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The Oonopid spiders (Aranei: Oonopidae) of Israel

Пауки-оонопиды (Aranei: Oonopidae) Израиля

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KEY WORDS: New species, new genus, dwarf hunting spiders.
КЛЮЧЕВЫЕ СЛОВА: Новый вид, новый род.

ABSTRACT. This paper reports sixteen oonopid species from Israel. Except for *Opopaea punctata* (O. Pickard-Cambridge, 1872), *Opopaea santschii* Brignoli, 1974, and an *Oonops* sp. all others are new species, namely *Megabulbus sansan* sp.n., *Megaoonops avrona* sp.n., *Opopaea lingua* sp.n., *Opopaea shanasi* sp.n., *Orchestina pavesiiformis* sp.n., *Orchestina sedotmikha* sp.n., *Ovobulbus boker* sp.n., *Ovobulbus bokerella* sp.n., *Ovobulbus elot* sp.n., *Semibulbus zekharya* sp.n., *Gamasomorpha gershomi* sp.n., *Silhouettella betalfa* sp.n., and *Silhouettella tomer* sp.n. Further one undetermined *Oonops* species is presented. In addition the following four new genera are described: *Megabulbus* gen.n. (type species *M. sansan* sp.n.), *Megaoonops* gen.n. (type species *M. avrona* sp.n.), *Ovobulbus* gen.n. (type species *O. boker* sp.n.), and *Semibulbus* (type species *S. zekharya* sp.n.). The identity of the sole earlier reported oonopid spider from Israel, namely *Xestaspis nitida* Simon, 1884, is discussed.

РЕЗЮМЕ. В Израиле отмечено 16 видов семейства Oonopidae, 15 из них являются новыми для страны. Помимо трёх известных видов, а именно *Opopaea punctata* (O. Pickard-Cambridge, 1872), *Opopaea santschii* Brignoli, 1974, и *Oonops* sp. все остальные виды являются новыми для науки: *Megabulbus sansan* sp.n., *Megaoonops avrona* sp.n., *Opopaea lingua* sp.n., *Opopaea shanasi* sp.n., *Orchestina pavesiiformis* sp.n., *Orchestina sedotmikha* sp.n., *Ovobulbus boker* sp.n., *Ovobulbus bokerella* sp.n., *Ovobulbus elot* sp.n., *Semibulbus zekharya* sp.n., *Gamasomorpha gershomi* sp.n., *Silhouettella betalfa* sp.n. и *Silhouettella tomer* sp.n. Дополнительно приведено описание неопределенного вида рода *Oonops*. Описано четыре новых рода: *Megabulbus* gen.n. (типовой вид *M. sansan* sp.n.), *Megaoonops* gen.n. (типовой вид *M. avrona* sp.n.), *Ovobulbus* gen.n. (типовой вид *O. boker* sp.n.), и *Semibulbus* (типовой вид *S. zekharya* sp.n.). Обсуждается таксономическая принадлежность *Xestaspis nitida* Simon, 1884 ранее отмечавшегося в Израиле.

Introduction

Although the Oonopidae can be still considered as a rather small family; according to Platnick, [2006] it now consists of 68 genera and 472 species. Certain recent studies of the local oonopid faunas, like those of Seychelles [Saaristo, 2001, 2002], Socotra [Saaristo & van Harten 2001], and Yemen [Saaristo & van Harten 2006] show, that apparently only a small fraction of the species of this family has been discovered and described. This fact is also reflected in the present paper as 11 of the reported 13 Israeli oonopids are new to science. Earlier only one oonopid species, viz. *Xestaspis nitida* Simon, 1884 had been recorded from Israel [Gerhardt 1933]. This species is absent from the present material and judging from the figure of Gerhardt [1933, fig. 5] his species was probably *Gamasomorpha gershomi* sp.n. than *X. nitida* (I have examined the type specimen of that species). Accordingly *X. nitida* should be deleted from the Israeli oonopid list.

Oonopids or dwarf hunting spiders are quite small creatures (total length < 3 mm). Colouration is mostly yellowish, orange or reddish brown, sometimes whitish or even pink coloured. Oonopids usually have six eyes closely grouped and touching; the anterior medians are lost; at least one species has only two eyes and some are eyeless. They can be roughly divided into two groups called Oonopidae loricati and Oonopidae molles according to the chitinization level of their bodies. The members of the first mentioned group have their cephalothorax closed inside a casing, which has a large frontal opening to allow insertion of the chelicerae and endites bearing the palps as well as lateral openings for the legs while their abdomen is enclosed between dorsal and ventral shields and also spinnerets are partially surrounded by a chitin ring. The members of the second group have no dorsal scutum and the ventral scutum is much reduced but apparently never totally absent.

Material and methods

Specimens were examined under a Leitz stereomicroscope and measured under a Wild M5 stereomicro-

scope. For examination of genital structures right palps of males were detached from the spider body and placed on a cotton bed in a small bowl filled with 75% alcohol. In a few cases they were cleared by KOH solution to study the inner structures. Female genital organs were mostly studied in situ. Illustrations were made under a Leitz stereomicroscope with drawing apparatus. All measurements are in millimetres.

Abbrevations

MUSEUMS. HUJ — The Hebrew University of Jerusalem, Israel; MZT — Zoological Museum, University of Turku, Finland; SMF — Forschungsinstitut und Naturmuseum Senckenberg, Germany.

MORPHOLOGICAL TERMS. ALE — Anterior lateral eye; EF — Epigastric furrow; LA — Lateral apodemes; OP — Opercula; PB — Psembolus; PD — Postgynal depression; PE — Extension of petiolar tube; PLE — Posterior lateral eye; PM — Parmula; PME — Posterior median eye; PP — Pocket-like depression of male palp; PR — Postgynal ridge; PS — Posterior scutum; PT — Petiolar tube; PW — Palpal fenestra; SC — Scutal cove; SD — Seminal duct; SH — Sperm duct opening; SL — Sluice; SP — Sternal pouch; SR — Ridge on ventral scutum; ST — Stylus; Ti — Tibia; TR — Trochanter; TS — Tracheal spiracle.

MEASUREMENTS. AL — Length of abdomen; AW — Width of abdomen; CL — Carapace length; CW — Carapace width; DSI — Dorsal abdominal scutum length; DSW — Dorsal abdominal scutum width; Ti I — Tibia I length; TL — Total length.

INDEXES. BBI — Ratio of bulbus width to its height; CI — Ratio of carapace width to length; CSI — Ratio of carapace length to dorsal scutum length; FEI — Ratio of femur IV length to carapace length; LLI — Ratio of tibia I length to carapace length; OI — Ratio of opercula length to width of petiolar tube; PBI — Ratio of bulbus width to psembolus length; PPI — Ratio of male palpal patella width to its length.

Explanations of some new terms used in the text

Saaristo & van Harten [2006] have introduced several new terms to describe certain special structures of oonopid spiders. It seems however, appropriate to explain the new terms used also in this paper.

Cymbiobulbus: integrated cymbium and bulbus.

Psembolus: trunk-like, sometimes even filamentous, outgrowth of the bulbus.

Postgynum: area of the posterior scutum of the female which is laterally bordered by the lateral apodemes (LA), anteriorly by the epigastric furrow (EF) and posteriorly by the shallow groove between the tracheal spiracles (TS). The anterior edge of the postgynum is thickened and folded backwards to form a slightly elevated postgynal ridge (PR), which forms the anterior edge of the postgynal depression (PD). Shape and size of the postgynal depression is quite variable. Further, at the middle of the postgynal ridge there is a posteriorly pointing outgrowth or parmula (PM). Quite frequently the parmula has shifted from its original position taking various shapes and sizes (Fig. 81).

Pouches: more or less pronounced depressions on either side of the frontal part of the male sternum; in rest the apical parts of the male palps are hold in these pouches.

Scutopetiolar apparatus: dorsolateral corners of petiolar tube (PT) are drawn into small, usually triangular extensions (PE) opposed with more or less boomerang-shaped ridges (SR) on the ventral scutum; not so seldom some of the hairs standing on these ridges have their base swollen to form a small dent. The ridges continue as very weak streaks towards the edge of the ventral scutum where they connect with each other forming boundaries of a scutal cove (SC). The function of the scutopetiolar apparatus is unknown (Fig. 66).

Sluice: U-shaped channel formed by the upwards curled venral edge of the carapace.

Taxonomy

I. Oonopidae molles

The members of this group have no dorsal scutum on abdomen and the ventral scutum is much reduced but apparently never totally absent.

Genus *Megabulbus* **gen.n.**

Type species *Megabulbus sansan* sp.n.

DIAGNOSIS. The genus consists of soft bodied species and is distinguished by the voluminous, more or less spherical bulbus with short but complicated psembolus; cymbium and bulbus separate, other palpal segments fairly thin (Fig. 1).

ETYMOLOGY. The generic name refers to the conspicuously large bulbus of the male palp. Gender feminine.

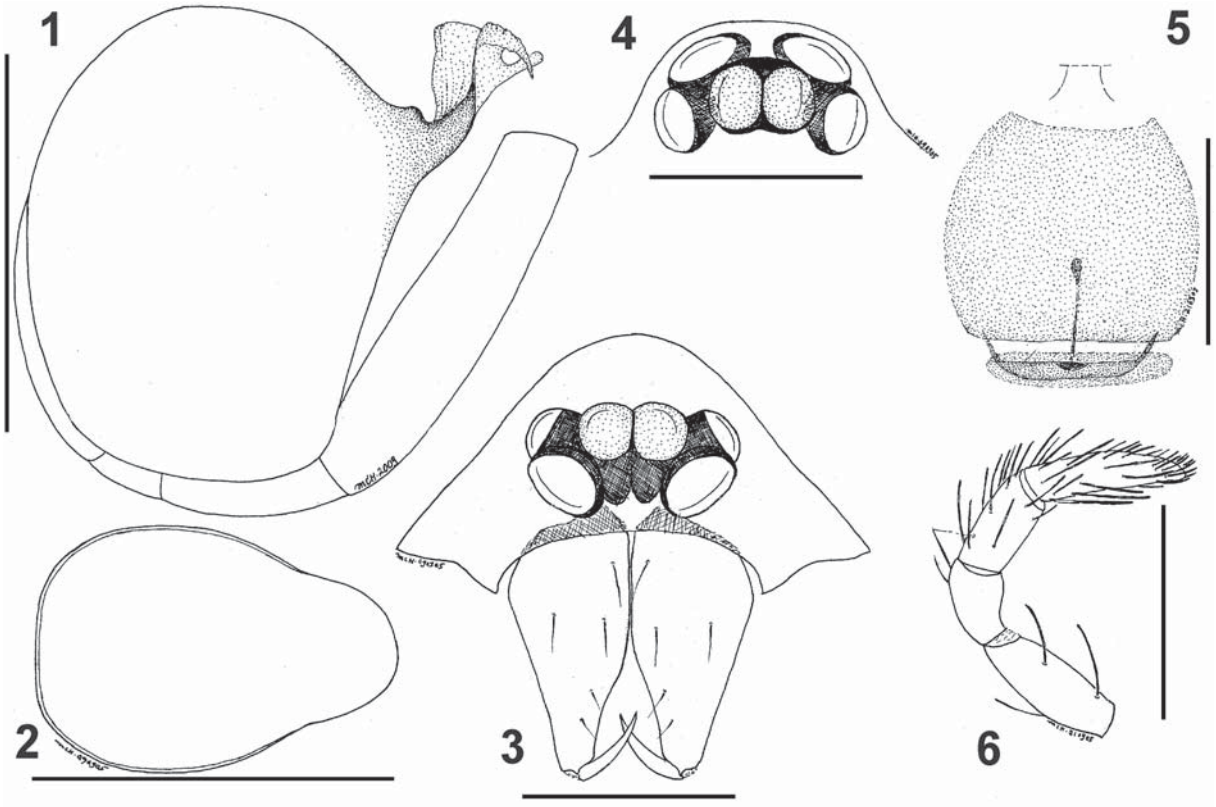
Megabulbus sansan **sp.n.**

Figs 1–6.

SPECIMENS EXAMINED. Holotype ♂, ISRAEL: Har Sansan, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15451). Paratypes: 3 ♂♂, Har Sansan, 22.III.2002, Y. Mandelik leg. (HUJ 15337, MZT AA 3.700), 1 ♀, Sedot Mikha, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15452), 1 ♀, Ramat Avishur, 14.V.2002 (MZT AA 3.701).

DIAGNOSIS. The male of *Megabulbus sansan* sp.n. is easily distinguished by the voluminous, more or less spherical bulbus with short but complicated psembolus; cymbium and bulbus separate, other bulbal segments rather thin, unmodified (Fig. 1). The female has weekly developed ventral scuta; the translucent internal genital structures are represented by a long, thin median rod with small anterior dilation and under the narrow posterior scutum, a dark, transverse somewhat boat-like structure with a small blackish median spot (Fig. 5). In addition especially the proximal segment of the female palp is covered by somewhat swollen hairs and its tibia is fairly long, about two thirds of the length of the tarsus (Fig. 6).

DESCRIPTION OF MALE. Cephalothorax and male palp light orange, except palpal bulbus white, appendages



Figs 1–6. *Megabulbus sansan* sp.n.: 1 — right male palp laterally; 2 — male carapace dorsally; 3 — male carapace and chelicerae frontally; 4 — eyes of male dorsally; 5 — epigastric area of female; 6 — right female palp laterally. Scale bars: 0.2 mm, except for Fig. 2 — 1.0. Orig.

Рис. 1–6. *Megabulbus sansan* sp.n.: 1 — правая пальпа ♂; 2 — карапакс ♂ сверху; 3 — карапакс и хелицеры ♂, спереди; 4 — глаза ♂, сверху; 5 — эпигастральная область ♀; 6 — правая пальпа ♀, сбоку. Масштаб 0,2 мм, кроме рис. 2 — 1,0 мм. Ориг.

pale yellowish, abdomen white with dark hairs. Carapace smooth, in profile only slightly rising behind eyes, then levelling and evenly running towards posterior end; in dorsal view carapace broadly attenuated, sluice narrow with low posterior elevation (Fig. 2). Eyes large, arranged in H-shape (Figs 3, 4) which is considered a primitive state in Oonopidae by Platnick and Brescovit [1995]. Chelicerae with a few hairs, distally narrowing from their middle part (Fig. 3). Endites and labium without special structures. Sternum smooth and glossy, no radial furrows. Legs rather long, average built; legs I and II without spines, legs III and IV with some irregularly scattered spines. Abdomen more or less cylindrical, moderately clothed with addpressed, slightly swollen hairs, not easily detached. Abdomen with vestigial ventral scutum; anterior scutum roughly triangular, posterior one very narrow, rim-like. Colulus very small bearing two dark hairs. Male palp with voluminous, more or less spherical bulbus bearing apically short but rather complicated psembolus; cymbium and bulbus separate, other bulbal segments rather thin, unmodified.

DESCRIPTION OF FEMALE. Female like male. No external genital organs. Internal copulatory structures consisting of long, thin median rod with small anterior dilation, under narrow posterior scutum, dark, transverse somewhat boat-like structure with small blackish median spot.

MEASUREMENTS. ♂: TL 1.27, CL 0.61, CW 0.44, CH 0.23, AL 0.55, AW 0.35, TiI 0.36, FeIV 0.43, CI 0.72, CHI 0.37, LLI 0.58, FeI 0.70; ♀: TL 1.11, CL 0.52, CW 0.36, CH 0.21, AL 0.61, AW 0.37, TiI 0.25, FeIV 0.39, CI 0.69, CHI 0.41, LLI 0.48, FeI 0.76.

DISTRIBUTION. Found only in Israel, Har Sansan.

ETYMOLOGY. The specific name is a noun in apposition derived from the name of locus typicus.

