising in the "4 hour" position, and making a 3/4 turn around the bulbus (figs. 1–2). Tibial apophysis sharply pointed. In female epigyne has two semicrescent grooves, connected anteriorly and bordered laterally by bent or arching sclerotized ridge.

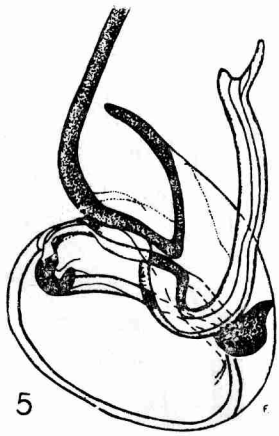


Figs. 1–3. *Mogrus fulvovittatus*: 1–2 – palpal organ, 3 – epigyne.

Both grooves are separated by the central area, flat or somewhat elevated. The posterior ends of grooves are enlarged and are located in the midlength of epigyne (fig. 3). The complicated internal structures are shown on figs. 4–5.

The species reported heretofore from Aden and nearby Island Perim only.





Figs. 4–5. *Mogrus fulvovittatus*: internal structure of epigyne and single spermatheca, dorsal view.

Mogrus faizabadicus PRÓSZYŃSKI, 1976

Material: 1 ♂ – holotype – Afghanistan, Faizabad, on the road on right shore of the river, summer 1962, leg. R. SCHRAMM, coll. I. Z. PAN-Warszawa.

Note: the paper of PRÓSZYŃSKI (1976) contains figures of this species and name, without the formal description. It was not intended to be a description, but according to nomenclatorical rules it is.

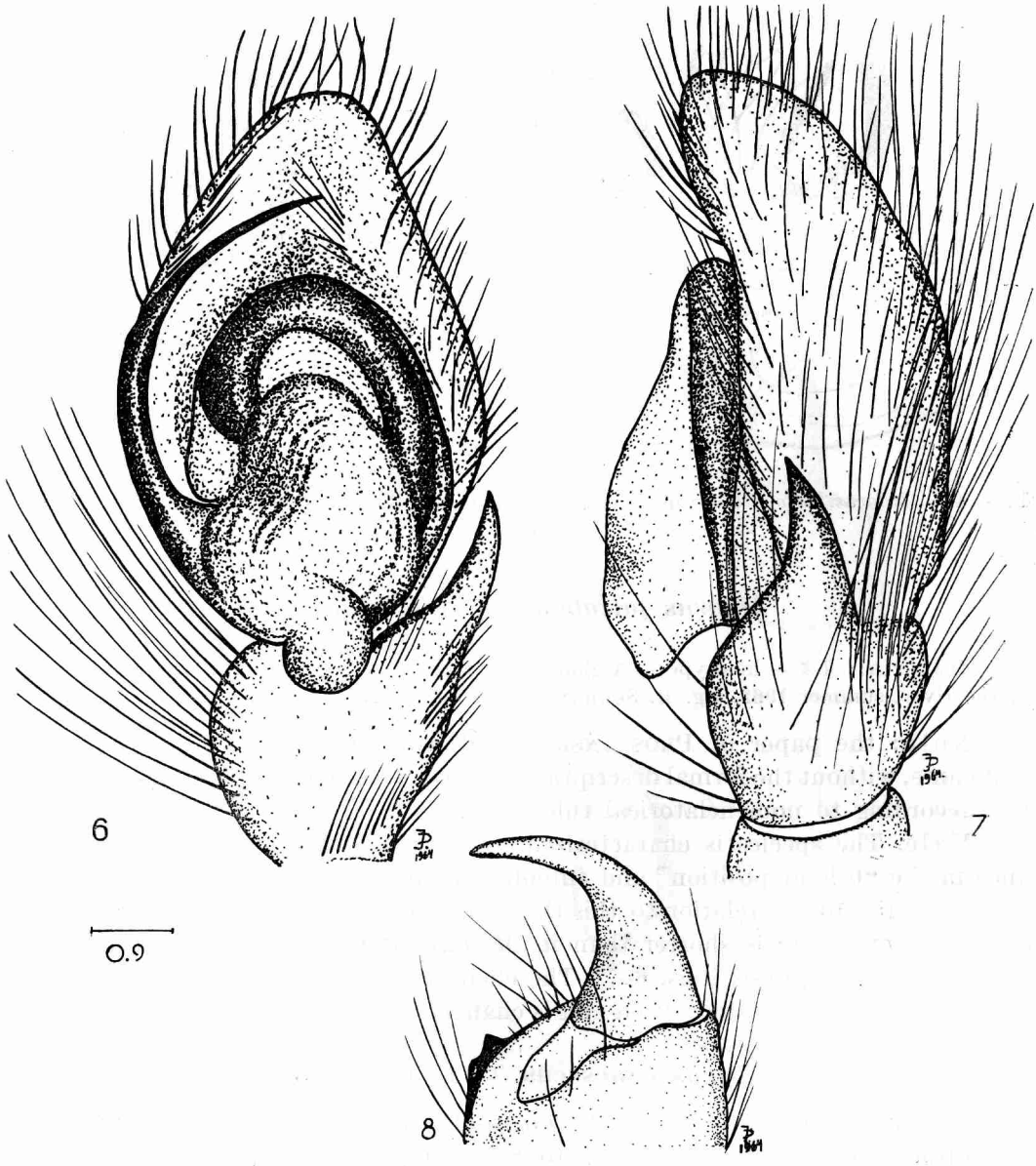
Male. The species is characterized by male palpal organ with protuberance in the "6 hour position" and embolus arising approximately in a "8 hour position" (fig. 6). In relation to this the embolus is shorter than in *M. fulvovittatus*. The cymbium is shorter than in *M. fulvovittatus*, and the same can be said on tibial apophysis (figs. 6–7). The cheliceral dentition is shown on fig. 8.

The specimen was once dried and is changed now.

