

Notes on the *penicillatus* species group of the genus *Sitticus* SIMON,
1901 with a description of a new species
(*Araneae*, *Salticidae*)

DIMITRI V. LOGUNOV

Zoological Museum, Institute of Biology, the Russian Academy of Sciences, Frunze street 11, 630091
Novosibirsk, Russia

ABSTRACT. The *penicillatus* species group of the genus *Sitticus* SIMON, 1901 comprises six species: *S. penicillatus* (SIMON, 1875); *S. penicilloides* WESOŁOWSKA, 1981; *S. ansobicus* ANDREEVA, 1976; *S. clavator* SCHENKEL, 1936; *S. saltator* (O. P.-CAMBRIDGE in SIMON, 1868) and *S. mirandus* sp. n. These species share similar genital morphology, namely: stiletto-like tip of the tibial apophysis in male palp, the male palp tibia usually wider than the cymbium or the same width, the median septum of the epigyne always present and the internal structure of genitalia which is similar to that of the congeners of the *distinguendus* species group. Two species - *S. ansobicus* and *S. clavator* - are redescribed and a new species - *S. mirandus* - is described. Distribution maps and illustrated key to all species are also provided.

INTRODUCTION

The *penicillatus* group was proposed by PRÓSZYŃSKI (1973), who included in it the following five species: *S. penicillatus* (SIMON, 1875); *S. absolutus* GERTSCH et MULAİK, 1936; *S. cursor* BARROWS, 1919; *S. longipes* (CANESTRINI, 1873) and *S. mazorcanus* CHAMBERLIN, 1920. However, later on (PRÓSZYŃSKI, 1983), after realizing that *S. penicillatus* differed from other species of this group in its genital morphology but showed much closer resemblances to *S. saltator* (O. P.-CAMBRIDGE in SIMON, 1868) and *S. penicilloides* WESOŁOWSKA, 1981, he changed his opinion and redefined the *penicillatus* group. Four species were transferred from the former *penicillatus* group to the *saxicola* group and the revised *penicillatus* group included: *S. penicillatus*, *S. penicilloides*, *S. saltator*, *S. clavator* SCHENKEL, 1936 and *S. ansobicus* ANDREEVA, 1976. This decision seems to be justified as it is amply supported by similarities in spermathecae and embolus structure.

HARM (1973) discussing relationships within the genus *Sitticus*, proposed the *helveolus* group, composed of four species, described previously in different genera: *Attulus* (*helveolus*=*distinguendus*), *Sitticulus* (*saltator*, *penicillatus*) and *Sitticus* (*saxicola*) (see also SIMON 1937, TULLGREN 1944). This proposal cannot be accepted, though. *S. saxicola* was included already by PRÓSZYŃSKI (1971) into the separate *saxicola* group, and *S. distinguendus* (SIMON, 1868) differs in genital morphology from the (quite uniform in this respect) members of the *penicillatus* group.

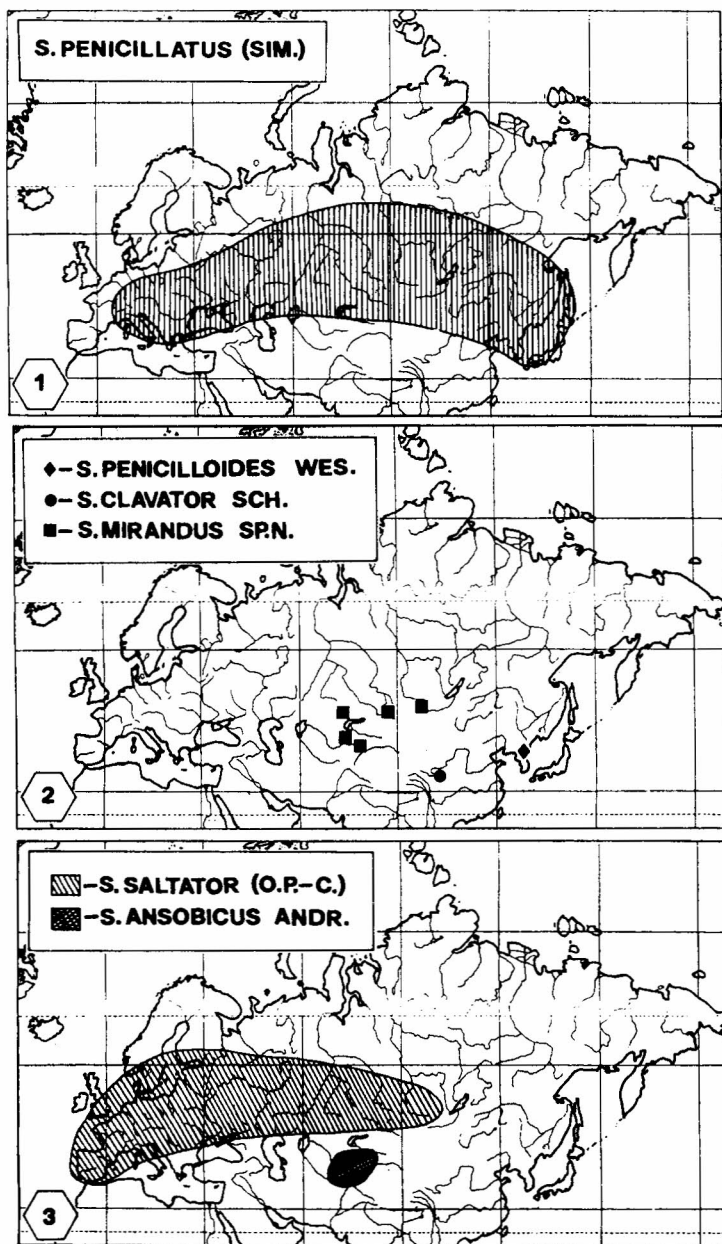
Numerous new materials of *Sitticus* were collected in the recent years. This inspired me to reconsider the taxonomy of the *penicillatus* group and its make-up, as well as to redescribe poorly known species, and to add new data on their geographical ranges.

