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# Pirate spiders of the genus *Ero* C.L. KOCH from southern Europe, Yemen, and Ivory Coast, with two new species (Arachnida, Araneae, Mimetidae)[1]

K. THALER, A. VAN HARTEN & B. KNOFLACH

**Abstract:** Two new species are described from Yemen and Ivory Coast respectively, *Ero felix* nov. spec. (♂♀), *E. eburnea* nov. spec. (♀). In this context, the five species known from this genus from the Mediterranean have been re-considered, and a new synonym has been discovered: *E. ligurica* KULCZYNSKI 1905 = *E. flammeola* SIMON 1884. From genital characters the species cluster into two groups, around *E. furcata* and *E. aphana* respectively. Both groups include species with globular and with tuberculate abdomen. Probably, cryptic concealment is the function of a tuberculate abdomen, since these species tend to move in the vegetation layer, whereas those with globular abdomen move near the ground, at the surface of rocks, and tree bark. Finally, general distribution patterns are briefly discussed.

**Key words:** Mimetidae, *Ero*, taxonomy, new species, genital characters, crypsis, Mediterranean, Yemen, Ivory Coast.

## 1 Introduction

Pirate spiders constitute a small family and can be recognised best by the peculiar spination of their forelegs. They probably belong to Orbiculariae (SHEAR 1981, SCHÜTT 2000). At least some of them, as European members of the genus *Ero*, are distinct for araneophagy, specialising on web spiders, mainly theridiids and linyphiids. So they move freely and invade other webs to capture the owner. Silk is used for egg cocoons, which can be found in the field more often than the spiders themselves (Fig. 1-4). The inventory of Mimetidae species of Europe can be regarded as well known. However, details of diagnostic characters, variability, and distribution areas have been investigated much less. Whilst describing a new species from Yemen, we also re-considered the species of *Ero* in the Mediterranean region. Another new species has been added from the Ivory Coast in Africa.

*Abbreviations:* BZL Biozentrum Linz. CTh Collection THALER / KNOFLACH. MHNG Muséum d'Histoire naturelle, Genève. NMW Natural History Museum, Vienna, SMF Forschungsinstitut Senckenberg, Frankfurt am Main. All measurements in mm. Specimens collected by THALER & KNOFLACH, if not indicated otherwise.

[1] Dedicated respectfully and with best wishes to Univ.-Prof. Dr. Horst Aspöck, on the occasion of his 65th birthday.

## 2 Descriptive section

### *Ero aphana* (WALCKENAER 1802) (Fig. 1-2, 5-8, 19, 25, 31, 37-40, 47-48, 52-53a, b)

**Material:** Italy: Sardinia, Golgo plain above Baunei, S. Pietro al Piscinas 400 m, 1 ♀ (NMW) 7 June 2003; Trentino, Vigilzano, Lago Pudro, 1 ♀ (NMW) 16 June 1989, 1 ♀ 29 July 1990, leg. Foddai; Friuli / Venezia Giulia, Trieste, Aurisina, from juniper, 1♂ (CTh) 20 March 1994, leg. Bertrandi; Calabria, Aspromonte, 1♂ 1 ♀ (NMW), leg. Paganetti - Humler 1906. France, Corsica: Ile Rousse near Calvi, estuary of Ostriconi, from shrubs, 4 ♀ (NMW) 3 May 2001. Spain, Canary Islands: Tenerife, Buenavista 30-100 m, abandoned terrace, from shrubs, 2♂ 2 ♀ (CTh) 19 Feb. 2000, 2 ♀ (NMW) 5 Jan. 2003, Punta del Hidalgo, in banana plantation, from stems, under rotten leafs, 3♂ 1 ♀ (CTh) 8 Jan. 2003. Greece: Corfu, Sgombou / Gavrolimni 100 m, phrygana beating, 3 ♀ (NMW) 28 May 1996, Spartilas 350 m, 1 ♀ (BZL) 29 May 1996; Kefallinia, Atheras Beach 30 m, from scrubs, 1 ♀ (NMW) 15 May 2002; Crete, Lasithiou, Ag. Georgios near Vidiatis, 1♂ (CTh) 1998 (maturity moult in captivity); Chalkidiki, Nikiti, in building, 1♂ (NMW) 27 April - 4 May 2000. Tunisia: at sea shore between Hammamet / Nabeul, 2 ♀ (CTh) 9-15 May 1978, leg. Kreissl. Yemen, Socotra: Deksam plateau (1172), 1 ♀ (SMF) 27 Oct. 2000, leg. van Harten. Austria: Niederösterreich, Oberweiden, juniper beating, 2♂ 1 ♀ (CTh) 17 June - 5 Aug. 1999, 4♂ 4 ♀ (NMW) May - Sept. 1999, leg. Ortel. This is the most common mimetid in our collections, and was mainly obtained by beating shrubs.