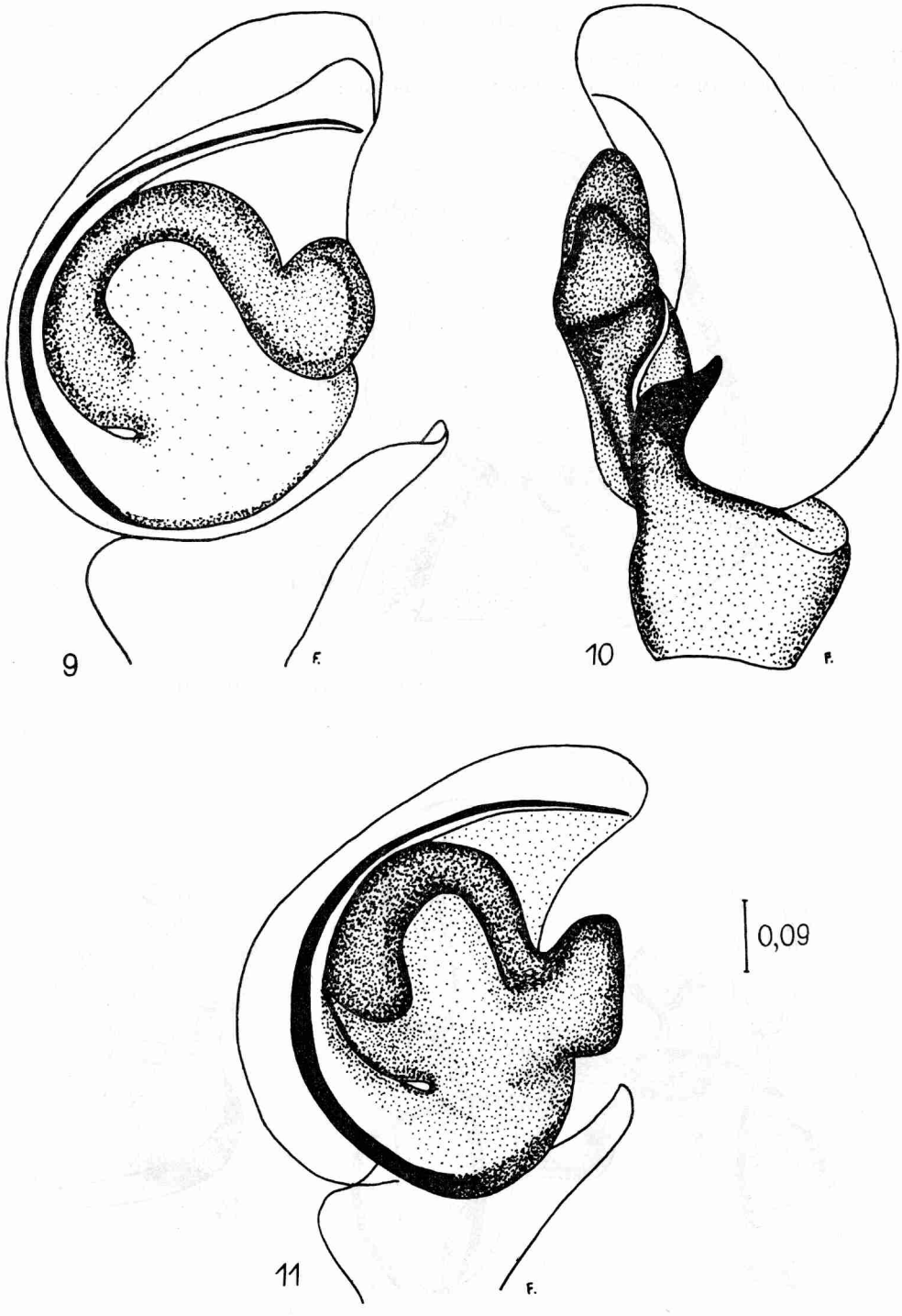
Mogrus canescens (C. L. KOCH, 1846)

The species has been reported from southern and eastern Mediterranean, in Europe from Greece. According to SIMON (1901–1903, fig. 792) the male can be characterized by combination of characters resembling *M. faizabadicus* –

rather oval bulbus with protuberance in the "six hour" position, and *M. neglectus* type of tibial apophysis — long, arising diagonally from tibia, then bent and farther parallel to cymbium, with a swollen tip — rather large and triangularly shaped. While accuracy of SIMON's figures cannot be trusted, these characters are rather conspicuous and may help to recognize the species.



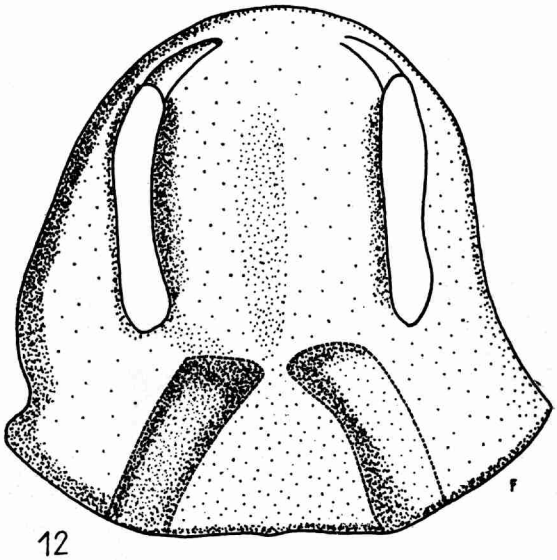
Figs. 6–8. *Mogrus faizabadicus*: palpal organ and cheliceral dentition.

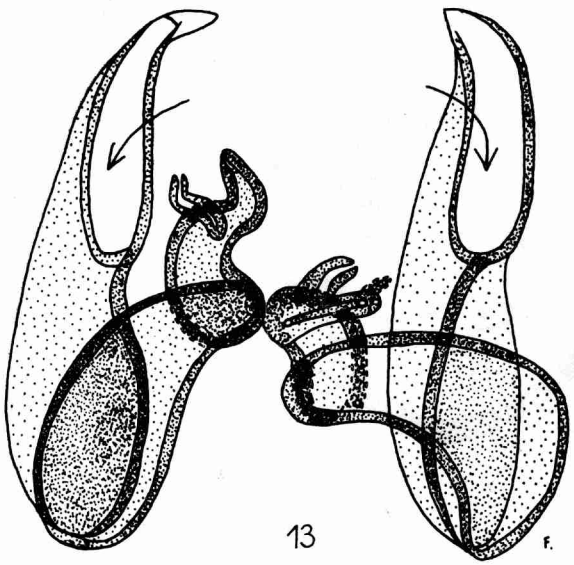


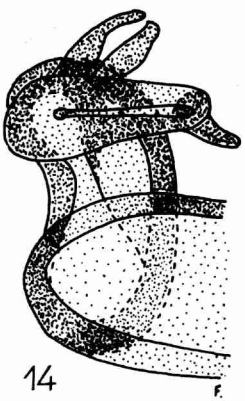
Figs. 9–11. *Mogrus frontosus*, palpal organ.

Mogrus frontosus (Simon, 1871)

Attus frontosus Simon, 1871: 166,
Mogrus frontosus: Simon 1901: 664, Bonnet 1945–1959: 2975, Roewer 1954: 1123.







Figs. 12–14. *Mogrus frontosus*, epigyne, its internal structure and a detail of a spermatheca.

Material: ♂, ♀ [syntypes] – "784 *Mogrus frontosus* E. S. Corsica" – coll. E. SIMON, MNHN-Paris.

The species can be distinguished from other mentioned in this paper by shape of its tibial apophysis (figs. 9–11) especially in lateral view. The palpal organ typical for this genus (figs. 9–11). The copulatory openings in epigyne are parallel (fig. 12), the internal structure of epigyne is shown on figs. 13–14.

The species has been reported heretofore from Corsica only.

Mogrus dumicola (O. P.-CAMBRIDGE, 1872), comb. n.

Salticus dumicolus O. P.-CAMBRIDGE, 1872: 341,
Philaeus dumicola: SIMON 1876: 51, BONNET 1945–1959: 3536, ROEWER 1954: 1065.

