

New species and records of *Phlegra* from Africa (Araneae, Salticidae)

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New species and records of *Phlegra* from Africa (Araneae, Salticidae). - Six poorly known species of *Phlegra* from Africa are diagnosed, figured and redescribed: *P. lugubris* Berland & Millot, 1941; *P. nuda* Próchniewicz & Hęciak, 1994; *P. pusilla* Wesołowska & van Harten, 1994; *P. soudanica* Berland & Millot, 1941; *P. trifoveolata* Lessert, 1927; and *P. tristis* Lessert, 1927. New records from the Mediterranean and Africa, and taxonomic comments on *Phlegra bresnieri* (Lucas, 1846) are provided. *Phlegra lugubris* var. *senegalensis* Berland & Millot, 1941 and *P. tuzetae* Berland & Millot, 1941 are synonymized with *Phlegra lugubris* Berland & Millot, 1941. The ♀ lectotype is designated for *Phlegra tristis* Lessert, 1927. Three new species are described: *Phlegra etosha* sp. n. (♂; Namibia); *P. gagnaou* sp. n. (♂; Ivory Coast); and *P. touba* sp. n. (♂ ♀; Ivory Coast).

Keywords: Jumping spiders - synonymy - lectotype designation - (re)descriptions.

INTRODUCTION

The genus *Phlegra* Simon, 1876 comprises 70 described species, mostly distributed in the Palaearctic and Afrotropical Regions (Platnick, 2006). Although the Palaearctic species of *Phlegra* have been studied reasonably well (see Logunov, 1996; Azarkina, 2003), except for the *bresnieri* species group and some species from the W. Mediterranean, those of Africa remain poorly known. Many of the African species are only known from old descriptions of single sexes. Taxonomic data on the Afrotropical *Phlegra* species can be found in Lessert (1927), Berland & Millot (1941), Próchniewicz & Hęciak (1994), Wesołowska & van Harten (1994), Wesołowska & Russell-Smith (2000), and a few other works.

The aims of the present work are (1) to re-examine type material of *Phlegra* from some museums and (2) to describe newly collected species from the private collection of Dr A. Russell-Smith. In total, ten species are treated in this paper.

MATERIAL AND METHODS

Specimens for this study were borrowed from the following museums and personal collection: HECO = Hope Entomological Collection, Oxford, UK (Mr J. Hogan); MEUU = Museum of Evolution of the Uppsala University, Sweden (Dr M. Eriksson); MHNG = Muséum d'histoire naturelle, Genève, Switzerland (Dr P. Schwendinger); MNHN = Muséum National d'Histoire Naturelle, Paris, France (Dr C. Rollard and Ms E.-A. Leguin); PCRS = Personal collection of Dr Anthony Russell-Smith (Kent, UK); SMF = Naturmuseum und Forschungsinstitut Senckenberg, Frankfurt am Main, Germany (Dr P. Jäger). Type specimens of the new species are deposited at the MHNG.

Abbreviation used in the text: AME = anterior median eye, ap = apical, D = description of, Fm = femur, Mt = metatarsus, nr. = near, PLE = posterior lateral eye, pr = proteral, Pt = patella, rt = retrolateral, Tb = tibia, v = ventral. For the leg spination the system adopted is that used by Ono (1988). The term 'fossa(e)' is adopted from Davies & Žabka (1989) and means the single or paired epigynal indentation(s) within which the copulatory openings are situated. The sequence of leg segments in measurement data is as follows: femur + patella + tibia + metatarsus + tarsus. In all cases, the described colouration refers to the specimens preserved in alcohol. All measurements are in mm.

DESCRIPTIONS

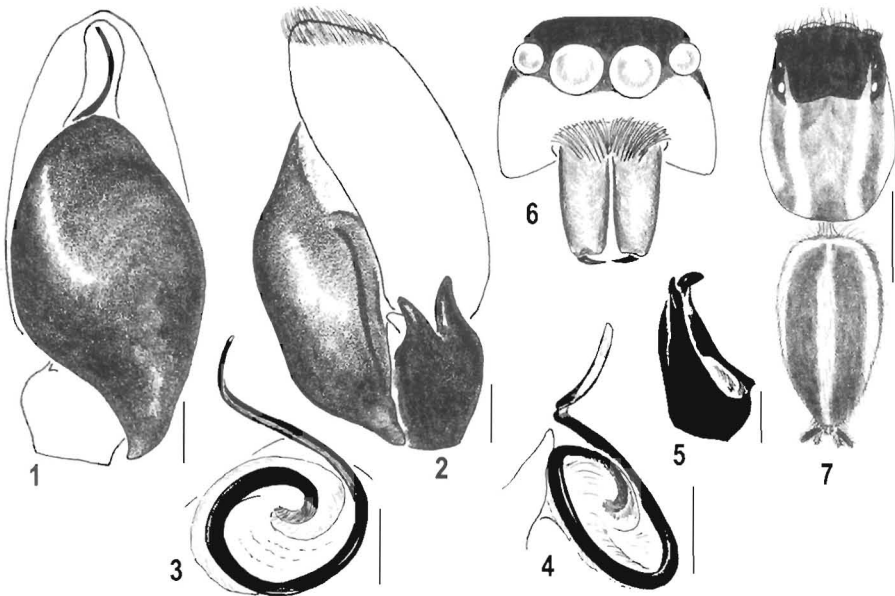
Phlegra bresnieri (Lucas, 1846)

Figs 1-7

A complete set of references is given in Platnick (2006).

MATERIAL EXAMINED: CROATIA. 1 ♂ (SMF), 'NE Istrien, 10 km n. Pazin, Nordufer Butoniga Jezebo, bei Vrh. Wegeböschung im Kulturland', 28.04.2003, J. Altmann & J. Meier. – ITALY. 1 ♀ (SMF), Sicily, Liparian Islands (Volcano Isld.), NW-slope of volcano, volcanic ashes and rocks, very dry, little grass and yellow Leguminosa (under stones), 5 m a.s.l., 20.04.1957, H. Kahmann; 2 ♂ (SMF), Sicily, c. 2.5 km E of Castelbuono, stony E-slope, slightly damp thin grass, *Matricaria* and *Biscutella* (under stones), 31.03.1957, H. Kahmann; 1 ♂ (SMF), Sardinia (W part), Camp of Riola Sardo, olive trees with grass, sheep pasture and slightly moist grass, 7.04.1956, H. Kahmann; 1 ♂ (SMF), Sardinia (SW part), S of Gonnosfanadiga, steep E-slope, cultivated land, alive and almond trees, with grass *Euphorbia* and *Cirsium* (under granite rocks), 6.04.1956, H. Kahmann; 1 ♂ (SMF), Sardinia (W part), c. 2 km N of Cuglieri (N-slope), 420 m a.s.l., stony pastures with stonewalls, *Rubus fruticosus*, *Juniperus communis* (under stones), 13.04.1956, H. Kahmann; 1 ♂ (SMF), Sardinia (SW part), NW of Riola Sardo, Sale Porcus, marshy grassland with *Cirsium* (under stones), 10.04.1956, H. Kahmann; 1 ♂ (SMF), Archipelago Toscano, Isola di Capraia, 25.09.1955, coll.?.; 1 ♂ (SMF), 'Pianosa', 21.04.1955, coll.?. – SPAIN. 7 ♂ 10 ♀ (SMF), 200-250 km SW of Madrid, Extremadura (= Estremadura), 'El-Baldio', summer 1996, P. Jäger. – PORTUGAL. 3 ♀ (HECO, bottle 2166), Lisbon. – IVORY COAST. 1 ♂ (PCRS), 'West African Rice Development Association', Mbé, nr. Bouaké (07°52'N, 05°06'W), upland rice field (pitfall traps), 22 July 1994, A. Russell-Smith. – TUNISIA. 2 ♂ 1 ♀ (SMF), NE Tindja, olive grove, dense grass with *Lycnis viscaria*, *Cirsium* and *Asphodelus* (under stones and in litter), 9.04.1959, H. Kahmann; 1 ♂ (SMF), El Houaria, Macchie with *Cistus*, *Pistacia* and *Colycotome*, slightly moist sand (under stones), 29.03.1959, H. Kahmann; 1 ♀ (MHNG), nr. Kef, July 1972, E. & C. Sopper.