Genus *Megaoonops* **gen.n.**

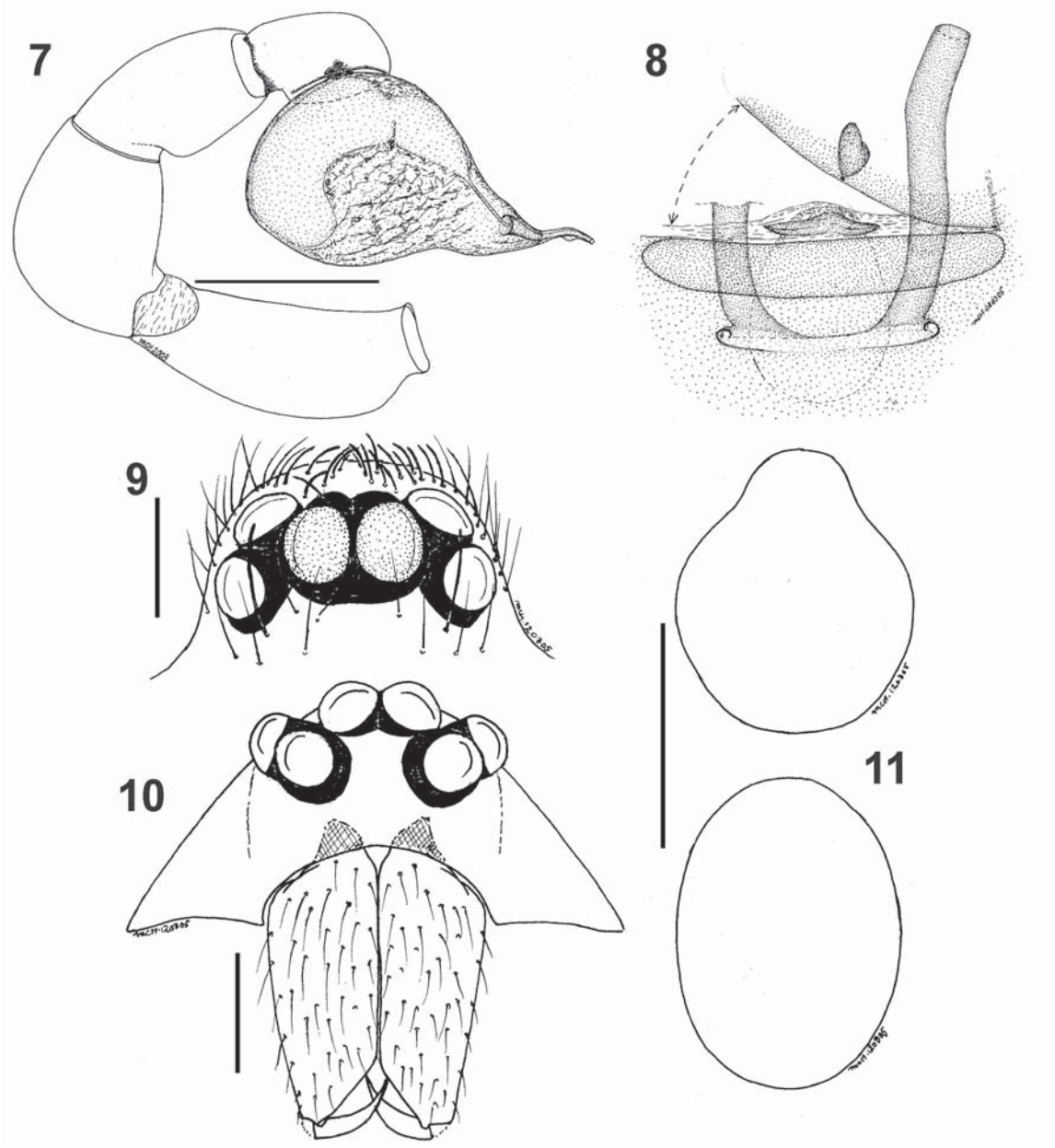
Type species *Megaoonops avrona* sp.n.

DIAGNOSIS. The genus consists of soft bodied species and is distinguished, in addition by their large size (TL = 2.36–2.96) and hairy body, in male by the large, pear-shaped bulbus with short, curved psembolus; cymbium and bulbus well-separated and inside the bulbus there is an elongated sack from which a thin duct leads via a short funnel to the psembolus (Fig. 7). The female is recognized by having no external copulatory organs; anterior part of internal system consists of small dark sack and posterior part a large, egg-shaped sack pointing anteriorly and bearing on its anteroventral side a somewhat triangular, dark structure (Fig. 8).

ETYMOLOGY. The generic name refers to the large size of its type species. Gender feminine.

Megaoonops avrona **sp.n.**
Figs 7–11.

SPECIMENS EXAMINED. Holotype ♂ and paratype ♀, ISRAEL: En Avrona, 05.II.2003, (HUJ 15342). Paratypes: 2



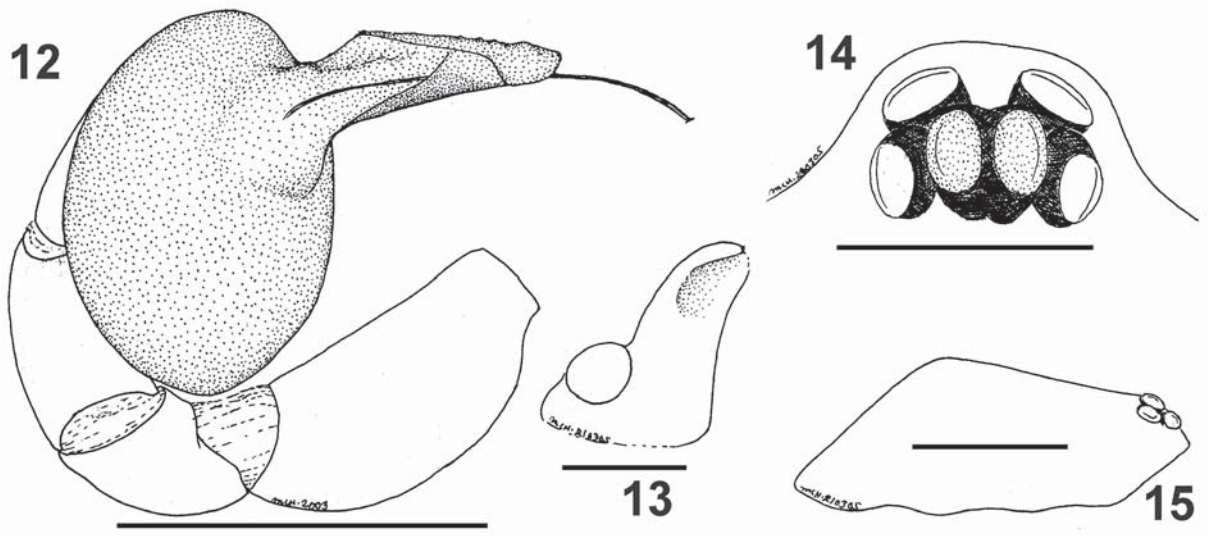
Figs 7—11. *Megaoonops avrona* sp.n.: 7 — right male palp laterally; 8 — female internal copulatory organs, cleared by koh; 9 — eyes of female dorsally; 10 — female carapace and chelicerae frontally; 11 — male cephalothorax and abdomen dorsally. Scale bars: 0.2 mm, except for Fig. 11 — 1.0. Orig.

Figs 7—11. *Megaoonops avrona* sp.n.: 7 — правая пальпа ♂ сверху; 8 — внутренние копулятивные органы ♀ мацерированные в KOH; 9 — глаза ♀ сверху; 10 — карапакс и хелицеры ♀ спереди; 11 — карапакс и брюшко сверху. Масштаб 0,2 мм, кроме рис. 11 — 1,0 мм. Ориг.

♂♂ 1 ♀, Yotvata, salt marsh, 03.II.2003, (HUJ 15341); 1 ♂, southern Rift Valley east Yotvata, 15.II.2004, (HUJ 15458); 1 ♂, southern Rift Valley east Yotvata, 17.II.2004, (HUJ 15459); 3 ♂♂ 1 ♀, southern Rift Valley east Lotan, 21.II.2004, (HUJ 15460, MZT AA 3.702); 2 ♂♂ 1 ♀, south Yahel, southern Rift Valley, 23.II.2004, U. Shanas leg. (HUJ 15461); 1 ♂ 2 ♀♀, En Avrona, 19. II.2004 (HUJ 15465);1 ♂ 6 ♀♀, En Avrona, 18. II.2004 (HUJ 15464); 3 ♀♀, near Elot, 16. II.2004 (HUJ 15471); 1 ♀, S of En Avrona, 19. II.2004, (HUJ 15466); all by pitfall traps, U. Shanas leg.

DIAGNOSIS. The male of this soft bodied species is readily recognized by the large, pear-shaped bulbus with short, curved psembolus having at its middle a small, ventral extension (Fig. 7). The female is diagnosed by its internal copulatory structures consisting of a small dark anterior sack and a large, egg-shaped, weakly chitinized anteriorly pointing posterior sack bearing on its anteroventral side a dark, somewhat triangular structure (Fig. 8).

DESCRIPTION OF MALE. Cephalothorax and appendages pale with orange tint, abdomen pale whitish. Carapace



Figs 12—15. *Oonops* sp.: 12 — right male palp laterally; 13 — eyes dorsally; 14 — maxilla ventrally; 15 — carapace laterally. Scale bars: 0.2 mm, except for Fig. 13 = 0.1. Orig.

Рис. 12—15. *Oonops* sp.: 12 — пальпа ♂ сбоку; 13 — глаза сверху; 14 — максиллы снизу; 15 — карапакс сбоку. Масштаб 0,2 мм, кроме рис. 13 — 0,1. Ориг.

in lateral view behind eyes evenly arising until posterior slope; smooth and shiny, reasonably well covered with rather long, suberect, anteriorly pointing dark hairs; in dorsal view broad, attenuated (Fig. 11). Eyes large, arranged in H-shape; posterior row strongly procurved, lateral ones almost touching sides of cephalothorax; clypeus considerably high (Figs. 9, 10) Chelicerae with long, fairly narrow paturons, only slightly distally narrowing, well covered with long hairs, fangs small (Fig 10). Endites and labium without special structures. Sternum smooth and shiny, sparsely covered with long hairs, no radial furrows. Abdomen oval shaped, rather well covered with darkish, suberect, moderately long hairs. Colulus very small bearing two long hairs. Segments of male palp clearly swollen; cymbium conspicuously small, separated from large, pear-shaped bulbus with short, curved psembolus; inside bulbus elongated sausage-like sack with thin duct leading via short funnel to psembolus (Fig. 7).

DESCRIPTION OF FEMALE. Female like male but larger and abdomen spherical (Fig. 11). No external copulatory organs. Internal copulatory structures consisting of a small dark, well sclerotized anterior sack and a large, egg-shaped, weakly chitinized anteriorly pointing posterior sack bearing on its anteroventral side a dark, somewhat triangular structure (Fig. 8).

MEASUREMENTS. ♂: TL 2.36, CL 0.93, CW 0.82, CH 0.46, AL 1.36, AW 1.00, TiI 1.18, FeIV 1.42, CI 0.88, CHI 0.50, LLI 1.27, FeI 1.54; ♀: TL 2.96, CL 1.07, CW 1.00, CH 0.57, AL 1.86, AW 1.79, TiI 1.07, FeIV 1.42, CI 0.93, CHI 0.53, LLI 1.00, FeI 1.33.

DISTRIBUTION. Known only from southern Israel: En Avrona, Lotan, Yahel, and Yotvata, along the Rift Valley.

ETYMOLOGY. The specific name is a noun in apposition derived from the name of locus typicus.

Genus *Oonops* Templeton, 1835

Oonops Templeton, 1835. — Zool. Journal 5: 404. Type species by monotypy *Oonops pulcher* Templeton, 1835 from England.

DIAGNOSIS. The genus consists of soft bodied species whose males have well-separated cymbium and more or less pear-shaped bulbus and psembolus consisting of a thread-like stylus pointing out of the somewhat trunk-like psembolus; TiI–II with from four to five pairs of ventrolateral lock spines.

DISCUSSION. Duffey & Brignoli [1981: 157] have pointed out that the genus *Oonops* is very heterogeneous and that probably a few non-European species are closely related to the type species. My own studies have revealed that many European species currently assigned to that genus are also not congeneric with the type species. Therefore, because of the ongoing studies the present species has been left undescribed as it seems to belong to a new genus of which there are a couple of other closely related species. However, to give some idea of this small (TL = 1.21, CL = 0.57) species figures are given from male palp, maxilla, eyes, and carapace (Figs12–15).

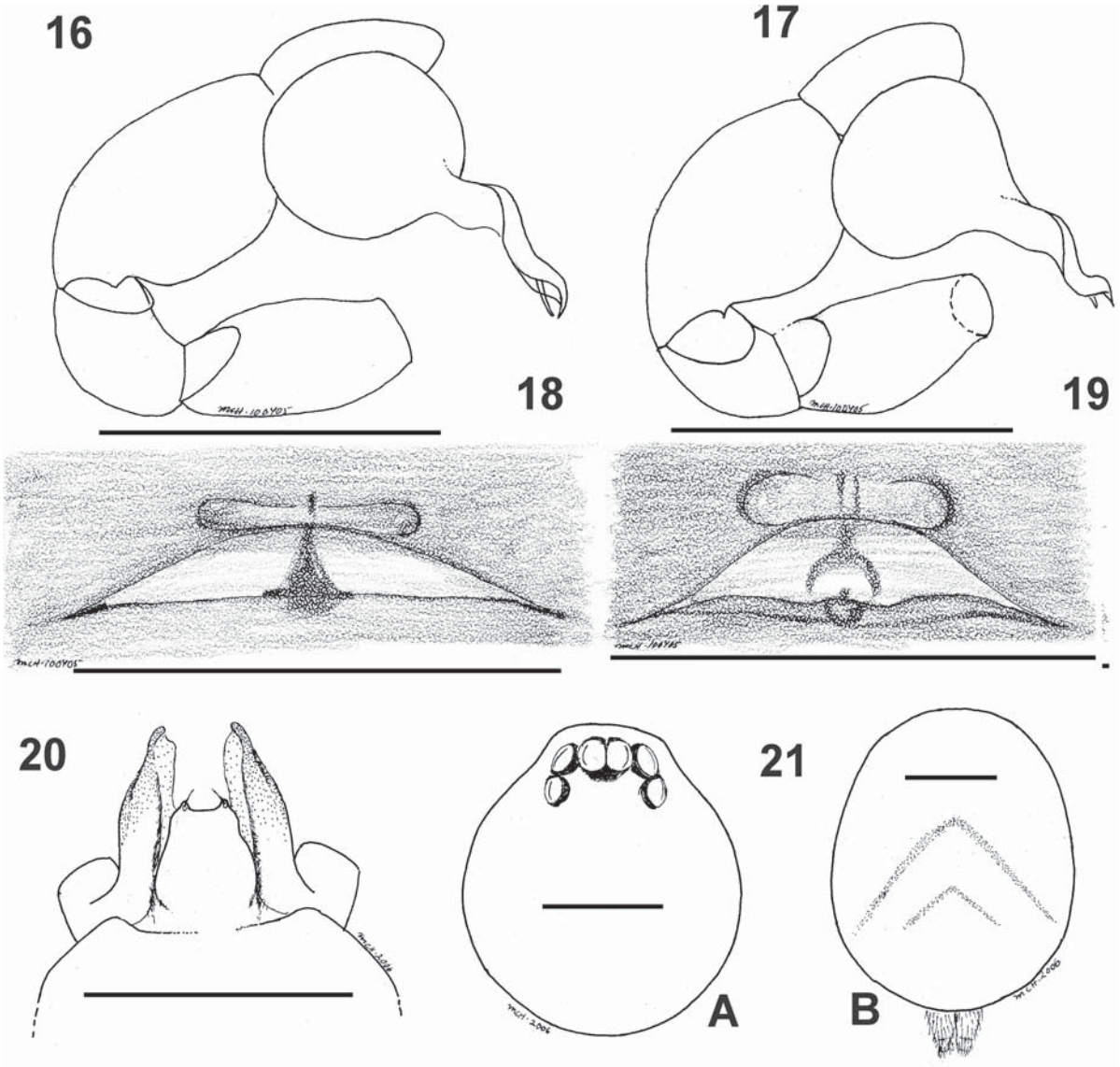
Oonops sp.

Figs 12–15.

SPECIMENS EXAMINED. ISRAEL: Jerusalem, 1 ♂, 04.12.1993, at night, inside building, G. Levy leg. (HUJ 15328).

REMARKS. Although this may be a new species it has been left formally undescribed. A main revision of the old world *Oonops* species is pending and it is more properly treated in that context.

DESCRIPTION. Carapace somewhat glossy, side with very fine micro sculpture, highest point at the end of the dorsal plane, sluice narrow, clypeus low, unrebordered. Colouration red while alive; very agile [Levy, in litt.). Sternum smooth, shiny, radial furrows very weak. Legs long, average built, well clothed with long hairs, lock spines hardly distinguished from normal hairs, Ti I–II = 4 pairs, Ta I–II with 3 pairs. Abdomen ovoid well clothed with dark, slightly swollen hairs.



Figs 16—21. *Orchestina pavesiiformis* sp.n. (Figs 16, 17, 20, 21) and *O. pavesii* (Simon, 1873) (Figs 18, 19): 16—18 — right male palp laterally; 17—19 — female copylatory organ ventrally; 20 — male maxillae and labium ventrally; 21 — male carapace (A) and abdomen (B) dorsally. Scale bars: 0.2 mm. Orig.