Material: 6 ♀♀ [syntypes?] – "10" [= "*Dendryphantes dumicolus* CAMBR".] ["Palestine"] – coll. O. P.-CAMBRIDGE, Dept. of Entomology, University of Oxford.

The specimens are apparently the syntypes of *Salticus dumicolus* and the appearance of their epigyne (fig. 15) proves that they belong to genus *Mogrus*. The shape of epigyne resembles one of forms of *M. antoninus* from Tadjikistan. As we have not prepared epigyne of *M. dumicola* and collecting points of these species are geographically distant, we delay the comment on their relationships until more and new material will become available.

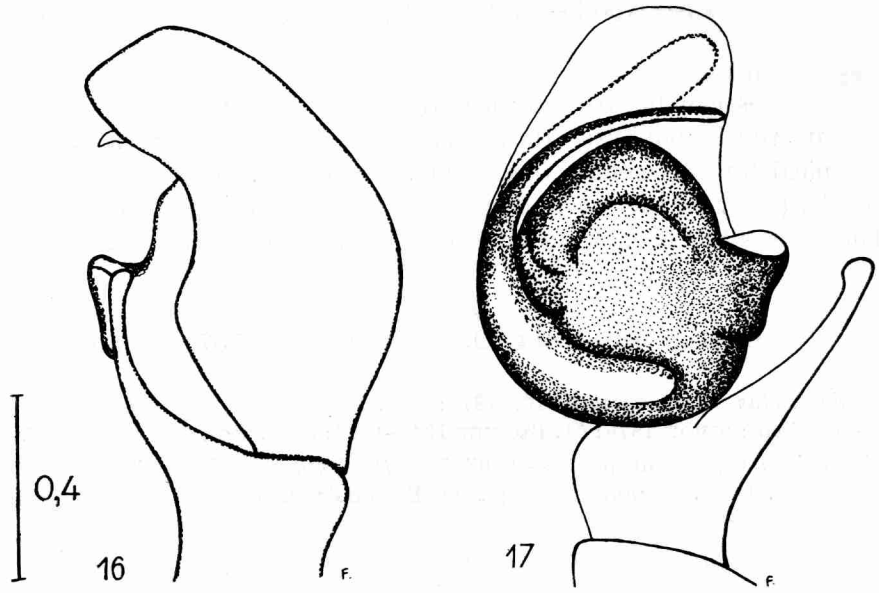
Mogrus neglectus (SIMON, 1868)

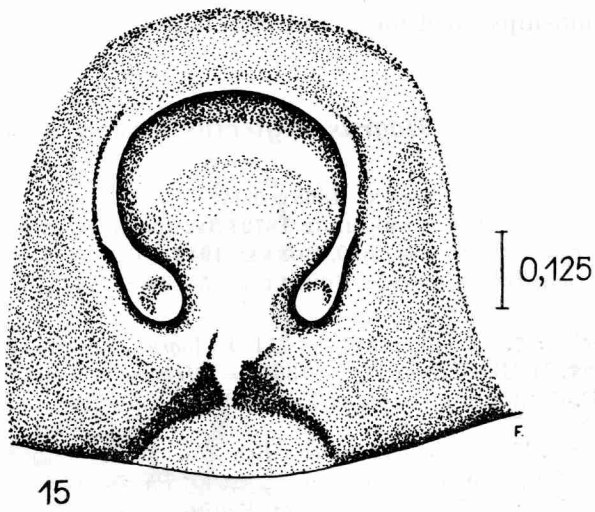
Dendryphantes neglectus SIMON, 1868: 639,
Salticus indistinctus O. P.-CAMBRIDGE 1872: 342 (part.), **syn. n.**,
Mogrus neglectus: SIMON 1884: 310, BONNET 1945–1959: 2975, ROEWER 1954: 1122,
Menemerus indistinctus (part.): BONNET 1945–1959: 2772, ROEWER 1954: 1265.

Material: ♂, ♀ [syntypes?] – "751 *M.* [*ogrus*] *neglectus* E. S. Gleuciu [?] Turcia" – coll. E. SIMON, MNHN-Paris; 1 ♂ – "36" [= *Menemerus indistinctus*], jar "1739. Palestine" – coll. O. P.-CAMBRIDGE, Dept. of Entomology, University of Oxford.

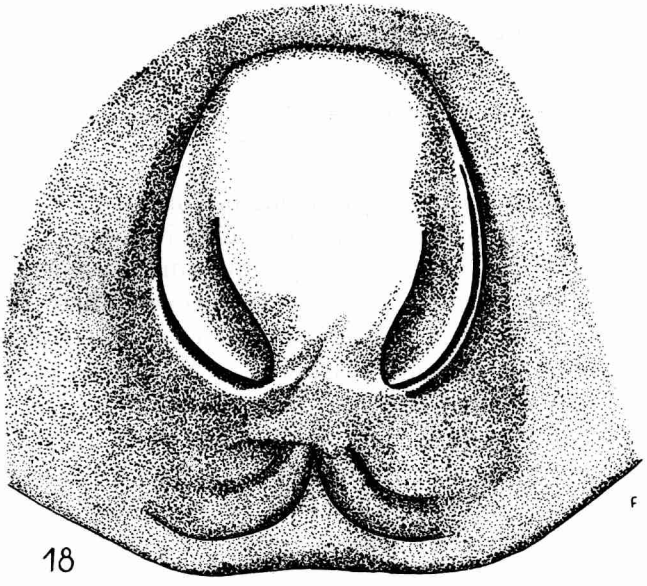
Remark. There are two tubes with No. 36 in the jar 1739 in the O. P.-CAMBRIDGE collection. The second contains 2 ♀♀, 1 ♂ *Plexippus paykulli* (SAV. et AUD) and we assume that the male is a lectotype of *Salticus indistinctus* O. P.-C. The single male of *Mogrus* in the first tube "36" could be perphas collected not in "Palestine" but in Turkestan" – as mentioned in catalogues.

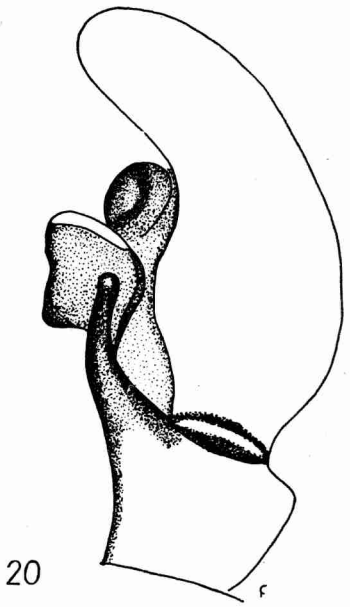
The palpal organ is shown on figs. 16–17, 20–21 and the epigyne on figs. 18–19. The figure of palpal organ of this species in HADJISARANTOS 1940: 103, f. 35 shows a tiny terminal bifurcation of embolus, which I was unable to see on SIMON's specimen.