COMMENTS: The taxonomy and distribution of *P. bresnieri* remains poorly understood, as a great number of very similar, poorly diagnosed species, sometimes described after single females (e.g. *P. amitaii*), have been reported to date. Generally



FIGS 1-7

Phlegra bresnieri (Lucas, 1846) (Ivory Coast: Bouaké). (1) Male palp, ventral view. (2) Ditto, prolateral view. (3) Embolus, dorsal view. (4) Ditto, lateral view. (5) Tibial apophysis, dorsal view. (6) Colour pattern of male face, frontal view. (7) Male, general appearance, dorsal view. Scale lines: 0.1 mm (1-5), 1 mm (7).

speaking, the *bresnieri* species group contains species of two types: those with males having the clypeus densely covered with white hairs (*P. bresnieri*, *P. lineata*, *P. pisarskii*, etc.), and those with males having a 'naked' clypeus (*P. albostriata*, *P. particeps*, etc.). Unfortunately, the entire *bresnieri* species group needs a thorough critical revision before any of its species can be reliably identified.

According to Metzner (1999), *P. bresnieri* is closely related to *P. lineata* (C. L. Koch, 1848) and can be separated from it by the male coloration, viz. by the absence of two longitudinal stripes on the eye field, and by tiny differences in the arrangement of spermathecal loops in females. It remains uncertain though, how the latter author identified both species, as he did not re-examine any type material. However, most authors agree with Metzner's diagnosis, which is therefore followed in the present work.

The 'Material examined' given above includes only those records that certainly belong to *P. bresnieri* (*sensu* Metzner, 1999). Thus, the male from Ivory Coast, figured and described below, is certainly conspecific with specimens from the Mediterranean and seems to represent the most south-western locality for this species. *P. bresnieri* has once been recorded from N.E. Tanzania (Wesołowska & Russell-Smith, 2000), but the description of the male by these authors contains no reference to the white haired clypeus. Therefore, we suspect that Wesołowska & Russell-Smith (2000) actually dealt with *P. albostriata* Simon, 1901, known from E and S Africa (see Lessert, 1936). We

have re-examined Lessert's specimens (1 ♂ 1 ♀; kept in the MHNG) and found that the ♂ has a brownish, 'naked' clypeus.

DESCRIPTION: MALE (from Ivory Coast, nr. Bouaké). *Measurements.* Carapace 2.3 long, 1.2 wide, 0.9 high at PLE. Ocular area 0.9 long, 1.2 wide anteriorly and 1.2 wide posteriorly. Diameter of AME 0.4. Abdomen 2.2 long, 1.2 wide. Chelicera length 0.9. Clypeus height 0.2. Length of leg segments: I 1.3+0.7+0.8+0.6+0.5; II 1.2+0.6+0.8+0.6+0.5; III 1.4+0.7+0.8+0.8+0.5; IV 1.6+0.7+1.2+1.3+0.6. *Leg spination.* Leg I: Fm d 1-1-3; Tb pr 1-1, v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-4; Tb pr 1-1, v 1-1-2ap; Mt pr 1-1, v 2-2ap. Leg III: Fm d 1-1-5; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 1-1-0, pr and rt 1-0-2, v 0-2-2ap. Leg IV: Fm d 1-1-5; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 1-1-0, pr 1-1-2, rt 1-0-2, v 1-1-2ap. *Coloration.* Carapace dark brown, with black eye field and two wide, white longitudinal stripes (Fig. 7). Clypeus and 'cheeks' yellow, both densely covered with white hairs (Fig. 6). Chelicerae light brown. Sternum dark brown. Abdomen dark brown, its dorsum dark brown, without a scutum, but with a median yellow stripe and two white lateral stripes. Book-lung covers brownish, spinnerets dark brown. Palps dark brown, covered with black hairs. Palpal structure as in Figs 1-5.

***Phlegra etosha* sp. n.**

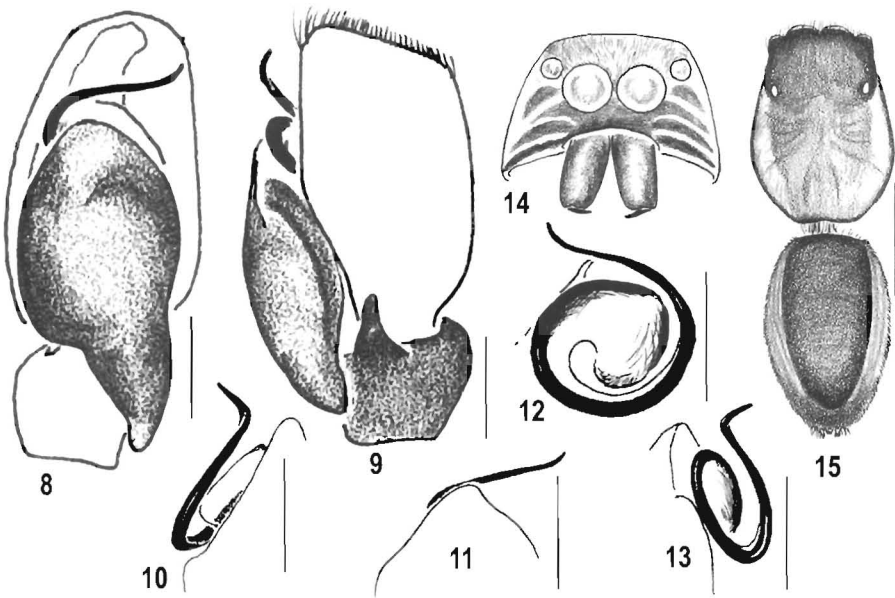
Figs 8-15

TYPES: Holotype ♂ (MHNG) from Namibia, Etosha National Park, Natukanaoka (18°35'N, 15°39'E), shrubby *Mopane* savanna (pitfall traps), March 1997, A. Russell-Smith. – Paratypes: 2 ♂ (MHNG), collected together with the holotype.

ETYMOLOGY: The specific name is used as a noun in apposition referring to the type locality, viz. Etosha National Park in Namibia.

DIAGNOSIS: This species is unique among the described *Phlegra* species known to us, as the male possesses a single tibial apophysis (Fig. 9) and the diagnostic face colour pattern consists of transverse lines of white scales (Fig. 14). The embolus is filiform and coiled (Figs 10, 12, 13) as in the other members of the *bresnieri* species group (*sensu* Logunov, 1996).