Рис. 16—21. *Orchestina pavesiiformis* sp.n. (16, 17, 20, 21) и *O. pavesii* (Simon, 1873) (18, 19): 16—18 — пальпа ♂ сбоку; 17—19 — копулятивный орган самки снизу; 20 — максиллы и лабиум ♂ снизу; 21 — карапкс ♂ (A) и брюшко (B) сверху. Масштаб 0,2 мм. Ориг.

MEASUREMENTS. ♂: TL 1.21, CL 0.57, CW 0.46, CH 0.25, AL 0.71, AW 0.43, TiI 0.43, FeIV 0.64, CI 0.81, CHI 0.44, LLI 0.75, FeI 1.13.

Genus *Orchestina* Simon, 1882

Orchestina Simon, 1882. — Ann. Soc. ent. Fr. (6) 2: 237. Type species by monotypy *Schaenobates pavesii* Simon, 1873 from France.

DIAGNOSIS. The genus consists of soft bodied species which are characterized by their ability to jump and accordingly they have strongly developed last femora.

Orchestina pavesiiformis **sp.n.**
Figs 16–21.

SPECIMENS EXAMINED. Holotype ♂, ISRAEL: Jerusalem, 08.I.1989, G. Levy leg. (HUJ 14220).

Paratypes: 1 ♂, Jerusalem, 13.VI.1990, G. Levy leg. (MZT AA 3.703); 1 ♀, Jerusalem, 03.V.1989, G. Levy leg. (MZT AA 3.704); 1 ♀, Jerusalem, 24.IV.1991, G. Levy leg. (HUJ 15326); 1 ♀, Jerusalem, 25.III.1988, G. Levy leg. (HUJ 14184); all taken at night, inside building.

Additional SPECIMENS EXAMINED. *Orchestina pavesii* (Simon, 1873): CANARY ISLANDS: Gran Canaria, Tamatoba (1300 m), 1 ♂, J. Wunderlich leg. and Tenerife, Teide

(2300 m), 3 ♂♂ 2 ♀♀, 02.—10.IV.1998, S Koponen leg. (MZT AA 3.675). ITALY: Sardelna, 3 ♂♂ 1 ♀, 01.IV.1972, J. Wunderlich leg. SPAIN: Valdefierro, Zaragoza, in house, 1 ♀ 1 ♂, 25.VI.1994, A. Melic leg. (IGA 190 and 442).

DIAGNOSIS. The species is very close to *O. pavesii* (Simon, 1873). The male of *O. pavesiiformis* sp.n. can be distinguished by having the two apical extensions of the psembolus conclusively longer than those of *O. pavesii* (Figs 16 and 17) and the female by having the horseshoe-like figures on the epigastric area narrower and wider apart compared with those of *O. pavesii* (Figs 18 and 19).

DESCRIPTION OF MALE. Cephalothorax light orange, appendages somewhat paler except bulbus of male palp whitish, abdomen pale orange, dorsally with violetish tint and at least with anteriorly pointing posterior chevrons (Fig. 21B); while alive pink coloured with yellowish legs [Levy, in litt.]). Carapace smooth, glossy, relatively low, highest at posterior end of dorsal plane. PMEs at the same level as ALEs, about same size, PLEs smallest, some four times their diameter apart (Fig. 21A). Clypeus about as high as diameter of PMEs. Chelicerae relatively long and narrow, fangs short. Maxillae long and narrow with medially pointing apex, labium elongated with small hair bearing anterolateral bulges (Fig. 20). Legs long, slender, spineless, leg sequence 4, 1, 2, 3, legs I and II almost equal in length, femur IV considerably enlarged. Abdomen globular densely clothed with long hairs, which however are mostly detached. Tibia of male palp considerably swollen, slightly larger than bulbus. Bulbus spherical, psembolus long, somewhat S-shaped with two, sharp-pointed apical extensions.

DESCRIPTION OF FEMALE. Female similar to male but slightly larger and maxillae unmodified.

MEASUREMENTS. ♂: TL 1.00, CL 0.45, CW 0.36, CH 0.20, AL 0.57, AW 0.46, TiI 0.46, FeIV 0.50, CI 0.77, CHI 0.42, LLI 1.08, FeI 1.40.

DISTRIBUTION. Known only from Israel, Jerusalem.

ETYMOLOGY. The specific name is a noun in apposition and refers to the close similarity of the new species with *O. pavesii* (Simon, 1873).

Orchestina sedotmikha **sp.n.**
Figs 22–25.

SPECIMENS EXAMINED. Holotype ♂, ISRAEL: Sedot Mikha, pitfall trap, 22.III.2002, Y. Mandelik leg. (HUJ 15335). Paratypes: 2 ♂♂ 1 ♀, Nehusha, pitfall trap, 22.III.2002, Y. Mandelik leg. (HUJ 15437); 2 ♂♂ 3 ♀♀, Ramat Avishur, pitfall trap, 22.III.2002, Y. Mandelik leg. (HUJ 15438, MZT AA. 3.705); 3 ♂♂ 4 ♀♀, Nehusha, pitfall trap, 14.V.2002 Y. Mandelik leg. (HUJ 15439); 1 ♂ 2 ♀♀, Ramat Avishur, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15440); 9 ♀♀, Sedot Mikha, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15441); 1 ♂ 2 ♀♀, Har Sansan, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15442);1 ♂, Har Sansan, 22.III.2002, Y. Mandelik leg. (HUJ15490).

DIAGNOSIS. The male of this species is diagnosed by the straight psembolus abruptly narrowed at its middle and by two dark curved strips formed by partly translucent seminal duct in the basal part of the bulbus (Fig. 22) and the female by a pair of posteriorly opening pockets on the epigastric area (Fig. 23).

DESCRIPTION OF MALE. Cephalothorax and appendages pale yellowish, abdomen whitish. Carapace smooth and shiny; highest at the posterior end of dorsal plane (Fig. 25). PMEs largest, well apart from ALEs and slightly more frontal, ALEs and PLEs about equal in size, touching each other, PLEs about three times their diameter apart (Fig. 24). Segments of male palp not swollen; bulbus nearly spherical, a pair of curved dark stripes at its lower part formed by partially translucent seminal duct; psembolus simple shorter than diameter of bulbus, narrow with spike-like apical part (Fig. 22).

DESCRIPTION OF FEMALE. Female similar to male. A pair of pocket like structures on each side of epigastric area frontally from epigastric furrow; transparent copulatory organs represented by median dark spherical structure (Fig. 23).

MEASUREMENTS. ♂: TL 0.92, CL 0.46, CW 0.32, CH 0.21, AL 0.50, AW 0.36, TiI 0.39, FeIV 0.46, CI 0.69, CHI 0.46, LLI 0.85, FeI 1.00; ♀: TL 1.25, CL 0.54, CW 0.41, CH 0.29, AL 0.75, AW 0.57, TiI 0.39, FeIV 0.46, CI 0.77, CHI 0.53, LLI 0.73, FeI 0.87.

DISTRIBUTION. Known only from Israel, Judean foothills, several places.

ETYMOLOGY. The specific name is a noun in apposition derived from the name of locus typicus.

Genus *Ovobulbus* **gen.n.**

Type species *Ovobulbus boker* sp.n.

DIAGNOSIS. The genus consists of Oonopidae molles and is distinguished by the large, more or less egg-shaped bulbus of the male palp bearing a long and narrow psembolus on its lateral face; cymbium and bulbus separate. Also the conspicuously large claws may have diagnostic value.

SPECIES INCLUDED. *Ovobulbus boker* sp.n., *Ovobulbus bokerella* sp.n., and *Ovobulbus elot* sp.n.

ETYMOLOGY. The generic name refers to the egg-shaped bulbus of the male palp. Gender feminine.

Ovobulbus boker **sp.n.**
Figs 26–33.

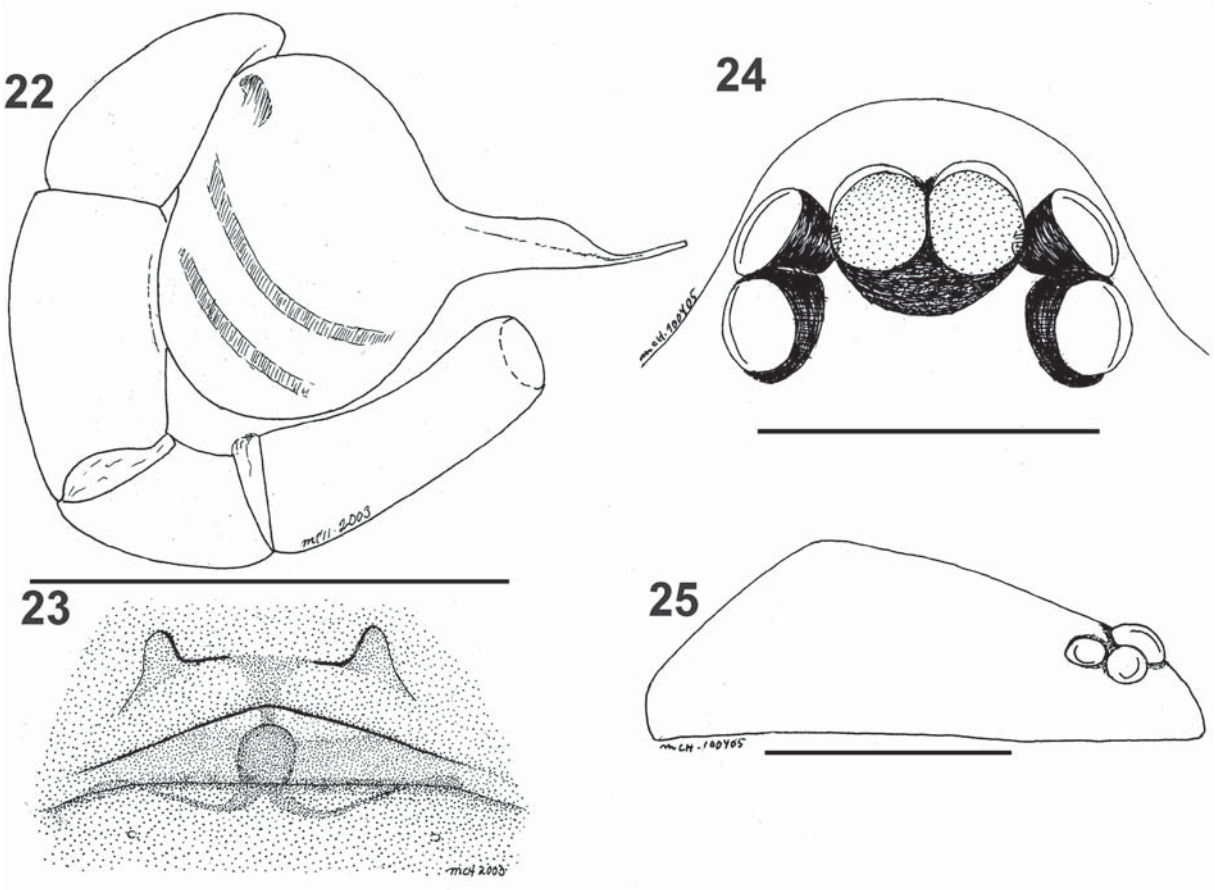
SPECIMENS EXAMINED. Holotype ♂, ISRAEL: Sede Boqer, Jan. 1987, V. Roth leg. (HUJ 15446).

DIAGNOSIS. The male (female unknown) of *Ovobulbus borger* sp.n. can be recognized by its long legs (Figs 29 and 30) and small dent-like extension on the base of the ribbon-like psembolus attached to the bulbus in the middle of its apical half (Fig. 26B).

DESCRIPTION. Fairly large species. Cephalothorax pale orange, appendages pale yellowish orange, abdomen pale yellowish. Carapace wide and flat, glossy with very dilute microsculpture, frontally attenuated, no sluice (Figs 28 and 31). Eyes touching each others, ALEs largest, slightly wider apart than their diameter, PMEs slightly smaller, PLEs about half of the size of ALEs, some 2.5 times of their diameter apart (Fig. 27). Clypeus low with numerous mediodorsally pointing long hairs (Fig. 33). Chelicera fairly long and narrow, without special structures. Sternum glossy with indistinct microsculpture, no radial furrows (Fig. 27). Legs conspicuously long, spineless, claws conspicuously large. Abdomen soft, sparsely covered with dark, relatively long addpressed hairs (mostly detached) (Fig. 31). Male palpal segments narrow and elongated, cymbium and bulbus separate. Bulbus very large, egg-shaped, psembolus long and narrow attached medially on its apical half, apex of psembolus with small transparent membrane, small dent-like extension of bulbus at base of psembolus (Figs. 26A and B).

MEASUREMENTS. ♂: TL 1.71, CL 0.71, CW 0.61, CH 0.21, AL 1.00, AW 0.54, FeIV 0.71, CI 0.85, CHI 0.30, FeI 1.00.

DISTRIBUTION. Known only from Israel, Sede Boqer.



Figs 22–25. *Orchestina sedotmikha* sp.n.: 22 — right male palp laterally; 23 — female copylatory organ ventrally; 24 — eyes of female dorsally; 25 — carapace of male laterally. Scale bars: 0.2 mm. Orig.

Рис. 22–25. *Orchestina sedotmikha* sp.n.: 22 — пальпа ♂ сбоку; 23 — копулятивный орган самки снизу; 24 — глаза ♀ сверху; 25 — карапакс ♂ сбоку. Масштаб 0,2 мм. Ориг.

ETYMOLOGY. The specific name is a noun in apposition derived from the name of locus typicus earlier spelled as Boker.

Ovobulbus bokerella **sp.n.**
Figs 34–38.

SPECIMENS EXAMINED. Holotype ♂ and paratype ♀, ISRAEL: Sede Boqer, Jan.1987, V. Roth leg. (HUJ 15319). Paratypes:1 ♂, near Elot, southern Rift Valley by pitfall traps, 26.IV.2003, U. Shanas leg. (HUJ 15379); ♂ (abdomen missing) EGYPT: Sinai, Wadi Ara'am, 23.I.1969, S. Reichenstein leg. (HUJ 15311).

DIAGNOSIS. This species is close to *O. boker* sp.n. but differs by its oblong carapace (Fig. 36), shorter legs (Fig. 37, 38), and differences in male palp (Fig. 34).

DESCRIPTION OF MALE. Medium sized species. Cephalothorax pale orange, appendages pale yellowish orange, abdomen pale yellowish. Carapace oblong, glossy with very dilute microsculpture, frontally attenuated no sluice (Fig. 36). Eyes touching each others, ALEs about same size as PMEs, approximately their diameter apart, PLEs smallest, some 1.5 times of their diameter apart (Fig. 35). Clypeus low with some anteriorly pointing hairs (Fig.35). Chelicera fairly long and narrow, without special structures. Sternum glossy with indistinct microsculpture, no radial furrows. Legs conventional, spineless, claws conspicuously large (36). Abdomen soft, sparsely covered with dark, rather short hairs. Cymbium and bulbus separate; bulbus very large, egg-shaped, psembolus long and narrow attached on dorsal edge of bulbus, apex of psembolus with small transparent membrane (Figs. 34A and B).

DESCRIPTION OF FEMALE. Similar to male except the small weakly sclerotized, quadrangular epigastric scutum and narrow posterior scutum. No external sexual organs.