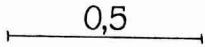


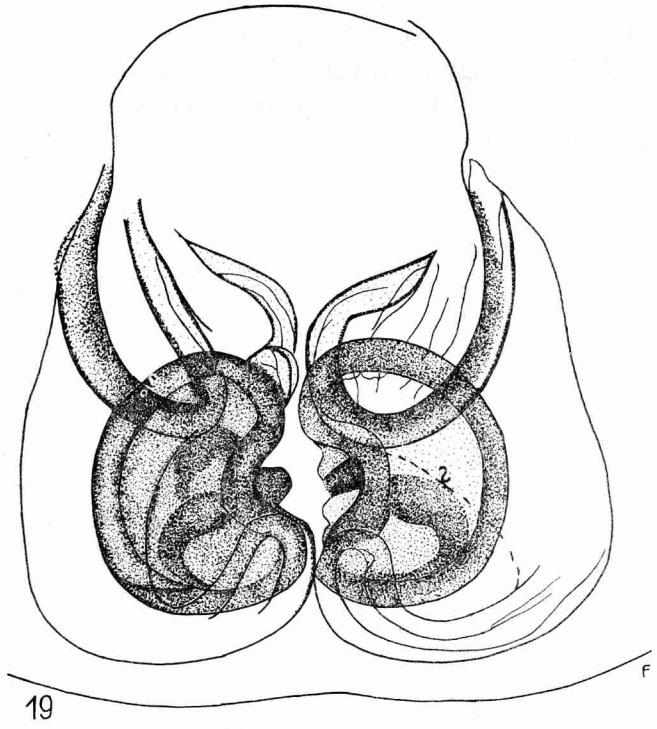


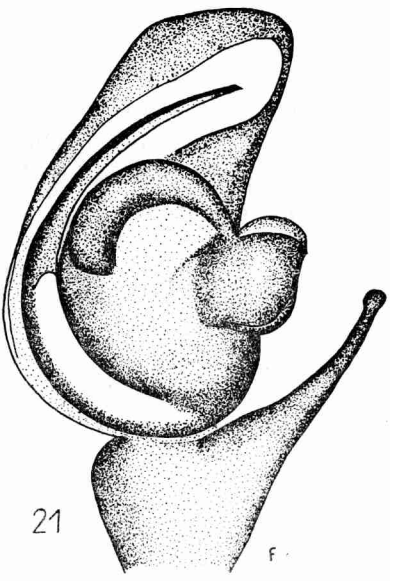
Figs. 15–17. Epigyne of *Mogrus dumicola,* syntype? (15) and palpal organ of *Mogrus neglectus* (specimen in O. P.-Cambridge collection, either from "Palestine" or "Turkestan" (16–17)).

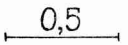












Figs. 18–21. *Mogrus neglectus* from Turkey (Simon collection): 18–19 – epigyne and its internal structure (note spermathecae turned into position incomparable with figs. 27–32), 20–21 – palpal organ.

Mogrus antoninus ANDREEVA, 1976

Mogrus antoninus ANDREEVA, 1976: 82, ff. 86-90.; WESOŁOWSKA, 1981, ff 83-84

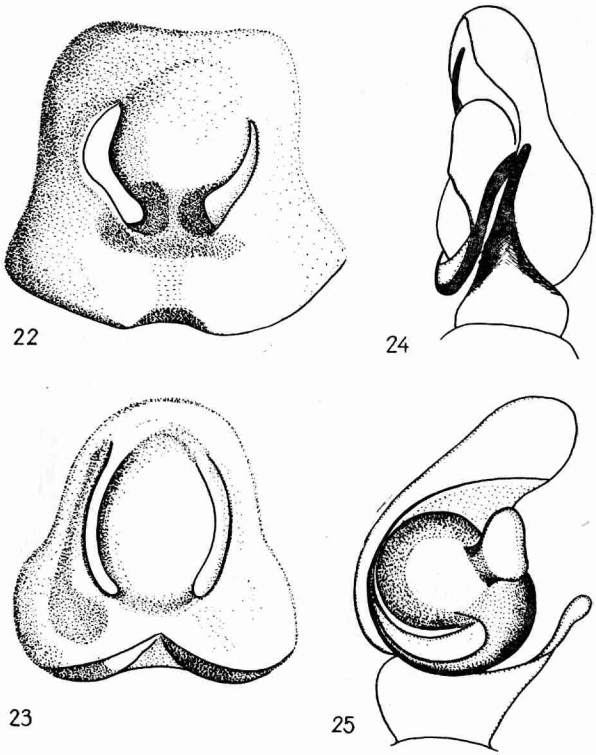
The species presents a number of taxonomic problems because of its morphological variation and resemblances to other species. It occurs in Tadjikistan in three morphologically distinct forms, differing in shape and proportion of epigyne and its internal structure, as well as in colour pattern. There are only a few males, but there is also some variation in them. Apart from Tadjik specimens there are slightly different specimens from Afghanistan (but in poor condition of preservation) and a female from Mongolia, with rather different proportions of internal structures of epigyne but similar in colour pattern. The comparison of these specimens gives no clear conclusions. The differences concerning proportions and shape of genital organs could be just populational variation. Colour pattern differences correlate with epigyne in some form, do not entirely correlate in other. Some specimens are bald entirely or partially, and this make it impossible to use differences based on distribution of coloured setae. The evaluation of importance of particular characters is not conclusive yet. It seems that only study of fresh, and possibly alive specimens, especially in their natural environment, could give a solution to these questions. There are minor differences in genital organs of various forms of *M. antoninus* and *M. neglectus* as well as *M. dumicola* (see figures in this paper and in WESOŁOWSKA 1981, ff. 83–84). One may wonder if these differences could not be also classified as populational variation within single species. This also calls for further research.

Material. 1. USSR, Southern Tadjikistan: numerous ♀♀ and a few ♂♂ from lowland and low mountains areas near Tigrovaja Balka, Garauty, Aktau Hills Range, Šartuz, Ajvadž, Dangara-Gajrat and Kujbyševskij Rajon – generally dry area, where the species has been found on sand and sparse vegetation in desert, shrubs, tree trunks, walls of buildings and also on irrigated fields of cotton and in gardens. Found also in West Pamir, Pjandž River Valley near Nulvand – low altitude mountain area with subtropical climate. Adult specimens collected from March to May and also from July till end of October. A ♀ with a cocoon with young spiderlings was found in end of May on *Artemisia* sp. All specimens – coll. ZIN-Leningrad. 2. Afghanistan: 1 ♂ – Jalalabad area, 16. III. 1966, leg. POVOLNÝ et ŠTENOVÁ; 1 ♂ – Datunta, 17. V. 1971 leg. E. KULLMANN; 1 ♀ – Dascht-e-Kuschti, 21. V. 1971, leg. E. KULLMANN. All specimens coll. Moravské Muzeum-Brno. 3. Mongolia, desert 35 km SE of Zuun-Bajan, 1 ♀, 22. VII. 1963, leg. B. BURAKOWSKI et H. SZELEGIEWICZ, det. W. WESOŁOWSKA – coll. I. Z. PAN-Warszawa.

