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Spiders of the genera *Siwa, Larinia, Lipocrea* and *Drexelia* (Araneae: Araneidae) from Israel

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Summary

Orb-weaver spiders from Israel of *Siwa* and the *Larinia*-group have been revised. All available information on these little-known Araneidae in the Middle East is presented along with comments on possible patterns of their zoogeographical distribution. The west Mediterranean *Larinia dufouri* Simon, 1874 is redefined and newly placed in *Siwa* **(comb.nov.)** and a new synonymy of the genus *Larinopa* Grasshoff, 1970 with *Lipocrea* Thorell, 1878 is discussed **(syn.nov.)**. *Argiope epeiroides* O. P.-Cambridge, 1872, illustrated herein for the first time, is newly defined and ascribed to *Lipocrea* **(comb.nov.)**. Redescribed are also *Larinia chloris* (Audouin, 1827), recorded originally from Israel but never again, and *Drexelia acuticauda* (Simon, 1906), unknown hitherto from this country.

Introduction

The majority of the orb-weaver spiders of Israel, as at present known, are Mediterranean species. A few are of a southern, Ethiopian origin, reaching their northernmost point of distribution in this country. The spiders of this study are representatives of such marginal populations in Israel. Specimens of *Siwa, Larinia* and the like are found rather infrequently in the field, are scarce in collections, and a paucity of information is available. Many of the spiders belonging to the so-called *Larinia*-group have a slender, elongate body quite uncommon among the orb-weavers. When taken by sweeping, without noticing their webs, they are sometimes misplaced in other spider families due to superficial sorting.

In a revision implemented by Grasshoff (1970-1971) on species of the *Larinia*-group, primarily from the Old World, a series of new genera were distinguished. Levi (1975), while studying North American species, disputed this array of small genera and retained *Larinia* for all species. More recently, Grasshoff (1980: 392) inclined to rank his genera as subgenera. The informal term of "species-group" apparently would have been, for nomenclatural reasons, more favourable. Grasshoff (1970-1971), nevertheless, granted names to the various components of the *Larinia*-group, and reverting to the cumulative genus *Larinia* would imply abandoning the fine discriminations attained thus far. Maintaining, though with a margin of doubt, the numerous genera of Grasshoff, leads to the placement in a different genus of each member of this group in Israel; an awkward situation which applies to most of the Araneidae of Israel. This is not encountered in other spider families studied: genera in our fauna usually contain more than one representative. Of the genera concerned herein, apparently *Larinia, Lipocrea* and *Drexelia* form a tight, closely related group, while *Siwa* might be considered as being a little apart.

The material discussed herein is deposited in the collections of the Hebrew University of Jerusalem (HUJ), Hope Entomological Collections, Oxford (HECO), Muséum National d'Histoire Naturelle, Paris (MNHN), and the British Museum (Natural History), London (BMNH). Localities in Israel are listed from north to south and co-ordinates (Israel grid) are given for less well-known places. Names are spelt according to the 1:250,000 map by the Survey of Israel (1979). Measurements are in mm. The length of leg given is the combined length of all segments (each measured separately) from femur to tarsus, the more proximal segments excluded. The proportional indices used are: carapace index (length divided by width), clypeus index (height of clypeus divided by diameter of anterior median eye), patella + tibia index (combined length of both segments of leg I divided by length of carapace), and tibia index (width of tibia I divided by its length); this inverted ratio is provided for comparison with such measurements in the literature.

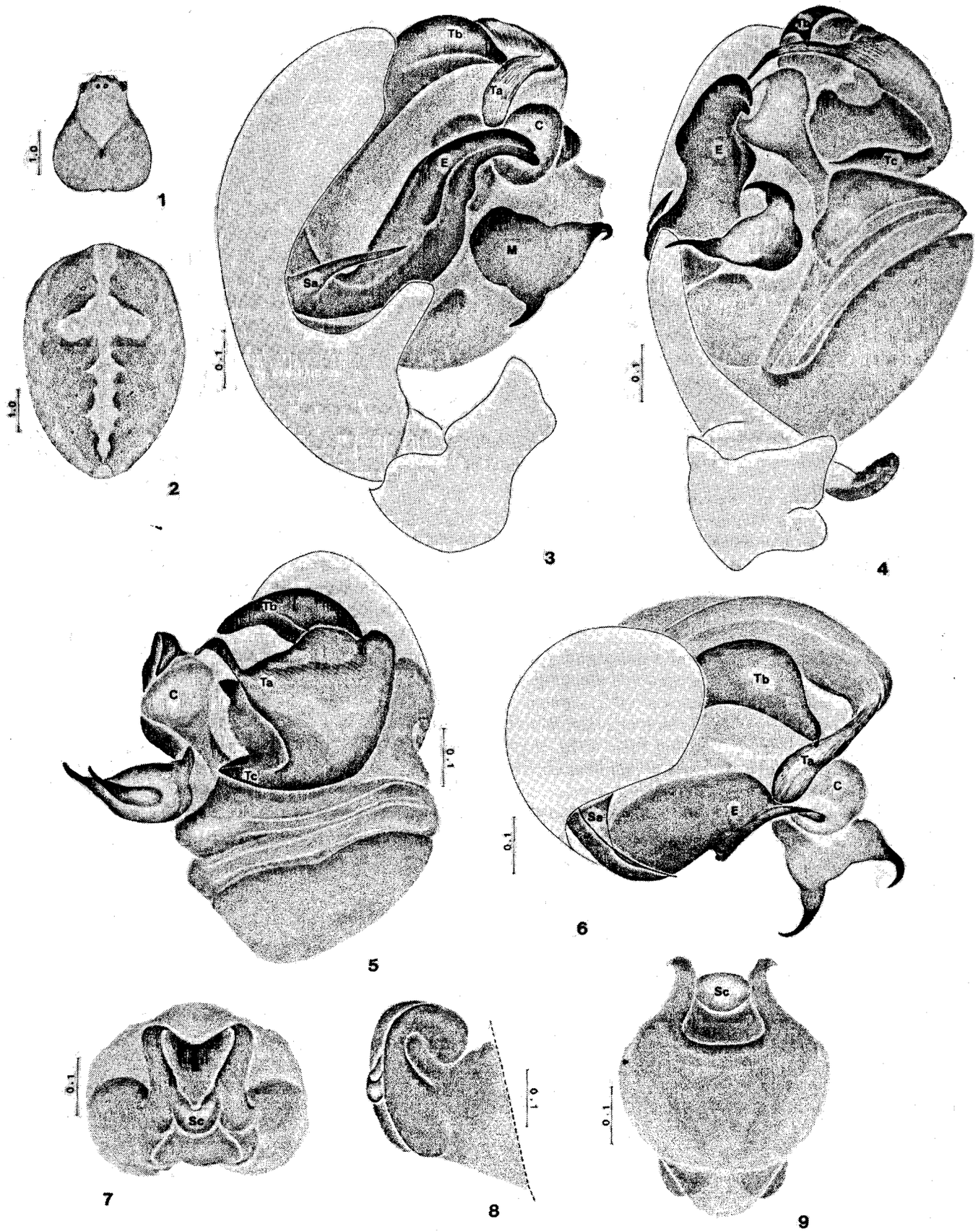
Genus *Siwa* Grasshoff, 1970

Type-species, by original designation: *Epeira atomaria* O. P.-Cambridge, 1876.