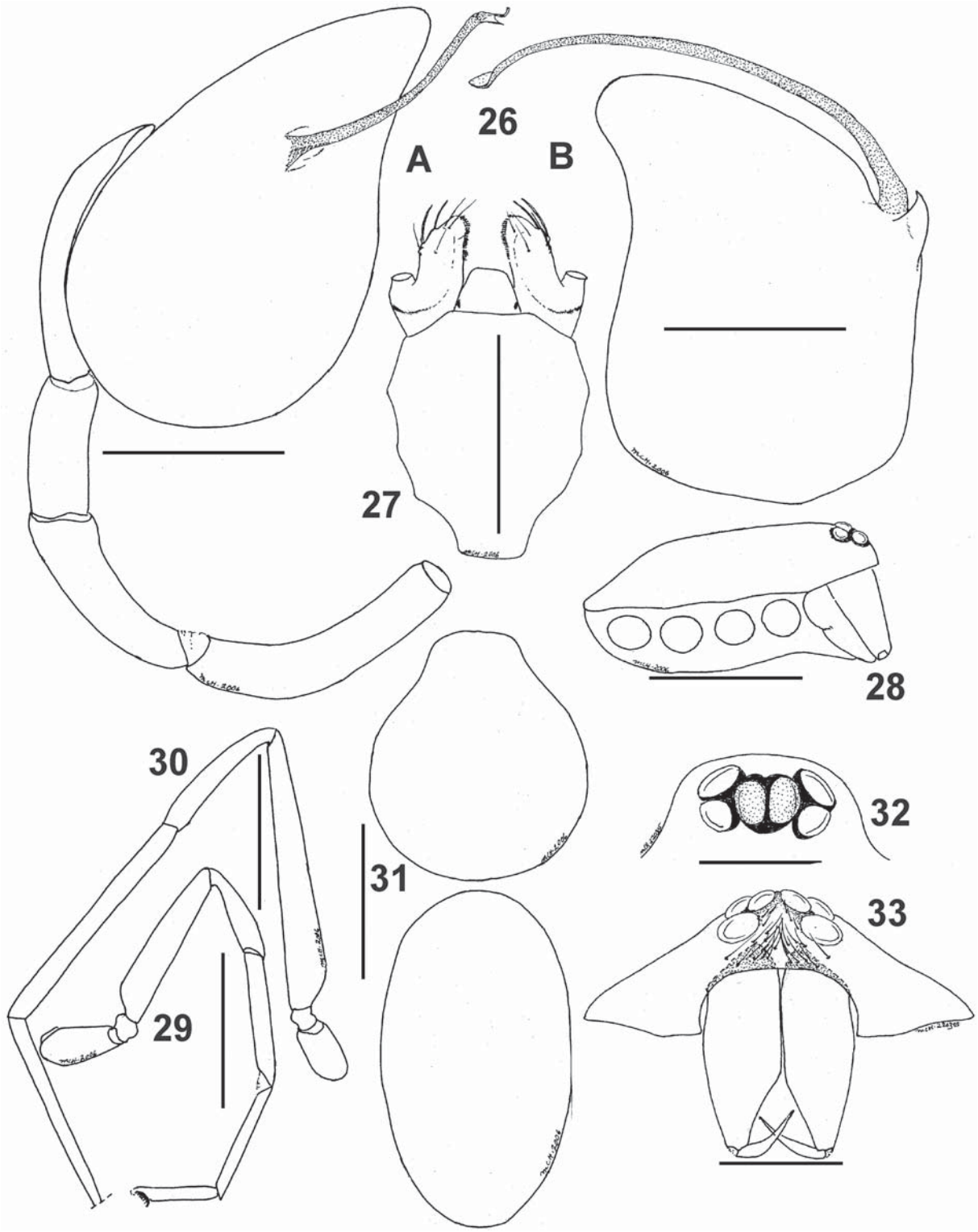
MEASUREMENTS. ♂: TL 1.54, CL 0.64, CW 0.43, CH 0.18, AL 0.89, AW 0..46 TiI 0.21, FeIV 0.36, CI 0.67, CHI 0.28, LLI 0.33, FeI 0.56; ♀: TL 1.64 CL 0.64, CW 0.43, CH 0.18, AL 1.00, AW 0.56, TiI 0.21, FeIV 0.36, CI 0.67, CHI 0.28, LLI 0.33, FeI 0.56.

DISTRIBUTION. Known from Israel, Sede Boqer near Elot, southern Rift Valley and Egypt, Sinai, Wadi Ara'am.

ETYMOLOGY. The specific name refers to the fact that the species looks like a small, short-legged *O. boker* sp.n..

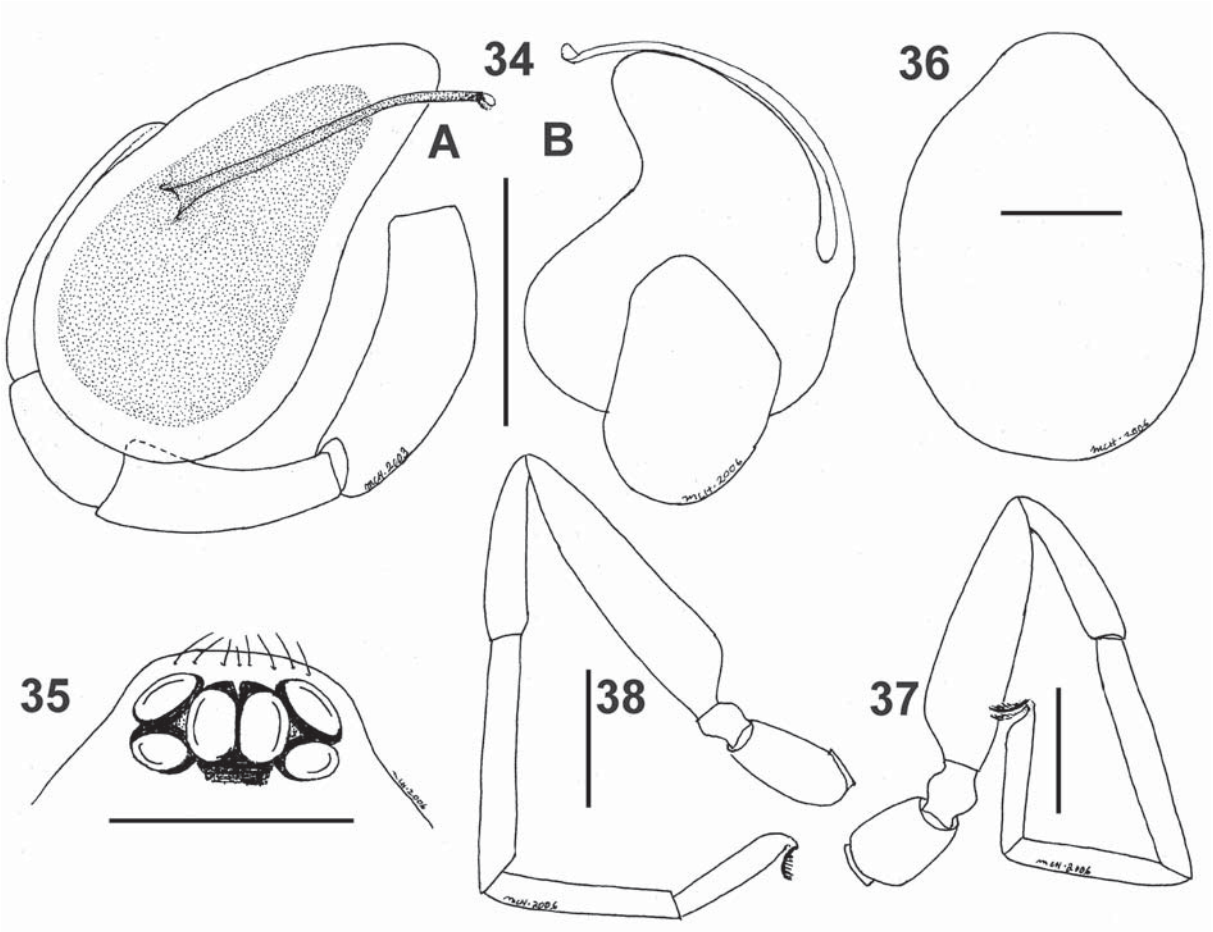
Ovobulbus elot **sp.n.**
Figs 39–45.

SPECIMENS EXAMINED. Holotype ♂, ISRAEL: near Elot, southern Rift Valley, 25.VII.2003, U. Shanas leg. (HUJ 15456); Paratypes: 3 ♂♂ 1 ♀, south Yahel, southern Rift Valley, 20.IV.2004, U. Shanas leg. (HUJ 15463, MZT



Figs 26—33. *Ovobulbus boker* sp.n.: 26 — right male palp laterally (A) and mesially (B); 27 — male sternum ventrally; 28 — male cephalothorax laterally; 29 — right leg I laterally; 30 — right leg IV laterally (metatarsus lost); 31 — male cephalothorax and abdomen dorsally; 32 — eyes of male dorsally; 33 — male carapace and chelicerae frontally. Scale bars for Figs 27, 32, 33 — 0.2 and for Figs 27—31 — 0.5 mm. Orig.

Рис. 26—33. *Ovobulbus boker* sp.n.: 26 — пальпа ♂ ретро- (A) и пролатерально (B); 27 — стернум ♂ снизу; 28 — головогрудь ♂ сбоку; 29 — правая нога I сбоку; 30 — правая нога IV сбоку (предлапка отсутствует); 31 — головогрудь и брюшко ♂ сверху;32 — глаза ♂ сверху; 33 — карапакс и хелицеры ♂ спереди. Масштаб: 27, 32, 33 — 0,2 мм, 28—31 — 0,5 мм. Ориг.



Figs 34—38. *Ovobulbus bokerella* sp.n.: 34 — right male palp laterally and mesially (B); 35 — eyes of male dorsally; 36 — male carapace dorsally; 37 — right leg I laterally; 38 — right leg IV laterally. Scale bars: 0.2 mm. Orig.

Рис. 34—38. *Ovobulbus bokerella* sp.n.: 34 — пальпа ♂ ретро- (A) и пролатерально (B); 35 — глаза ♂ сверху; 36 — карапакс ♂ сверху; 37 — правая нога I сбоку; 38 — правая нога IV сбоку. Масштаб 0,2 мм. Ориг.

AA 3.706); 1 ♀, southern Rift Valley, north Lotan, by pitfall traps, 2.VIII.2003, U. Shanas leg. (HUJ 15455)

DIAGNOSIS. The male and female of this fairly large species can be distinguished from the two other congeners by the firmly attached, conspicuously thickened hairs on the abdomen (Fig.43) and the broad, egg-shaped carapace (Fig. 44).

DESCRIPTION OF MALE. Fairly large species. Cephalothorax pale orange, appendages pale yellowish orange, abdomen pale yellowish. Carapace wide and flat, evenly narrowing anteriorly, glossy with very dilute microsculpture, no sluice (Figs 43–45). Eyes quite small, almost of same size, arranged in H-shape (Figs 44 and 45). Clypeus low with some mediodorsally pointing hairs (Fig. 44). Chelicera fairly long and narrow, with keel on inner side (Fig. 45). Sternum glossy with indistinct microsculpture, no radial furrows (Fig. 40). Legs conventional, spineless, claws conspicuously large (41 and 42). Abdomen soft, thickly covered with dark, relatively long and conspicuously thickened, addpressed hairs, firmly attached (Fig. 43). Male palpal segments narrow and elongated, cymbium and bulbus separate. Bulbus very large, pear-shaped, psembolus long and narrow attached on its apical part, apex of psembolus with small transparent membrane, (Figs. 39A and B).

DESCRIPTION OF FEMALE. Similar to male except the small weakly sclerotized, quadrangular epigastric scutum and narrow posterior scutum. No external sexual organs.

MEASUREMENTS. ♂: TL 1.86, CL 0.89, CW 0.75, CH 0.21, AL 0.96, AW 0.54, TiI 0.46, FeIV 0.61, CI 0.84, CHI 0.24, LLI 0.52, FeI 0.68; ♀: TL 1.79, CL 0.82, CW 0.68, CH 0.20, AL 0.96, AW 0.54, TiI 0.43, FeIV 0.57, CI 0.83, CHI 0.24 LLI 0.52, FeI 0.70.

DISTRIBUTION. Known only from Israel, southern Rift Valley, surroundings of Yahel, Lotan, and Elot.

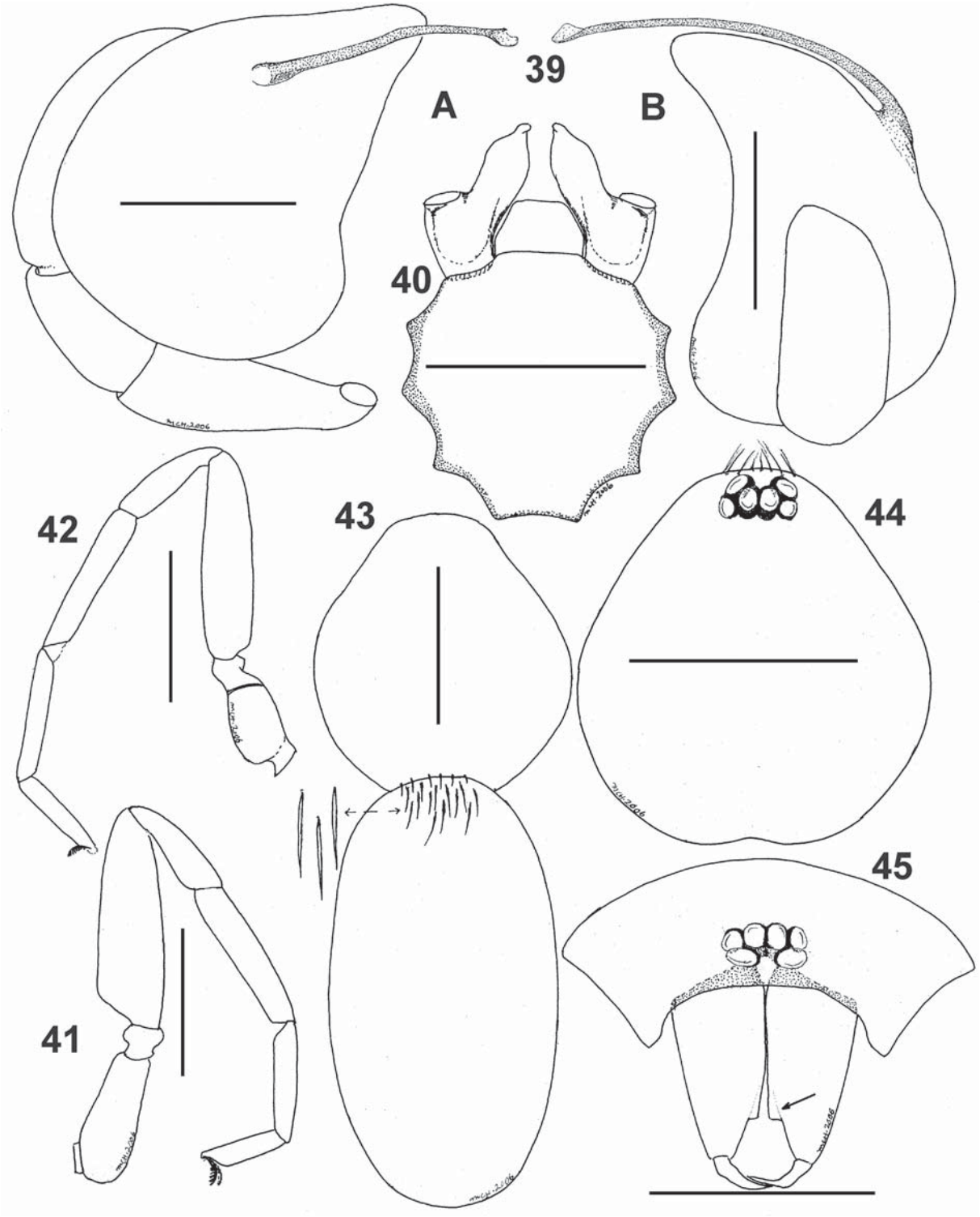
ETYMOLOGY. The specific name is a noun in apposition derived from the collection site of the holotype.

Genus *Semibulbus* **gen.n.**

Type species *Semibulbus zekharya* sp.n.