Description of female

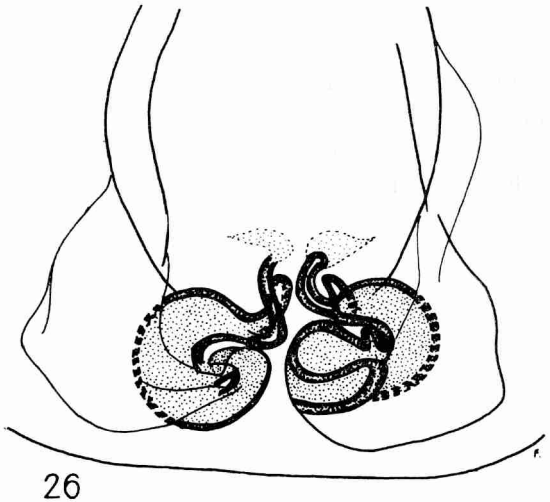
Frontal aspect. Chelicerae blackish-brown. Pedipalps fawnish-yellow, legs yellow to fawn, with or without darker rings. Form II without any darkenings

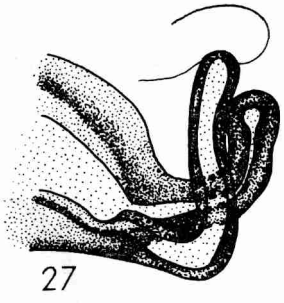
on legs (although there are a few patches of brown adpressed setae) and pedipalps. Form I with thin dorsal darkenings on basal parts of segments of pedipalps, on legs two broad dark rings on tibiae I–IV, one dark ring on patellae I–IV and on femora I–IV broken dorsally brown apical darkening. Form III with darkened basal parts of segments of pedipalps (that on tibia extends on $^1/_3$ of segments), darkenings on legs resemble these in form I but are almost black.

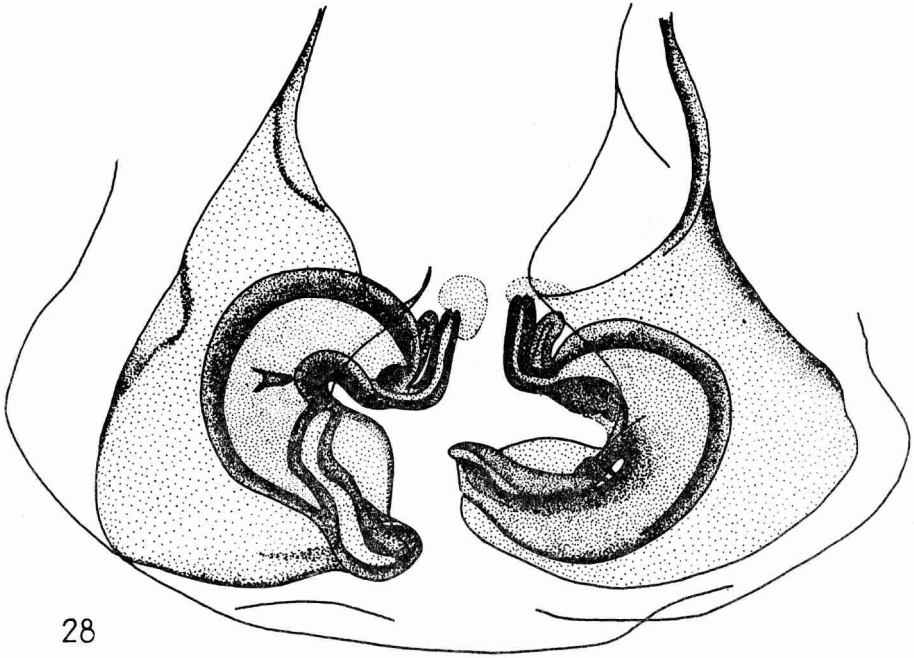


Figs. 22–25. *Mogrus antoninus*: 22–23 – epigyne variation, 24–25 – palpal organ, ventral and lateral views (from ANDREEVA 1976, ff. 87–90).

Clypeus various in different forms. In the form I it is fawn with 2 lines of white setae under eyes I lateral, separated by darker, fawn lines; there are white setae above and beneath eyes I, but near lateral and median parts of these eyes are grouped fawn setae. In the form II clypeus is covered uniformly with intensely white adpressed setae. In the form III clypeus is greyish-fawn, somewhat paler beneath eyes median, with greyish-white setae beneath and above eyes I median. The coloration of clypeus seems to be most important character in the studied specimens. It should be, however, checked on larger







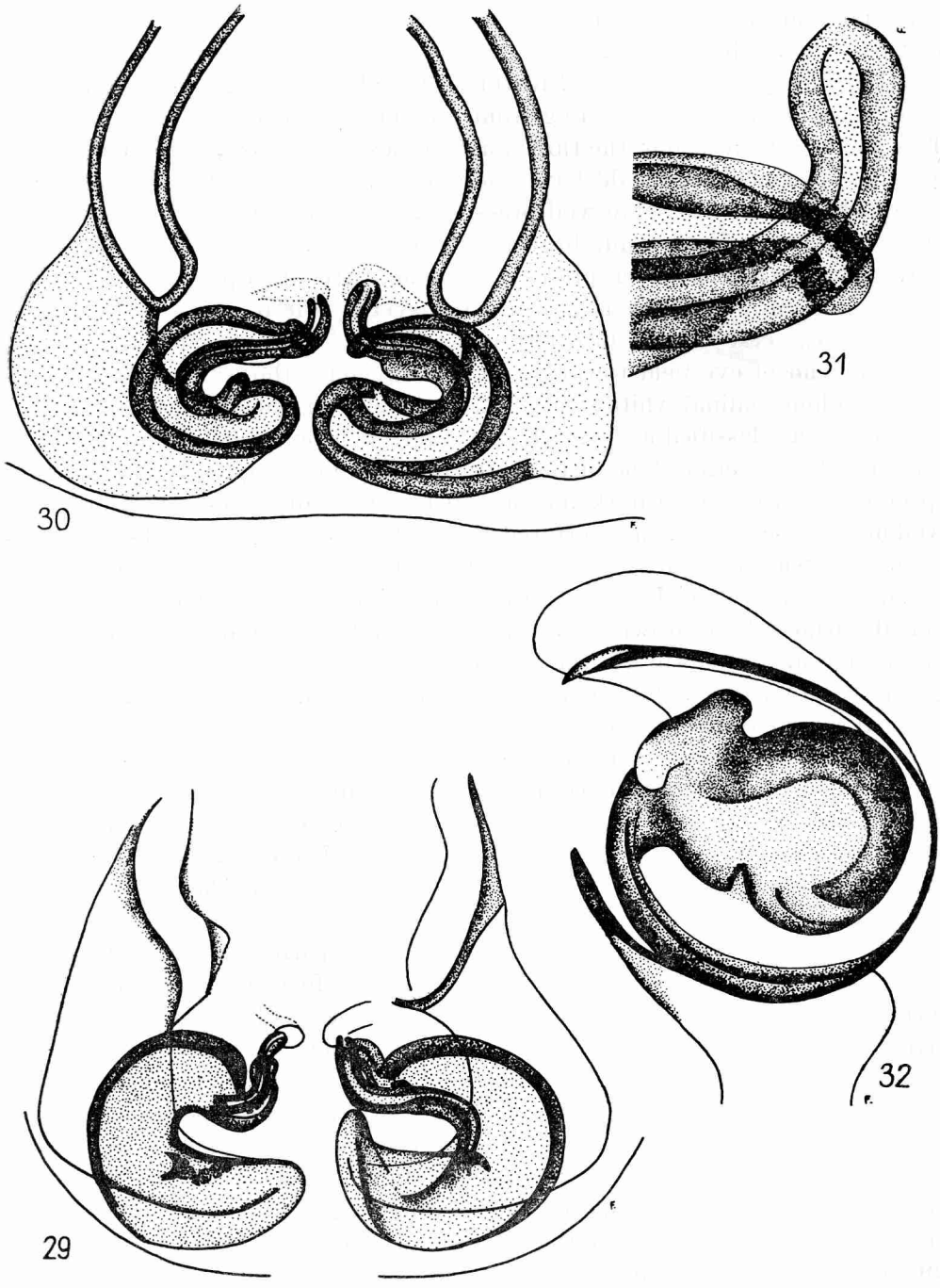
Figs. 26–28. *Mogrus antoninus*, Tadjikistan specimens, internal structure of epigyne and detail of a terminal part of a spermatheca: 26–27 – form I; 28 – form III.