Araneid spiders of moderate size, total length about 3-9 mm, with slightly rounded, oval opisthosoma. Carapace longer than wide with short, grooved longitudinal fovea. Anterior median eyes slightly larger than others and appreciably wider apart than are posterior medians. Chelicerae with 3-4 promarginal and 2 retromarginal teeth. Legs I longest, legs III shortest; coxa I of male bears a distinct hook near distal end, and femur II has a small depression proximally on antero-dorsal side. Coxal endite of male palp bears a distinct, prolateral tooth and palpal patella has two long bristles. Bulb of male comprises a large subterminal apophysis, a slender, straight and attenuated stipes apophysis, a thick embolus with an apical bent tip, and a median apophysis with two pointed processes. Epigynum of female has the scape sunk into a deep median groove or tongue-like scape extending above and beyond epigynal plate.

Siwa spiders have strong legs and a rather robust body reminiscent, to an extent, of *Neoscona* or *Gibbaranea* species. Generally they seem to differ from many of the elongate, slender species of the *Larinia*-group to which they have been formerly ascribed. *Siwa* species undoubtedly show close resemblance in the male palpal structure, in particular the pointed protruding stipes apophysis sclerite, to species of the *Larinia*-group. The form of the large subterminal apophysis and the apically bent embolus, however, are diagnostic characters of *Siwa* which alongside somatic features such as the hook on coxa I and the accompanying depression on femur II, separate it distinctly from all other genera of the *Larinia*-group. *Kilima* apparently is the only other genus comprising species formerly included in the *Larinia*-group, that show the somatic structures found on the legs of *Siwa* (Grasshoff, 1970a: 222). *Kilima* differs entirely, however, by the form of the palpal structures.

Siwa when erected (Grasshoff, 1970c: 409) included only one species, namely *S. atomaria* (Figs. 1-9). On examining specimens of *Larinia dufouri* from France



Figs. 1-9: *Siwa atomaria* (O. P.-Cambridge). **1** ♀ carapace, dorsal view; **2** ♀ opisthosoma, dorsal view; **3** ♂ holotype from Egypt, left palpus, mesal view; **4** Ditto, ventral view; **5** Ditto, lateral view; **6** Ditto, apical view; **7** ♀ epigynum, ventral view; **8** Ditto, lateral view; **9** Ditto, posterior view. (Abbreviations: C = conductor, E = embolus, M = median apophysis, Sa = stipes apophysis, Sc = scape, Ta = terminal apophysis, Tb = subterminal apophysis, Tc = terminal accessory apophysis.)

(Vauclose, Sospel) determined by E. Simon (MNHN, B. 1313, No. 1018; 1 ♂ + 3 ♀♀) it became apparent that this species should be placed in *Siwa*. Grasshoff formerly (1970b: 218) excluded it altogether, though without specifying, from his Mangorini tribe. Illustrations of *Siwa dufouri* (Simon, 1874), **new combination:** opisthosoma (Fig. 10), male palpal sclerites (Figs. 11-14) and epigynal structure of female (Figs. 15-17) are provided herein. A detailed description and diagnosis are not given since it has been recorded thus far only outside our region, namely in southern France, Corsica and Algeria (Simon, 1929: 762). *Siwa dufouri* and *Larinia lineata* (Lucas, 1846) seem to be the only members of the *Larinia*-group that occur in southern Europe.

Siwa atomaria (O. P.-Cambridge, 1876) (Figs. 1-9)

Epeira atomaria O. P.-Cambridge, 1876: 577, pl. 59, fig. 9; ♂ holotype, 2 ♂♂, 1 ♀ paratypes from Cairo and Upper Egypt (HECO, holotype: B. 505, t. 9, paratypes: B. 1067, t. 18; examined).
Larinia atomaria (O. P.-Cambridge). Reimoser, 1919: 43; Roewer, 1942: 768; Bonnet, 1957: 2347.
Larinia ovata Denis, 1947: 47, pl. 2, figs. 7-9; types 2 ♂♂, 5 ♀♀, 30 imm., from Siwa Oasis, Egypt (BMNH, No. 1936.2.12.351-361; examined). Grasshoff, 1970c: 409 (= *Siwa atomaria*).
Siwa atomaria (O. P.-Cambridge). Grasshoff, 1970c: 409, fig. 18.

Description

Carapace yellow with thoracic region bordered anteriorly by brownish band (Fig. 1). Sternum of ordinary form, blackish with yellow patch along middle. Oval opisthosoma on dorsum with a light, median, longitudinal, dentate band surrounded by dark, folium-like marking (Fig. 2); dorsal median band widened markedly on upper, fore-part by lateral extensions. Venter at middle with a light patch enclosed, on sides, by two dark parallel lines; spinnerets surrounded by small, whitish spots. Legs yellow, mottled with dark dots, mainly along ventral side of femora, and dark stain on distal tips of joints. Femur IV of male, on basal ventral part with two short spines rising from minute tubercles (N.B. Male of *S. dufouri* bears only one bristle on femur IV).

Male

Measurements (holotype & 2 ♂♂ paratypes from Egypt; holotype listed first): Total length 5.5, 3.7-4.6; carapace length 2.3, 1.9-2.1, width 1.75, 1.5-1.6; carapace index 1.31, 1.26-1.31; clypeus height 0.11, 0.10; clypeus index 1.0, 1.0; length of legs: I 10.7, 8.7-9.0, II 9.6, 7.9-8.3, III 5.5, 4.4-4.9, IV 7.9, 6.2-6.5; patella + tibia index 1.69, 1.62-1.68; tibia index 0.077, 0.087-0.095.