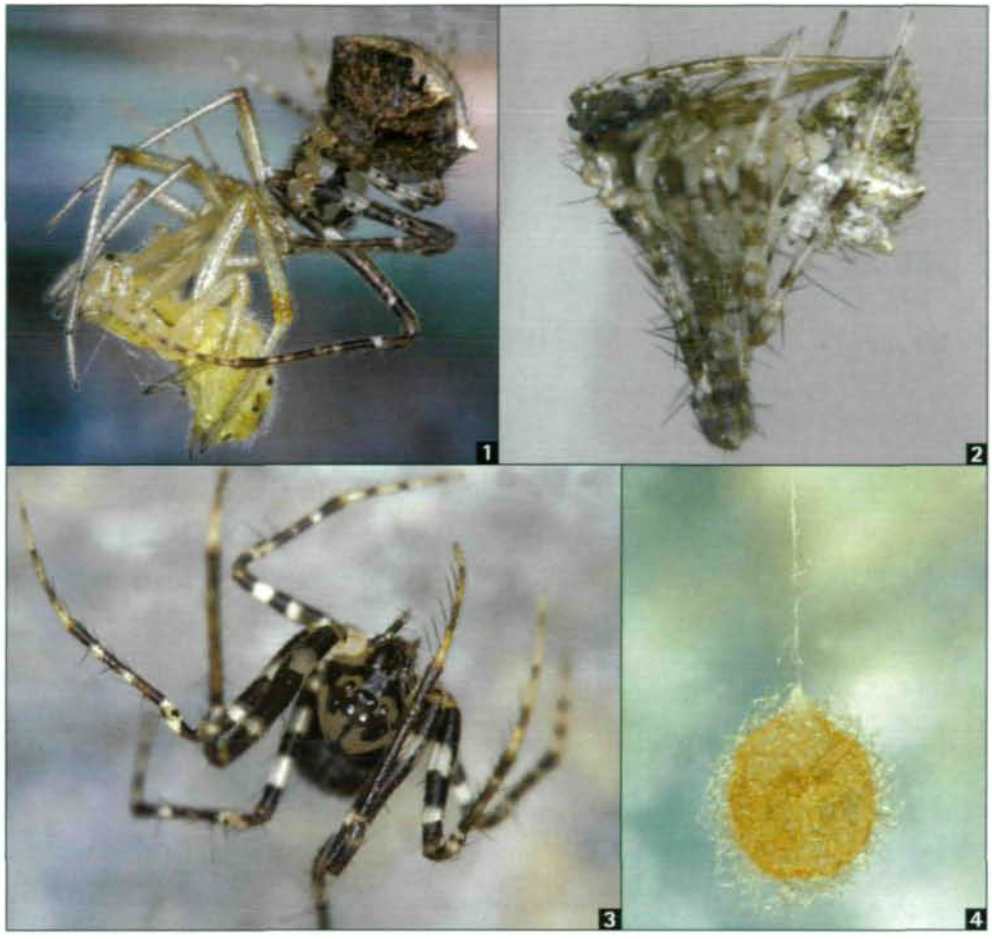


Fig. 1–4: 1–2: *Ero aphana* (Walckenaer), 1: ♀ preying upon *Theridion impressum* L. Koch (I Sardinia, Golgo plain 7 June 2003), 2: ♂ (Tenerife 19 Feb. 2000), 3: *E. furcata* (Villers) (F Corsica, Calvi 30 April 2001), 4: *E. flammeola* Simon, egg-sac (GR Rhodes, Attaviros 10 April 1996). Photos: B. Kn.

**Taxonomy**: Merrett & Snazell (1975). Male palpal tibia variable in length (Fig. 37 vs. 39).

**Diagnostic characters**: Abdomen, quadrituberculate, posterior declivity rounded. Epigynum, not much projecting; lateral lobes, inconspicuous; median part, introductory orifices circular, separated by narrow septum; copulatory ducts, strongly diverging; receptacles, large, globular (Fig. 47-48, 52-53). Male palp: Fig. 19. Tibia, 2-3 times longer than broad (Fig. 37, 39); cymbium, oval, flat, retrolaterally with hook-like process (Fig. 25); paracymbium, extending retrolaterally, forming a vertical branch, bearing two dorsal humps and a ventral blade, without distal branch (Fig. 25, 38). Palpal organ, compact, basically as in its congeners; protegulum, whitish, membranous; conductor, with prolateral furrow, its distal end rounded; embolus, originating at proximal end of tegulum, semicircular, distally twisted (Fig. 31, 40).

**Affinities**: From details of cymbium and paracymbium, *E. flammeola* seems to be closely related to *E. aphana*.

**Distribution**: Holomediterranean, from Macaronesia (Wunderlich 1992) to Caucasus (Mikhailov 1997), and also N. Africa. Range, probably expanding northwards, being a recent newcomer in urban Innsbruck (Thaler & Knoflach 2002), with northernmost localities in southern England (Harvey et al. 2002), where it was first recorded by Merrett & Snazell (1975). Introduced to St. Helena (Unzicker 1977) and Queensland (Todd Davies 1985).

## *Ero cambridgei* Kulczynski 1911 (Fig. 23–24, 28–29, 34–35, 60–61)

**Material**: Greece: Peloponnese, Parnon 1100 m, Kalogerovouni near Metamorfosi, 1♂ (CTh) 27 Sept. 1992, under stone on pasture with sparse pines. Rhodes, Prof. Ilias 550 m above Salakos, pasture with pines, 1♀ (CTh) 12 April 1996. England: 1♂ 1♀ (Coll. Merrett).

**Taxonomy**: Genital organs differ slightly between specimens from Greece and from England, see dorsal tubercle of cymbium (Fig. 23 vs. 24) and median part of epigynum (Fig. 60 vs. 61). From evidence now available, taxonomic significance of these differences cannot be properly considered.

**Measurements** (♂ / ♀, n = 1/1) [specimen from England, for comparison]: Total length 1.8 / ? [2.9 / 3.2], prosoma length 0.83 / 0.97 [1.4 / 1.5], prosoma width 0.77 / 0.81 [1.1 / 1.2], leg I 5.2 (1.4 + 0.5 + 1.4 + 1.0 + 0.8) / 4.5 (1.3 + 0.5 + 1.2 + 0.9 + 0.6) [6.7 (1.9 + 0.7 + 1.7 + 1.2 + 1.2) / 6.3 (1.9 + 0.7 + 1.6 + 1.3 + 0.8)].

**Diagnostic characters**: Abdomen, globular. Epigynum, flat; lateral lobes, inconspicuous; median part, broader than long; orifices, transverse slits, separated by their width; copulatory ducts, short; receptacles, globular. In the specimen from England, orifices are more oblique, the median part being divided by a short septum (Fig. 60 vs. 61). Male palp: Fig. 23-24. Tibia, ca. 3 times longer than broad; cymbium, oval, its proximal tubercle more slender than in specimen from England; paracymbium, strong, rectangular, with proximal branch entire, distal branch flat, rounded (Fig. 28-29). Palpal organ: tegulum, oval, protegular area whitish, rounded; conductor, with prolateral furrow, its tip specific, retrolateral (r) projection finger-like, ventral trapezoid (Fig. 34-35); embolus, twisted.

**Affinities**: Close to *E. furcata*, see conductor.

**Distribution**: Up to 1940 *E. cambridgei* was only known from western Europe (Bonnet 1956) and Poland (Kulczynski 1911). It has since been mentioned for other countries and is now regarded as a Trans-palaearctic element (Marusik 1994).

Fig. 5–10: 5–8: *Ero aphana* (Walckenaer), 5–6: ♀, 7–8: ♂ (5 GR Corfu 28 May 1996, A Innsbruck 7 July 1999, 7 Tenerife, Buenavista 5 Jan. 2003, 8 GR Crete, Lasithiou 1998), 9–10: *E. tuberculata* (De Geer), ♀ (I Trieste 9 Jan. 1994). Photos: B. Kn.

## *Ero eburnea* Thaler nov. spec. (Fig. 56–58)

**Material**: Holotype ♀ (MHNG), Cote d'Ivoire: Abidjan, Parc national du Banco, 12 March 1977, leg. Löbl (15b: „troncs d'arbres avec polypore, sous des écorces").