DESCRIPTION: MALE (the paratype). *Measurements.* Carapace 1.7 long, 1.2 wide, 0.6 high at PLE. Ocular area 0.6 long, 0.9 wide anteriorly and 0.9 wide posteriorly. Diameter of AME 0.2. Abdomen 1.8 long, 1.1 wide. Chelicera length 0.5. Clypeus height 0.1. Length of leg segments: I 0.8+0.4+0.5+0.4+0.4; II 0.7+0.4+0.4+0.3+0.3; III 0.9+0.3+0.6+0.6+0.4; IV 1.1+0.5+0.8+0.8+0.6. *Leg spination.* Leg I: Fm d 1-1-3; Tb pr 1-1, v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-3; Tb pr 1-1, v 1-1-2ap; Mt pr 1-1, v 2-2ap. Leg III: Fm d 1-2-4; Pt pr and rt 0-1-0; Tb d 1-0-0, pr 1-1-1, rt 0-1-1, v 1-0-2ap; Mt d 0-1-0, pr and rt 1-0-2, v 2-2ap. Leg IV: Fm d 1-1-4; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 1-1-0, pr 1-1-2, rt 1-0-2, v 1-1-2ap. *Coloration.* Carapace brown, with dark brown eye field and sides covered with white hairs, the thorax region with a wide longitudinal band of brownish scales. Clypeus, 'cheeks' and chelicerae brown, with three narrow, transverse lines of white hairs on each 'cheek' (Fig. 14). Sternum yellow-brown. Abdomen: dorsum grey-brown, with dark brown scutum covering 4/5 of its length (Fig. 15); venter yellow to grey-yellow. Book-lung covers yellow-brown, spinnerets dark brown. Legs I and II



FIGS 8-15

Phlegra etosha sp. n. (♂ paratype). (8) Male palp, ventral view. (9) Ditto, prolateral view. (10) Embolus, median view. (11) Ditto, ventral view. (12) Ditto, dorsal view. (13) Ditto, lateral view. (14) Colour pattern of male face, frontal view. (15) Male, general appearance, dorsal view. Scale lines: 0.1 mm (8-13), 1 mm (15).

brown, with dark brown femora, patellae, tibiae and metatarsi. Legs III and IV yellow-brown. Palps dark brown, covered with black hairs. Palpal structure as in Figs 8-13; the male bulbus is slightly expanded because the specimens studied were collected by pitfall traps. FEMALE unknown.

DISTRIBUTION: Known from the type locality only.

Phlegra gagnoa sp. n.

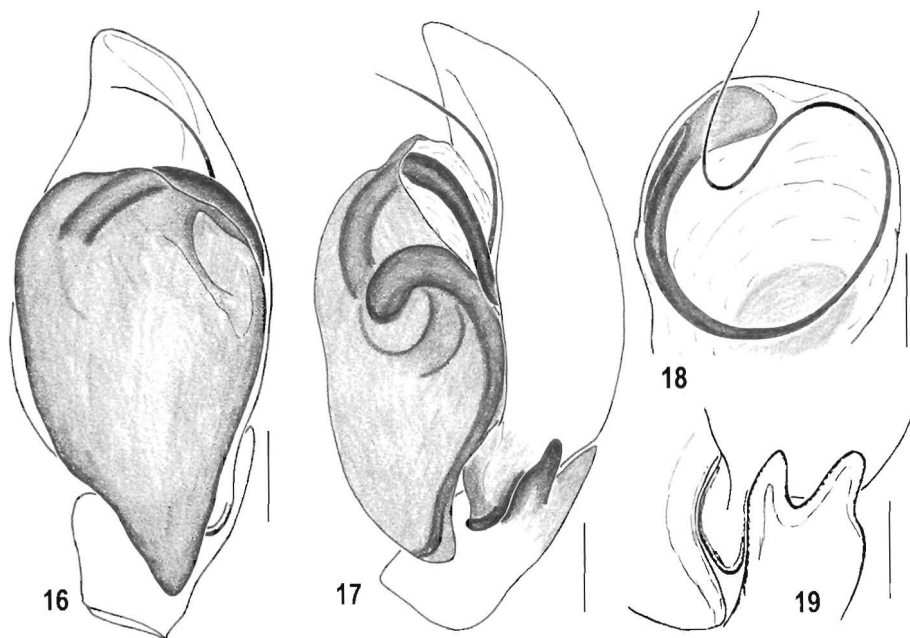
Figs 16-19

TYPES: Holotype ♂ (MHNG) from Ivory Coast, nr. Gagnoa (06°08'N, 05°56'W), upland rice field (pitfall traps), 26-30 March 1995, A. Russell-Smith.

ETYMOLOGY: The specific name is used as a noun in apposition referring to the type locality, Gagnoa in Ivory Coast.

DIAGNOSIS: This species is easily separable from all described *Phlegra* species known to us in having a long thin, S-shaped embolus (Fig. 18). This conformation has never been observed in other *Phlegra* species.

DESCRIPTION: MALE (the holotype). *Measurements*. Carapace 1.5 long, 1.1 wide, 0.7 high at PLE. Ocular area 0.7 long, 0.9 wide anteriorly and 0.9 wide posteriorly. Diameter of AME 0.3. Abdomen 1.4 long, 0.9 wide. Chelicera length 0.4. Clypeus height 0.1. Length of leg segments: I 0.8+0.4+0.4+0.3+0.3; II 0.7+0.4+0.3+0.3+0.3; III 0.9+0.4+0.5+0.6+0.3; IV 1.1+0.4+0.7+0.8+0.4. Leg



FIGS 16-19

Phlegra gagnoa sp. n. (♂ holotype). (16) Male palp, ventral view. (17) Ditto, prolateral view. (18) Embolus, dorsal view. (19) Tibial apophysis, prolateral view. Scale lines: 0.1 mm.

spination. Leg I: Fm d 0-1-1-3; Tb pr 0-1, v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-1-4; Pt pr 0-1-0, Tb pr 1-1, v 1-1-2ap; Mt pr 1-1ap, rt 1ap, v 2-2ap. Leg III: Fm d 0-1-1-3; Pt pr and rt 0-1-0; Tb pr and rt 1-1-1, v 1-2ap; Mt pr 1-2ap, rt and v 1-1-2ap. Leg IV: Fm d 0-1-1-3; Pt pr and rt 0-1-0; Tb d 1-0, pr and rt 1-1-1, v 1-0-2ap; Mt pr and rt 1-1-2ap, v 2-2ap. *Coloration*. Carapace yellow brownish, eye field black; the thorax region with two longitudinal yellow stripes and dark brown area in between them. Sternum, maxillae, labium and chelicerae yellow. Clypeus yellow, densely covered with pale white (almost transparent) hairs. Abdomen: dorsum grey-brown, with large scutum; sides grey, venter yellow. Book-lung covers yellow, spinnerets grey. All legs yellow. Palps: femora yellow, the remaining segments and parts of the bulbus brownish. Palpal structure as in Figs 16-19. FEMALE unknown.

DISTRIBUTION: Known from the type locality only.