Palpus: Holotype. Relatively large. Pointed stipes apophysis (Sa) distinctly visible on mesal side (Fig. 3); black, bulky embolus (E) bends apically into white, fleshy socket formed by tip of conductor (C; Figs. 3-6); median apophysis (M) bears two, widely-separated pointed processes (Figs. 3, 4, 6); large, black sclerotic subterminal apophysis (Tb) extends over top of bulb along with membranous, winding strip forming tip of terminal apophysis (Ta; Figs. 3-6); short, pointed tip of terminal-accessory apophysis (Tc) projects centrally, at base of terminal apophysis, along tegular edges (Fig. 5).

Female

Measurements (1 ♀ from Israel): Total length 8.3; carapace length 2.7, width 2.2; carapace index 1.23; clypeus height 0.13; clypeus index 1.08; length of legs: I 11.3, II 10.2, III 5.9, IV 8.8; patella + tibia index 1.56; tibia index 0.10.

Epigynum: Small, cup-like scape (Sc) at centre, hardly protruding between two upwards-rolled folds (Figs. 7, 8); epigynal orifices open outwards, laterally at base of winding folds; folds form a continuous extension of posterior walls of epigynal plate (Fig. 9).

Diagnosis

Siwa atomaria differs distinctly by the genital characters and to an extent also by the shape of the body from all species formerly included in *Larinia*. Basic features of the male palp of *S. atomaria* (Figs. 3-6) resemble closely those of *S. dufouri* (Figs. 11-14) but the two can be easily distinguished by the shape of the embolus, that of the median apophysis and the form and location of the terminal-accessory apophysis. Considering the females, the epigynum of each species is entirely different.

Distribution: Egypt, Israel. *Records:* Israel: Tiberias.

Comments

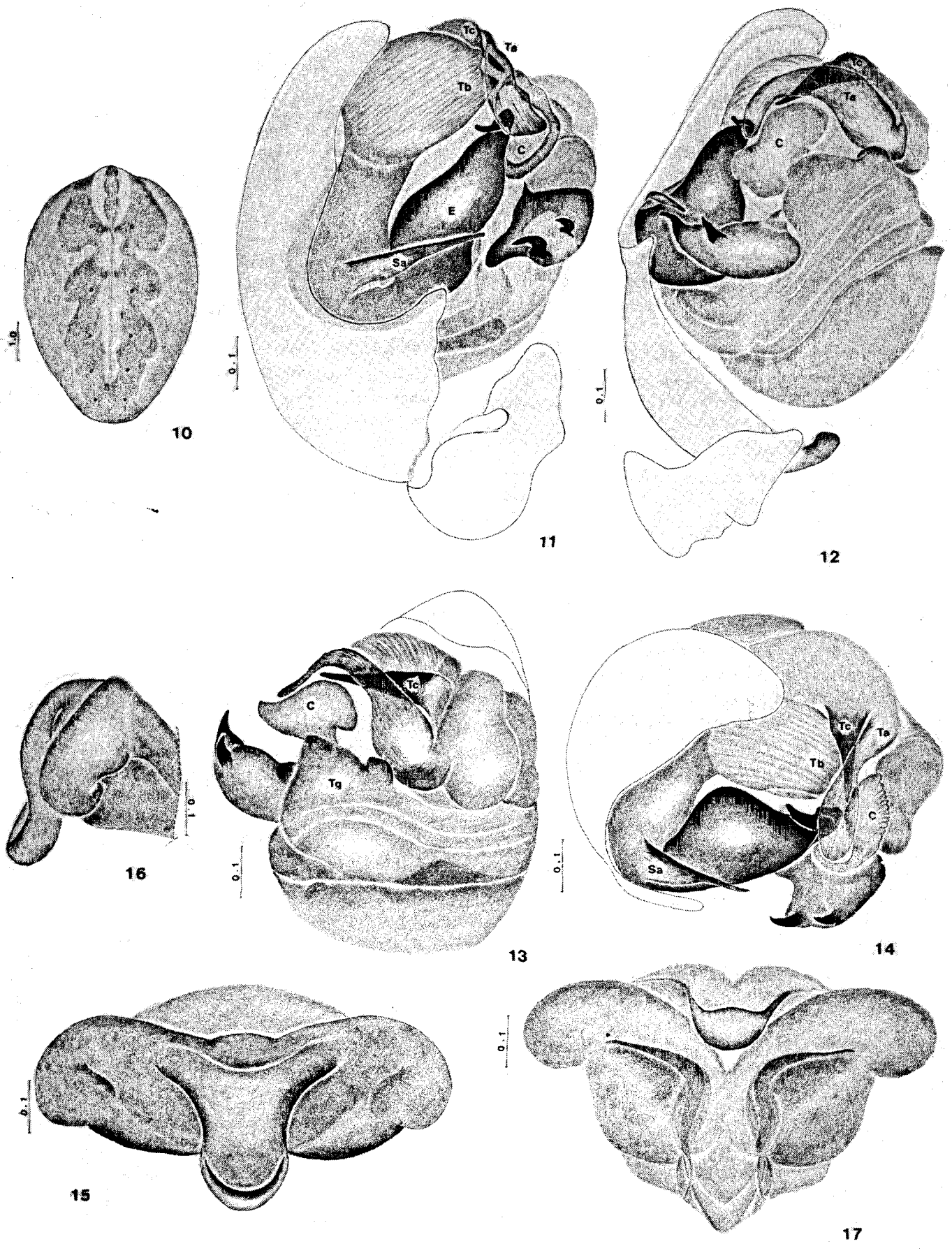
An adult female (HUJ 10911) was found in Tiberias, in May. It made an orbicular web among the roots of a tree, close to the water surface of the Sea of Galilee. The only previous record of *S. atomaria* from Israel was also from Tiberias (Grasshoff, 1970c: 410). Despite the paucity of information available, considering the collecting sites in Israel and Egypt, and the vicinity of water at least in one instance, *S. atomaria* may perhaps be regarded as an Ethiopian element in the fauna of Israel.

Genus *Larinia* Simon, 1874

Type-species by monotypy: *Epeira lineata* Lucas, 1846.

Medium-sized araneids with a narrow, elongated body. Carapace with a short, grooved longitudinal fovea. Anterior median eyes largest; median ocular quadrangle appreciably wider in front than behind. Chelicerae with 3-4 promarginal and retromarginal teeth. Legs I longest, legs III shortest; coxae of legs lack a hook and femur II has no basal depression. Coxal endite of male palp bears a distinct, prolateral tooth, and palpal patella has two long bristles. Bulb of male palp has a markedly raised tegulum, separate conductor, attenuated embolus, a two-pronged median apophysis and a large, pointed stipes apophysis. Epigynum of female bears a slender scape with rigid attachment at base; scape frequently breaks off.