**Diagnosis**: Small pale species with abdomen globular, characterised by epigynum and AME.

**Derivatio nominis**: *eburneus*, meaning ivory. Latin adjective, ending agrees in gender with the generic name.

**Measurements** (♀, ♂ not known): Total length 2.4, prosoma length (width) 1.15 (0.93), leg I 5.6 (1.6 + 0.4 + 1.5 + 1.4 + 0.7).

**Diagnostic characters** (♀, ♂ not known): Prosoma and legs, pale yellow, without pattern, abdomen, greyish. Prosoma, elevated posteriorly; eyes, Fig. 56, AME, large and prominent, ca. 2 times diameter ALE. Chelicerae, without stridulatory file, promargin with peg teeth as usual. Legs, I / II with distinctive prolateral spines on tibiae and metatarsi (5/3). Epigynum: Fig. 57-58, lateral lobes, not prominent; median part, narrow; introductory orifices, transverse, semicircular; copulatory ducts, short, slightly diverging; receptacles, globular.

**Affinities**: These cannot be indicated from female characters alone. Geographically, *E. eburnea* nov. spec. is widely separated from other existing African species, two described from South Africa, *Ero capensis* Simon 1895 from „Prom. Bona Spei" (= Cape of Good Hope, Simon 1895: 945, not Tunisia, contra Unzicker 1966), *E. lawrencei* Unzicker 1966 from near Grahamstown (Unzicker 1966), and three from Madagascar and Comoro Islands (Emerit 1996).

**Distribution**: Known only from type locality.

## *Ero felix* Thaler & van Harten nov. spec. (Fig. 11–14, 21, 27, 33, 43, 45–46, 51)

**Material**: Yemen: Holotype, 1♂ (MHNG) 24 July [1527] (adult 30 Aug. 2001), Ar Rujum, 1900 m (15°26'N, 43°40'E). Paratypes, Al Kowd, 1♀ (MHNG) 12 July (adult 16 Sept. 1999), 1♀ (SMF) 16 Jan. [1221] (adult 4 Feb. 2001), ca. 20 m (13°05'N, 45°22'E); Manakhah / Khamis Bani Sa'd, 1♀ (NMW) 3 July 2001 [1424], 1100 m (15°07'N, 43°37'E); near Hammam Ali, 2♀ (MHNG) 5 Aug. 2002 [1784], 1600 m (14°38'N, 44°10'E); Ar Rujum, 1♂ (NMW) 18 April 2000 [925]. All specimens leg. A. van Harten.

Al Kowd is an agricultural area, close to the Indian ocean, where mainly fruit crops (mango, banana, guava), sorghum, cotton, sesame and some vegetables are grown. Ar Rujum is situated at the lower part of the high plains. Specimens were collected there in a tree nursery, surrounded with *Acacia* and *Ziziphus* trees and cactuslike *Euphorbia* shrubs, and also by cultivations of cereals. Manakhah / Khamis Bani Sa'd is a valley with rather steep sides. At the valley bottom coffee, banana and mango are cultivated; its sides are grown with *Acacia*,


Fig. 11–14: *Ero felix* Thaler & van Harten nov. spec., ♀ (Yemen, Al Kowd 12 July [adult 16 Sept. 1999]). Photos: B. Kn.

*Ziziphus*, *Euphorbia* and other xerophilous shrubs. Hammam Ali is a broad valley with extensive agriculture, citrus, coffee, mango and maize, its sides grown with xerophilous shrubs, especially *Euphorbia* spp.

**Diagnosis**: Among tuberculate species, *E. felix* nov. spec. is characterised by posterior tubercles being bifurcate, and details of genital characters: cymbium, paracymbium, conductor, epigynum.

**Derivatio nominis**: *felix*, meaning fortunate. Latin adjective, recalling ancient southern Arabia (*Arabia felix*); ending invariable.

**Measurements** (♂ / ♀, n= 1/4): Total length 2.0 / 2.1 - 2.6, prosoma length 0.95 / 1.1 - 1.3, prosoma width 0.8 / 0.9 - 1.0, height of abdomen (from spinnerets to anterior tubercle) 1.3 / 1.4 - 1.9. Legs 1/2/4/3, 1 6.1 (1.9 + 0.45 + 1.8 + 1.1 + 0.9) / 5.7 (1.7 + 0.5 + 1.55 + 1.2 + 0.8) - 7.1 (2.2 + 0.6 + 1.95 + 1.4 + 0.9).

**Diagnostic characters**: Overall yellowish; eye field, blackish, with three short stripes extending posteriorly and two paramedian stripes anteriorly, across clypeus; chelicerae without stridulatory file. Leg joints, with dark spots and annulations. Spines on tibiae (metatarsi) I/II ♀ 8(5) / 4(3), ♂ 5(5) / 3(3). Abdomen, quadrituberculate, each posterior tubercle bifurcate, posterior declivity, rounded. Epigynum, projecting; lateral lobes, inconspicuous; median part, triangular; introductory orifices, circular, separated by triangular septum; copulatory ducts, long, slightly diverging; receptacles, large, globular (Fig. 45-46, 51). Male palp: Fig. 21, 27, 33. Tibia, clavate, 2 times longer than broad; cymbium, flat, without tubercle, retrolaterally with deep furrow, hook-like process absent; paracymbium, similar to *E. aphana*, forming a vertical branch, with dorsal hump and ventral blade (Fig. 27). Palpal organ, basically as in its congeners; protegulum, membranous; conductor, with prolateral furrow, its distal projections rounded (Fig. 43); embolus, semicircular, distally twisted.

**Affinities**: Probably allied to *E. aphana*; see cymbium (without tubercle), paracymbium (with vertical branch only), distal end of conductor similar. The African quadrituberculate species *E. comorensis* Emerit 1996 is similar in cymbium and paracymbium, but has its posterior tubercles undivided (Emerit 1996). This species is known from the holotype only, which unfortunately could not be traced in Muséum national d'Histoire naturelle, Paris (Dr. Rollard, in litt.).

**Distribution**: Yemen.

## *Ero flammeola* Simon 1884 (Fig. 4, 17–18, 20, 26, 32, 41–42, 49–50, 54–55)

*Ero ligurica* Kulczynski 1905, **nov. syn.** (♀, from Italy, San Remo).