The basic material for the present study was collected in various parts of Middle Asia and Siberia by different persons. Besides the salticid collections housed at the Biological Institute of Siberian Department of the Russian Academy of Sciences in Novosibirsk (BI), the Zoological Museum of the Moscow State University (ZMMU) and the Zoological Institute of the Russian Academy of Sciences in Sankt Petersburg (ZIS) have been revised. In addition the salticid part of the SCHENKEL collection from the Swedish-Chinese expedition to China in 1927-30 by Sven HEDIN deposited at the Swedish Museum of Natural History in Stockholm (SMNH) was also revised. The type material of *S. mirandus* sp. n. is deposited at BI, ZMMU, ZIS and the Museum of Natural History in Wrocław, Poland (MNH).

The following abbreviations have been accepted in the text and figures: M - male; F - female; AME - diameter of anterior median eyes; PLE - height of carapace at posterior lateral eyes; Fe - femur; Ti - tibia; Pa - patella, Me - metatarsus; d. - dorsally; pr. - prolaterally; rt. - retrolaterally; v. - ventrally; ag - accessory gland; id - insemination duct; fd - fertilisation duct; bs, ps - basal and proximal sections of spermathecae; s - stalk of proximal section of spermathecae; r - receptacle of proximal section of spermathecae; lrt - lateral ridge of tegulum; ms - median septum of epigyne. The system adopted for the leg spination is that used by ONO (1988). All measurements are given in mm.

DEFINITION OF THE *PENICILLATUS* SPECIES GROUP

This group can be readily distinguished from other members of *Sitticus* by genital characters. Males have palpal tibial apophysis which sharpening on the tip forms a stileto (figs 14, 19 and others). Such a structure of tibial apophysis does not occur in other *Sitticus* species. Besides that male palp tibia is usually wider than bulbus and cymbium (figs 24, 26, 28). This is an oddity in Palaearctic members of the genus, since in the others palp tibia is narrower than cymbium. Similar swollen palpal tibia was only found in the Neotropical *palpalis* group of *Sitticus* (GALIANO 1991). Female has epigyne in which a median septum is always present (figs 15, 16 and others). This character indicates the first difference between females of the *penicillatus* and *distinguendus* (= *helveolus*) groups. The internal genitalia are rather complex (fig. 33) consisting of a thin insemination duct (id) and two parts of spermathecae: the basal section (bs) and



1-3. Distribution patterns of the congeners of the *penicillatus* species group

the proximal one (ps). The proximal section is usually built of a thin stalk (s) and a thick rounded receptacle (r) (fig. 33). This character also distinguishes members of *penicillatus* group from those of *distinguendus* in which the proximal section has roughly the same diameter along its length (see PRÓSZYŃSKI 1987, pp 90-95). Accessory glands (ag) in the *penicillatus* group are not always well-noticeable, they are present, for instance in *S. mirandus* sp. n. (figs 37 and 39).

SYNOPSIS AND DISTRIBUTION

- S. ansobicus* ANDREEVA, 1976 - Tadjikistan, SE Kazakhstan, Kirgizstan, E Uzbekistan and Karakoram Mts (fig. 3);
S. clavator SCHENKEL, 1936 - S Gansu (Kansu) (fig. 2);
S. mirandus sp. n. - Kirgizstan, E Kazakhstan and S Tuva (fig. 3);
S. saltator (O. P.-CAMBRIDGE in SIMON, 1868) - from W Europe to Tuva in south part of W Siberia (fig. 3);
S. penicillatus (SIMON, 1875) - from middle Europe to Japan and Korea, the northernmost record in Siberia was made in Evenkiya (fig. 1);
S. penicilloides WESOŁOWSKA, 1981 - North Korea (fig. 2).

KEY TO SPECIES

1. Males 2.
- Females 6.
2. Abdomen dorsally with two pairs of white rounded spots (fig. 11), palp bicoloured (violet and yellow) (fig. 10), palp structure as in figs 18, 19 *S. penicillatus*
- Abdomen dorsally with one pair of white rounded spots (figs 5, 7) or longitudinal white stripe (figs 8-9), palp uniformly coloured (brown or yellow), palp structure different 3.
3. Femur I yellow, leg I bicoloured (fig. 6), palp structure as in figs 13, 14 *S. saltator*
- Femur I brown, leg I uniformly coloured 4.
4. Abdomen dorsally with longitudinal white stripe (figs 8, 9) *S. ansobicus*
- Abdomen dorsally with one pair of white rounded spots 5.
5. Tibia and patella of palp without clumps of white hairs, tibia of palp noticeably wider than cymbium (fig. 24) *S. clavator*
- Tibia and patella of palp with clumps of white hairs, tibia of palp not wider than cymbium (fig. 34) *S. mirandus*
6. Posterior edge of epigyne with deep notch (fig. 22) *S. penicilloides*
- Posterior edge of epigyne only slightly curved 7.
7. Median septum of epigyne noticeably tapered (figs 30, 31) *S. ansobicus*
- Both sides of median septum parallel to each other (figs 15, 20, 36) 8.
8. Accessory glands well-developed and clearly visible (figs 37, 39) *S. mirandus*
- Accessory glands not visible 9.

9. Epigyne as in fig. 20, vulva as in fig. 21 *S. penicillatus*
 -. Epigyne as in figs 15, 16, vulva as in fig. 17 *S. saltator*

DESCRIPTIONS OF SOME SPECIES

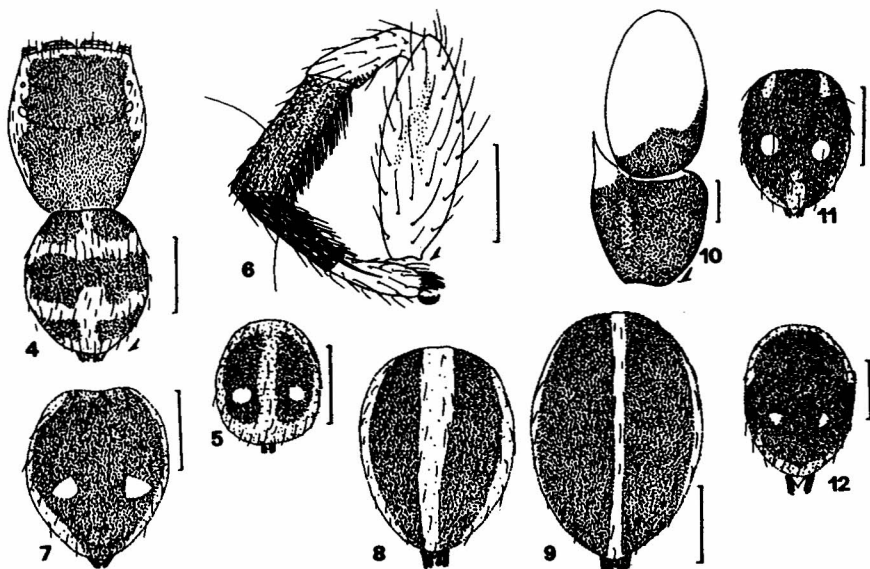
***Sitticus ansobicus* ANDREEVA, 1976**

(figs 3, 8, 9, 26-33)