Larinia as newly defined by Grasshoff (1970b: 220) can be separated from closely related genera by the



Figs. 10-17: *Siwa dufouri* (Simon). **10** ♀ from France, opisthosoma, dorsal view; **11** ♂ from France, left palpus, mesal view; **12** Ditto, ventral view; **13** Ditto, lateral view; **14** Ditto, apical view; **15** ♀ from France, epigynum, ventral view; **16** Ditto, lateral view; **17** Ditto, posterior view. (Abbreviations: C = conductor, E = embolus, Sa = stipes apophysis, Ta = terminal apophysis, Tb = subterminal apophysis, Tc = terminal-accessory apophysis, Tg = tegulum.)

genital characters. Grasshoff maintained only three species in *Larinia: L. lineata, L. chloris* (Audouin) and *L. phthisica* (L. Koch). All are distributed in the Old World. One species is found in Israel. Whether *L. vara* Kauri, 1950 from South Africa and *L. tylorida* Patel, 1975 from India belong to *Larinia* s.str. cannot be ascertained from the original descriptions.

Larinia chloris (Audouin, 1827) (Figs. 18-27)

Epeira chloris Audouin, 1827: 347, pl. 3, fig. 5; ♂ type from near Akko (Acre), northern Israel, cannot be traced with certainty, presumably among specimens in MNHN. O. P.-Cambridge, 1876: 576; 15 ♂♂, 4 ♀♀ from Upper Egypt (HECO, B. 1067, t. 16; examined). Not *Argiope epeiroides* O. P.-Cambridge, 1872 (=*Lipocrea epeiroides*).
Larinia chloris (Audouin). Simon, 1895: 790; Roewer, 1942: 768; Denis, 1947: 46, pl. 2, fig. 6; Bonnet, 1957: 2348 (in part); Grasshoff, 1970b: 222, figs. 7, 8.

Description

Carapace yellowish with a faint, mid-dorsal line anteriorly (Fig. 18). Sternum uniform light brown. Opisthosoma elongate, projecting with rounded ends anteriorly above carapace and posteriorly behind spinnerets (Figs. 19, 20); dorsal surface covered by an ovate, slightly scalloped pattern consisting of brownish, longitudinal bands and pairs of black spots (Fig. 19); sides of opisthosoma creamy yellow, occasional specimens with dark brown, almost blackish sides; venter with a white, oblong patch enclosed by a dark line; another dark line encircles separate light spots surrounding spinnerets. Femur I bears a single, prolateral, stout bristle.

Male

Measurements (1 ♂): Total length 5.2; carapace length 2.0, width 1.3; carapace index 1.54; clypeus height 0.10; clypeus index 1.0; length of legs: I 8.9, II 8.1, III 4.2, IV 7.0; patella + tibia index 1.65; tibia index 0.087.

Palpus: Relatively small. Large, pointed stipes apophysis (Sa) rises mesally along greater part of attenuated embolus (E; Fig. 21); median apophysis (M) bears on mesal side two small, closely set, pointed processes (Figs. 21, 22); tegulum (Tg) rises on lateral side of bulb as a large, sclerotic, smoothly edged projection attaining height of folded, transparent tip of terminal apophysis (Ta; Figs. 22, 23); light coloured conductor (C) forms a large, fleshy bulk at middle of bulb (Figs. 21, 22); subterminal apophysis (Tb) ends apically with two small, sclerotic tips (Figs. 21, 23).

Female

Measurements (9 ♀♀): Total length 5.6-8.5; carapace length 2.0-2.9, width 1.2-1.9; carapace index 1.35-1.66; clypeus height 0.09-0.12; clypeus index 1.0-1.25; length of legs: I 8.5-12.4, II 7.4-11.2, III 4.0-6.1, IV 7.0-10.3; patella + tibia index 1.56-1.68; tibia index 0.09-0.11.

Epigynum: Partly transparent, slender scape (Sc) extends beyond posterior margins of epigynal plate (Figs. 24, 26); scape bulges above and often breaks off (Fig. 25); a faint, transverse, breakage line is apparent even in the intact scape. Tightly appressed to body, on both sides of scape are earpiece-shaped platelets with basal funnels (Figs. 24, 25); posterior rims of funnels, rather swollen (Fig. 27). On raising of epigynal plate, small globuliferous bodies are discernible along inner ducts (not illustrated).

Diagnosis

Larinia chloris can be easily separated from the West Mediterranean *L. lineata* by the smooth edges of the tegular projection and the shape of the two processes on the median apophysis of the male palp, and by the form of the funnelled platelets of the female epigynum. The differences between *L. chloris* and the very close *L. phthisica* from the Oriental and Australian Regions are discussed at length by Grasshoff (1970b: 225). He considers the two, for the time being, as separate species.

Distribution

Asia: Israel, ?Yemen, ?Aden. Africa: Egypt, Libya, Sudan, Uganda, Mozambique.

Records. *Israel:* Along coast of Mediterranean Sea — Akko, Ma'agan Mikha'el; around the Sea of Galilee — Biq'at Bet-Zayda (203/255), Kare Deshe, Nahal Samakh (210/248), Moshavat Kinneret, Massada.

Comments

Adult specimens were found in Israel at relatively humid sites from May to July. Apparently the place of origin of *L. chloris* is in the Ethiopian region, and Israel is its northernmost point of distribution. The northward routes of dispersion, as evidenced by the records indicated, seemingly are along the Mediterranean coast and the Afro-Syrian Rift Valley. There are not many Ethiopian elements in this country. These are found mainly in formerly swampy parts of the coastal plain and at hot and humid places in the Rift Valley. Virtually the sites where *L. chloris* has been taken.

The other Asiatic records, namely Yemen and Aden, are based on juvenile specimens (Grasshoff, 1970b: 223). These may prudently be discarded for the time being, although ostensibly, according to the zoogeographical pattern *L. chloris* can occur in that area.