**Material**: Italy: Trentino, Riva sul Garda, in building, 1♀ (CTh) 2 June 1963; Veneto, Venezia, in building, 1♂ 2♀ (CTh) 1984, leg. H. Hansen. Greece: Rhodes, Prof. Ilias 600 m near Salakos, in pine forest, 1♀ (CTh) 12 April 1996, Ag. Isidoros 550 m near Attaviros, under stone, 1♀ (NMW) 10 April 1996; Crete, Lastros 100 m near Sitia, along brooklet, 1♂ (NMW) 29 Sept. 1998; Corfu, Spartilas 350 m, under stone, 1♂ (CTh) 29 May 1996; Chalkidiki, Sithonia, eastern side, along rivulet near Koutloumousi beach, 1♀ (CTh) 3 May 2000. Spain, Canary Islands: Tenerife, Buenavista 100 m, in abandoned terrace, 1♀ (CTh) 28 March 1983. Specimens were taken under stones in the field, but in buildings in northern Italy.

**Taxonomy**: Simon (1929: 772, 1932: 773, 777), Machado (1941), Brignoli (1977), Canard (1982). *Ero ligurica* Kulczynski 1905, which is known from only one female, allegedly should differ from *E. flammeola* in

dimensions (KULCZYNSKI 1905), prosoma length 1.1 (width 0.88) against 1.6 in the male of *E. flammeola*. Another subspecies, *E. l. lusitanica* KULCZYNSKI 1911, which was later proposed by the same author, prosoma length 1.35, has since been recognised as a junior synonym of *E. flammeola* (see MACHADO 1941). Both subspecies were separated by KULCZYNSKI (1911) from the posterior view of the epigynal tubercle, broad in *E. l. ligurica*, more slender in *E. l. lusitanica*. We also, do not hesitate to accept *E. ligurica* as another subjective synonym of *E. flammeola*, a conjecture which has been suggested already by SIMON (1932: 777). Such differences were also found among the females examined here (Fig. 54-55), while the three males studied, from Venice and Greece, agree with each other in details of the palpal organ, and also in published figures. Moreover, the type locality is situated within the presumptive range of *E. flammeola*.


Fig. 15–18: 15–16: *Ero furcata* (VILLERS), 15: ♀ (see Fig. 3), 16: ♂ (A Nordtirol, Tarrenz 5 July 2003), 17–18: *E. flammeola* SIMON ♀ (17 see Fig. 4, 18 GR Chalkidiki 3 May 2000). Photos: B. Kn.

**Measurements** (♂ / ♀): Total length 2.6 (n=1) / 2.4 - 3.5 (n=5), prosoma length 1.2 - 1.35 (n=3) / 1.15 - 1.6 (n=7), prosoma width 1.1 - 1.2 (n=3) / 0.95 - 1.3 (n=7).

**Diagnostic characters**: Abdomen, globular, without tubercles, Fig. 17-18. Epigynum, forming a projecting tubercle, rounded in aboral view; introductory orifices, at its anterior slope, slit-like; copulatory ducts, diverging; receptacles, large, globular (Fig. 49-50, 54-55). In one female two strands of amorphous secretion were found, emerging from the orifices, most probably forming a copulatory mark (Fig. 54). Male palp: Fig. 20, 26, 32. Tibia, ca. 3.5 times longer than broad; cymbium, oval, flat, retrolaterally with small procurved denticle; paracymbium, broad, forming semi-circle with low anterior hump, distally rounded (Fig. 41). Palpal organ, compact; protegulum, whitish, membranous; conductor, with prolateral furrow, its tip see Fig. 42.

**Affinities**: See *E. aphana*.

**Distribution**: Holomediterranean, from Macaronesia (MACHADO 1941, WUNDERLICH 1992) to Greece (see above), Ionian (BRIGNOLI 1977) and Aegean Islands, Corsica (SIMON 1932); a doubtful record in Algeria (DENIS 1937, UNZICKER 1966), northernmost records in Italy in human buildings, in Venice and at Lake Garda (HANSEN 1988).

## *Ero furcata* (VILLERS 1789) (Fig. 3, 15–16, 22, 30, 36, 44, 59)

**Material**: Italy: Friuli / Venezia Giulia, Trieste, Aurisina, from juniper, 1 ♀ (NMW) 15 May 1993, leg. Bertrandi; Toscana, Le Regine 800 m above Popiglio, 1 ♀ (CTh) 15 Oct. 1975; Marche, Sassoferrato, Mt. Strega 1200 m, 1♂ (CTh) 22 Sept. 1978. Croatia: Rovinj, in stand of pines, 1 ♀ (CTh) 18 Oct. 1970. Bosnia: Suka, 1 ♀ (CTh) 13 Sept. 1974, leg. Ausobsky. Greece: Corfu, 1♂ 1 ♀ (NMW, Coll. Reimoser). France: Corse, Calvi, Foret de Bonifatu 640 m, under stone, 1 ♀ (NMW) 30 April 2001. Pyrenées Orient., Massif du Canigou 1400 m, Col Milleres, 1 ♀ (NMW) 28 Sept. 1983. Specimens were taken under stones, from rock surface and tree bark, rarely by beating.

**Taxonomy**: HEIMER (1986: 117), KASTON (1977). There is uncertainty about the identity of the tegular appendage, which was called median apophysis (HEIMER 1986, CODDINGTON 1990) and terminal apophysis (SHEAR 1981) respectively. As it is broadly attached to the tegulum by a membranous zone and forms a gliding furrow for the embolus, it is named, here, conductor (as already done by PLATNICK & SHADAB 1993 in the case of *E. spinipes* (NICOLET 1849) from Chile).