Sitticus ansobicus ANDREEVA, 1975: 340, nom. nud.*Sitticus ansobicus* ANDREEVA, 1976: 92-94, figs 131-134.*Sitticus ansobicus*: PRÓSZYŃSKI 1976: 43, 49, 53, figs 308-309, map 176; 1983: map 8; 1987: 88-89 (figs);
 NENILIN 1984: 141.

MATERIAL

Form A: KAZAKHSTAN: environs of Alma-Ata, Medeo, Mokhnataya Sopka, 1800-2000m a.s.l., meadows, 18.VII.1987, leg. S. DERYUGIN, 1 M (BI);
 TADJIKISTAN: Yavan village, cotton field, 22.V.1973, leg. A. KONONENKO, 1 F (BI),
 Gissarsky Mt range, 20.VIII.1978, leg. N. POLCHANINOVA, 12 MM, 11 FF (BI),



4-12. Colour characters in the members of the *penicillatus* species group: 4-6 - *S. saltator* (O. P.-C.), 4 - general appearance, 5 - abdominal pattern, 6 - first leg of male; 7 - *S. clavator* SCH., abdominal pattern; 8-9 - *S. ansobicus* ANDR., variations of abdominal pattern; 10-11 - *S. penicillatus* (SIM.), 10 - dorsal view of palp, 11 - abdominal pattern; 12 - *S. mirandus* sp. n., abdominal pattern. Scales: 6, 10 - 0.1mm; 4,5, 7-9, 11-12 - 1mm

Gissarsky Mt range, Anzob pass, 3500m a.s.l., 20-23.VI.1967, leg. V. CHIKATUNOV, 2 MM, 11 FF (ZIS), 11.VII.1967, leg. E. SEREDINA, 1 F (ZIS); UZBEKISTAN: Western Tian Shan, Sary-Cheleksky reserve, Kara-Toko, 3200m a.s.l., alpine meadows, 20.VII.1983, leg. A. RYVKIN, 1 F (ZMMU). Form B: KIRGIZSTAN: Talassky Mt range, Besh-Tash pass, 16.VIII.1986, leg. S. OVCHINNIKOV, 1 M, 1 F (ZMMU), Osh area, Beshketnysky distr., Sokhsky canyon, 1800m a.s.l., 4.V.1986, leg. A. ZYUZIN, 1 M (ZMMU); TADJIKISTAN: Pamir, Chegekty Mukar canyon, crest, 30.VII.1977, leg. A. KONONENKO, 3 MM, 3 FF (BI), Gissarsky Mt range, Anzob pass, 3500m a.s.l., 20-23.VI.1967, leg. V. CHIKATUNOV, 3 MM (ZIS).