Genus *Lipocrea* Thorell, 1878

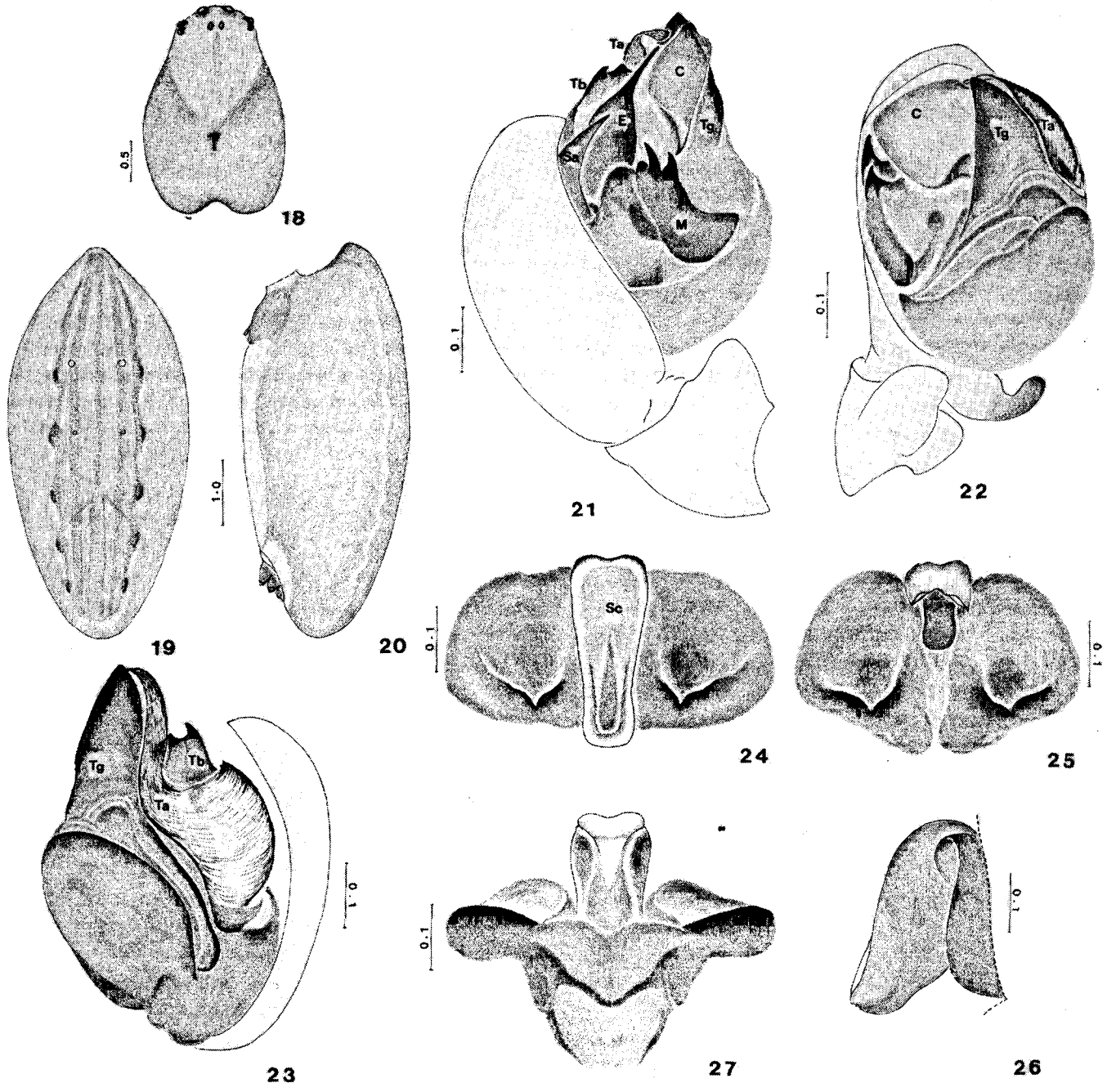
Lipocrea Thorell, 1878: 6; type-species, by original designation: *Meta fusiformis* Thorell, 1877.
Larinia. Simon, 1887: 187; Roewer, 1954: 1548; Bonnet, 1957: 2347.
Larinopa Grasshoff, 1970b: 226; type-species, by original designation: *Epeira tabida* L. Koch, 1872; Brignoli, 1983: 272. NEW SYNONYMY.

Elongate araneids similar to *Larinia* species in e.g. general somatic features such as body shape, disposition and size of eyes, cheliceral dentition, male palp with tooth on coxal endite and two patellar bristles, and no coxal hook on walking legs. Genital characters are different. Bulb of male palp comprises a sclerotized conductor broadly fused to tegulum forming one continuous structure, a large median apophysis with a conspicuous mesal process, and a fine keel-like

embossment representing the stipes apophysis. Epigynum of female has a narrow to rather widened scape projecting above thickly rimmed, partly or entirely cleaved, basal plate.

Lipocrea was first formed by Thorell (1878) to comprise *phthisica* and *tabida* from the Australian Region, and *fusiformis* from the Oriental Region. From the latter region, another species, *diluta,* was later described (Thorell, 1887). Thorell's genus was however not accepted by Simon (1887: 187) and the species concerned were placed in *Larinia* (Bonnet, 1957: 2549). While, of the species considered above, *phthisica* has been transferred to *Larinia* s.str. (Grasshoff, 1970b), the others were separated once again from *Larinia* and, along with *longissima* (Simon) from the Ethiopian Region, formed the new genus *Larinopa* (Grasshoff, 1970b: 226); the old name *Lipocrea,* though available, has been overlooked (M. Grasshoff, in litt.). The structure of the genital organs, primarily that of the male palp, has been proved by Grasshoff (as of *Larinopa*) to be the distinctive character separating this genus from the otherwise very similar *Larinia.*

Lipocrea turns out to have a representative also in Israel, namely *L. epeiroides* (O. P.-Cambridge, 1872). No illustration of this species was ever published. Although O. P.-Cambridge (1876: 576 footnote) stated explicitly that *epeiroides* differs from *L. chloris* (Audouin), his species has repeatedly been erroneously synonymized with *L. chloris.*



Figs. 18-27: *Larinia chloris* (Audouin). **18** ♀ carapace, dorsal view; **19** ♀ opisthosoma, dorsal view; **20** Ditto, lateral view; **21** ♂ left palpus, mesal view; **22** Ditto, ventral view; **23** Ditto, lateral view; **24** ♀ epigynum, ventral view; **25** ♀ epigynum with torn-off scape, ventral view; **26** ♀ epigynum, lateral view; **27** Ditto, posterior view. (Abbreviations: C = conductor, E = embolus, M = median apophysis, Sa = stipes apophysis, Sc = scape, Ta = Terminal apophysis, Tb = subterminal apophysis, Tg = tegulum.)