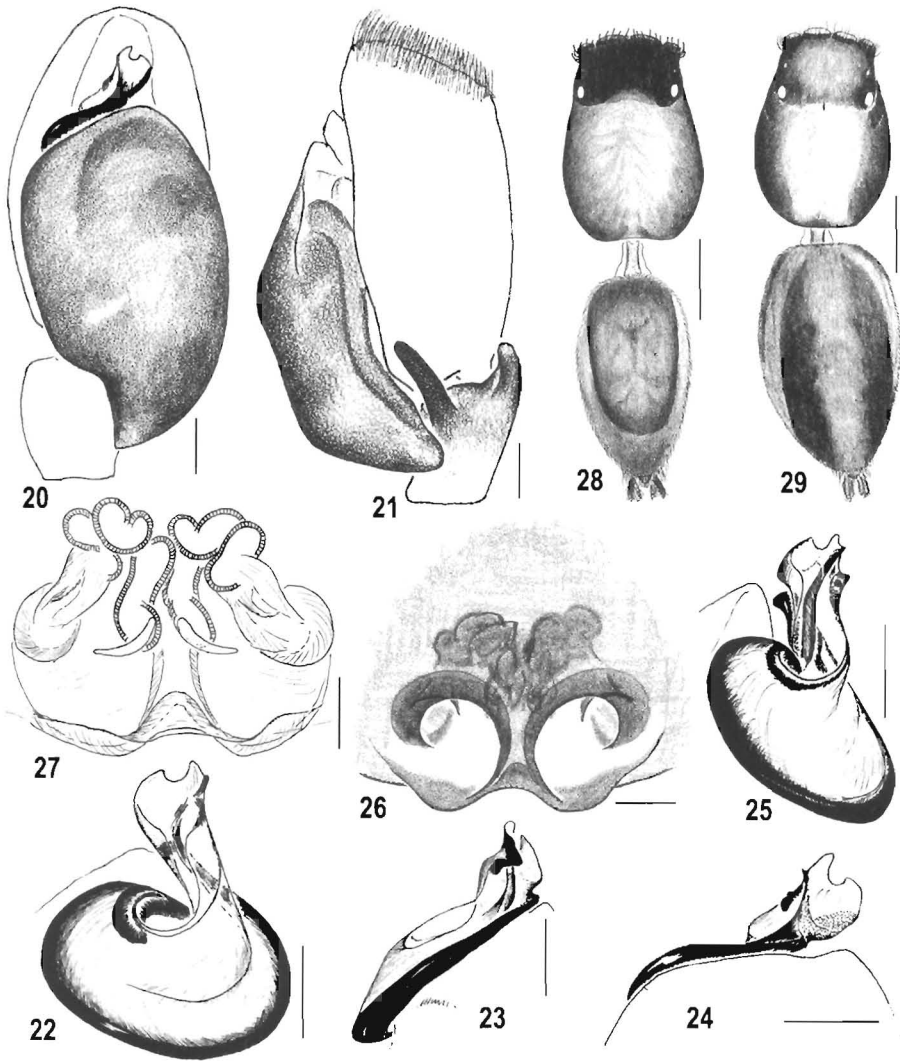
Phlegra lugubris Berland & Millot, 1941

Figs 20-29, 56, 57, 75

Phlegra lugubris Berland & Millot, 1941: 310, figs 12A-C (D♂; ♂ holotype not found in MNHN and not examined).

Phlegra lugubris var. *senegalensis* Berland & Millot, 1941: 310-311 (D♂; ♂ holotype in MNHN, examined). **New synonymy.**

Phlegra tuzetae Berland & Millot, 1941: 312, figs 13D,C (D♀; ♀ holotype in MNHN, examined). **New synonymy.**



FIGS 20-29

Phlegra lugubris Berland & Millot, 1941 (♂ from Ivory Coast: Touba, ♀ from Senegal: Thyssé region). (20) Male palp, ventral view. (21) Ditto, prolateral view. (22) Embolus, dorsal view. (23) Ditto, median view. (24) Ditto, ventral view. (25) Epigyne, ventral view. (26) Epigyne, ventral view. (27) Spermathecae, dorsal view. (28) Male, general appearance, dorsal view. (29) Female, general appearance, dorsal view. Scale lines: 0.1mm (20-27), 1 mm (28-29).

TYPES: Holotype ♂ of *lugubris* var. *senegalensis* Berland & Millot, 1941 (MNHN, 2381-2, without both palps) from Senegal, Dakar, July 1937, J. Millot [although Berland & Millot (1941: p. 311) reported that the ♂ holotype was collected in August, the original label contains the reference to July]. - Holotype ♀ of *P. tuzetae* Berland & Millot, 1941 (MNHN, 2381-2) from Guinea, Kouroussa, August 1937, J. Millot; see Figs 56, 57.

OTHER MATERIAL EXAMINED: IVORY COAST. 1 ♂ 2 ♀ (MHNG), nr. Touba (08°17'N, 05°56'W), upland rice field (pitfall traps), 15-18 October 1994, A. Russell-Smith; 2 ♂ 1 ♀ (PCRS), 'West African Rice Development Association', Mbc, nr. Bouaké (07°52'N, 05°06'W), upland rice field, 22-29 July 1994, A. Russell-Smith. – SENEGAL. 1 ♂ (PCRS), Kolda, Haute Casamance (12°49'N, 14°53'W), litter in 15 yr. old fallow, 19 August 1993, A. Russell-Smith; 1 ♀ (PCRS), Thyssé region, Ngayère classified forest (13°40'N, 15°35'W), degraded forest, 24 July 1996, A. Russell-Smith.

DIAGNOSIS: This species belongs to the *fasciata* group (*sensu* Logunov, 1996) and seems to be most similar to *P. yaelae* Prószyński, 1998 from Tunisia and Israel (Azarkina, 2003; Prószyński, 2003). The males of *P. lugubris* differ from those of the latter species in having comparatively narrower and longer lateral tibial apophyses (compare Fig. 21 with fig. 115 in Azarkina, 2003) and in the longer and slender embolus (compare Figs 22, 23 with fig. 117 in Azarkina, 2003). The females of *P. lugubris* have a narrower median septum of the epigyne and a clearly different conformation of the spermathecae (compare Figs 26, 27, 56, 57 with figs 30-33 in Prószyński, 1998, or figs 536-538 in Prószyński, 2003). See also 'Diagnoses' of *P. soudanica*, *P. touba* sp. n. and *P. tristis*.

COMMENTS: *P. lugubris* was described by Berland & Millot (1941) from a single male from Ivory Coast (no exact locality). Although we have been unable to re-examine the male holotype of this species, which was not found in the MNHN (E.-A. Leguin, pers. comm.), this species is characterized by a rather peculiar conformation of the male palp, viz. by the long lateral tibial apophysis and the massive membrabous embolus (Figs 20-25). Both characters are clearly shown by Berland & Millot (1941: figs 12A-C) and therefore we are sure that our identification is correct.

In the same work, Berland & Millot (1941) described *P. lugubris* var. *senegalensis* (1 ♂; Senegal) and *P. tuzetae* (1 ♀; Guinea; Figs 56, 57). The subspecies *P. l. senegalensis* showed no differences in the male palp from that of *P. lugubris*, as the authors admitted themselves (Berland & Millot, 1941: p. 311), but only minor dissimilarities in the distance between PLEs and in the poorly marked stripes of the abdomen. We doubt the taxonomic significance of either character in this case because all described *Phlegra* species are known to be quite variable regarding both coloration and structure of the copulatory organs (see Logunov, 1996; Azarkina, 2003). Furthermore, examination of newly collected samples, in which both sexes were present together, leaves no doubt that the female of *P. tuzetae* (Figs 56, 57) is clearly conspecific with the male of *P. lugubris* (Figs 26, 27). Thus, both *P. lugubris* var. *senegalensis* and *P. tuzetae* should be treated as junior synonyms of *P. lugubris*.

DESCRIPTION: MALE (from Ivory Coast, Touba). *Measurements*. Carapace 2.6 long, 1.7 wide, 1.1 high at PLE. Ocular area 0.9 long, 1.3 wide anteriorly and 1.3 wide posteriorly. Diameter of AME 0.5. Abdomen 2.3 long, 1.4 wide. Chelicera length 0.9. Clypeus height 0.2. Length of leg segments: I 1.2+0.8+0.9+0.5+0.5; II 1.2+0.6+0.7+0.5+0.5; III 1.4+0.7+0.8+1.0+0.6; IV 1.8+0.8+1.4+1.4+0.7. *Leg spination*. Leg I: Fm d 1-1-4; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-4; Tb pr 1-1, v 1-1-2ap; Mt pr 1-1, v 2-2ap. Leg III: Fm d 1-2-5; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1-1, v 1-0-2ap; Mt d 1-1-0, pr and rt 1-0-2, v 2-2ap. Leg IV: Fm d 1-1-5; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1-1, v 1-0-2ap; Mt d 1-1-0, pr 1-1-2, rt 1-0-2, v

1-1-2ap. *Coloration*. Carapace dark brown, with black eye field. Clypeus, 'cheeks' and chelicerae brown. Clypeus with a row of black bristles. Sternum light brown. Abdomen yellow-grey, with dark brown scutum (covering 4/5 of abdomen length) (Fig. 28). Book-lung covers yellow-grey, spinnerets dark brown. Palps brown, covered with black hairs. Palpal structures as in Figs 20-25, 71.