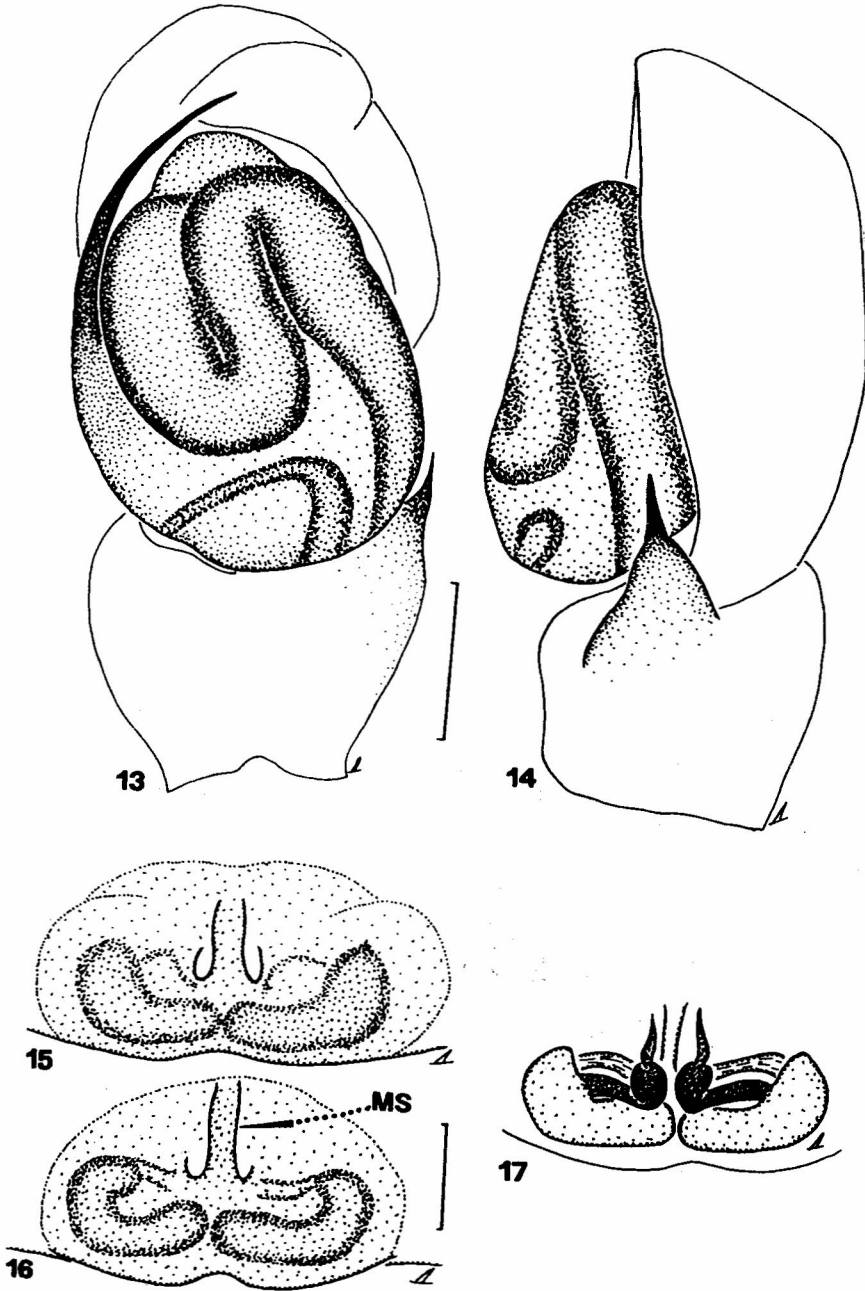
DIAGNOSIS

Closely related to *S. clavator* SCHENKEL but the male can be easily separated by the colouration of abdomen (figs 8, 9), by the structure of tibial apophysis (figs 27, 29) and by the absence of the lateral ridge of tegulum (cf. figs 26 and 24).

DESCRIPTION

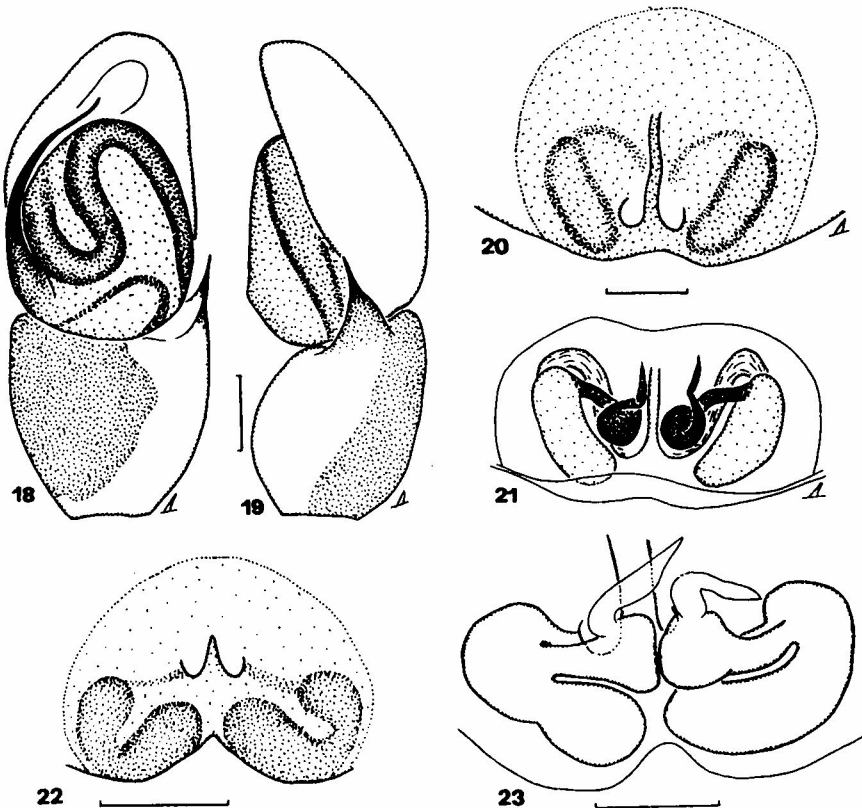
Male. Measurements. Carapace: length 2.30-2.88, width 1.65-2.03, PLE 0.88-1.33. Ocular area: length 1.00-1.20, anterior width 1.33-1.60, posterior width 1.23-1.50, AME 0.38. Clypeus: height 0.13-0.15. Chelicerae: length 0.65-1.00. Abdomen: length 2.00-2.80, width 1.63-2.00. Length of leg segments: I 1.35-1.85 + 0.78-1.15 + 1.05-1.50 + 0.88-1.30 + 0.55-0.75; II 1.20-1.63 + 0.68-0.93 + 0.85-1.13 + 0.71-0.98 + 0.50-0.63; III 1.18-1.58 + 0.59-0.75 + 0.70-0.98 + 0.80-1.03 + 0.50-0.63; IV 1.65-2.13 + 0.75-0.95 + 1.20-1.50 + 0.85-1.35 + 0.65-0.78. Leg spination: I Fe d. 0-1-1-3, Pa pr. and rt. 0-1-0, Ti pr. 1-1, v. 2-2-2ap, Me v. 2-2; II Fe d. 0-1-1-5, Pa pr. and rt. 0-1-0, Ti pr. 1-1, v. 2-2-2ap, Me pr. 1-1, v. 2-2ap; III Fe d. 0-1-1-3, Pa pr. and rt. 0-1-0, Ti pr. and rt. 1-1-1, v. 1-2ap, Me pr. 1-2ap, rt. 1-1-2ap, v. 2-2ap; IV Fe d. 0-1-1-5, Pa pr. and rt. 0-1-0, Ti d. 1-0, pr. and rt. 1-1-1, v. 2-2ap, Me pr. and rt. 1-1-2ap, v. 2ap. Colouration. Carapace dark brown with black veins, black around eyes. Eye field densely covered with adherent bright golden hairs. Carapace often with median white longitudinal band and a pair of parallel lines on sides (see also PRÓSZYŃSKI 1987, p. 88). Clypeus dark brown. Sternum brown. Maxillae and labium dark brown with yellow tips. Chelicerae dark brown. Abdomen: dorsum dark brownish-grey with one median and two lateral longitudinal white stripes (figs 8, 9); venter yellow to yellowish-grey. Scutum small, usually hardly visible. Book-lung covers and spinnerets yellow to greyish. Legs brown except yellow metatarsi I and coxae III and IV, sometimes proximal half of femur IV yellow. Palp brown, its structure is shown in figs 26-29.