material and its correlation with biological, ecological and zoogeographical features should be studied.

Dorsal aspect. The general features of cephalothorax, and to some extent also of abdomen vary depending from presence or secondary absence of setae. This makes comparison of the three forms almost impossible, because it is certain whether specimens now bald have had earlier the same pattern of colour setae, as the specimens with setae well preserved. The coloration of chitinous surface of cephalothorax is chestnut brown to blackish-brown, with eyes surrounding darker. Covered (whenever present) with mixture of adpressed setae: white, silvery and brown. There is a white transverse belt of setae behind eyes I. Dark brown setae form a broad transverse area stretching medially from the posterior end of eye field towards the end of cephalothorax (forms I and III), there are longitudinal white streaks on both sides that dark area. An exception are specimens classified as form II, now bald, with remnants of uniformly white setae on the posterior slope of the thorax; it is an open question whether these specimens have had no dark median area before dorsal setae had fallen out? Abdomen dorsally with dark serrated or smooth median streak, followed laterally by white areas, with denser concentration of white setae in form III, forming a thin intensely white line along the edges of dark streak. Lateral margins of dorsal surface dark brown with white diagonal elongated spots. These spots are visible also on form II, the abdomen is however almost completely bald, generally grey, and a few remaining setae allow suppositions only, that the original setae covering could be comparable with forms I and III.

Ventral aspect. Sternum pale yellow to brown, usually with contrasting darker margin. Abdomen ventrally pale yellow, uniformly in form II, but with dark broad median longitudinal streak in forms I and III. There are also two thin dark lines through the pale streaks in forms I and III, consisting of very small grey or black circles; these are much darker and therefore distinct in form III.

The shape of epigyne is shown on figs. 22–23, with variation in length of copulatory openings – longer in form I, shorter in form II. Form III resembles form II in this character, but the epigyne is generally larger. The internal structure of epigyne is shown on figs. 26–31. The spermathecae are heavily sclerotized, thin-walled and broad copulatory canal joint them on their medial, bent surface, where is a long, slit-like opening (fig. 29). The position of spermathecae may change during preparation – they seem to rotate – and this accounts for some variation of their shapes (figs. 26–31). However, the spermathecae in the Mongolian specimen are thinner. There is a peculiar terminal tube-like extension of spermathecae, dorsally to the terminal canal (figs. 27, 29, 31) leading to the fertilization canal. It occurs independently from the accessory gland opening, located on the medial, bent surfaces of spermathecae in all studied specimens. These structures can be compared with details of spermathecae in *M. fulvovittatus* (figs. 4–5) and *M. frontosus* (figs. 14–15).



Figs. 30–32. *Mogrus antoninus*: internal structure of epigyne in a form II (29) and in a somewhat different specimen from Mongolia (30–31), and a palpal organ of a somewhat different male from Tadjikistan (32).

Description of male

The coloration of male is differentiated and contrasting, unfortunately it is mainly due to setae covering, whenever these falls out, partially or totally, the general appearance changes entirely.

Frontal aspect. Coloration contrasting – chelicerae dark brown, clypeus white with dense long setae overhanging upper part of chelicerae, surrounding of eyes I laterally and medially fawn, dorsally whitish, margins of eye field dark brown, with white lines ending by white spot on medial half of a rim of eyes I lateral. Pedipalps fawnish-yellow with indistinct darkenings near the joints. Femora I–IV pale yellow with contrasting apical darkenings. Legs yellowish with indistinct, brown annulation.

Dorsal aspect. Cephalothorax dark brown with two parallel white lines running through eye field just medially to its lateral edges, extending towards end of thorax, slightly narrowing. The dark area between these lines is interrupted by large light reddish-brown area from behind eye field to the beginning of the thorax sloping. Abdomen divided into three equal longitudinal streaks: median dark greyish-brown and two lateral whitish.

Ventral aspect. Sternum dark brown to brown, coxae yellowish. Middle streak of abdomen brown, followed by two paler areas, the proportions of these areas being variable.

The structure of the palpal organ is shown on figs. 24–25 and 32. It rather resembles *M. neglectus* (figs. 20–21) but differs in minor details. As we are unable to check importance of these differences, and the intraspecific variation is unknown too, we defer comments about the exact systematic status of both forms, until new information become available.