FEMALE (from Ivory Coast, Touba, but coloration also from the ♀ from Senegal, Thyssé region). *Measurements*. Carapace 2.7, long, 1.8 wide, 1.2 high at PLE. Ocular area 1.1 long, 1.3 wide anteriorly and 1.4 wide posteriorly. Diameter of AME 0.5. Abdomen 3.2 long, 1.8 wide. Chelicera length 0.9. Clypeus height 0.2. Length of leg segments: I 1.2+0.8+0.8+0.5+0.4; II 1.1+0.7+0.6+0.4+0.4; III 1.2+0.7+0.8+0.9+0.6; IV 1.8+0.9+1.3+1.4+0.8. *Leg spination*. Leg I: Fm d 1-1-3; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-3; Tb pr 0-1, v 1-1-2ap; Mt v 2-2ap. Leg III: Fm d 1-2-4; Pt pr and rt 0-1-0; Tb d 1-0-0, pr 1-1-1, rt 0-1-1 or 1-1-1, v 1-0-2ap; Mt d 0-1-0 or 1-1-0, pr and rt 1-0-2, v 2-2. Leg IV: Fm d 1-1-3; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 1-1-0, pr and 1-1-2, v 1-1-2ap. *Coloration*. Carapace dark brown, with black eye field, sometimes with two poorly visible white stripes running from AMEs to the rear end of carapace. Clypeus dark brown, 'cheeks' and chelicerae brown. Sternum brown. Abdomen grey, dorsum dark brown, with a median, longitudinal grey stripe and two grey-yellow stripes (Fig. 29). Book-lung covers grey brownish to brownish, spinnerets dark brown. Legs mostly brown, but patellae and tibiae I, as well as femora of all legs, dark brown. In some specimens legs I and II darker than III and IV. Palps yellow, covered with white hairs. Epigyne and spermathecae as in Figs 26, 27, 56, 57.

DISTRIBUTION: Ivory Coast (Touba and Bouaké), Senegal (Dakar, Kolda and Thyssé region), Guinea, (Kouroussa) (Berland & Millot, 1941: sub *P. lugubris* and *P. tuzetae*; present data) and Ghana (Bolgatanga) (Prószyński, 2005).

***Phlegra nuda* Próchniewicz & Hęciak, 1994**

Figs 30-40

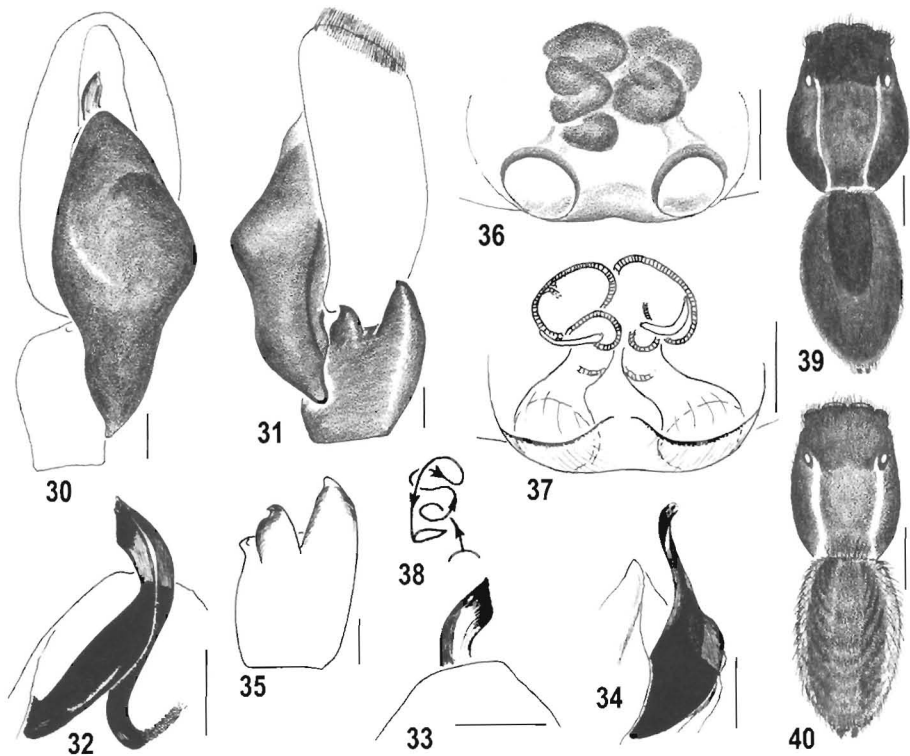
Phlegra nuda Próchniewicz & Hęciak, 1994: 37-39, figs 6a-f (D♂; ♂ holotype in MEUU; examined).

TYPES: Holotype ♂ of *Phlegra nuda* Próchniewicz & Hęciak, 1994 (MEUU) from Kenya, Cherangani, Kapolet Forest, 1960 m a.s.l., 24 January 1986. Å. Holm.

OTHER MATERIAL EXAMINED: UGANDA. 1 ♂ 1 ♀ (MHNG) from Uganda, Kampala, Fairview Hotel (00°19'N, 32°35'E), wall of building, 11 March 2001, A. Russell-Smith; 1 ♂ (PCRS), Iganga, Ikulwe Farm Center (00°26'N, 33°28'E), in long grass, 23 October 1998, A. Russell-Smith.

DIAGNOSIS: This species belongs to the *fasciata* species group (*sensu* Logunov, 1996), but differs from other congeners in having a wide embolic base, a flat, slightly bent, embolic tip (Figs 32, 34) and the lateral tibial apophysis notched at its tip (Fig. 35) in males. Females have rounded, widely separated fossae (Fig. 36) and a comparatively simple structure of spermathecae which resemble large sacs (Fig. 37).

DESCRIPTION: **MALE** (from Uganda, Iganga, Ikulwe Farm). *Measurements*. Carapace 3.5 long, 2.3 wide, 1.4 high at PLE. Ocular area 1.0 long, 1.5 wide anteriorly and 1.6 wide posteriorly. Diameter of AME 0.5. Abdomen 3.5 long, 2.0 wide. Chelicera length 1.30. Clypeus height 0.3. Length of leg segments: I 1.7+1.0+1.4+1.0+0.8; II



FIGS 30-40

Phlegra nuda Próchniewicz & Hęciak, 1994 (δ paratype from Uganda: Iganga, δ paratype from Uganda: Kampala). (30) Male palp, ventral view. (31) Ditto, prolateral view. (32) Embolus, dorsal view. (33) Ditto, ventral view. (34) Ditto, lateral view. (35) Tibial apophysis, prolateral view. (36) Epigyne, ventral view. (37) Spermathecae, dorsal view. (38) Diagrammatic course of insemination duct. (39) Male, general appearance, dorsal view. (40) Female, general appearance, dorsal view. Scale lines: (0.1 mm 30-37), 1 mm (39-40).

1.6+1.0+1.0+0.9+0.6; III 1.8+0.9+1.1+1.3+0.6; IV 2.3+1.1+1.7+2.0+0.7. *Leg spination*. Leg I: Fm d 1-1-5; Tb v 3-3-3ap; Mt v 2-1-2ap. Leg II: Fm d 1-1-3; Tb pr 1-1, v 1-1-2ap; Mt pr 1-1, v 2-2ap. Leg III: Fm d 1-2-5; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 1-1-0 or 1-1-1-0, pr and rt 1-0-2, v 2-2ap. Leg IV: Fm d 1-1-5; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 1-1-0, pr 1-1-2, rt 1-0-2, v 1-1-2ap. *Coloration*. Carapace brown, with black eye field and a couple poorly visible white stripes. Clypeus, 'cheeks' and chelicerae dark brown, covered with black hairs and bristles. Sternum dark brown to black. Abdomen dark brown, scutum narrow, covering the anterior half of dorsum (Fig. 39). Legs mostly dark brown, but all tarsi brown in proximal halves and yellow in distal ones. Palps dark brown, covered with black hairs and bristles. Palpal structure as in Figs 30-35.