Female. Measurements. Carapace: length 2.23-2.55, width 1.63-1.88, PLE 0.90-1.15. Ocular area: length 0.91, anterior and posterior width 1.28, AME 0.33-0.43. Clypeus: height 0.10-0.18. Chelicerae: length 0.70-0.90. Abdomen: length 2.75-3.13, width 2.13. Length of leg segments: I 1.13-1.40 + 0.70-0.83 + 0.70-0.93 +



13-17. *S. saltator* (O. P.-C.): 13-14 - palp, ventral and lateral views, 15-16 - epigyne, 17 - vulva. Scale: 0.1mm

0.63-0.73 + 0.50-0.55; II 1.08-1.33 + 0.63-0.83 + 0.63-0.83 + 0.60-0.73 + 0.43-0.51; III 1.10-1.38 + 0.63 + 0.55-0.78 + 0.68-0.88 + 0.50-0.58; IV 1.68-2.00 + 0.70-0.88 + 1.10-1.40 + 1.00-1.23 + 0.58-0.65. Leg spination: I Fe d. 0-1-1-3, Ti pr. 1-1, v. 2-2-2ap, Me v. 2-2ap; II Fe d. 0-1-1-3, Ti pr. 1-1, v. 1-2-2ap, Me v. 2-2ap; III Fe d. 0-1-1-4, Pa pr. and rt. 0-1-0, Ti pr. and rt. 1-1-1, v. 1-2ap, Me pr. 1-2ap, rt. 1-1-2ap, v. 2-2ap; IV Fe d. 1-1-3, Pa pr. and rt. 0-1-0, Ti d. 1-0, pr. and rt. 1-1-1, v. 1-2ap, Me pr. and rt. 1-1-2ap, v. 2ap. Colouration. Carapace yellowish-brown covered with light hairs, black around eyes. Clypeus yellowish-brown covered with thick white hairs. Sternum and chelicerae brownish. Maxillae and labium yellowish-brown with white tips. Abdomen: dorsum greyish-brown with irregular dark brown and white spots; venter and sides yellow. Book-lung covers and spinnerets yellow. Legs yellow with brownish bands. Epigyne and vulva shown in figs 30-33.



18-23. *S. penicillatus* (SIM.) (18-21) and *S. penicilloides* WES. (22-23) (after WESOLOWSKA 1981): 18-19 - palp, ventral and lateral views, 20, 22 - epigyne, 21, 23 - vulva. Scale: 0.1mm

DISTRIBUTION

High elevations of Pamir and Tian Shan (fig. 3) and Karakoram (see PRÓSZYŃSKI 1987, p. 89).

REMARK

S. ansobicus is represented in the collection in two kinds, named here as form A (figs 28, 29) and form B (figs 26, 27) - material for each see above. Males of the form B have clumps of white hairs on dorsal palp segments, males of the form A have no such clumps. The bulbus proportions in both forms also visibly vary (figs 26, 28). Females in the collection have varying structure of basal part of the spermatheca, it can be curved (fig. 32) or straight (fig. 33). Taxonomical significance of these differences is not clear as both forms are sympatric and besides they may be found in the same collection samples (see above). Probably two separate species are involved. We need more material to solve this problem.

Sitticus clavator SCHENKEL, 1936

(figs 2, 7, 24, 25)

Sitticus clavator SCHENKEL, 1936: 11, 247, fig. 81.

Sitticus clavator: PRÓSZYŃSKI 1973: 72 (listed as synonym), 95 (removed from synonymy of *S. penicillatus*); 1976: 43, 49, 53, map 179; 1983: map 8; SONG 1987: 303, fig. 259.

MATERIAL

CHINA: S Gansu, Bandshuka-Passhöhe between Drakana and Vabango, 3500m a.s.l., 1.VIII.1930, col. HUMEL, 1 M - holotype (SMNH).

DIAGNOSIS

Similar to *S. ansobicus* ANDREEVA in size and palp structure but may be easily distinguished by the abdomen colouration (cf. figs 7 and 8), by the structure of palpal apophysis (fig. 25) and by the presence of clearly visible lateral ridge on tegulum (fig. 24).

DESCRIPTION

Male. Measurements. Carapace: length 2.38, width 1.75, PLE 0.90. Ocular area: length 0.96, anterior width 1.33, posterior width 1.26, AME 0.38. Clypeus: height 0.15. Chelicerae: length 0.65. Abdomen: length 2.15, width 1.80. Length of leg segments: I 1.90 + 1.09 + 1.43 + 1.18 + 0.63; II 1.30 + 0.70 + 0.88 + 0.78 + 0.53; III 1.13 + 0.60 + 0.66 + 0.75 + 0.40; IV 1.90 + 1.23 + 0.75 + 0.88 + 0.60. Leg spination: I Fe d. 0-1-1-2, Ti pr. 1-1, v. 2-2-2ap, Me v. 2-2ap; II Fe d. 0-1-1-3, Ti pr. 1-1, v. 1-1-2ap, Me v.

2-2ap; III Fe d. 1-1-4, Pa pr. and rt. 0-1-0, Ti pr. and rt. 1-1-1, v. 1-2ap, Me d. 1-0, pr. and rt. 2-2ap, v. 2ap; IV Fe d. 1-1-3, Pa pr. and rt. 0-1-0, Ti d. 0-1-0, pr. and rt. 1-1-1, v. 1-0-2ap, Me pr. 1-1-2ap, rt. 1-1-2ap, v. 2ap. Colouration. Carapace brownish-orange with brown eye field covered with golden adherent hairs. Clypeus brown with golden hairs. Sternum yellowish-brown. Maxillae, labium and chelicerae brown. Abdomen: dorsum golden-brown with pair of white rounded spots; sides and venter pale brown with thin longitudinal yellow lines. Book-lung covers and spinnerets greyish-yellow. Legs brownish with yellow metatarsi and tarsi. Coxae I brown, remaining ones yellow. Palp structure shown in figs 24 and 25. Female unknown.

DISTRIBUTION

Only type locality (fig. 2).

Sitticus mirandus sp. n.