**Diagnostic characters**: Abdomen, almost globular, two low tubercles present in most specimens. Epigynum,

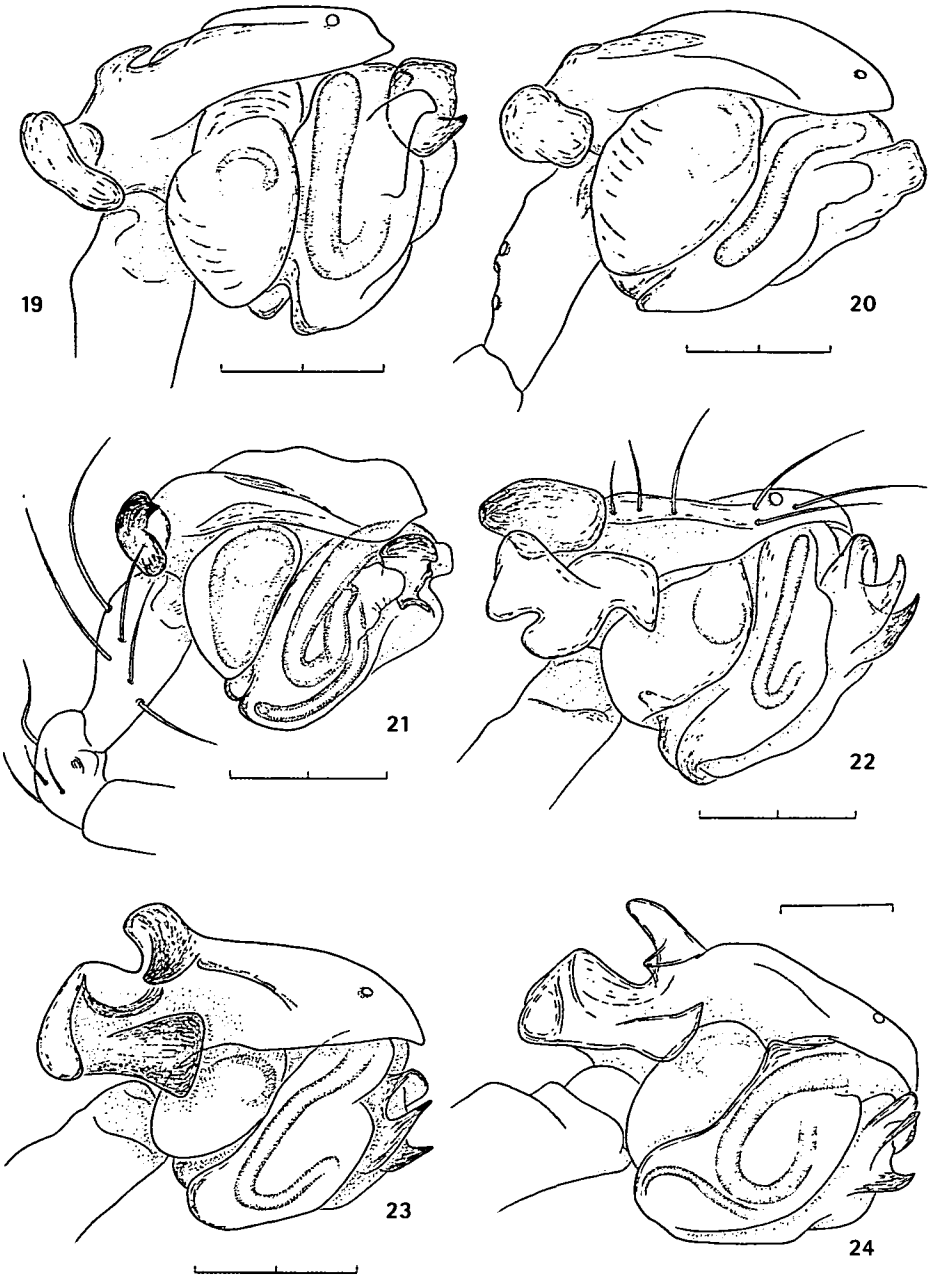



Fig. 19-24: ♂ palp, retrolateral: 19: *Ero aphana* (WALCKENAER) (I Lago di Garda, Riva, 13 June 1964), 20: *E. flammeola* SIMON (I Venezia 1984), 21: *E. felix* THALER & van HARTEN nov. spec. (Yemen, Ar Rujum 2001), 22: *E. furcata* (VILLERS) (A Vienna 1970), 23-24: *E. cambridgei* KULCZYNSKI (23 GB, 24 GR Parnon 1992). Scale lines 0.10 (24), 0.20 (19-23) mm.

flat; lateral lobes, distinct, forming rounded sclerotised knobs, median part, broader than long, converging anteriorly; introductory orifices, as paramedian slits, separated by a whitish longitudinal septum; copulatory ducts, short; receptacles, globular (Fig. 59). Male palp: Fig. 22, 30, 36. Tibia, ca. 2.7 times longer than broad. Cymbium, oval, proximally elevated, forming a conical tubercle, which ends as a sharp point and is excavated on its retrolateral side. Paracymbium, strongly developed, rectangular, with vertical branch bilobed, distal branch flat, truncate (Fig. 30). Palpal organ, compact; tegulum, oval, protegular area whitish, membranous; conductor, with prolateral furrow, its tip specific, retrolateral and ventral projections, finger-like.

**Affinities**: Close to *E. cambridgei* and *E. tuberculata*, see tubercle of cymbium and paracymbium. As its sibling and sister species now stands *E. leonina* (HENTZ 1850) from the Nearctic region, with tegulum and conductor being almost identical (FORSTER & PLATNICK 1984: 100, fig. 390, SHEAR 1981; see SIMON 1932: 777, ARCHER 1941, KASTON 1977).

**Distribution**: Palaearctic, from Macaronesia (WUNDERLICH 1992) to middle Siberia (MIKHAILOV 1997). In Mediterranean region, probably in mountains only (DELTSHEV & BLAGOEV 1997); in temperate and boreal zones, northwards to mid-Finland (PALMGREN 1974).

## *Ero tuberculata* (DE GEER 1778) (Fig. 9-10, 62-64)

**Material**: Italy: Friuli / Venezia Giulia, Trieste, Aurisina, from juniper, 1 ♀ (CTh) 19 Sept. 1993, 1 ♀ (NMW) 9 Jan. 1994, 1 ♀ (CTh) 22 Jan. 1995, leg. Bertrandi. France: Corsica, Bardiana 240 m near Calvi, 1 ♀ (CTh) 11 Sept. 2001 (dead in web of *Steatoda* sp.). Greece: Corfu, 2 ♀ (NMW, Coll. Reimoser).

**Taxonomy**: KOCH (1877: 73), KULCZYNSKI (1905: 556), CANARD (1982). Apparently L. KOCH was the first to separate this species from *E. aphana*, lucidly, by epigynal characters. Another species, *E. aurantiaca* SIMON 1932, was proposed for a single female from the French Alps (Drome: „entre Saint-Jean Royan et Crest"), with a rather broad median part of the epigyne, and later recorded only once more, from the Vendée (DENIS 1966). However, variation of epigynal structures has been underestimated, as recognised by CANARD (1982), and *E. aurantiaca* was placed as a synonym of *E. tuberculata*. This approach is supported by the specimens studied here, see Fig. 62 vs. 63.