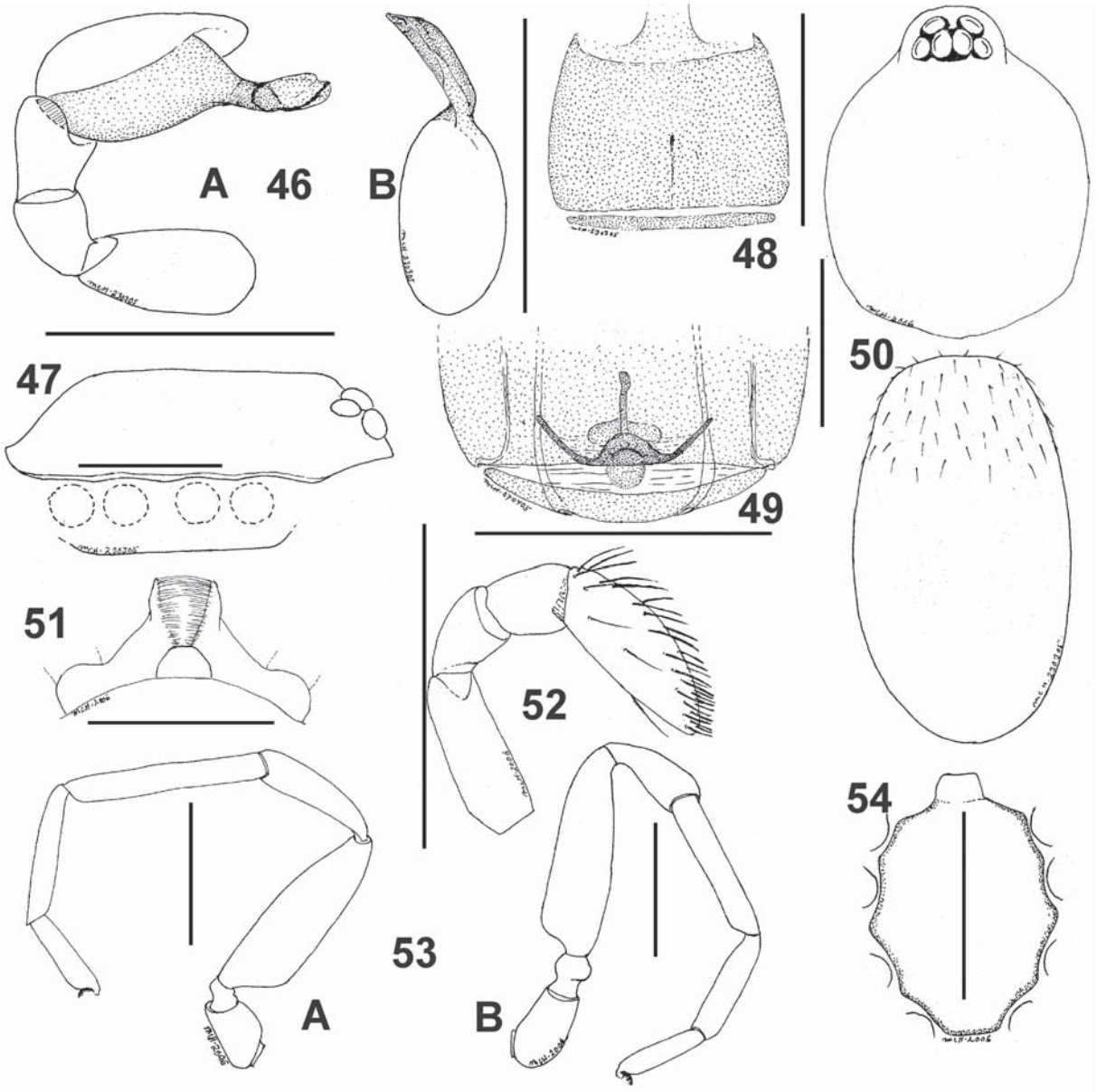
DIAGNOSIS. The genus consists of Oonopidae molles and is distinguished by the elongated, partially fused cymbium and bulbus; psembolus apical, rather long and thick, pointing mesally, other palpal segments somewhat swollen (Fig. 46).

ETYMOLOGY. The generic name refers to the partial fusion of the cymbium with the bulbus. Gender feminine.



Figs 39—45. *Ovobulbus elot* sp.n.: 39 — right male palp laterally (A) and mesially (B); 40 — male sternum ventrally; 41 — right leg I laterally; 42 — right leg IV laterally; 43 — carapace and abdomen of male dorsally; 44 — carapace of female dorsally; 45 — carapace and chelicerae of male frontally. Scale bar for Fig. 39 — 0.2 mm and for Figs 40—45 — 0.5 mm. Orig.

Рис. 39—45. *Ovobulbus elot* sp.n.: 39 — пальпа ♂ ретро- (A) и пролатерально (B); 40 — стернум ♂ снизу; 41 — правая нога I сбоку; 42 — правая нога IV сбоку; 43 — карапакс и брюшко ♂ сверху; 44 — карапакс ♀ сверху; 45 — карапакс и хелицеры ♂ спереди. Масштаб: 39 — 0,2 мм, 40—45 — 0,5 мм. Ориг.



Figs 46—54. *Semibulbus zekharya* sp.n.: 46 — right male palp laterally (A) and dorsally (B); 47 — female carapace and sternum laterally; 48 — epigastric area of female; 49 — internal female genital organs ventrally, cleared with KOH; 50 — female cephalothorax and abdomen dorsally; 51 — male maxillae and labium ventrally; 52 — right female palp laterally; 53 — right leg I (A) and IV (B) of female laterally; 54 — sternum of female ventrally. Scale bars: 0.2 mm. Orig.

Рис. 46—54. *Semibulbus zekharya* sp.n.: 46 — пальпа ♂ сбоку (A) and сверху (B); 47 — карапакс и стернум ♀ сбоку; 48 — эпигастральная область ♀; 49 — эндогина ♀ снизу, мацерирована в KOH; 50 — карапакс и брюшко ♀ сверху; 51 — максиллы и лабиум ♂ снизу; 52 — правая пальпа ♀ сбоку; 53 — правая нога I (A) и нога IV (B) ♀ сбоку; 54 — стернум ♀ снизу. Масштаб 0,2 мм. Ориг.

Semibulbus zekharya **sp.n.**
Figs 46–54.

SPECIMENS EXAMINED. Holotype ♂, ISRAEL: Giv'at Zekharya, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15447). Paratypes: ♂, same data as for the holotype (HUJ 15491); 1 ♂ 1 ♀, Har Sansan, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15492); 1 ♂, Haluqim Ridge, pitfall trap, 16.IX.1992, Y. Lubin leg. (HUJ 15327); 1 ♀, Nahal Zin, Jan.1987, V. Roth leg. (HUJ 15321); 2 ♂♂, Giv'at Zekharya, pitfall trap, I3.VIII.2001, Y. Mandelik leg. (HUJ 15333); 1 ♂, Nehusha, pitfall trap, (damaged), 13.VIII.2001, Y. Mandelik leg. (HUJ 15332); 2 ♂♂ 5 ♀♀ near Nehusha, Ja'ao, 14.V.2002, Y. Mandelik leg. (HUJ 15448); 5 ♂♂ 2 ♀♀, Ramat Avishur, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15449, MZT AA 3.707); 1 ♀, Sedot Mikha, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15450); 4 ♂♂ 1 ♀, Sedot Mikha, by pitfall traps, 15.VIII. 2002, Y. Mandelik leg. (HUJ 15454).

DIAGNOSIS. This small species (TL = 0.93–1.00) is characterized in male by the low elongated cymbium partially fused with the cylindrical bulbus bearing at its apex a long inwards turned psembolus (Fig. 46). The female is recog-

nized with certainty by the somewhat anchor-like part of the internal copulatory organs (Fig. 49).

DESCRIPTION OF MALE. Cephalothorax pale brown, appendages pale brownish, abdomen very pale yellowish, very sparsely clothed with black addpressed hairs (Fig. 50). In profile carapace relative low, dorsal plane long; clypeus low, about half of diameter of ALEs (Fig. 47), in dorsal view broad and strongly attenuated, sluice narrow, no posterior elevation (Fig. 50). Eyes in compact group, ALEs largest, about 2/3 of their diameter apart; PMEs about 2/3 of the size of ALEs, touching each other, ALEs, and PLEs, PLEs about half of size of PMEs (Fig. 50). Basal part of maxillae pointing medially, apical part long and narrow anteriorly pointing (Fig. 51) Sternum elongated without radial furrows (Fig. 54). Legs relatively long and heavily built (Fig. 53). Abdomen elongated cylindrical, sparsely clothed with short hairs (Fig. 50).

DESCRIPTION OF FEMALE. Much like male. Apical segment of female palp tumid, clothed with somewhat swollen hairs. Epigastric scutum relatively weakly sclerotized, quadrangular, in the middle a thin, dark line; posterior scutum very narrow (Fig. 48). Internal copulatory organs consists of dark anchor-like part, a thin walled sac-like bulgings on both sides of the median rod and a spherical also thin walled sac posteromedially from it (Fig. 49).

MEASUREMENTS. ♂: TL 0.93, CL 0.45, CW 0.35, CH 0.23, AL 0.45, AW 0.29, TiI 0.20, FeIV 0.27, CI 0.76, CHI 0.48, LLI 0.44, FeI 0.60; ♀: TL 1.00, CL 0.46, CW 0.36, CH 0.23, AL 0.57, AW 0.32, TiI 0.21, FeIV 0.24, CI 0.77, CHI 0.50, LLI 0.46, FeI 0.62.

DISTRIBUTION. Found only in Israel, at the foothills of Judea and Central Negev.

ETYMOLOGY. The specific name is a noun in apposition derived from the collection site of the holotype.

II. Oonopidae loricati

The members of this group have their abdomen enclosed between dorsal and ventral shields and also spinnerets are partially surrounded by a chitin ring.

Genus *Gamasomorpha* Karsch, 1881

Gamasomorpha Karsh, 1881. — *Berl. ent. Zeitschr.* 25: 40. Type species by monotypy *Gamasomorpha cataphracta* Karsch, 1881 from Japan.

Gamasomorpha gershomi **sp.n.**
Figs 55–63.

SPECIMENS EXAMINED. Holotype ♂ and paratype ♀, ISRAEL: south Yahel, southern Rift Valley, pitfall, 20.IV.2004, U. Shanas leg. (HUJ 15462). Paratypes: 1 ♂, same data as for holotype (HU); 1 ♂, same data as for holotype (MZT AA 3.708); 2 ♂♂ 1 ♀, East Yotvata, 16.VII.2004, U. Shanas leg. (HUJ 15495).

DIAGNOSIS. *Gamasomorpha gershomi* sp.n. is distinguished from all other *Gamasomorpha* species by having large, dark somewhat kidney shaped operculae and on the anterior part of the epigastric scutum there are numerous short hairs with black, sharp pointed base; further some four most lateral hairs are conspicuously long and curved, laterally pointing (Fig. 60). Also characteristic for the male is the small, conical posteriorly pointing bulge at the area of gonopore (Fig. 57).

DESCRIPTION OF MALE. Body orange brown, sternum and appendages light brown. The whole carapace covered with hexagonal reticulation, more dilute on dorsal plane which appears almost smooth, hairs of side rows of dorsal plane numerous, inwards pointing, distinctly swollen; sluice conspicuously narrow, its posterior elevation low (Fig. 61). Eyes arranged so as to form letter H, nearly touching each others, PMES largest, ALEs and PLEs about same size (Figs 56 and 59). Clypeus rather low, about as high as diameter of ALEs (Fig. 59). Chelicerae with low lamina extending to fairly large truncate tooth. (Fig. 59). Legs of average length, spineless (Fig. 58). Apical part of maxillae laterally with two small bulges bearing a stout hair; sternum longer than wide, shiny with dilute granulation, pouches medially fused; no radiating striae (62). Dorsal scutum regularly oval-shaped, rather sparsely covered with fairly long dark hairs standing on tiny pits. Ventral scutum almost the size of dorsal one, truncated at posterior end. Petiolar tube quite low, surrounded by numerous small dark dents bearing curved hairs, no scutopetiolar apparatus, opercula large, kidney-shaped (Fig. 60). Small, conical posteriorly pointing bulge close to gonopore (Fig. 57). Colulus small, bearing two dark hairs. Cymbium and bulbus of male palp white, other segments pale yellowish; on apex of cymbium some dozen short, somewhat thickened hairs in tight group; bulbus large, slightly longer than cymbium, apex conical, blunt tipped; psembolus about half of bulbal length with three free ends, two black ones and one colourless, membrane-like; in lateral view psembolus appears almost straight, in dorsal view strongly bent medially (Fig. 55).

DESCRIPTION OF FEMALE. Female similar to male except without pouches and dorsal scutum longer but narrower. Apical segment of female palp somewhat tumid, with group of short thickened hairs apicodorsally, otherwise sparsely clothed with long hairs (Fig. 63). Posterior edge of the epigastric scutum strongly procurved and opposed with a well developed median elevation (ME) bearing straight, transverse dark line anteriorly (Fig. 60).

MEASUREMENTS. ♂: TL 1.54, CL 0.64, CW 0.43, CH 0.21, DSL 0.89, DSW 0.61, TiI 0.21, FeIV 0.36, CI 0.67, CHI 0.33, CSI 0.72, DSI 0.68, LLI 0.33, FeI 0.56, OI 1.00; ♀: TL 1.64, CL 0.64, CW 0.43, CH 0.21, DSL 1.00, DSW 0.57, TiI 0.18, FeIV 0.32, CI 0.67, CHI 0.33, CSI 0.64 DSI 0.57, LLI 0.28, FeI 0.50, OI 1.00.

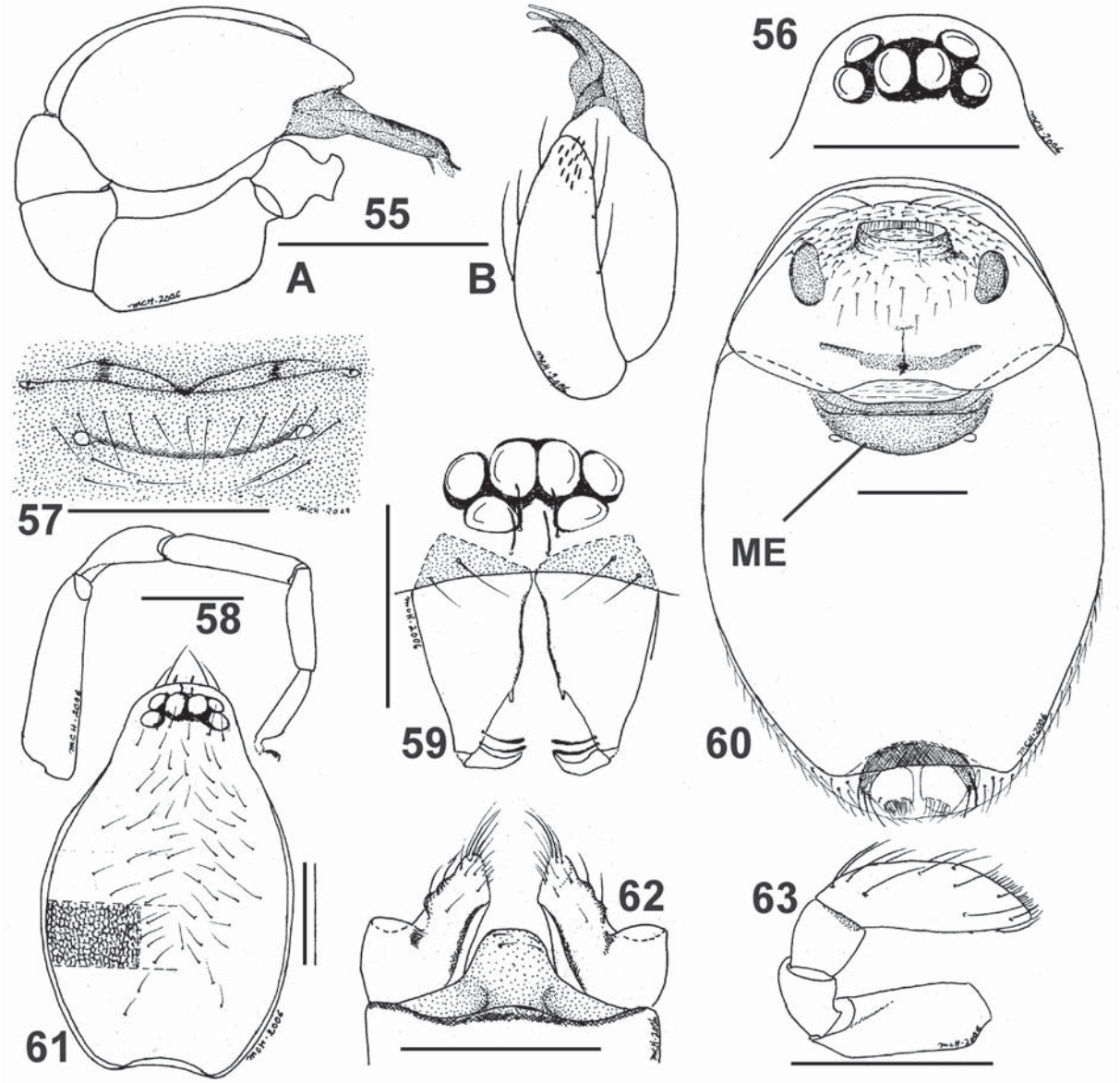
ETYMOLOGY. Named in honour of Dr. Gershom Levy, who made considerable contribution to the knowledge of the Israeli spider fauna.

DISTRIBUTION. Known only from Israel; south of Yahel, southern Rift Valley.

Genus *Opopaea* Simon, 1891

Opopaea Simon, 1891. — *Proc. Zool. Soc. London* 1891: 560. Type species by monotypy *Opopaea deserticola* Simon, 1891 from Lesser Antilles, Windward Islands, St. Vincent.

DIAGNOSIS. Palpal patella of the male very large, tibia small, and femur club-like seemingly inserted to patella at its middle. Cymbium and bulbus of the male palp fused together to form cymbiobulbus; cymbial part devoid of any outgrowths; at base of psembolus a small transparent area or palpal fenestra (PF, figs. 44 and 49). Females with more or less triangular median depression on the posterior scutum immediately behind the epigastric furrow and a small, knob-like outgrowth or parmula, standing on its anterior edge or inside it.