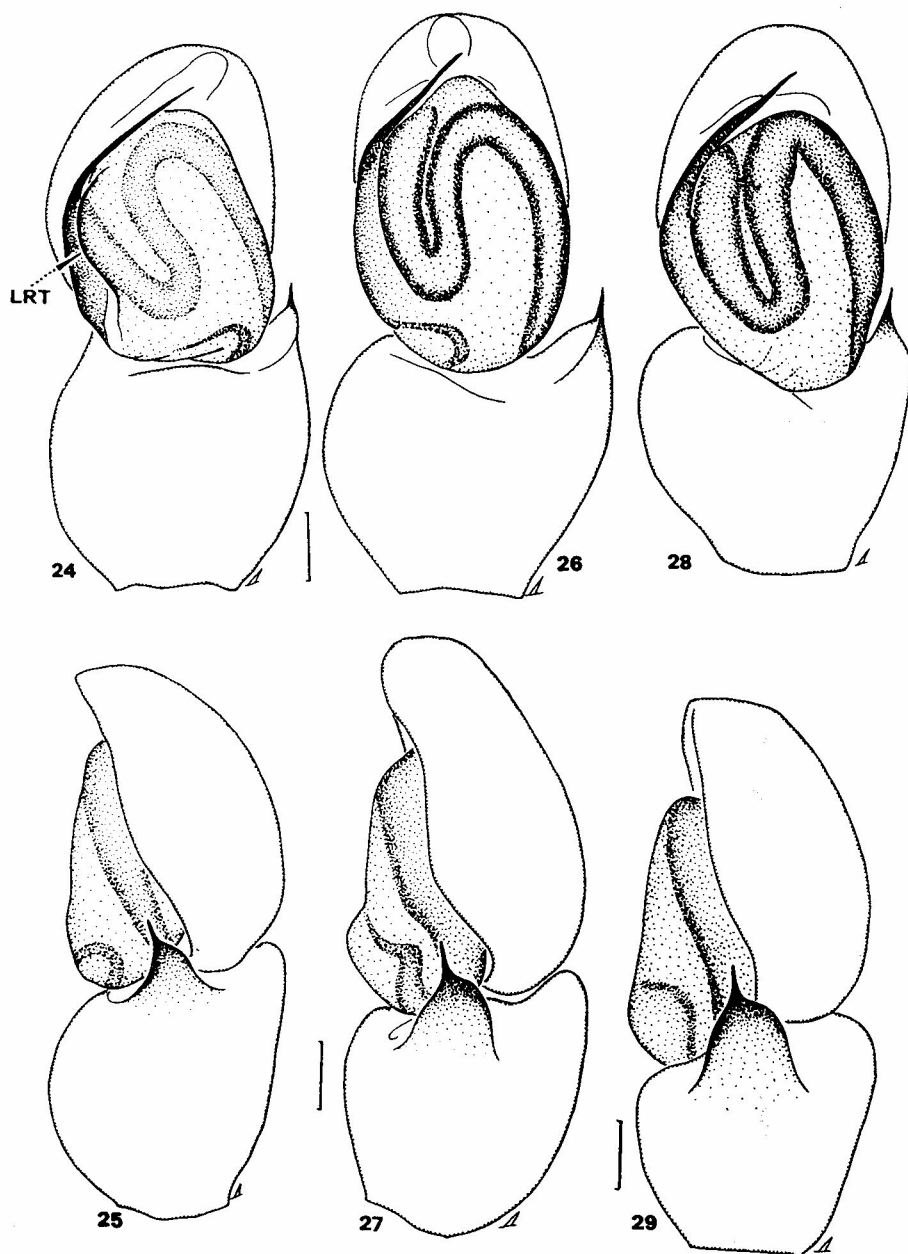
(figs 2, 12, 34-39)

MATERIAL

Holotype: RUSSIA: Tuva, Erzin distr., 3-5km S of Erzin village, the Tes-Khem river valley, 1100m a.s.l., forest (*Caragana*, *Salix*, *Betula*), in litter, 24.V.1990, leg. D. LOGUNOV and O. LAKHOV, 1 M (BI, No 1192). Paratypes: together with holotype, 1 M, 3 FF (ZMMU, Ta-4700), 3 MM, 3 FF (BI, No 279), 1 M, 1 F (MNH, No 631); the same locality, 14.VIII.1989, leg. D. LOGUNOV, 1 F (BI, No 278); KAZAKHSTAN: East Kazakhstan area, Kurchumsky distr., near the bridge on the Maralikha river, 1200m a.s.l., 10.VIII.1988, leg. A. ZYUZIN, 1 F (BI, No 1191), Alma-Ata area, Talgarsky distr., 17-18 km E of Kapchagay Town, 27.VIII.1992, leg. D. LOGUNOV, 1 M (BI, No 1411); Karaganda area, Kent Town, open slopes, 25.VII.1957, leg. V. TYSCHENKO, 1 F (ZIS); KIRGIZSTAN: Kirgizsky Mt range, 20km S of Bishkek City, Malinovoye canyon, 20.VII.1984, leg. S. OVCHINNIKOV, 1 M (ZMMU, Ta-4698), Issyk-Kul' area, the Kuturga river, 19.VII.1977, leg. S. ZONSHTEIN, 1 M, 1 F (ZIS), the same locality, Santash natural limits, 17.VII.1984, leg. S. OVCHINNIKOV, 1 F (ZIS), Dzhahal Abad area, 4 km NW of Arkit village, Sary-Cheleksky reserve, 20.VI.1992, leg. A. ZYUZIN, 1 M, 1 F (BI, No 1410).

DIAGNOSIS

Closely related to *S. penicilatus* (SIMON) and *S. saltator* O. P.-CAMBRIDGE but the male may be distinguished from the former by uniformly coloured cymbium, from the latter by uniformly coloured first leg, and from both by the palp structure (figs 34, 35). The female differs from all other *penicillatus* group species - it possesses well-developed accessory glands on the basal parts of spermathecae (fig. 37). Due to this feature