FEMALE (from Uganda, Kampala). *Measurements*. Carapace 2.6 long, 1.9 wide, 1.2 high at PLE. Ocular area 1.0 long, 1.3 wide anteriorly and 1.4 wide posteriorly. Diameter of AME 0.4. Abdomen 2.8 long, 1.6 wide. Chelicera length 0.8.

Clypeus height 0.2. Length of leg segments: I 1.2+0.8+0.9+0.6+0.5; II 1.1+0.8+0.7+0.5+0.5; III 1.4+0.7+0.8+1.0+0.6; IV 1.9+0.9+1.5+1.6+0.7. *Leg spination*. Leg I: Fm d 1-1-3; Tb v 2-2-2 ap; Mt v 2-2 ap. Leg II: Fm d 1-1-3; Tb pr 0-1, v 1-1-2 ap; Mt v 2-2 ap. Leg III: Fm d 1-1-4; Pt pr and rt 1; Tb d 1-0-0, pr 1-1-1, rt 0-1-1, v 1-0-2 ap; Mt d 0-1-0, pr and rt 1-0-2, v 2-2 ap. Leg IV: Fm d 1-1-4; Pt pr and rt 1; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2 ap; Mt d 1-1-0, pr 1-1-2, rt 1-0-2, v 1-1-2 ap. *Coloration*. Carapace dark brown, with black eye field and two longitudinal stripes of white scales and hairs. Clypeus and 'cheeks' brown, chelicerae yellow-brown. Sternum brown. Abdomen yellow-grey. Dorsum dark brown, with grey-brown median stripe and two yellow stripes on abdomen sides (Fig. 40). Book-lung covers yellow-grey, spinnerets dark brown. Legs brownish yellow, but all femora of all legs dark brown; patellae and tibiae I brown. Palps yellow, covered with white hairs. Epigyne and spermathecae as in Figs 36-38.

DISTRIBUTION: Uganda (Kampala and Iganga) and Kenya (Cherangani). The records of *P. nuda* from N.E. Tanzania by Wesolowska & Russell-Smith (2000) are likely to belong to *P. pusilla*. For further details see below under 'Comments' of *P. pusilla*.

***Phlegra pusilla* Wesolowska & van Harten, 1994**

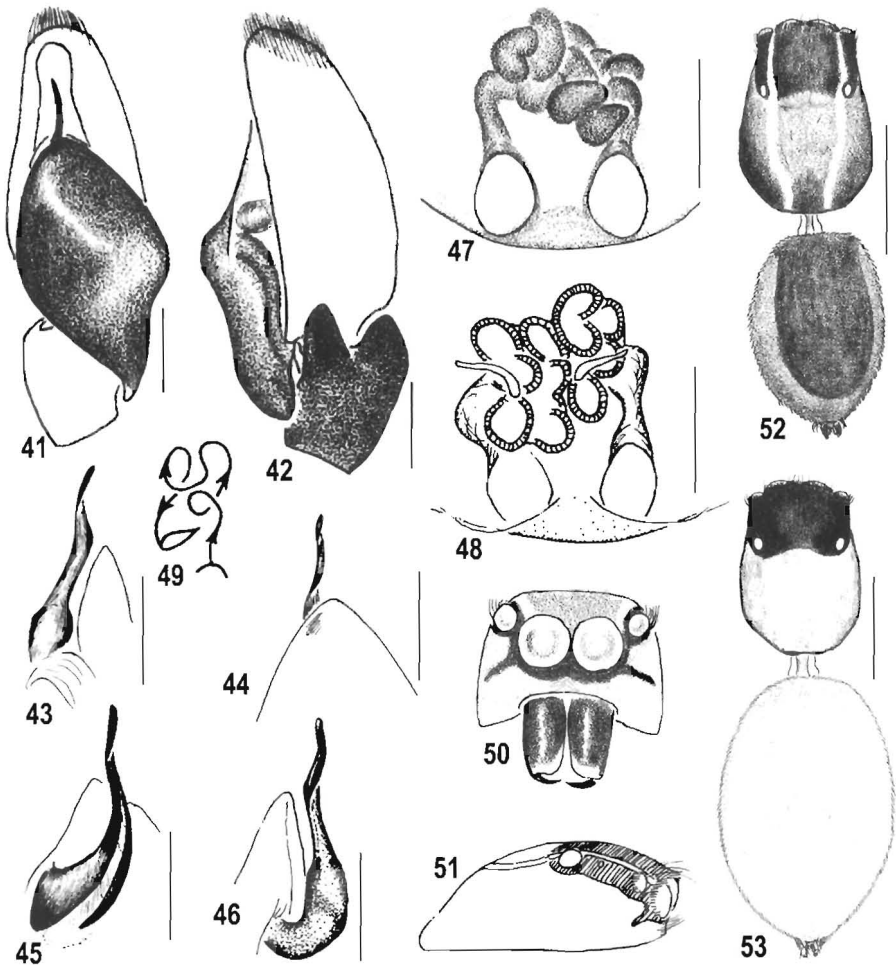
Figs 41-53

Phlegra pusilla Wesolowska & van Harten 1994: 70, figs 140-143 (D♂; ♂ holotype not examined).

MATERIAL EXAMINED: TANZANIA. 2 ♂ (PCRS, hitherto identified as *Phlegra nuda*), Summit of Ibaya Hill, Mkomazi Game Reserve (03°59'N, 37°47'E), litter in montane *Spirostachys* forest, 17 September 1993, A. Russell-Smith. – KENYA. 1 ♀ (MHNG, 77/45), Taita, Tsavo Park East, W Sala Gate, 30 October 1977, V. Mahnert; 3 ♀ (MHNG), Melindi, Casuarina Point, sea drifts, 5-13 August 1965, V. Mahnert. – SENEGAL. 1 ♂ (PCRS), Sonkorong, Thyssé region (13°45'N, 15°40'E), 3 yr. old *Combretum* fallow, 5 October 1995, A. Russell-Smith; 3 ♂ 3 ♀ (MHNG), same locality, 20 yr. old *Combretum* fallow, 14 June 1994, A. Russell-Smith.

DIAGNOSIS: This is a very small species of *Phlegra*, which can be distinguished by the characteristic colour pattern of the carapace (with two narrow white lines, Fig. 52) and the dark brown, shiny scutum of the abdomen in males, as well as by the structure of the copulatory organs. The male has the embolus with a thin, slightly twisted tip and a wide base (Figs 43-46) and the female has rounded/ovoid and shallow fossae situated close to the epigastric furrow (Figs 47, 48). The clypeus of males also has a peculiar colour pattern of transverse brownish lines (Fig. 50), but this pattern is not always clearly marked.

COMMENTS: *P. pusilla* was described from a single male from Yemen (Wesolowska & van Harten, 1994) and has not been recorded elsewhere so far. It is very likely that some (or all) of the records of *P. nuda* from N.E. Tanzania (Mkomazi Game Reserve) by Wesolowska & Russell-Smith (2000) actually belong to *P. pusilla*. We have examined two males from this locality, which were earlier identified as *P. nuda*, and found that both should be assigned to *P. pusilla*. The males of the latter species have a wide, straight tibial apophysis (compare Fig. 42 with fig. 142 in Wesolowska & van Harten, 1994), whereas Wesolowska & Russell-Smith (2000: figs 226, 227) clearly illustrated the short tibial apophysis, without a notch at its tip, in



FIGS 41-53

Phlegra pusilla Wesołowska & van Harten, 1994 (♂ ♀ from Senegal: Sonkorong). (41) Male palp, ventral view. (42) Ditto, prolateral view. (43) Embolus, median view. (44) Ditto, ventral view. (45) Ditto, dorsal view. (46) Ditto, lateral view. (47) Epigyne, ventral view. (48) Spermathecae, dorsal view. (49) Diagrammatic course of insemination duct. (50) Colour pattern of male face, frontal view. (51) Male carapace, lateral view. (52) Male, general appearance, dorsal view. (53) Female, general appearance, dorsal view. Scale lines: (0.1 mm 41-48), 1 mm (52-53).