Figs 55—63. *Gamasomorpha gershomi* sp.n.: 55 — right male palp laterally (A) and dorsally (B); 56 — eyes of female dorsally; 57 — epigastric area of male; 58 — right leg I laterally; 59 — eyes and chelicerae of male frontally; 60 — abdomen of female ventrally; 61 — carapace of male dorsally; 62 — maxillae and labium of male ventrally; 63 — right female palp laterally. Scale bars: 0.2 mm. Orig.

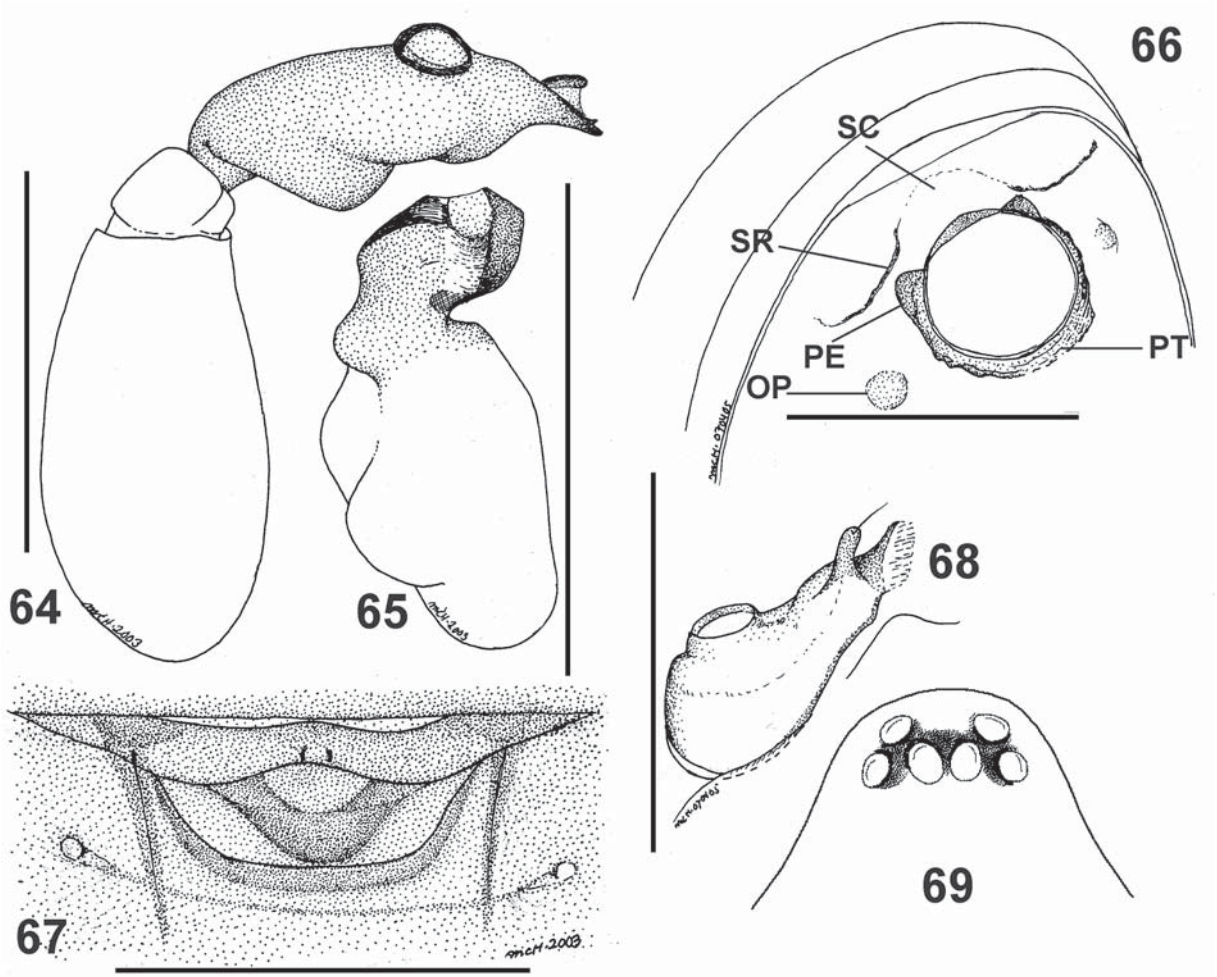
Рис. 55—63. *Gamasomorpha gershomi* sp.n.: 55 — пальпа ♂ сбоку (A) and сверху (B); 56 — глаза ♀ сверху; 57 — эпигастральная область ♂; 58 — правая нога I сбоку; 59 — глаза и хелицеры ♂ спереди; 60 — брюшко ♀ снизу; 61 — карапакс ♂ сверху; 62 — максиллы и лабиум ♂ снизу; 63 — правая пальпа самки сбоку. Масштаб 0,2 мм. Ориг.

Opopaea lingua **sp.n.**
Figs 64–69.

SPECIMENS EXAMINED. Holotype ♂ and paratype ♀, ISRAEL: Sede Boqer, I.1987, V. Roth leg. (HUJ 15320). Paratypes: 1 ♀, Bar'am forest, pitfall trap, V. 1996, R. Sharon leg. (HUJ 15329).

DIAGNOSIS. The species is close to *O. punctata* as both have raised palpal fenestra in male palp and large, posteriorly pointing parmula in postgynum. The male *O. lingua* sp.n. differs from that of *O. punctata* by the oval-shaped fenestra and the structure of the apical part of the cymbiobulbus (Figs 64 and 69) and the female by the large, tongue-like parmula (Fig. 67).

DESCRIPTION OF MALE. Body brownish orange, legs pale orange. Sides of carapace with distinct longitudinal streaks, dorsal plane smooth. Eyes fairly small; PMEs largest, almost touching each other, lateral eyes about equal in size, ALEs about 1.5 times their diameter apart and PLEs about their diameter apart from AMEs (Fig.69).Sternum with well distinguished radial furrows. Distal part of maxillae strongly sclerotized with blunt-tipped horn-like exten-



Figs 64—69: *Opopaea lingua* sp.n.: 64 — right male palp laterally; 65 — cymbiobulbus ventrally; 66 — scutopetiolar apparatus anteroventrally, slightly retrolaterally; 67 — epigastric area of female; 68 — male maxilla ventrally; 69 — eyes of female dorsally. Abbreviations: PT — petiolar tube, PE — extensions of petiolar tube, SR — ridges of ventral scutum, SC — scutal cove, OP — operculum. Scale bars: 0.2 mm. Orig.

Рис 64—69: *Opopaea lingua* sp.n.: 64 — пальпа ♂ сбоку; 65 — цимбиобульбус снизу; 66 — скуто-петиолярный аппарат спереди-снизу, слегка сбоку; 67 — эпигастральная область ♀; 68 — максиллы ♂ снизу; 69 — глаза ♀ сверху. Сокращения: PT — трубка стебелька, PE — вырост трубки стебелька, SR — гребни вентрального скутума, SC — впадинка скутума, OP — лёгочная крышка. Масштаб 0,2 мм. Ориг.

sion (Fig. 68).Dorsal scutum oval shaped, sparsely covered with short, subdecumbent hairs rising from relatively wide pits. Legs of average length, thick and spineless. Scutopetiolar apparatus well-developed; operculae small, circular (Fig. 66). Sperm pore well discernable, transverse. Posterior ring furnished with some twelve, relatively long, curved hairs. Colulus very small with two hairs. Patella of male palp larger than cymbiobulbus, palpal fenestra elevated, roughly oval-shaped, apical part of cymbiobulbus turned medially in right angle (Fig. 65 and 64).

DESCRIPTION OF FEMALE. Female like male except maxillae without projection. Postgynal ridge wide, parmula exceptionally large, roughly triangular (Fig.67).

MEASUREMENTS. ♂: TL 1.27, CL 0.55, CW 0.43, CH 0.18, DSL 0.71, DSW 0.43, TiI 0.18, FeIV 0.29, CI 0.77, CHI 0.32, CSI 0.78, DSI 0.60, LLI 0.33, FeI 0.52; ♀: TL 1.32, CL 0.54, CW 0.43, CH 0.18, DSL 0.79, DSW 0.50, TiI 0.18, FeIV 0.29, CI 0.80, CHI 0.33, CSI 0.68 DSI 0.64, LLI 0.33, FeI 0.53.

DISTRIBUTION. Known only from Israel; Sede Boqer and Bar'am.

ETYMOLOGY. The specific name is a noun in apposition and refers to the large, tongue-like parmula of the female postgynum.

Opopaea punctata (O. Pickard-Cambridge, 1872) Figs 70–78.

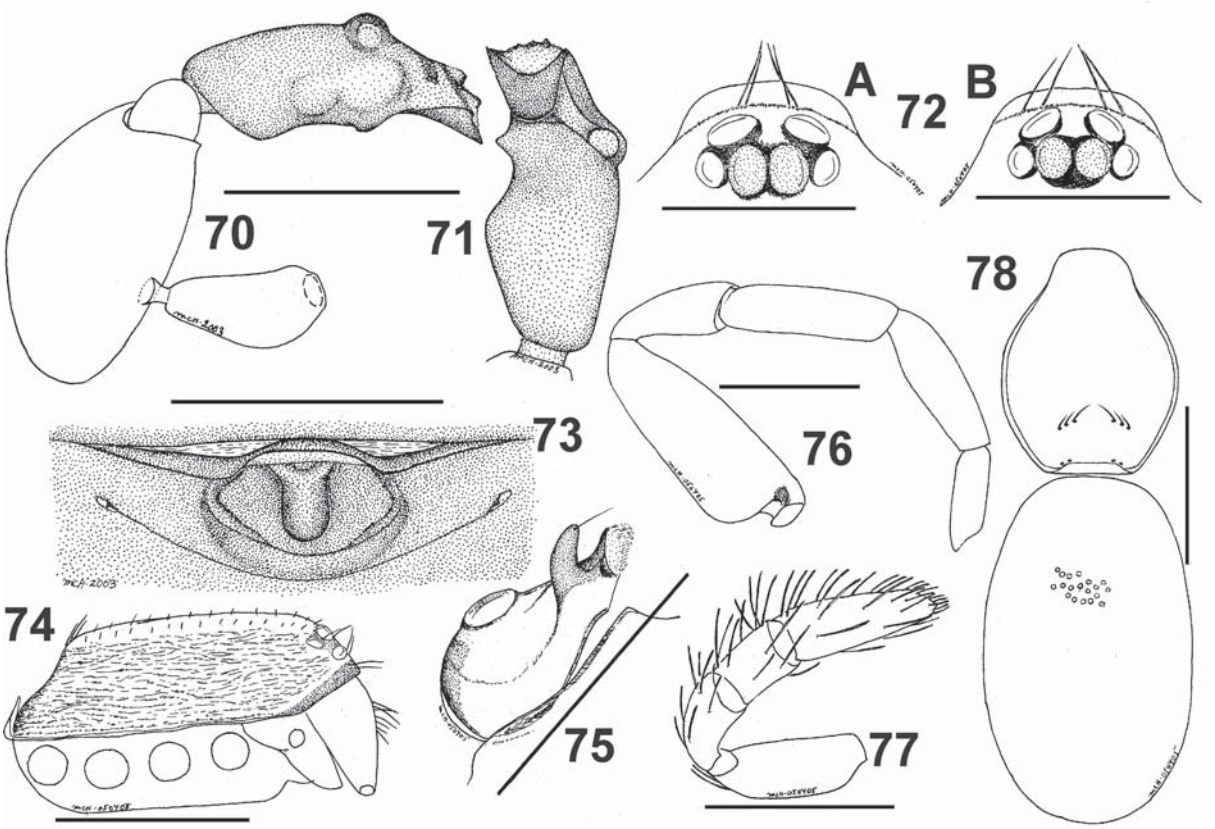
Oonops punctatus O. Pickard-Cambridge, 1872: 223, pl. 14, f. 3A (D♂, from Hasbeiya, Lebanon).

Opopaea punctata: Simon 1910: 309.

O. p.: Brignoli, 1975: 224, f. 1–4 (♂).

O. p.: Assi, 1982: 87, f. 1 (D♀).

*S*PECIMENS EXAMINED. ISRAEL: Haifa, 1 ♂ 3 ♀♀, 10.I.1942, A. Shulov leg., (HUJ 15305); Kefar Sava, 1 ♂, 17.III.1944, A. Shulov leg. (HUJ 15306); Sho'mera, 1 ♂, 26.II.1967, Y. Zohar leg. (HUJ 15312); *Kefar Ez'yon, 1 ♂, 03.I.1972, P. Amitai leg. (HUJ 15313); Ma'agan Mikhael, 2



Figs 70–78. *Opopaea punctata* (O. Pickard-Cambridge, 1872): 70 — right male palp laterally; 71 — cymbiobulbus ventrally; 72 — eyes of male (A) and female (B) dorsally; 73 — epigastric area of female; 74 — male carapace laterally; 75 — male maxilla ventrally; 76 — leg I laterally; 77 — female palp laterally; 78 — carapace and abdomen of male dorsally. Scale bars: 0.2 mm, except Figs 74, 76, and 78 — 0.5 mm. Orig.

Рис 70–78. *Opopaea punctata* (O. Pickard-Cambridge, 1872): 70 — пальпа ♂ сбоку; 71 — цимбиобульбус снизу; 72 — глаза ♂ (A) и ♀ (B) сверху; 73 — эпигастральная область ♀; 74 — карапакс ♂ сбоку; 75 — максилла ♂ снизу; 76 — нога I сбоку; 77 — пальпа ♀ сбоку; 78 — карапакс и брюшко ♂ сверху. Масштаб 0,2 мм, кроме рис. 74, 76, и 78 — 0,5 мм. Ориг.

♀♀, II.1987, V. Roth leg. (HUJ 15322); Geshur, Golan, pitfall trap, 1 ♂, II.1999, R. Sharon leg. (HUJ 15330); Giv'at Zekharya, pitfall trap, 4 ♂♂ 2 ♀♀, 22.III.2002, Y. Mandelik leg. (HUJ 15336, MZT AA 3.709); Nehusha, pitfall trap, 6 ♂♂ 1 ♀, 22.III.2002, Y. Mandelik leg. (HUJ 15430); Ramat Avishur, pitfall trap, 6 ♂♂, 22.III.2002 Y. Mandelik leg. (HUJ 15431); Nehusha, pitfall trap, 5 ♂♂ 1 ♀, 14.V.2002, Y. Mandelik leg. (HUJ 15432); Ramat Avishur, pitfall, 6 ♂♂, 14.0V.2002, Y. Mandelik leg. (HUJ 15433); Giv'at Zekharya, pitfall, 4 ♂♂ 1 ♀, 14.V.2002, Y. Mandelik leg. (HUJ 15434); Sedot Mikha, pitfall, 4 ♂♂ 1 ♀, 14.V.2002, Y. Mandelik leg. (HUJ 15435); Har Sansan, pitfall, 1 ♂, 14.V.2002 Y. Mandelik leg. (HUJ 15436).