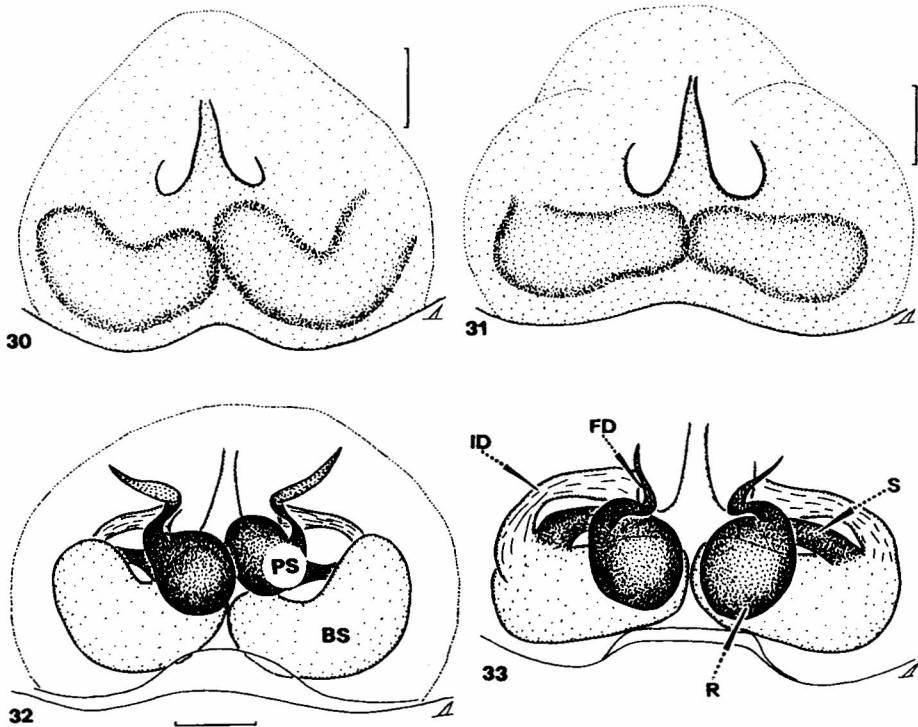


24-29. *S. clavator* SCH. (24-25) and *S. ansobicus* ANDR. (26-29), palp, ventral and lateral views. Scale: 0.1 mm

structure of female genitalia is similar to the *distinguendus* species group which probably reflects the close affinity of both groups.

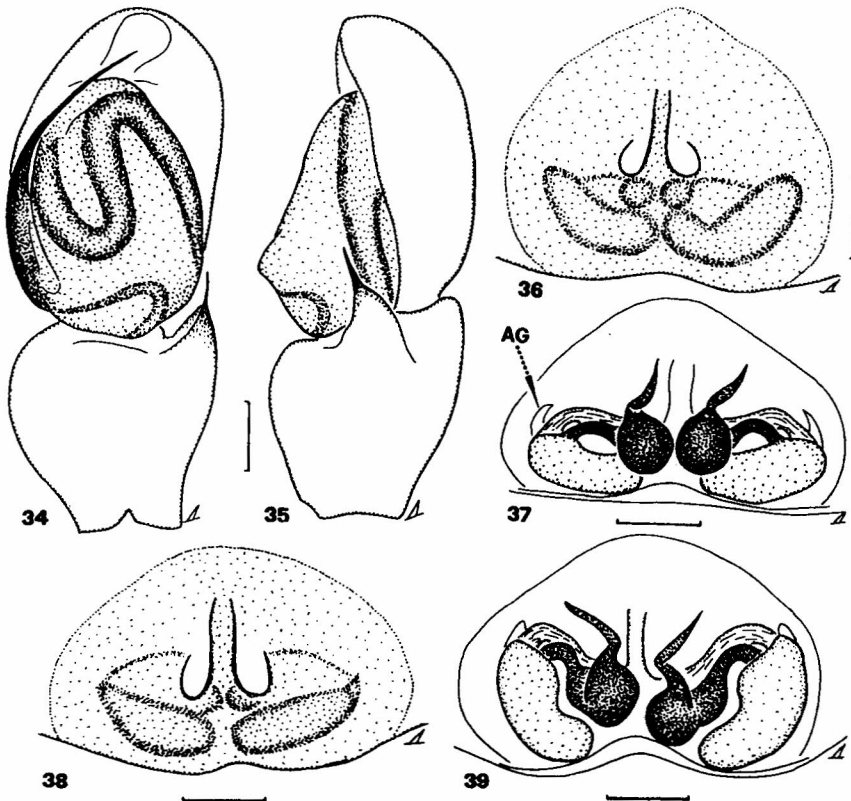
DESCRIPTION

Male. Measurements. Carapace: length 1.70-1.85, width 1.30-1.40, PLE 0.80-0.90. Ocular area: length 0.80-0.93, anterior width 1.13-1.20, posterior width 1.09-1.25, AME 0.33-0.35. Clypeus: height 0.18-0.20. Chelicerae: length 0.45-0.53. Abdomen: length 1.30-1.75, width 1.30-1.55. Length of leg segments: I 1.05-1.23 + 0.50-0.68 + 0.70-0.95 + 0.63-0.78 + 0.45; II 0.78-0.88 + 0.45-0.53 + 0.50-0.53 + 0.48-0.50 + 0.28-0.35; III 0.80-0.85 + 0.35-0.38 + 0.45 + 0.48-0.53 + 0.38-0.40; IV 1.43-1.53 + 0.55-0.60 + 0.95-1.00 + 0.75 + 0.43-0.53. Leg spination: I Fe d. 0-1-1-2, Pa pr. and rt. 0-1-0, Ti pr. 1-0-1, v. 2-2-2ap, Me v. 2-0-2ap; II Fe d. 1-1-3, Pa pr. 0-1-0, Ti pr. 1-1, v. 1-2-2ap, Me pr. and rt. 1-2ap, v. 2-0; III Fe d. 1-1-4, Pa pr. and rt. 0-1-0, Ti d. 1-0, pr. and rt. 2-0-2ap, v. 1-2ap, Me pr. and rt. 2-0-2ap, v. 2ap; IV Fe d. 1-1-3, Pa pr. and rt. 0-1-0, Ti d. 0-1-0, pr. and rt. 1-1-1, v. 1-0-2ap, Me d. 2-2-2ap, pr. 1-0-1ap,



30-33. *S. ansobicus* ANDR.: 30-31 - epigyne, 32-33 - vulva. Scale: 0.1mm

rt. 1ap, v. 2ap. Colouration. Carapace either light brown with dark brown eye field or all dark brown almost black. Clypeus and chelicerae yellow in light specimens and black with a bluish tint in dark specimens. Sternum, maxillae and labium yellowish-brown to brown. Abdomen: dorsum dark greyish-brown with pair of white rounded spots (fig. 12), additionally in light specimens white transverse strip on posterior part; sides with brown and white longitudinal lines; venter brownish with two longitudinal yellow lines. Book-lung covers grey to brown. Spinnerets greyish-brown. Legs in light specimens yellowish with brown patellae, tibiae and distal parts of femora. Dark specimens have legs I dark brown with black lateral surface of segments and yellow tarsi. Remaining legs yellowish-brown but femora darker and tarsi lighter than other segments. Palp structure shown in figs 34 and 35.