**Diagnostic characters**: Abdomen, quadrituberculate, posterior declivity steep (SIMON 1932, WIEHLE 1953), Fig. 9-10. Epigynum: lateral lobes, protruding, rounded, separated less than their diameter; median part, heart-shaped, with narrow posterior stalk (Fig. 62). In „*E. aurantiaca*", lateral lobes are less distinct and the median part narrows gradually to epigastric furrow (Fig. 63).

Male palp: Cymbium, with strong tubercle, its tip unguiform; paracymbium, proximal part evenly rounded, see LOCKET & MILLIDGE (1953), WIEHLE (1954), ROBERTS (1985).

**Affinities:** See *E. cambridgei*.

**Distribution:** W-Palaearctic, from Macaronesia (WUNDERLICH 1992) to Crimea and Middle Asia (MIKHAILOV 1997). In the Mediterranean and temperate regions, widely distributed at low altitude, but with localities rather scattered (e.g. HARVEY et al. 2002, BUCHAR & RUZICKA 2002). According to THORELL (1870: 78), its type locality is Utrecht (the Netherlands).

## 3 Discussion

From genital characters, European species of *Ero* clearly separate into two groups: Group 1; *E. aphana*, together with *E. flammeola* (and *E. felix* nov. spec.); cymbium without tubercle, paracymbium semicircular, conductor projections rounded to angular; Group 2; *E. furcata*, together with *E. cambridgei*, *E. tuberculata*; cymbium with tubercle, paracymbium angular, with distal horizontal branch; conductor projections finger-like to trapezoid.

In both groups, species with globular and with tuberculate abdomen are included. Probably, tuberculate species tend to move in the vegetation layer whilst globular species move near ground surface, on tree trunks and rock surface. Cryptic concealment may therefore be the function of a tuberculate abdomen. Sexual dimorphism in length of first tarsi can be suggested: 0.8 times of metatarsus length in males, 0.6 in females.

Ranges of European species show much overlap and they cannot be assigned clearly to chorological types, but apparently they differ in latitudinal distribution. They all coexist in Macaronesia (WUNDERLICH 1992). *Ero aphana* and *E. flammeola* are rather Mediterranean species,

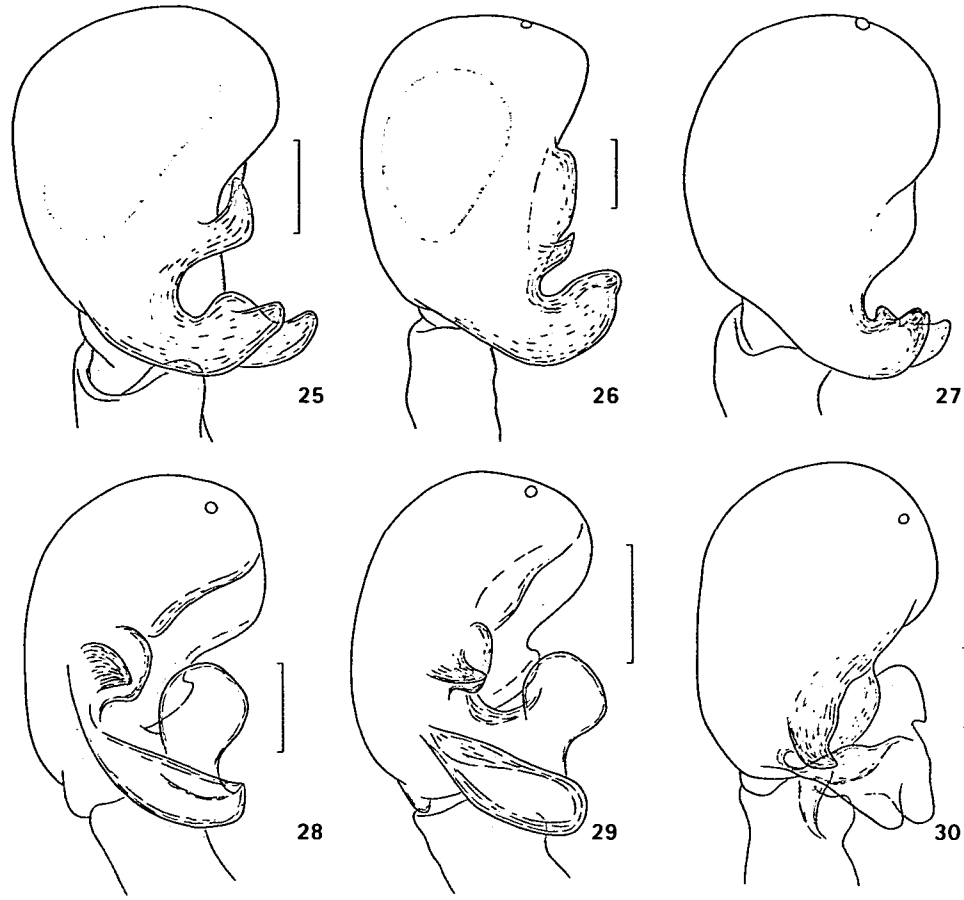
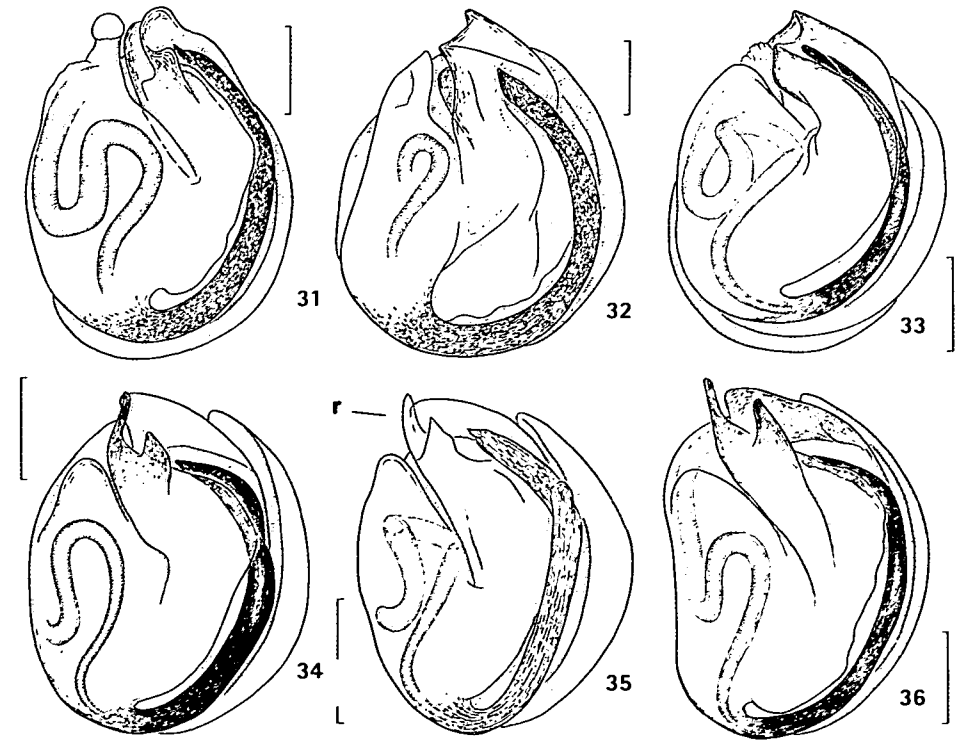