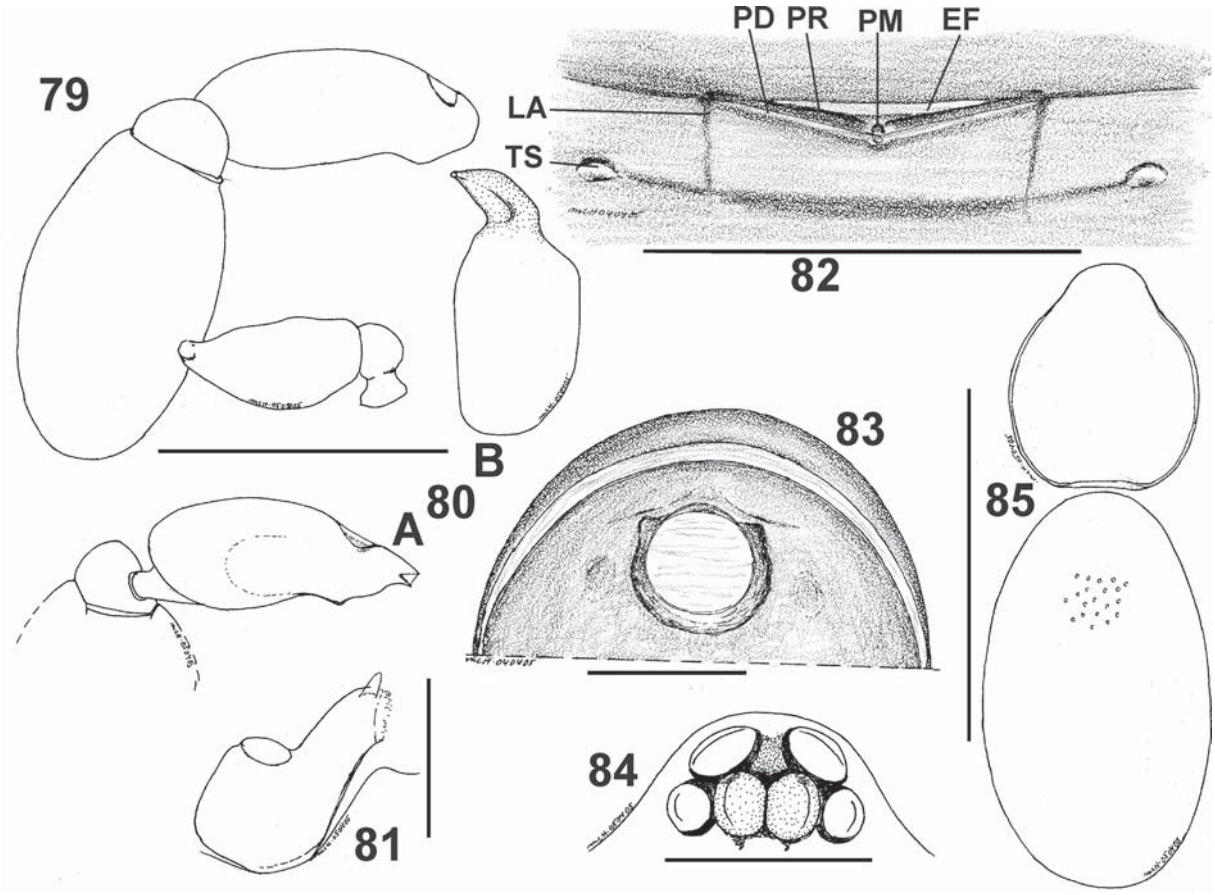
Sedot Mikha, pitfall trap, 1 ♂ [no palps!], 22.III.2002, Y. Mandelik leg., (HUJ 15334).

DIAGNOSIS. Male of *O. punctata* is easily distinguished from all other *Opopaea* species by the round, well elevated palpal fenestra (Fig. 70) and the female by the large, backwards pointing block-like parmula of the postgynum (Fig. 73).

DESCRIPTION OF MALE. Body brownish orange, legs somewhat paler. Sides of carapace with distinct longitudinal streaks, dorsal plane smooth; three pairs of strong, upstanding hairs on its posterior end and two pairs of small, dent-like elevations close to the posterior edge of carapace (Fig. 73 and 78). Eyes fairly large; PMEs largest, almost touching each other, ALEs slightly smaller than PMEs nearly touching them and about their diameter apart, PLEs smallest, touching PMEs. (Fig.72). Sternum with well distinguished radial furrows. Distal part of maxillae strongly sclerotized with blunt-tipped horn-like extension (Fig. 75). Dorsal scutum oval shaped, fairly densely covered with short, subdecumbent hairs rising from small pits (Fig. 78). Legs of average length, thick and spineless. Scutopetiolar apparatus well-developed; operculae small, narrow. Sperm pore easily discernable, transverse. Posterior ring furnished with some twelve, relatively long, curved hairs. Colulus very small with two hairs. Patella of male palp about the same size as cymbiobulbus, palpal fenestra elevated , roughly circular (Fig. 70 and 71).

DESCRIPTION OF FEMALE. Female like male except maxillae without projection. Parmula large, block-like, postgynal depression oval-shaped (Fig. 73).

MEASUREMENTS. ♂: TL 1.39, CL 0.61, CW 0.46, CH 0.21, DSL 0.79, DSW 0.51, TiI 0.21, FeIV 0.39, CI 0.76, CHI 0.35, CSI 0.77, DSI 0.64, LLI 0.35, FeI 0.65; ♀: TL 1.46, CL 0.61, CW 0.46, CH 0.18, DSL 0.89, DSW



Figs 79—85. *Opopaea santschii* Brignoli, 1974: 79 — right male palp laterally; 80 — cymbiobulbus dorsally (A) and slightly frontally; 81 — male maxilla ventrally; 82 — epigastric area of female; 83 — scutopetiolar apparatus anteroventrally; 84 — eyes of male dorsally; 85 — carapace and abdomen of male dorsally. Abbreviations: LA — lateral apodeme, EF — epigastric furrow, TS — tracheal spiracle, PR — postgynal ridge, PD — postgynal depression, PM — parmula. Scale bars: 0.2 mm, except for Fig. 81 — 0.1 mm and Fig. 85 — 1.0 mm. Orig.

Рис. 79—85. *Opopaea santschii* Brignoli, 1974: 79 — пальпа ♂ сбоку; 80 — цимбиобульбус сверху (A) и слегка спереди; 81 — ♂ максилла снизу; 82 — эпигастральная область ♀; 83 — скуто-петиолярный аппарат спереди-снизу; 84 — глаза ♂ сверху; 85 — карапакс и брюшко ♂ сверху. Сокращения: LA — латеральная аподема, EF — эпигастральная щель, TS — трахейное дыхальце, PR — гребень постгины, PD — понижение постгины, PM — пармула. Масштаб: 0,2 мм, кроме рис. 81 — 0,1 мм и рис. 85 — 1,0 мм. Ориг.

0.54, TiI 0.20, FeIV 0.36, CI 0.76, CHI 0.29, CSI 0.68 DSI 0.60, LLI 0.32, FeI 0.59.

DISTRIBUTION. Lebanon and Israel. Note that although Platnick [2006] states that the species is pantropical all earlier records outside Lebanon are doubtful and all such samples checked by the present author proved to be missidentifications.

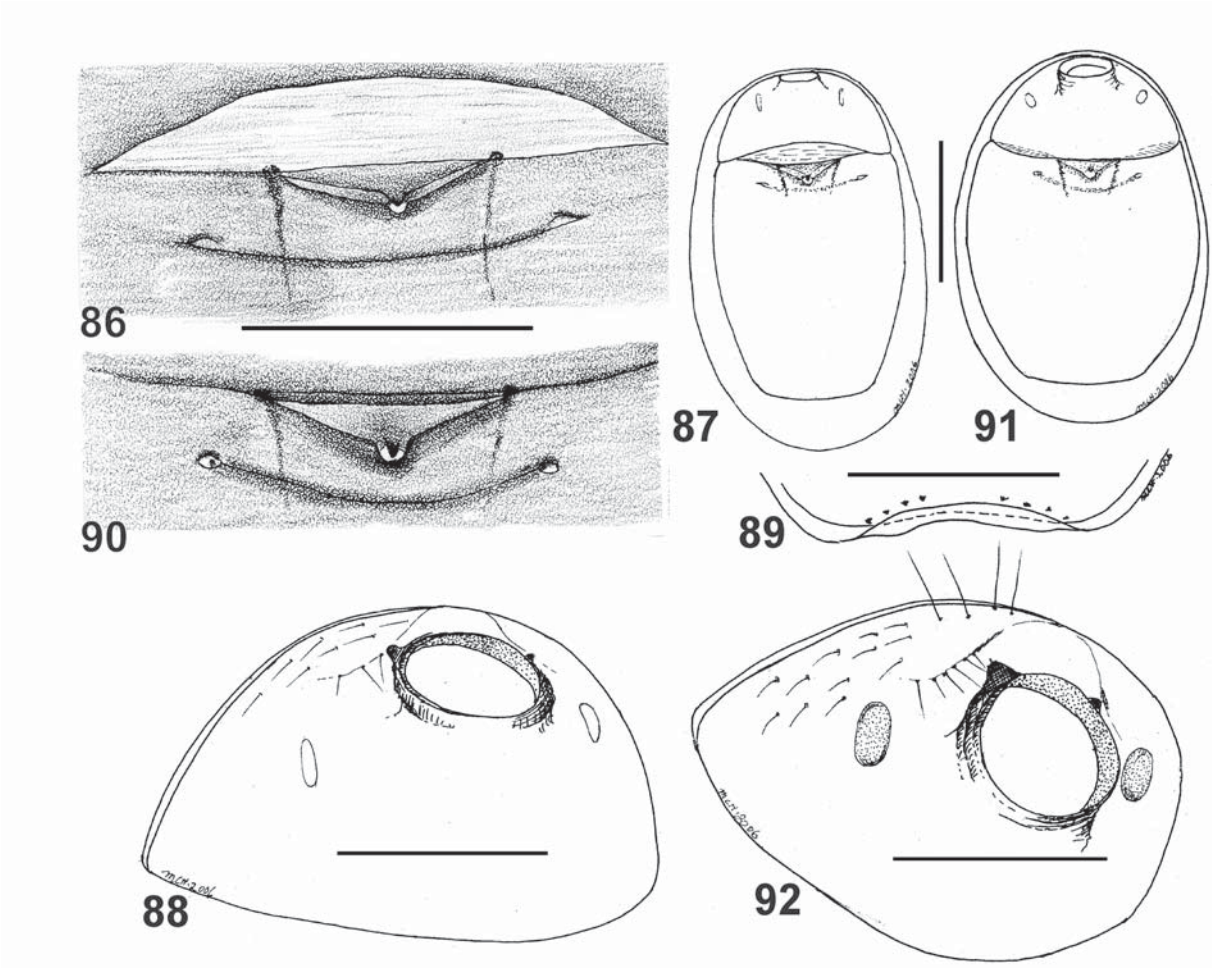
Opopaea santschii Brignoli, 1974
Figs 79–85.

Opopaea santschii Brignoli, 1974: 409, f. 4–5 (D♂).

SPECIMENS EXAMINED. ISRAEL: Bet Dagan, 1 ♀, 20.I.1965, Sh. Amitai leg. (HUJ 15309); Jerusalem, 1 ♀ (damaged), 28.X.1967, G. Tsabar leg. (HUJ 15310); Jerusalem, 1 ♀, 13.III.1981, G. Levy leg. (HUJ 15315); Jerusalem, 1 ♂, 25.XI.1981, G. Levy leg. (HUJ 15316); Jerusalem, 1 ♀, 28.IV.1983, G. Levy leg (HUJ 15317); Jerusalem, 1 ♀, 5.IX.1986, G. Levy leg. (HUJ 15318); Sede Boqer, 1 ♂ 1 ♀, .I.1987, V. Roth leg. (HUJ 15320); Jerusalem, 1 ♂, 13.XI.1989, G. Levy leg. (HUJ 15325); near Elot, southern Rift Valley, by pitfall traps, 1 ♂, 26.IV.2003, U. Shanas leg. (HUJ 15380). TUNIS: 1 ♂, Kairouan, Etй 1914, Santschi (MNHN AR 5746/ 526). CYPRUS: Limasol, hotel area, on *Eucalyptus* trunk, 1 ♂, 13.IV.1997, S. Koponen leg. (MZT AA 3.701).

DIAGNOSIS. The male of *santschii* is distinguished by the long cylindrical cymbiobulbus with short, somewhat medially turned psembolus (Figs. 79 and 80) and the female by having almost inconspicuous parmula under the narrow postgynal ridge (Fig. 82).

DESCRIPTION OF MALE. Body light orange, legs pale orange. Sides of carapace covered with very dilute longitudinal streaks, dorsal plane smooth, shiny. ALEs exceptionally large, ca. one third of their diameter apart, PMEs slightly larger than ALEs, touching each others, ALEs, and PLEs smallest, almost touching ALEs (Fig. 84). Sternum with well distinguished radial furrows. Anterior end of maxillae with small, blunt-tipped projection (Fig. 81). Dorsal scutum oval-shaped, sparsely covered with short, subdecumbent hairs



Figs 86—92. *Opopaea shanasi* sp.n. (Figs 86—89) and *Opopaea concolor* (Blackwall, 1859) (Figs 90—92). 86, 90 — postgynum ventrally; 87, 91 — epigastric scutum laterofrontally; 88, 92 — abdomen ventrally; 89 — posterior part of carapace dorsally. Scale bars: 0.2 mm. Orig.

Рис. 86—92. *Opopaea shanasi* sp.n. (86—89) и *Opopaea concolor* (Blackwall, 1859) (90—92): 86, 90 — постгина снизу; 87, 91 — эпигастральный скутум сбоку-спереди; 88, 92 — брюшко снизу; 89 — задняя часть карапакса сверху. Масштаб: 0,2 мм. Ориг.

arising from small pits (Fig. 85). Legs of average length, thick, and spineless. Lobes on anterolateral corners of petiolar tube reduced into small knobs; operculae oval-shaped, small, difficult to see (Fig. 83). Sperm pore well discernable, transverse. Posterior ring furnished with some twelve, relatively long, curved hairs. Colulus very small with two hairs. Patella of male palp somewhat larger than cymbiobulbus, in dorsal view embolus beak-like, bent medially.

DESCRIPTION OF FEMALE. Female like male except maxillae without projection. Postgynum wide and narrow with narrow postgynal ridge and almost inconspicuous parmula (Fig. 82).

MEASUREMENTS. ♂: TL 1.21, CL 0.50, CW 0.39, CH 0.16, DSL 0.71, DSW 0.43, TiI 0.20, FeIV 0.36, CI 0.79, CHI 0.32, CSI 0.70, DSI 0.64, LLI 0.39, FeI 0.71; ♀: TL 1.43, CL 0.54 CW 0.43, CH 0.18, DSL 0.93, DSW 0.57, TiI 0.20, FeIV 0.36, CI 0.80, CHI 0.33, CSI 0.58 DSI 0.62, LLI 0.37, FeI 0.67.

DISTRIBUTION. Previously recorded only from Tunis. New to Israel and Cyprus.

Opopaea shanasi **sp.n.**
Figs 86–92.

SPECIMENS EXAMINED. Holotype ♀, ISRAEL: east of Yotvata, southern Rift Valley, by pitfall traps, 28.VII.2003, U. Shanas leg. (HUJ 15457).

Examined comparative material: *Opopaea concolor* (Blackwall, 1859) (Figs 88—90): CAPE VERDE ISLANDS: Santiago: 1 ♂, Sro Jorge dos Orgros, 17—30.XII.1999, A. van Harten, MZT AA 3.075. CANARY ISLANDS: Gran Canaria: 2 ♂♂ 1 ♀, near San Agostin, VII.1988, J. Wunderlich, SMF 36969; La Palma: 1 ♀, near Santa Cruz, VII.1988, J. Wunderlich, SMF 36970.

DIAGNOSIS. The postgynum of *O. shanasi* sp.n. somewhat resembles that of *O. concolor* (Blackwall, 1859) as both have a small posteriorly pointing dark parmula above a whitish disk and similarly curved posterior edge of the postgynal depression (Figs. 86 and 90). However the parmula of *O. shanasi* sp.n. is formed by extension of the anterior edge of the postgynum while that of *O. concolor* is standing on the bottom of the postgynal depression. The two species

differ further e.g. in that *O. shanasi* sp.n. is slightly bigger and have very narrow, hardly observable operculae (Figs. 88 and 92), weakly developed scutopetiolar apparatus and its dorsal scutum is regularly oval while that of *O. concolor* is ovoid (Figs.87 and 91).

DESCRIPTION OF FEMALE (male unknown). Body light orange, legs pale orange. Sides of carapace covered with very dilute longitudinal streaks, dorsal plane smooth, shiny. Carapace slightly attenuated, sides with fine longitudinal striae, top glossy with very dilute microsculpture, sluice well developed, four small dark dents on both sides on posterior edge of carapace close to posterior elevation (Fig. 89). Eyes (ocular area slightly damaged) of moderate size, about equal in size, PMEs touching each others and ALEs and PLEs, ALEs about their diameter apart, PLEs some three times their diameter apart. Sternum glossy, covered very sparsely with thin, dark hairs standing inside tiny pits, radial furrows well distinguished. Legs of average length, thick, and spineless. Dorsal scutum elongated oval, glossy, fairly sparsely covered with short addpressed hairs standing inside rather large pits. Scutopetiolar apparatus weakly developed, lobes on anterolateral corners of petiolar tube reduced into small knobs and scutal cove hardly discernible; operculae long and narrow, difficult to see (Fig. 88).

MEASUREMENTS. ♀: TL 1.50, CL 0.57, CW 0.43, CH 0.21, DSL 0.93, DSW 0.54, TiI 0.21, FeIV 0.36, CI 0.75, CHI 0.38, CSI 0.62, DSI 0.58, LLI 0.38, FeI 0.63. *O. concolor* ♀: TL 1.39, CL 0.54, CW 0.43, CH 0.18, DSL 0.86, DSW 0.57, TiI 0.21, FeIV 0.36, CI 0.80, CHI 0.33, CSI 0.63, DSI 0.67, LLI 0.40, FeI 0.67.

DISTRIBUTION. Known only from Israel; east of Yotvata, southern Rift Valley.