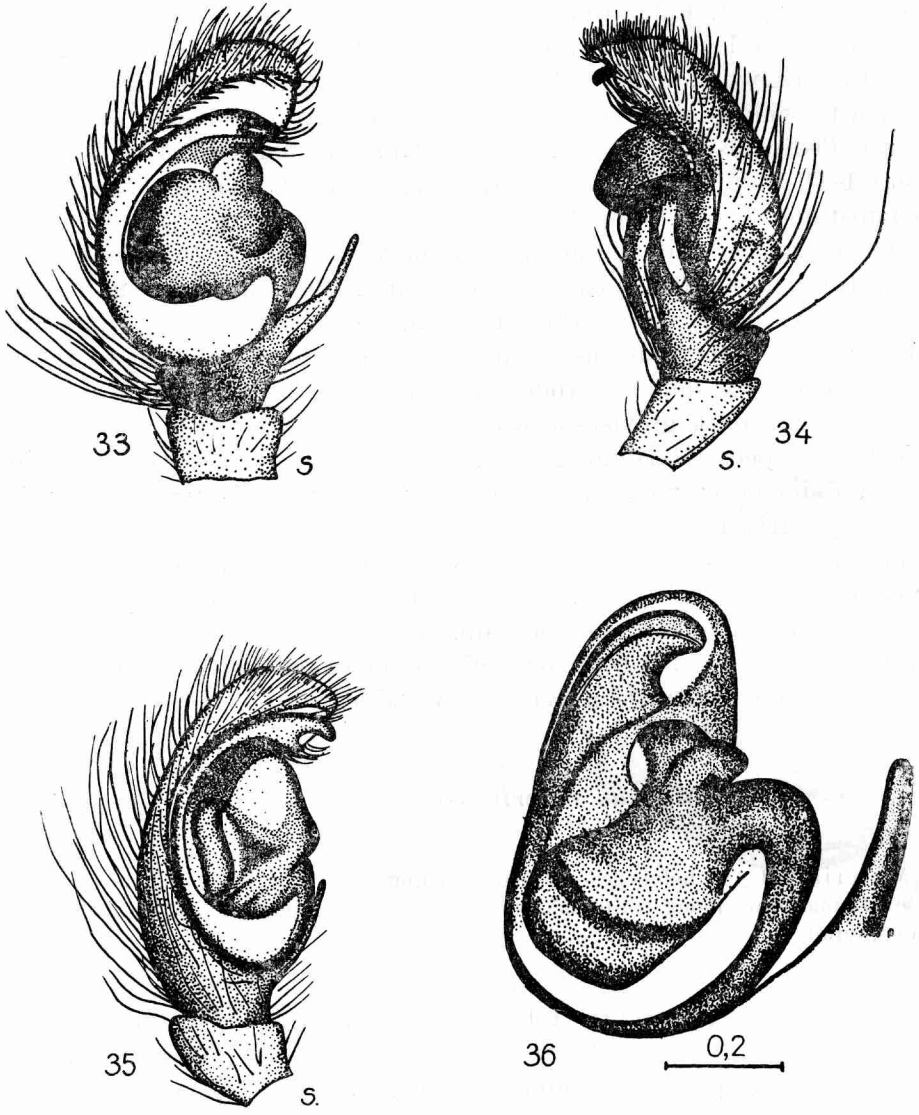
Mogrus valerii KONONENKO, sp. n.

Material: 1 ♂ – holotype – USSR, Turkmenian SSR: Repetek natural reserve, in a soil fauna trap among white saksaul shrub, 27. IV. 1967, leg. V. KUZNETSOV – coll. ZIN-Leningrad.

The species is apparently related to *M. antoninus*, from which it differs in shape of embolus and dull, brownish coloration of femora I, pedipalps and frontal appearance of cephalothorax. The dorsal colour pattern cannot be used as a taxonomic character because the holotype dorsally is entirely bald now.

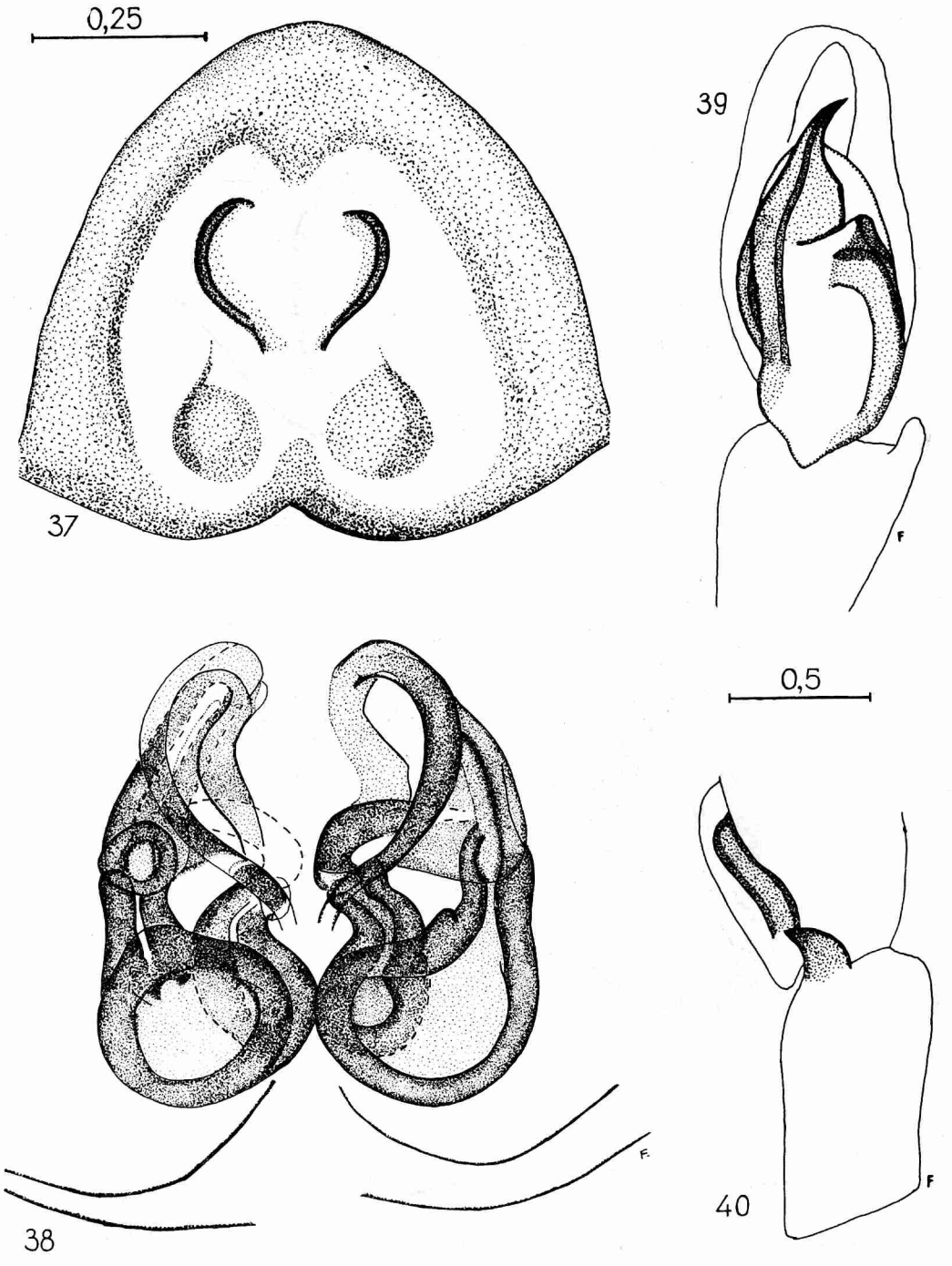
Frontal aspect. Coloration dull without contrasting pattern. Clypeus, surrounding of eyes, patella and cymbium of pedipalps, as well as basal parts of chelicerae light brown. Apical part of chelicerae and pedipalpal tibia dark brown. Sparse whitish-grey setae overhang chelicerae; setae surrounding eyes

I dorsally colourless and not contrasting, ventrally whitish. Prolateral surfaces of femora I–II uniformly dark greyish-brown. Tarsi I–II fawnish-yellow, metatarsi I–II fawnish-yellow with darkened distal ends, tibiae I–II fawnish-yellow with dark brown rings proximally and distally, both interrupted dorsally; patellae I–II fawnish-yellow with indistinct weak darkenings.