Fig. 25-30: ♂ cymbium, dorsal: 25: *Ero aphana* (WALCKENAER) (see Fig. 19), 26: *E. flammeola* SIMON (see Fig. 20), 27: *E. felix* THALER & van HARTEN nov. spec. (see Fig. 21), 28-29: *E. cambridgei* KULCZYNSKI (28 see Fig. 23, 29 see Fig. 24), 30: *E. furcata* (VILLERS) (see Fig. 22). Scale lines 0.10 mm.

Fig. 31-36: ♂ palpal organ, ventral: 31: *Ero aphana* (WALCKENAER) (see Fig. 19), 32: *E. flammeola* SIMON (see Fig. 20), 33: *E. felix* THALER & van HARTEN nov. spec. (see Fig. 21), 34-35: *E. cambridgei* KULCZYNSKI (34 see Fig. 23, 35 see Fig. 24), 36: *E. furcata* (VILLERS) (see Fig. 22). Scale lines 0.10 mm.



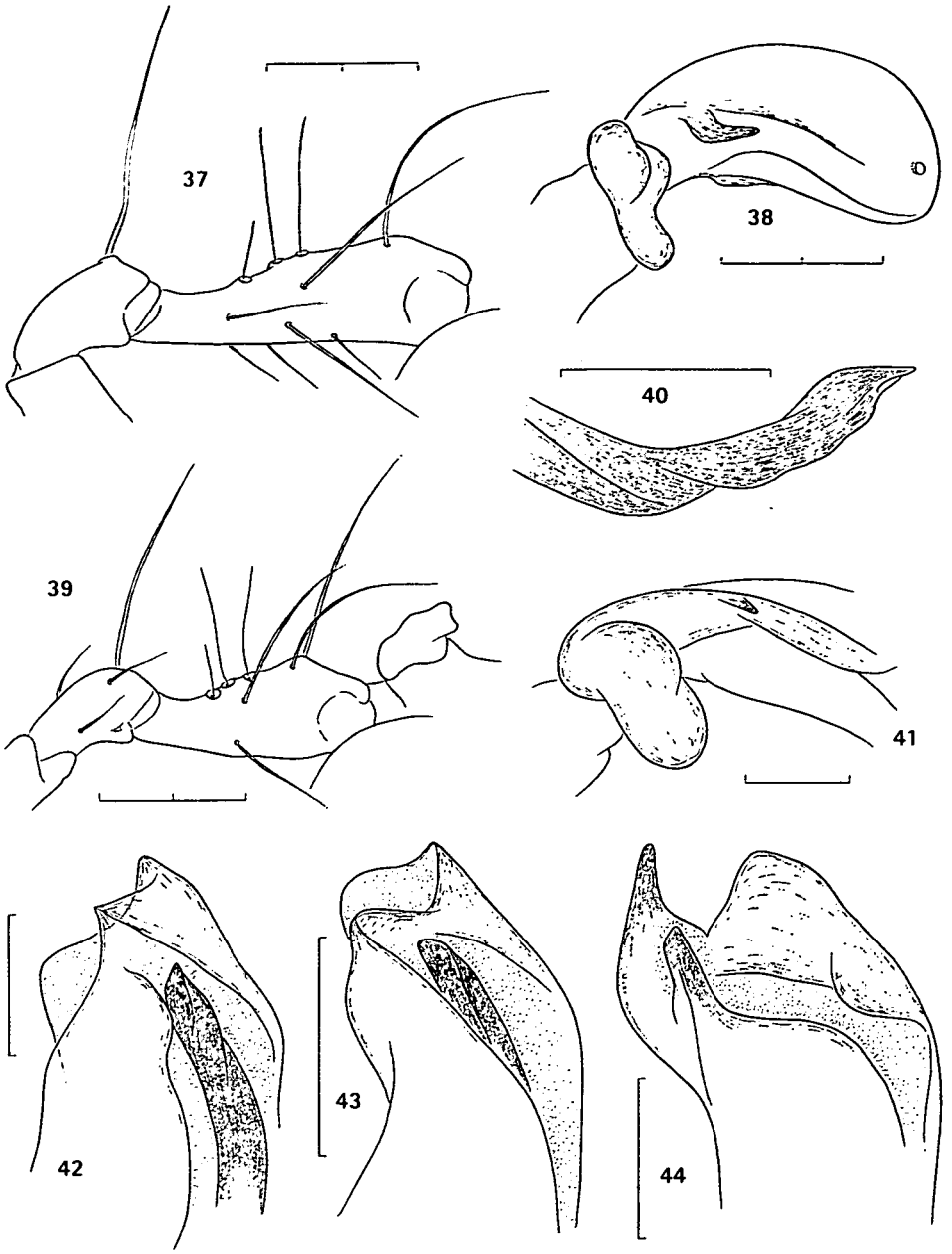



Fig. 37-44: ♂ palpal tibia: 37, 39; ♂ paracymbium, retrolateral: 38, 41; tip of embolus: 40; ♂ conductor: 42-44; 37-40: *Ero aphana* (WALCKENAER) (37-38, 40 see Fig. 19, 39 Tenerife 8 Jan. 2003), 41-42: *E. flammeola* SIMON (see Fig. 20), 43: *E. felix* THALER & van HARTEN nov. spec. (see Fig. 21), 44: *E. furcata* (VILLERS) (see Fig. 22). Scale lines 0.10 (40-44), 0.20 (37-39).

with the former also present in warm regions of temperate Europe, and, probably, with range now expanding. Records of *Ero tuberculata* are widely scattered across mediterranean and temperate Europe. *Ero cambridgei* and *E. furcata* range from mediterranean to boreal conditions, and in the Alps *E. furcata* is present up to the timberline ecotone. Relationships with species from Africa and from the East Palaearctic (SONG et al. 1999) are unknown.