ETYMOLOGY. Named after Mr. U. Shanas, the collector of the type specimen.

Genus *Silhouettella* Benoit, 1979

Silhouettella Benoit, 1979 — *Rev. Zool. afr.* 93: 202. Type species by original designation *Silhouettella curieusei* Benoit, 1979 from Silhouette, Seychelles.

DIAGNOSIS. The genus *Silhouettella* is diagnosed by the following characteristic features in the male palp (Figs 93 and 99): (1) bulbus large, free from cymbium, (2) a small bulge (Z) close to the base of psembolus, (3) more or less triangular mesal outgrowth (X) at the middle of the psembolus, and (4) apical part of the psembolus turned mesially bearing a relatively short, dark stylus (ST) accompanied with more or less transparent extensions of variable form and number.

Silhouettella betalfa **sp.n.**
Figs 93–98.

SPECIMENS EXAMINED. Holotype ♂ and paratype ♀, ISRAEL: Bet Alfa, 07.XI.1964, G. Levy leg. (HUJ 15308). Paratypes: 1 ♂ with same data as for the holotype (MZT AA 3.710). 1 ♀, Jerusalem, 12.V.1973, G. Levy leg. (HUJ 15314), 1 ♀, Wadi Qelt, 13.I.1945, A. Shulov leg. (HUJ 15307), and 1 ♀, Nehusha, by pitfall traps, 15.VIII.2002, Y. Mandelik leg. (HUJ 15453).

DIAGNOSIS. The species is easily recognized by its transparent yellowish legs strongly contrasting with the light orange body. Further the peculiar arrangement of the eyes (Fig. 97) and the oval shaped operculae (Figs 96 and 98) are good distinguishing characters.

DESCRIPTION OF MALE. Body light orange, appendages very pale, transparently yellowish. Carapace attenuated, with narrow sluice and low posterior elevation (Fig. 98); sides and top plane of carapace distinctly rugose, somewhat shiny, hairs, like also on abdomen, colourless, hard to detect. Eyes arranged in H-shaped pattern; about equal in size, AMEs slightly less that their diameter apart, PMEs almost touching each others and ALEs, about their diameter apart from PLEs which are about three times their diameter apart (Fig. 97). Sternum about as long as broad with dense reticulation, only few hairs on the edges, small pouches on anterior edges, radiating striae indistinct (Fig. 94). Legs relatively long and slender without spines. Dorsal scutum ovoid, densely decorated with hexagons, sparsely covered with addpressed, reasonably long colourless hairs, general appearance smooth and shiny. Ventral scutum only slightly smaller than dorsal one, lateral apodemes conspicuously long, gonopore small, roundish. Colulus small with two long hairs. Bulbus of male palp large with a small anterodorsal bulge (Z) close to base of psembolus (Fig. 93A). In dorsal view psembolus abruptly turned mesially at its middle with triangular blunt-tipped bulge (X) pointing mesially; stylus relatively short, needle-like (Fig. 93B).

DESCRIPTION OF FEMALE. Except slightly larger size and missing sternal pouches much like the male.

No external sexual organs but posterior scutum with narrow median elevation (ME) immediately behind the epigastric furrow; at corresponding site rear edge of anterior scutum with shallow, straight edged notch (Fig. 98).

MEASUREMENTS. ♂: TL 1.57, CL 0.68, CW 0.54, CH 0.21, DSL 0.96, DSW 0.64, TiI 0.36, FeIV 0.53, CI 0.79, CHI 0.32, CSI 0.70, DSI 0.67, LLI 0.53, FeI 0.79; ♀: TL 1.71, CL 0.71, CW 0.57, CH 0.25, DSL 1.07, DSW 0.71, TiI 0.36, FeIV 0.50, CI 0.80, CHI 0.35, CSI 0.67, DSI 0.67, LLI 0.50, FeI 0.70.

DISTRIBUTION. Known only from Israel: Valley of Yizre'el, Judean Hills, Judean Desert.

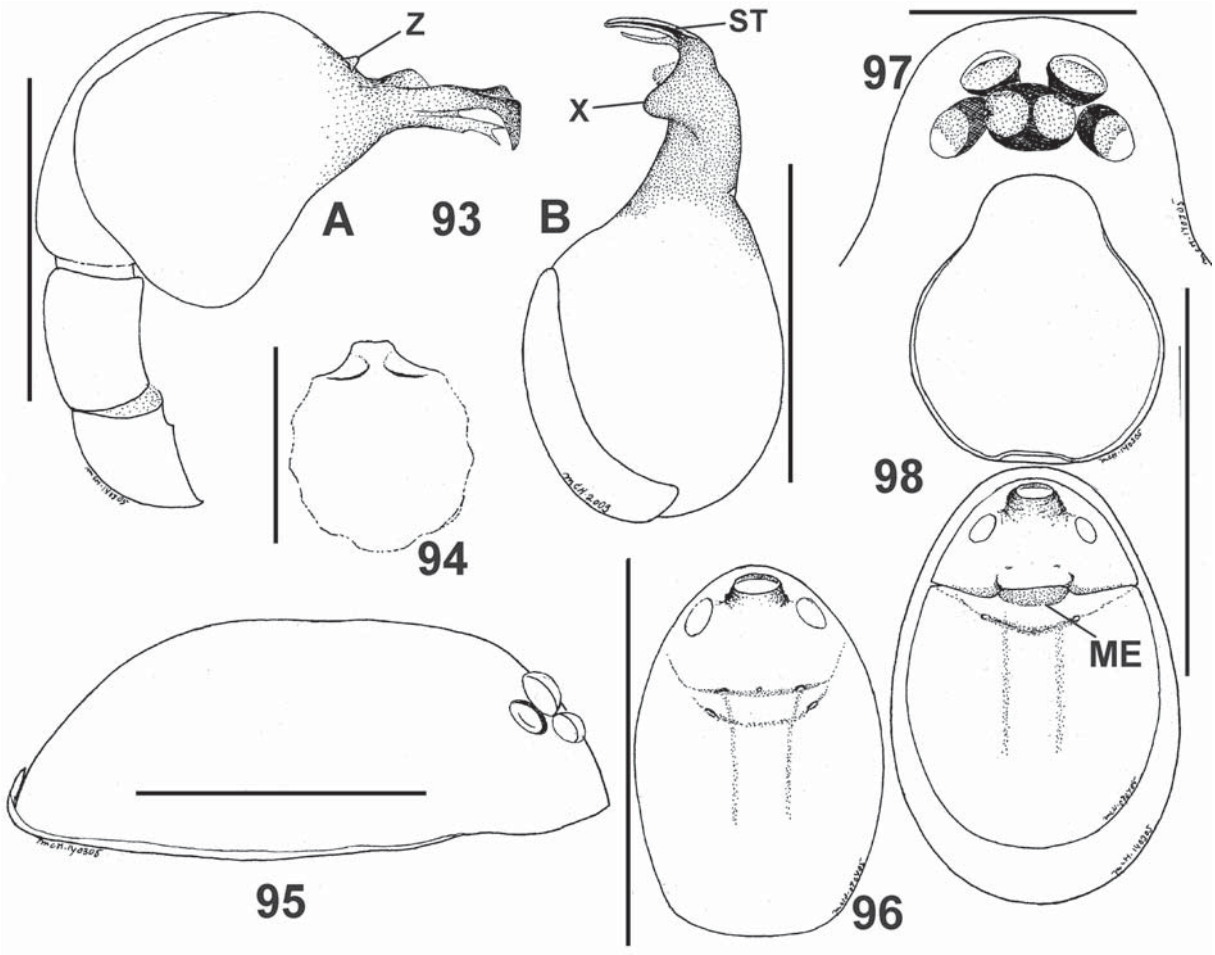
ETYMOLOGY. The specific name is a noun in apposition derived from the collection site of the holotype.

Silhouettella tomer **sp.n.**
Figs 99–105.

SPECIMENS EXAMINED. Holotype ♂, ISRAEL: Har Sansan, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15443). Paratypes: 1 ♀, Tomer, 12.III.1987, V. Roth leg. (HUJ 15323), 1 ♀, Ramat Avishur, pitfall, 14.V.2002, Y. Mandelik leg. (HUJ 15444), and 1 ♀, Sedot Mikha, pitfall, 14.V.2002, Y. Mandelik leg. (MZT AA 3.711).

DIAGNOSIS. The species is easily recognized by its elongated body (Fig. 104), kidney-shaped operculae preceded by three curved rough lines (Fig. 100), and the peculiar arrangement of the eyes (Fig. 101).

DESCRIPTION OF MALE. Carapace and abdomen brownish, appendages and sternum yellowish brown. Carapace attenuated, sides distinctly rugose, dorsal plane smooth and shiny; sluice narrow with distinct posterior elevation (Fig. 104). Clypeus ca. 1.5 times diameter of AMEs; ALEs and PMEs round, touching each others and ALEs, PLEs small, more than 4 times their diameter apart and well apart from ALEs (Fig. 101). Sternum slightly longer than broad, weakly rugose, shiny, pouches relatively large, radiating striae indistinct (Fig. 102). Legs relatively long and slender without spines (Fig. 103). Dorsal scutum ovoid, densely decorated with tiny pits, sparsely covered with addpressed, long dark hairs, general appearance smooth and shiny (Fig.



Figs 93—98. *Silhouettella betalfa* sp.n.: 93 — right male palp laterally (A) and dorsally (B); 94 — male sternum ventrally; 95 — male carapace laterally; 96 — ventral scutum of male; 97 — eyes of female dorsally; 98 — cephalothorax of female dorsally and abdomen ventrally. Scale bars: Figs 93, 97 — 0.2 mm, Figs 94, 95 — 0.5 mm, and Figs 96, 98 — 1.0 mm. Orig.

Рис. 93—98. *Silhouettella betalfa* sp.n.: 93 — пальпа ♂ сбоку (A) и сверху (B); 94 — стернум ♂ снизу; 95 — карапакс ♂ сбоку; 96 — вентральный скутум ♂; 97 — глаза ♀ сверху; 98 — головогрудь ♀ сверху и брюшко снизу. Масштаб: 93, 97 — 0,2 мм, 94, 95 — 0,5 мм, 96, 98 — 1,0 мм. Ориг.

104). Ventral scutum only slightly smaller than dorsal one, lateral apodemes indistinct, gonopore small, roundish (Fig. 105). Colulus small with two long hairs. Bulbus of male palp large with a small anterodorsal bulge (Z) close to base of psembolus (Fig. 99A). In dorsal view psembolus turned mesially at its middle with triangular blunt-tipped bulge (X) pointing posteriorly; stylus relatively short, needle-like (Fig. 99B).

DESCRIPTION OF FEMALE. Except larger size and missing sternal pouches much like the male.

No external sexual organs but posterior scutum with distinct median elevation (ME) immediately behind the epigastric furrow; at corresponding site rear edge of anterior scutum straight (Fig. 100).

MEASUREMENTS. ♂: TL 1.83, CL 0.86, CW 0.64, CH 0.32, DSL 1.07, DSW 0.71, TiI 0.43, FeIV 0.68, CI 0.75, CHI 0.38, CSI 0.80, DSI 0.63, LLI 0.50, FeI 0.79; ♀: TL 2.03, CL 0.86, CW 0.64, CH 0.32, DSL 1.25, DSW 0.68, TiI 0.36, FeIV 0.64, CI 0.75, CHI 0.38, CSI 0.69, DSI 0.54, LLI 0.42, FeI 0.75.

DISTRIBUTION. Known only from Israel: foothills of Judea, lower Jordan Valley.

ETYMOLOGY. The specific name is a noun in apposition derived from the collection site of a paratype female.

ACKNOWLEDGEMENTS. I am much obliged to Dr. Gershom Levy who kindly put all the Israeli oonopid samples at my disposal and reviewed the manuscript. Thanks are also due to my dear friend Dr. Yuri Marusik who kindly helped me with Russian translations, mounting the figure plates and reviewed the final version of the manuscript. Dr. Justin Gerlach (London) kindly checking the English of the final version of the text.

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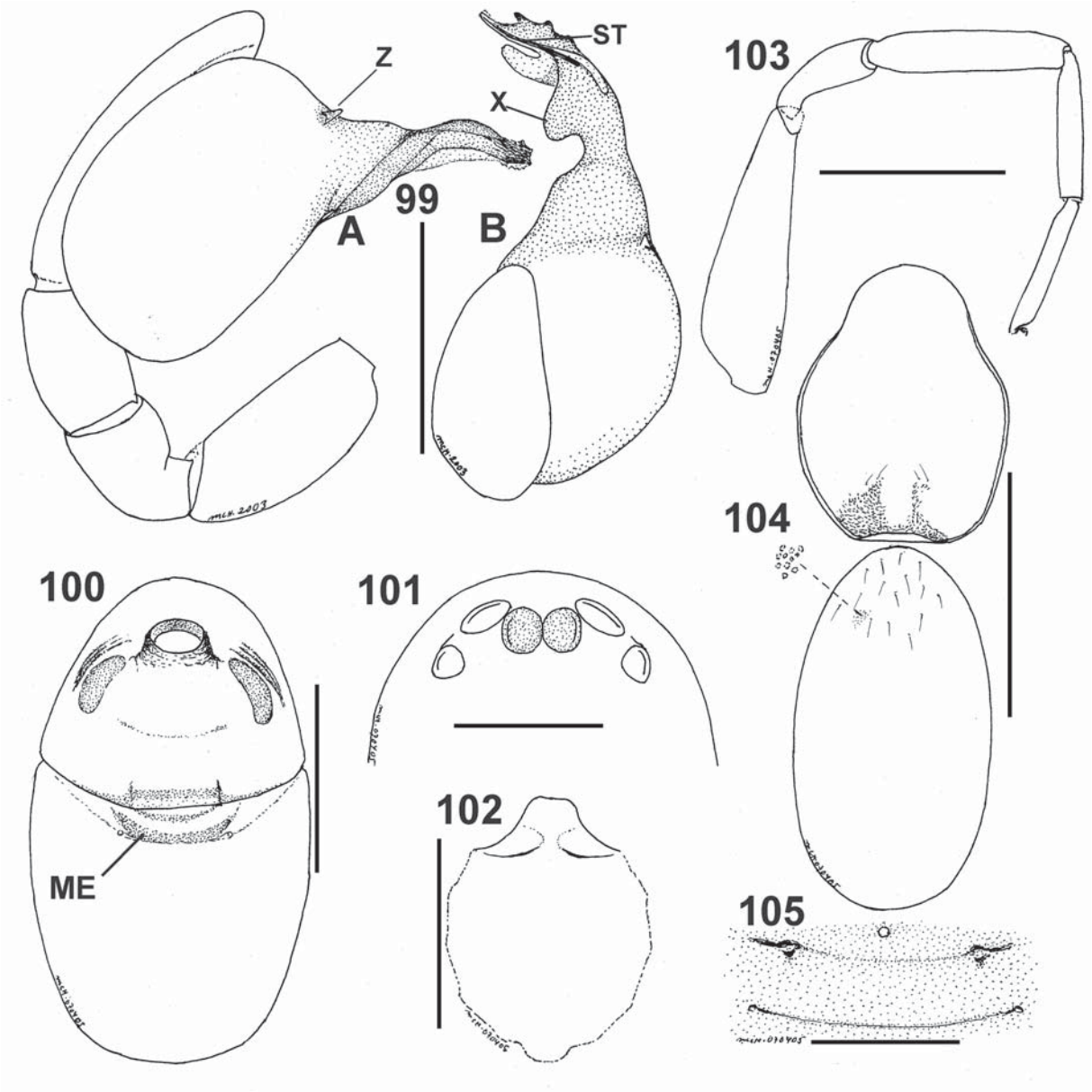

Figs 99—105. *Silhouettella tomer* sp.n.: 99 — right male palp laterally (A) and dorsally (B); 100 — ventral scutum of female; 101 — eyes of female dorsally; 102 — male sternum ventrally; 103 — right leg I of female laterally; 104 — cephalothorax and abdomen of female dorsally; 105 — epigastric area of male. Scale bars: Figs 99, 101, 105 — 0.2 mm, Figs 100, 102, 103 — 0.5 mm, and Fig. 104 — 1.0 mm. Orig.

Рис. 99—105. *Silhouettella tomer* sp.n.: 99 — пальпа ♂ сбоку (A) и сверху (B); 100 — вентрально ♀; 101 — глаза ♀ сверху; 102 — стернум ♂ снизу; 103 — правая нога I ♀ сбоку; 104 — головогрудь и брюшко ♀ сверху; 105 — эпигастральная область ♂. Масштаб: 99, 101, 105 — 0,2 мм, 100, 102, 103 — 0,5 мм, 104 — 1,0 мм. Ориг.

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