***Lipocrea epeiroides* (O. P.-Cambridge, 1872), new combination** (Figs. 28-39)

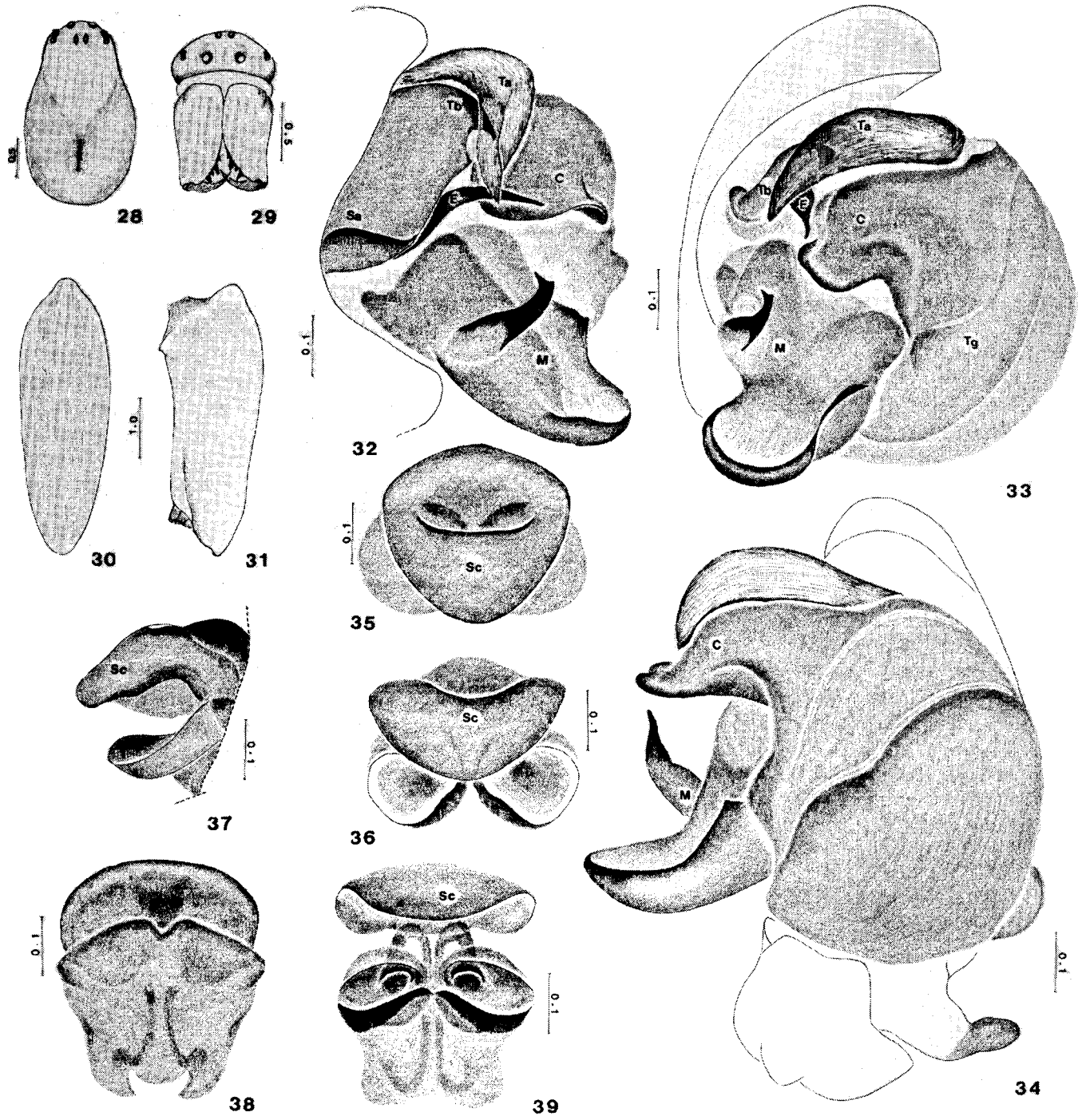
Argiope epeiroides O. P.-Cambridge, 1872: 301; ♂ holotype, 2 ♀♀ from Jericho, Israel (HECO, B. 1072, t. 7; examined).

Larinia epeiroides (O. P.-Cambridge). Simon, 1895: 768; Roewer, 1942: 769.

Larinia chloris (Audouin). Pavesi, 1895: 8; Bonnet, 1957: 2348; Grasshoff, 1970b: 222. Misidentification.

Description

Carapace pale yellow with a deep, rather narrow, mid-dorsal fovea (Fig. 28). Yellowish sternum oval-shaped. Chelicerae with 4 pro- and 3 retromarginal teeth (Fig. 29). Opisthosoma elongate, slightly pointed at each end (Fig. 30); posterior extremity projects beyond spinnerets ending with a short, slightly bent tip (Fig. 31); two light brown bands extend along dorsum, tapering and partly converging on hind extremity (Fig. 30); pairs of small dark spots or dots spaced along dorsal bands, visible in male. Opisthosoma on venter with light, slender, longitudinal patch surrounded by a dark line, and two whitish spots close to spinnerets. Femora I-II of male with a ventral-retrolateral row of bristles, and femora IV, on basal-ventral part, with 2-3 short spines rising from minute tubercles.



Figs. 28-39: *Lipocrea epeiroides* (O. P.-Cambridge). **28** ♀ carapace, dorsal view; **29** Ditto, frontal view; **30** ♀ opisthosoma, dorsal view; **31** Ditto, lateral view; **32** ♂ holotype from Israel, left palpus, mesal view; **33** Ditto, ventral view; **34** Ditto, lateral view; **35** ♀ epigynum, anterior view; **36** Ditto, ventral view; **37** Ditto, lateral view; **38** Ditto, posterior view; **39** Ditto, slightly distended, ventral to posterior view. (Abbreviations: C = conductor, E = embolus, M = median apophysis, Sa = stipes apophysis, Sc = scape, Ta = terminal apophysis, Tb = subterminal apophysis, Tg = tegulum.)

Male

Measurements (holotype): Total length 7.2; carapace length 2.8, width 1.9; carapace index 1.47; clypeus height 0.10; clypeus index 0.77; length of legs: I 14.5, II 12.7, III 6.9, IV 11.2; patella + tibia index 1.86; tibia index 0.083.

Palpus: Holotype. Relatively very large. Stipes apophysis (Sa) poorly developed as thin, dark fold on mesal side of bulb (Fig. 32); large median apophysis (M) projects basally with enormous spoon-like extension (Figs. 32-34); sclerotized mesal process of median apophysis rises upright, almost perpendicular to apophysis and ends with pointed, slightly hooked tip (Figs. 32, 33); large dark brown conductor (C) forms a broad continuation of tegulum (Tg) bending inwards (Figs. 32-34); edges of conductor sclerotized and slightly raised; transparent terminal apophysis (Ta) folds over black pointed tip of subterminal apophysis (Tb) and extends to height of embolus (E; Figs. 32, 33).