Tanzanian males (compare with the tibial apophysis of true *P. nuda*, Fig. 31). They also mentioned that it is "the commonest member of this genus in Mkomazi..." (op.cit., p. 86). Thus, we suspect that either both species should occur in Mkomazi, or one of them (*P. pusilla*) was misidentified as *P. nuda*. The matter needs further attention in the future.

Finally, our record of *P. pusilla* from Kenya is based on four females only. All these females have the slightly smaller fossae and the slightly larger epigynal pocket as compared to the females from Senegal, so being closer to what was illustrated by Wesofowska & Russell-Smith (2000: figs 228-229) under the name *P. nuda*. Males are required to confirm or reject our identification of the Kenyan females.

DESCRIPTION: MALE (from Tanzania, Mkomazi Game Reserve). *Measurements*. Carapace 1.5 long, 1.0 wide, 0.8 high at PLE. Ocular area 0.6 long, 0.9 wide anteriorly and 0.9 wide posteriorly. Diameter of AME 0.3. Abdomen 1.4 long, 0.8 wide. Chelicera length 0.5. Clypeus height 0.2. Length of leg segments: I 0.7+0.4+0.4+0.3+0.3; II 0.7+0.4+0.4+0.3+0.3; III 0.9+0.4+0.4+0.5+0.4; IV 1.0+0.5+0.8+0.8+0.5. *Leg spination*. Leg I: Fm d 1-1-2; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb pr 0-0-1, v 1-1-2ap; Mt pr 0-1, v 2-2ap. Leg III: Fm d 1-1-4; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 0-1-1, v 1-0-2ap; Mt d 0-1-0, pr and rt 1-0-2, v 1-1-2ap. Leg IV: Fm d 1-1-3; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 1-1-0, pr 1-1-2, rt 1-0-2, v 1-1-2ap. *Coloration*. Carapace brown, covered with orange hairs, with dark brown eye field and two longitudinal white stripes running from AMEs to rear part of carapace (Figs 51-52). Clypeus and 'cheeks' yellow to brownish; clypeus with a colour pattern of brownish transverse stripes (Fig. 50). Scales around AMEs: orange-brown dorsally and black on sides and ventrally. Sternum yellow. Chelicerae brown. Abdomen brownish grey, with dark brown scutum (Fig. 52). Legs yellow brownish, but femora, patella, tibiae and metatarsi dark brown. All tarsi yellow. Palps dark brown, their femora ventrally and apically with white hairs. Palpal structure as in Figs 41-46.

FEMALE (from Senegal, Sonkorong). *Measurements*. Carapace 1.7, long, 1.1 wide, 0.80 high at PLE. Ocular area 0.7 long, 1.0 wide anteriorly and 0.9 wide posteriorly. Diameter of AME 0.3. Abdomen 2.5 long, 1.7 wide. Chelicera length 0.6. Clypeus height 0.2. Length of leg segments: I 0.7+0.6+0.5+0.3+0.3; II 0.7+0.4+0.4+0.3+0.3; III 0.9+0.5+0.5+0.5+0.4; IV 1.2+0.6+0.8+0.8+0.5. *Leg spination*. Leg I: Fm d 1-1-2; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb pr 0-1, v 1-1-2ap; Mt v 2-2 ap. Leg III: Fm d 1-1-3; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 0-1-1, v 1-0-2ap; Mt d 0-1-0, pr and rt 1-0-2, v 2-2ap. Leg IV: Fm d 1-1-1; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 1-1-0, pr and 1-1-2, v 1-1-2ap. *Coloration*. Carapace brown, with dark brown eye field and two longitudinal light yellow stripes on thorax region. Clypeus brown. 'Cheeks' and chelicerae yellow. Sternum yellow. Dorsum yellow, with a poorly marked colour pattern of brown patches and stripes (Fig. 53). Palps yellow. Epigyne and spermathecae as in Figs 47-49.

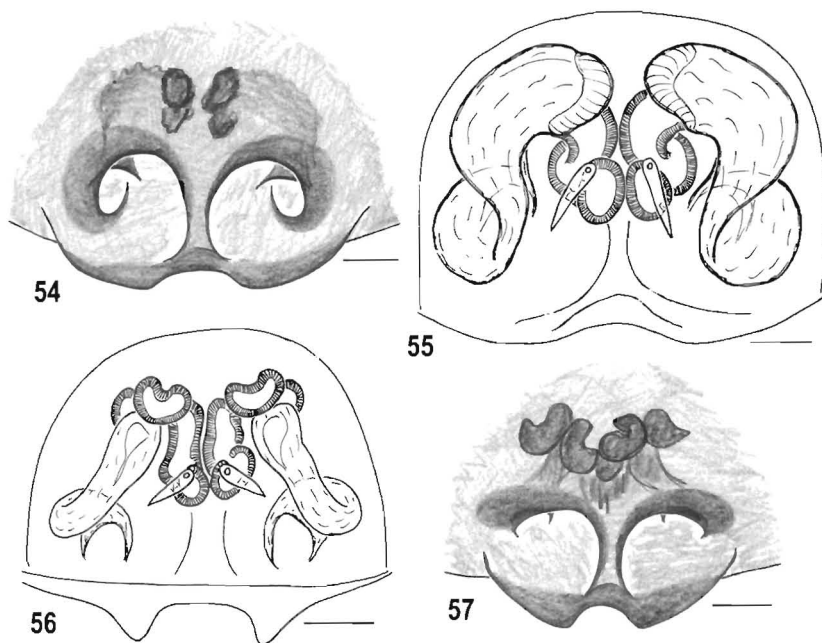
DISTRIBUTION: Yemen, Tanzania, Kenya and Senegal, but likely to occur in most African countries north of the equator.

Phlegra soudanica Berland & Millot, 1941

Figs 54, 55

Phlegra soudanica Berland & Millot, 1941: 311-312, figs 13A,B (D♀; ♀ holotype in MNHN, examined).

TYPES: Holotype ♀ of *P. soudanica* Berland & Millot, 1941 (MNHN, 2381-2) from SW Mali, Bamako, August 1937, J. Millot. – Paratype ♀ of *P. soudanica* Berland & Millot, 1941 (MNHN, 2381-2) from SW Mali, Sangha, September 1937, J. Millot.



FIGS 54-57

Phlegra soudanica Berland & Millot, 1941 (54-55, ♀ holotype), *Phlegra lugubris* Berland & Millot, 1941 (56-57, ♀ holotype of *P. tuzetae* Berland & Millot, 1941). (54, 57) Epigyne, ventral view. (55, 56) Spermathecae, dorsal view. Scale lines: 0.1mm.

DIAGNOSIS: Of other African species, *P. soudanica* is most similar to *P. lugubris* (see above). The females of *P. soudanica* can easily be separated from those of the latter species by the narrower median septum of the epigyne, the stronger twisted ridges of the fossae and the wider, stronger and more heavily sclerotized insemination ducts (compare Figs 54, 55 with 26, 27, 56, 57). The male of *P. soudanica* remains unknown.