34-39. *S. mirandus* sp. n.: 34-35 - palp, ventral and lateral views, 36, 38 - epigyne, 37, 39 - vulva. Scale: 0.1mm

Female. Measurements. Carapace: length 2.00-2.28, width 1.55-1.68, PLE 0.90-1.05. Ocular area: length 0.95, anterior width 1.30-1.38, posterior width 1.35-1.45, AME 0.39-0.40. Clypeus: height 0.14-0.18. Chelicerae: length 0.60-0.75. Abdomen: length 2.50-2.55, width 1.70-1.78. Length of leg segments: I 0.95-1.10 + 0.60-0.69 + 0.65-0.73 + 0.53-0.63 + 0.40-0.45; II 0.93-1.00 + 0.53-0.60 + 0.50-0.60 + 0.45-0.50 + 0.35-0.43; III 0.90-1.03 + 0.46-0.55 + 0.50-0.55 + 0.55-0.65 + 0.36-0.40; IV 1.68-1.83 + 0.63-0.75 + 1.15-1.30 + 1.10-1.23 + 0.50. Leg spination. I Fe d. 0-1-1-2, Pa pr. and rt. 0-1-0, Ti v. 2-2-2ap, Me v. 2-2ap; II Fe d. 0-1-1-2, Ti pr. 0-1, v. 1-1-2ap, Me v. 2-2ap; III Fe d. 0-0-1-3, Pa pr. and rt. 0-1-0, Ti d. 1-0, pr. and rt. 1-1-1, v. 1-2ap, Me d. 2-2ap, pr. and rt. 1ap, v. 2ap; IV Fe d. 1-1-4, Pa pr. and rt. 0-1-0, Ti d. 1-1, pr. and rt. 1-1-1, v. 1-0-2ap, Me d. 2-2-2ap, pr. and rt. 1ap, v. 1-0-2ap. Colouration. Carapace brown with black eye field covered with white hairs. Clypeus orange. Sternum, maxillae, labium and chelicerae yellowish-brown. Abdomen: dorsum dark grey with pair of white rounded spots; sides white; venter yellowish with brown longitudinal lines, sometimes light brown with yellow strips. Book-lung covers and spinnerets yellowish-grey. All legs yellowish with brown rings. Epigyne and vulva shown in figs 36-39.

ETYMOLOGY

The species name is derived from the Latin word “*mirandus*” which means “deserving wonder, startling”.

DISTRIBUTION

Southern Tuva, Kirgizstan and Eastern Kazakhstan (fig. 2).

REMARK

It is possible that it was this species which was reported by WESOŁOWSKA (1991) under the name *Sitticus* sp. However, due to the absence of drawing in that paper this suggestion cannot be verified.

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REFERENCES

- ANDREEVA, E., 1975. Distribution and ecology of spiders (*Aranei*) in Tadjikistan. *Fragm. faun.*, **20**: 323-353.
- , 1976. [Spiders of Tadjikistan] Pauki Tadzhiqistana. Dusanbe, 195 pp. (In Russian).
- GALIANO, M.E., 1991. Las especies de *Sitticus* SIMON del grupo *palpalis* (*Araneae*, *Salticidae*). *Acta Zool. Lilloana*, **40**: 59-68.
- HARM, M., 1973. Revision der Gattung *Sitticus* (*Arachnida: Araneae: Salticidae*). *Senck. biol.*, **54**: 369-403.
- ONO, H., 1988. A revisional study of the spider family *Thomisidae* (*Arachnida, Araneae*) of Japan. National Science Museum, Tokyo, 252 pp.
- NENILIN, A. B., 1984. [Contribution to the knowledge of the spider family *Salticidae* from USSR. III. *Salticidae* of Kirgizia] Materialy k faune paukov semejstva *Salticidae* SSSR. III. *Salticidae* Kirgizi. *Ent. Issled. Kirgizi*, **17**: 132-143 (In Russian).
- PRÓSZYŃSKI, J., 1971. Revision of the spider genus *Sitticus* SIMON, 1901 (*Araneida, Salticidae*). II. *Sitticus saxicola* (C. L. KOCH, 1848) and related forms. *Ann. zool.*, **28**: 183-204.
- , 1973. Revision of the spider genus *Sitticus* SIMON, 1901 (*Aranei, Salticidae*). III. *Sitticus penicillatus* (SIMON, 1875) and related forms. *Ann. zool.*, **30**: 71-95.
- , 1976. Studium systematyczno-zoogeograficzne nad rodziną *Salticidae* (*Aranei*) Regionów Pałearktycznego i Nearktycznego. *Rozprawy WSP*, **6**, Siedlce, 260 pp.
- , 1983. Tracing of history of a genus from its geographical area on example of *Sitticus* (*Araneae, Salticidae*). *Verrof. Naturwiss. Vereins, Hamburg*, **26**: 161-179.
- , 1987. Atlas rysunków diagnostycznych mniej znanych *Salticidae*. 2. WSRP, Siedlce, 172 pp.
- SIMON, E., 1937. Les Arachnides de France. t. VI.. Catalogue des espèces françaises... Paris, pp 979-1298.
- SCHENKEL, E., 1936. Schwedisch-chinesische wissenschaftliche Expedition nach der nord-westlichen Provinzen Chinas. *Ark. Zool.*, Stockholm, **29** A, 1, 314 pp.
- SONG, DA-XIANG, 1987. Spider from agricultural regions of China (*Arachnida: Araneae*). *Agricult. Publ. House, Beijing*.
- TULLGREN, A., 1944. Svensk Spindelfauna 3, Fam. 1-4. *Salticidae, Thomisidae, Philodromidae* och *Eusparassidae*. Stockholm, 138 pp.
- WESOŁOWSKA, W., 1981. *Salticidae* (*Aranei*) from North Korea, China and Mongolia. *Ann. Zool.*, Warszawa, **36**: 45-83.
- , 1991. Notes on the *Salticidae* (*Araneae*) from Northern Mongolia with description of a new species. *Stutt. Beitr. Naturk. (A)*, **465**: 1-6.