Female

Measurements (3 ♀♀): Total length 7.0-8.9; carapace length 2.5-3.0, width 1.5-1.8; carapace index 1.67-1.71; clypeus height 0.10-0.11; clypeus index 0.91-1.0; length of legs: I 11.1-14.1, II 10.0-12.4, III 5.3-7.0, IV 9.3-11.8; patella + tibia index 1.48-1.73; tibia index 0.07-0.10.

Epigynum: Large, blackish brown, round scape (Sc) bears centrally a wide depression bordered by raised, sclerotized rims (best viewed from an anterior angle; Fig. 35); scape covers greater part of two funnelled platelets, each with thick, raised edges on median side (Figs. 36, 37); scape broadly attached at back (Fig. 38); details, also of ducts leading to platelets, are best observed by slight expansion of epigynal components (Fig. 39).

Diagnosis

The configuration of the male palpal sclerites of *L. epeiroides* conforms definitely to that found in *Lipocrea* species. Generally, *L. epeiroides* resembles most closely the African *L. longissima.* It differs distinctly, however, and can also be separated easily from other *Lipocrea* species by the peculiar form of the male palpal conductor, the shape of the median and terminal apophyses, and by the shape of the epigynal structures of the female.

Distribution

Known so far only from Israel (vicinity of Jericho).

Comments

With the newly added, mid-eastern *L. epeiroides,* the previously known range of distribution of *Lipocrea* is appreciably enlarged. The zoogeographical pattern of *Lipocrea* thus perceived shows considerable similarity to that of *Larinia* s.str. Little can be concluded on the distribution of *L. epeiroides* as only very few specimens have thus far been collected. Pavesi's (1895: 8) record from Beirut, Lebanon unfortunately is worthless since his determination combined *L. chloris* with *L. epeiroides*; this Lebanese specimen was the only araneid out of E. Festa's material from our region (determined by Pavesi) that could not be located.

According to O. P.-Cambridge (1872: 302) specimens of *epeiroides* "were found in geometric snares among water-weeds on the banks of the stream leading from Elisha's Well (= Jericho) on the Jordan plains". It is unlikely, therefore, that *L. epeiroides* is an eremic species as are others which inhabit arid sites in the hot Rift Valley, but, deducing also from the distribution of *Larinia,* it should possibly be considered as of Ethiopian origin.

Genus *Drexelia* McCook, 1892

Type-species, by monotypy: *Epeira directa* Hentz, 1847.

Araneids with an elongate carapace and a long, sometimes rather slender, opisthosoma. Somatic features in general, unlike genital characters, are identical to *Larinia* and *Lipocrea* species. Palp of male has a tegulum with a basal, projecting bulge and apical edges emarginated or bearing at least one toothed protrusion, a median apophysis with sclerotized processes, a smoothly rounded stipes apophysis, and a slender or basally widened, tapering embolus. Epigynum of female with a soft, fleshy scape, often broadly attached, covering greater parts of epigynal plate.

Drexelia, reinstated by Grasshoff (1971), includes American and African species, the latter ranging up to Asia as of present new records from Israel. *Drexelia,* according to Grasshoff's (1970b) concept of this genus, is the only one in the *Larinia*-group that has representatives also in America. It should be noted, however, that very little has as yet been published on species of the *Larinia*-group from the Neotropics and the present classification may undergo considerable changes (Levi, 1975). Scarcity of material may explain also the lack of any *Drexelia* records from the Oriental and Australian Regions. Except for Madagascar, the off-African, easternmost record of *Drexelia* is that from the Seychelles (Grasshoff, 1980: 394). *Drexelia,* as of present knowledge, differs thus from the distributional pattern noted for *Lipocrea* and *Larinia* s.str.

***Drexelia acuticauda* (Simon, 1906)** (Figs. 40-49)

Larinia acuticauda Simon, 1906: 1164; ♀ holotype from Khor Attar, Sudan. Roewer,1942: 769; Bonnet, 1957: 2347.
Drexelia acuticauda (Simon). Grasshoff, 1971: 94, fig. 46.

Description

Carapace long and markedly slender with a median, relatively short longitudinal fovea (Fig. 40). Chelicerae with 3-4 pro- and 2-3 retromarginal teeth. Elongate, slender opisthosoma marked by two parallel lines on dorsum (Fig. 41) and an oblong patch on venter; anterior extremity drawn into a conical, partly pointed extension bearing a bundle of bristles; posterior extremity tapers to an attenuated, tail-like extension bending beyond spinnerets (Fig. 42). Femora I-II without ventral rows of bristles; palpal patella of male bears two long bristles.