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## Zusammenfassung

**Spinnenfresser der Gattung *Ero* C.L. KOCH aus Südeuropa, Jemen, und Elfenbeinküste, mit zwei Neubeschreibungen (Arachnida, Araneae, Mimetidae).** Bei der Beschreibung von zwei neuen Arten der Gattung *Ero* von Jemen und der Elfenbeinküste, *Ero felix* nov. spec. (♂♀), *E. eburnea* nov. spec. (♀), wurden die fünf aus dem Mittelmeerraum bekannten Arten dieser Gattung in den Vergleich mit einbezogen. Dabei ergab sich als neue Synonymie: *E. ligurica* KULCZYNSKI 1905 = *E. flammeola* SIMON 1884. Die Arten verteilen sich nach Genitalmerkmalen auf zwei Gruppen, um *E. furcata* und um *E. aphana*. Beide Gruppen enthalten Arten mit kugeligem und mit höckertragendem Abdomen. Es wird angenommen, daß die Höcker eine Verbergtracht bewirken: diese Arten scheinen die Strauchschicht zu bevorzugen, während Formen mit kugeligem Hinterkörper sich eher nahe der Bodenoberfläche, an Felsflächen und Baumrinde bewegen. Zum Abschluss wird die Verbreitung dieser Arten diskutiert.

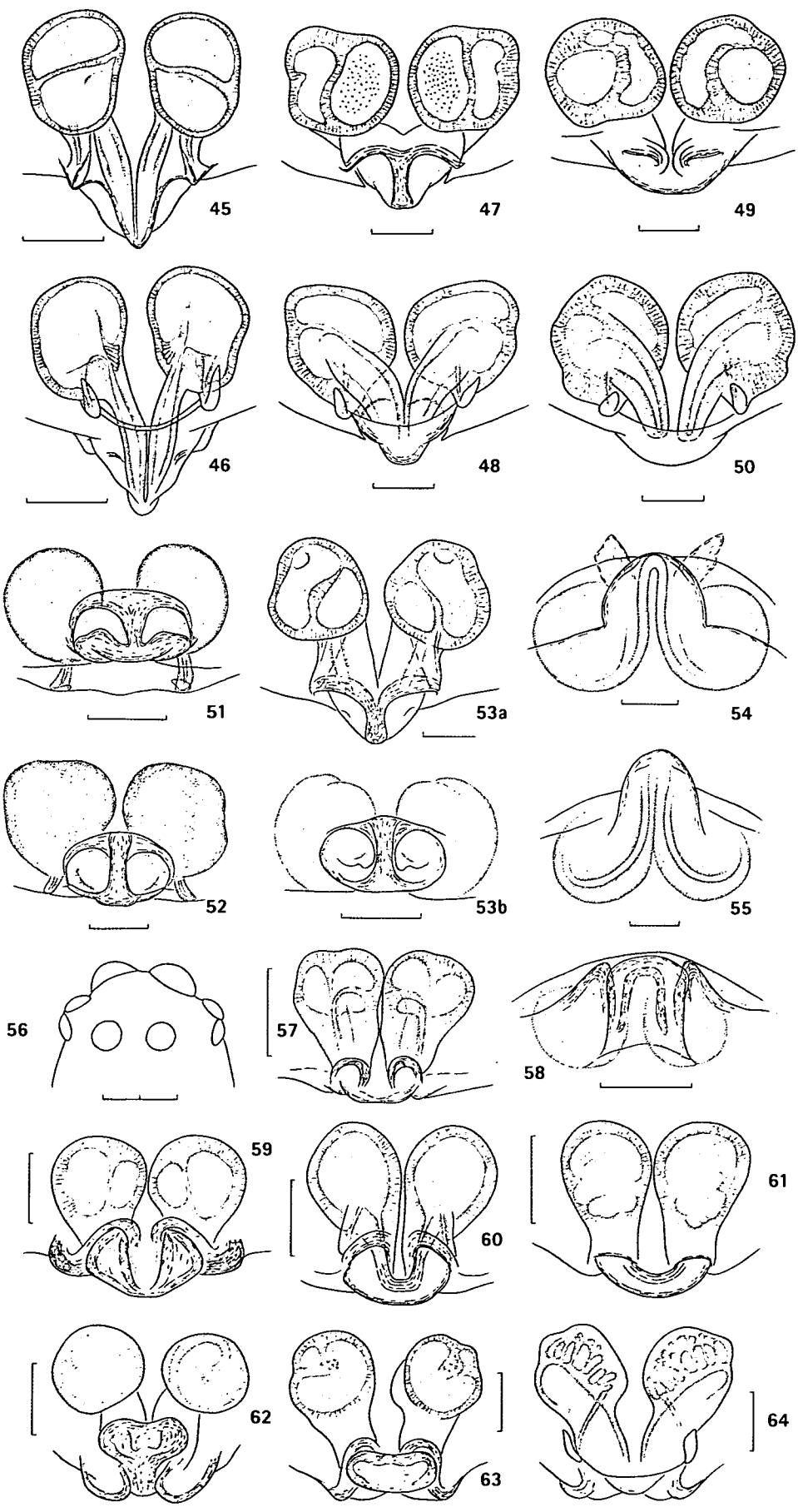


Fig. 45-55: epigynum / vulva, ventral: 45, 47, 49, 53a; same, dorsal: 46, 48, 50; same, apical: 51-52, 53b; same, aboral: 54-55. – 45-46, 51: *Ero felix* THALER & van HARTEN nov. spec. (Yemen, Al Kowd 12 July 1999), 47-48, 52-53: *E. aphana* (WALCKENAER) (47-48, 52 Tunisia, Hammamet 1978, 53 a,b Socotra 27 Oct. 2000), 49-50, 54-55: *E. flammeola* SIMON (49-50, 54 GR Rhodes 12 April 1996, 55 I Riva 2 June 1963). Scale lines 0.10 mm.

Fig. 56-64: ♀ caput, dorsal: 56; epigynum / vulva, ventral: 57, 59-63; same, aboral: 58; same, dorsal: 64. – 56-58: *Ero eburnea* THALER nov. spec. (Holotype), 59: *E. furcata* (VILLERS) (see Fig. 22), 60-61: *E. cambridgei* KULCZYNSKI (60 GB, 61 GR Rhodes 12 April 1996), 62-64: *E. tuberculata* (DE GEER) (62 F Calvi 11 Sept. 2001, 63-64 I Trieste 19 Sept. 1993). Scale lines 0.10 (57-64), 0.20 (56) mm.

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