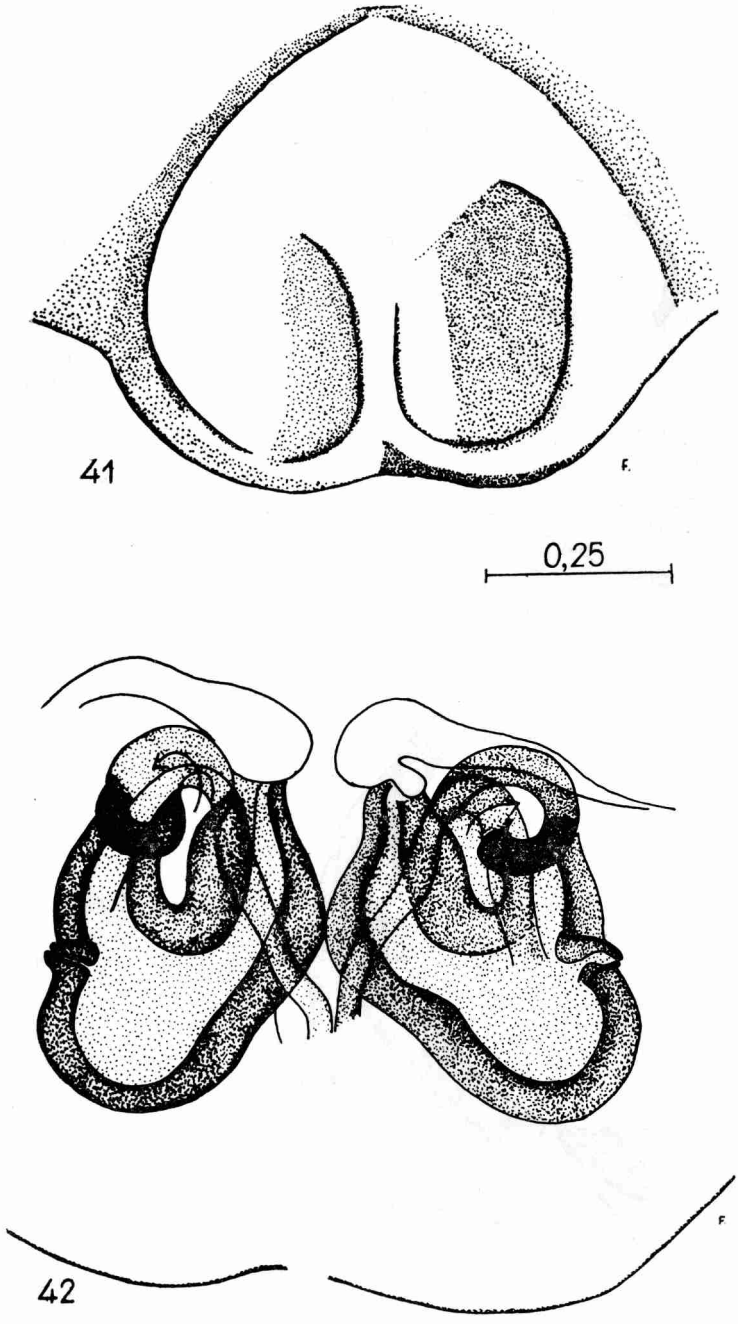


Figs. 33–36. *Mogrus valerii*, palpal organ.

Dorsal aspect. Cephalothorax now bald, brown with darker surrounding of eyes. Abdomen now bald, dark grey, with remnants of fine whitish setae laterally.



Figs. 37–40. "*Mogrus*" *fabrei*: 37–38 – epigyne and its internal structure, 39–40 – palpal organ (= *Carrhotus viduus*).



Figs. 41–42. "*Mogrus*" *ornatus*, epigyne and its internal structure (= *Carrhotus viduus*).

Ventral aspect. Sternum greyish-brown, coxae greyish-brown, posterior gradually lighter. Median streak on abdomen ventrally dark, followed by two whitish lateral areas.

The structure of pedipalpal organ is shown on figs. 33–36. Its general plan resembles that of *M. antoninus*, the shape of embolus, however, is rather special.

Female unknown.

Species not congeneric with *Mogrus fulvovittatus*

1. "*Mogrus*" *fabrei* SIMON, 1885.

Material: 1 ♀ [lectotype, new], 1 ♂ – "4572. *M.*[*ogrus*] *fabrei* E. S. Ramuad" – coll. E. SIMON, MNHN-Paris.

The male (figs. 39–40) belongs apparently to *Carrhotus viduus* (C. L. KOCH, 1846). We cannot classify the female (figs. 37–38) which may remain the name bearer. *Carrhotus viduus* has not been reported heretofore from the Arabian Peninsula.

2. "*Mogrus*" *ornatus* SIMON, 1885.

Material: 1 ♀ [holotype] – "7737 *M.*[*ogrus*] *ornatus* E. S. Malacca" – coll. E. SIMON, MNHN-Paris.

The epigyne is shown on figs. 41–42, the specimen belongs apparently to *Carrhotus viduus* (C. L. KOCH, 1846) and the collecting point agrees with known range of this species.

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STRESZCZENIE

[Tytuł: Uwagi o rodzaju *Mogrus* SIMON, 1882 (*Salticidae, Aranei*)]

Praca zawiera uwagi o południowopalearktycznych gatunkach rodzaju *Mogrus*, znanego z obszaru śródziemnomorskiego do krańców Półwyspu Arabskiego na południu i Mongolii na wschodzie. Dwa zaliczane tu gatunki orientalne okazały się nie spokrewnione z tym rodzajem. Szerzej omówiono *M. antoninus* ANDREEVA, 1976 (Tadżykistan, Afganistan, Mongolia) i *M. valerii* KONONENKO, sp. n. (Turkmenia).

РЕЗЮМЕ

[Заглавие: Замечания к роду *Mogrus* SIMON, 1882 (*Salticidae, Aranei*)]

Работа содержит замечания по южнопалеарктическим видам рода *Mogrus*, известного из средиземноморской зоны по Аравийский полуостров на юге и Монголию на востоке. Два ориентальных вида, причисляемых тут раньше, не родственны с этим родом. Широко обсуждены *M. antoninus* ANDREEVA, 1976 (Таджикистан, Афганистан, Монголия) и *M. valerii* KONONENKO, sp. n. (Туркмения).

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