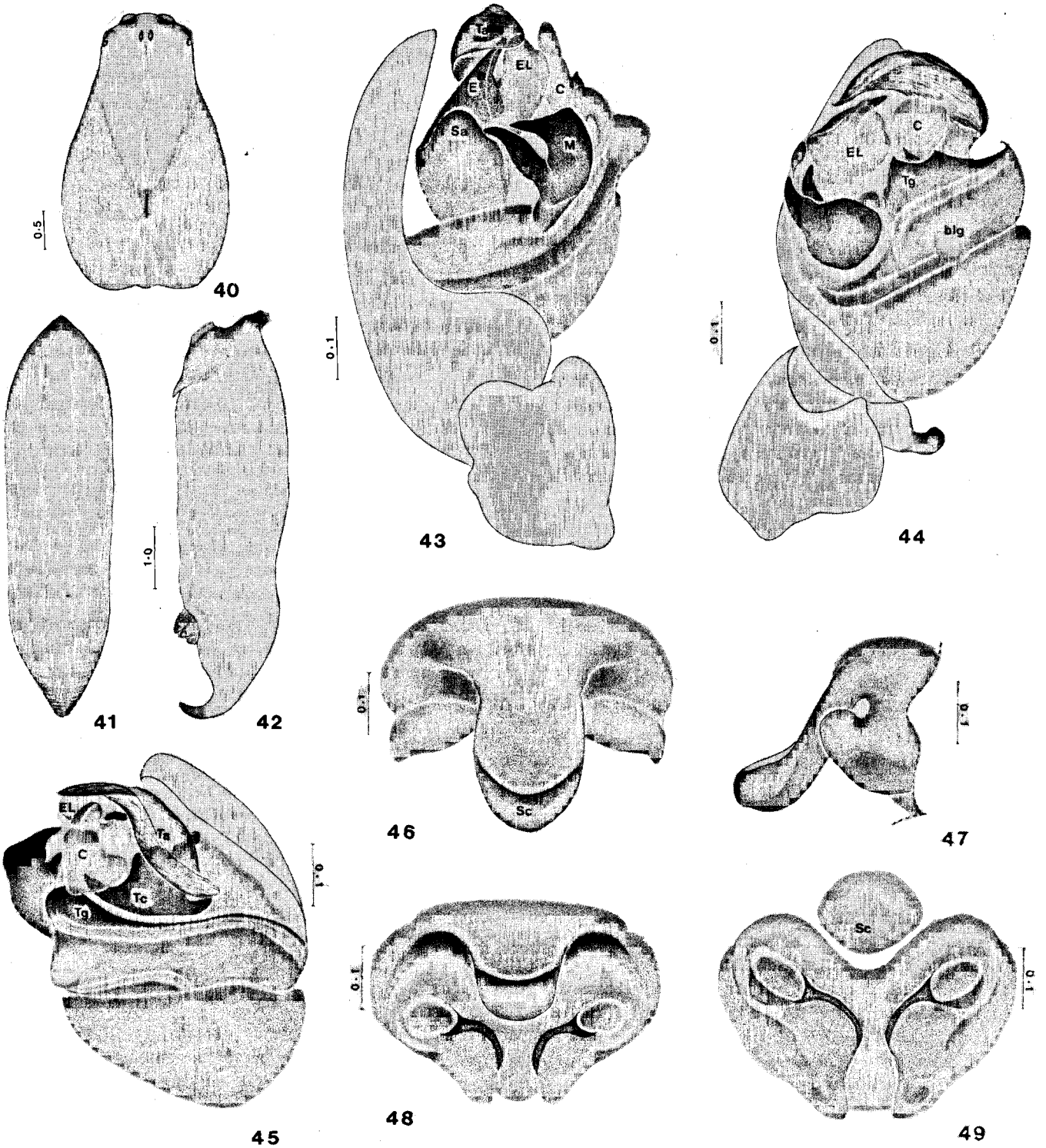
Male

Measurements (1 damaged ♂): Total length 5.2; carapace length 2.7, width 1.3; carapace index 2.07; length of legs: I 14.0, II - , III 7.0, IV 11.3; patella + tibia index 1.96; tibia index 0.065.

Palpus: Relatively small. Broad, partly membranous, lobe-like stipes apophysis (Sa) extends with rounded top to half height of embolus on mesal side (Fig. 43); median apophysis (M) bears two thick, sclerotized processes pointing mesally (Figs. 43-45); black, thick embolus (E) with a large, transparent lamella (EL; "embolus-apophysis" of Grasshoff, 1971: fig. 46a) broadly attached at base (Figs. 43, 44); translucent, slender terminal apophysis (Ta) covers laterally in part, black terminal-accessory apophysis (Tc) and folds mesally over top of bulb (Figs. 43-45); tegulum with upper edges slightly emarginated and a basal bulge (blg) protruding on mesal side (Figs. 43-45).

Female

Measurements (3 ♀♀): Total length 9.4-10.2; carapace length 3.1-3.6, width 1.6-2.0; carapace index 1.80-2.12; clypeus height 0.08-0.12; clypeus index 0.83-1.0; length of legs: I 14.4-17.3, II 12.8-15.9, III 7.1-8.8, IV 12.1-15.1; patella + tibia index 1.77-1.88; tibia index 0.079-0.081.



Figs. 40-49: *Drexelia acuticauda* (Simon). **40** ♀ carapace, dorsal view; **41** ♀ opisthosoma, dorsal view; **42** Ditto, lateral view; **43** ♂ left palpus, mesal view; **44** Ditto, ventral view; **45** Ditto, lateral view; **46** ♀ epigynum, ventral, partly anterior view; **47** Ditto, lateral view; **48** Ditto, ventral, partly posterior view; **49** Ditto, posterior view. (Abbreviations: blg = tegular bulge, C = conductor, E = embolus, EL = embolar lamella, M = median apophysis, Sa = stipes apophysis, Sc = scape, Ta = terminal apophysis, Tc = terminal-accessory apophysis, Tg = tegulum.)

Epigynum: Whitish, nearly transparent, soft scape (Sc) extends posteriorly well beyond edges of epigynal plate (Figs. 46, 47); epigynal orifices open outwards laterally, below markedly swollen edges of epigynal plate (Figs. 48, 49); small globuliferous bodies discernible along inner ducts (not illustrated).

Diagnosis

The markedly slender body, the shape of the median apophysis and the peculiar lamellar extension of the embolus of the male palp are diagnostic characters distinctly separating *D. acuticauda* from all *Drexelia* and other species of the *Larinia*-group. The genital features of the female resemble closely those of other species of *Drexelia* and can be separated by small but definite differences in shape of scape, swollen rims of epigynal plate and configuration of epigynal orifices.

Distribution

Africa: Sudan, ?Egypt, Libya, ?Tunisia, ?Sierra Leone, ?Cameroon. Asia: Israel — NEW RECORD; Aden — see Comments.

Records. *Israel:* Dimona, 'En Yahav.

Comments

The few adult specimens of *D. acuticauda* found so far in Israel were collected in March, June and September. *Drexelia acuticauda* had never before been recorded from this country and for the time being it is the only authenticated record of this species from Asia. The only other record from Asia is that from Aden of *L. albotaeniata* Simon, 1906, considered synonymous with *acuticauda* by Grasshoff (1971: 94). The whereabouts of the Aden specimen, possibly an adult female, syntype of *albotaeniata,* is not known. According to Grasshoff the above synonymy is based on immature syntypes from Nefzoua, Tunisia; the Asian record from Aden is not mentioned again.

Specimens of *D. acuticauda* in Israel were taken in the southern parts of this country: the Negev and the Arava Valley. Like other species of the *Larinia*-group found in Israel, it may be of Ethiopian origin. Adult specimens, however, have been examined so far only from Libya, Sudan and Israel, and the possibility that it has a Palaeoeremic distribution should not be excluded. Other records listed by Grasshoff (1971: 95), headed herein by a question mark, are based solely on immature specimens and with genital characters being indispensable for species identification, it would seem best to consider these records as doubtful for the time being. This concerns primarily the exceptional records from remote African countries such as Sierra Leone and Cameroon that are far away from the range of species distributed in the Middle East. These can hardly be accepted unless new definite evidence of mature specimens is provided.

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