DESCRIPTION: MALE unknown. FEMALE (the ♀ holotype). *Measurements.* Carapace 3.4, long, 2.1 wide, 0.7 high at PLE. Ocular area 1.3 long, 1.5 wide anteriorly and 1.6 wide posteriorly. Diameter of AME 0.5. Abdomen 4.5 long, 2.7 wide. Chelicera length 1.0. Clypeus height 0.3. Length of leg segments: I 1.7+1.1+1.0+0.8+0.6; II 1.7+1.0+0.9+0.8+0.6; III 1.9+1.0+1.1+1.4+0.8; IV 2.3+1.2+ 1.7+2.0+0.8. *Leg spination.* Leg I: Fm d 0-1-1-3; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-1-3; Tb pr 0-1, v 1-1-2ap; Mt v 2-2ap. Leg III: Fm d 0-1-2-3; Pt pr and rt 0-1-0; Tb d 1-0, pr and rt 1-1-1, v 1-2ap; Mt d 1-1-0, pr and rt 1-2ap, v 2-2ap. Leg IV: Fm d 0-1-1-3; Pt pr and rt 0-1-0; Tb d 1-0, pr and rt 1-1-1, v 2-0-2ap; Mt d 1-1-0, pr and rt 1-1-2ap, v 1-2ap. *Coloration.* Carapace light brown, without a colour pattern and with dark brown veins on thorax region. Eye field dark brown, with black around eyes. Clypeus yellow and 'naked'. Sternum, maxillae and labium light brown. Chelicerae brown. Abdomen: dorsum brown, with a thin median white line and two white lateral stripes; venter brown,

with two longitudinal yellowish stripes. Book-lung covers yellow. Spinnerets brown. All legs mostly yellowish brown, but tibiae I and II dark brown. Palps brow-yellow. Epigyne and spermathecae as in Figs 54, 55.

DISTRIBUTION: Two localities in SW Mali (Bamako and Sangha).

***Phlegra touba* sp. n.**

Figs 58-71

TYPES: Holotype ♂ (MHNG) from Ivory Coast, nr. Touba (08°17'N, 05°56'W), upland rice field (pitfall traps), 3-6 September 1994, A. Russell-Smith. – Paratypes: IVORY COAST. 3 ♂ 2 ♀ (MHNG), collected together with the holotype; 4 ♂ 5 ♀ (PCRS), nr. Gagnoa (06°08'N, 05°56'W), upland rice field (pitfall traps), 26-30 March 1995, A. Russell-Smith; 1 ♂ (PCRS), Bouaké (07°52'N, 05°06'W), degraded savanna (under stones), 31 July 1994, A. Russell-Smith; 3 ♂ 2 ♀ (MHNG), 'West African Rice Development Association', Mbé, nr. Bouaké (07°52'N, 05°06'W), upland rice field, 17 August 1994, A. Russell-Smith.

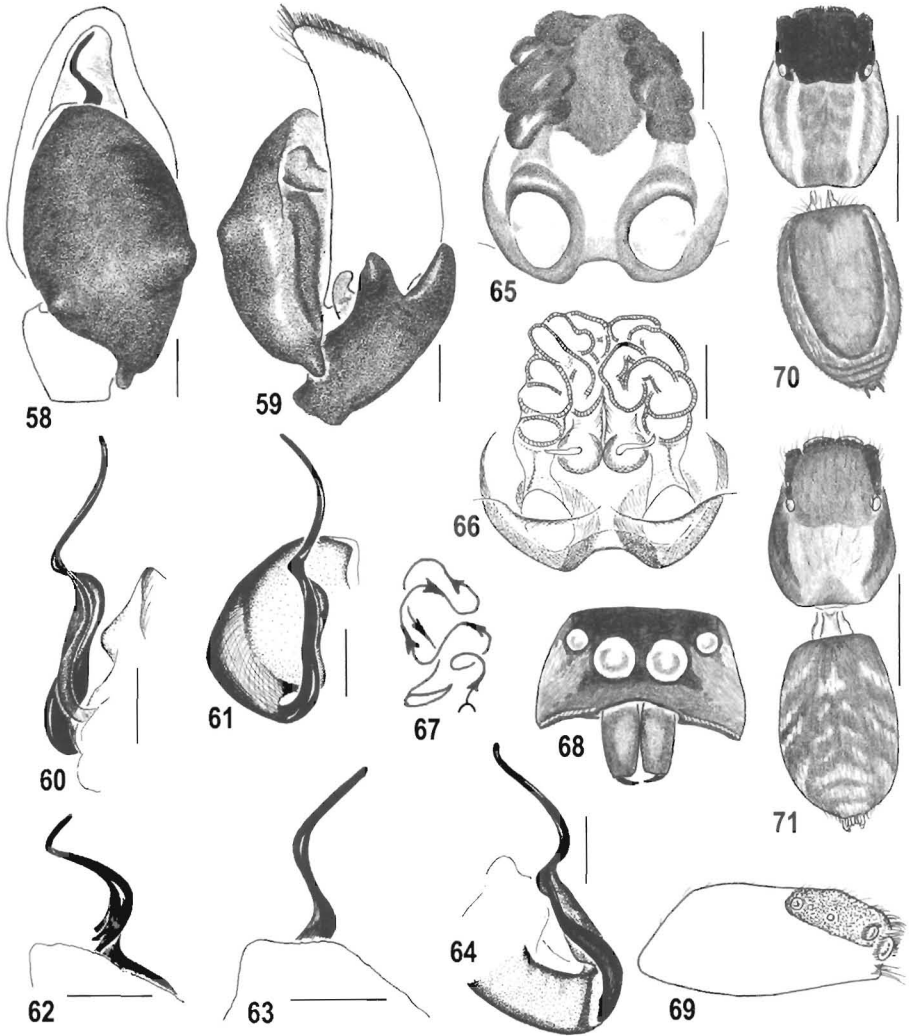
ETYMOLOGY: The specific name is used as a noun in apposition referring to the type locality Touba in Ivory Coast.

DIAGNOSIS: The female of this species is similar to that of *P. levis* Próchniewicz & Hęciak, 1994 described from a single female from Kenya (Próchniewicz & Hęciak, 1994), but can be distinguished from it by the absence of lateral edges of the epigyne and the larger fossae (compare Figs 65, 66 with figs 5b, c in Próchniewicz & Hęciak, 1994). The thorax region of *P. levis* is brownish orange, whereas it is whitish in *P. touba* sp. n.

The epigyne of *P. touba* sp. n. is also similar to that of *P. lugubris* (see above), but the spermathecae of both species clearly differ in the number of loops and the length of insemination ducts (compare Figs 66 with 27). Besides, the specimens of *P. lugubris* are almost twice as big as those of *P. touba* sp. n.

The male of *P. touba* sp. n. has a very characteristic embolus structure (Figs 60-64), being different from that of all other described *Phlegra* species known to us.

DESCRIPTION: MALE (from Touba). *Measurements*. Carapace 1.7 long, 1.2 wide, 0.8 high at PLE. Ocular area 0.6 long, 1.0 wide anteriorly and 0.9 wide posteriorly. Diameter of AME 0.3. Abdomen 1.6 long, 1.0 wide. Chelicera length 0.7. Clypeus height 0.2. Length of leg segments: I 0.7+0.4+0.4+0.4+0.3; II 0.6+0.4+0.4+0.3+0.3; III 0.9+0.4+0.5+0.5+0.4; IV 1.1+0.5+0.9+0.7+0.4. *Leg spination*. Leg I: Fm d 1-1-3; Tb pr 0-1-0, v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-2-3; Pt pr 1; Tb pr 0-1-0, v 1-1-2ap; Mt pr 1-1, v 2-2ap. Leg III: Fm d 1-1-4; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 0-1-0, pr and rt 1-0-2, v 2-2ap. Leg IV: Fm d 1-1-4; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt d 1-1-0, pr 1-1-2, rt 1-0-2, v 1-1-2ap. *Coloration*. Carapace brown to dark brown, with black eye field and two longitudinal white stripes (Fig. 70); sides sparsely covered with white hairs. Sternum brown. Clypeus, 'cheeks' and chelicerae brown (Fig. 68); 'cheeks' partly covered with white hairs. Scales around AMEs mostly white, but brown on dorsal sides of the eyes. Abdomen yellowish grey, with large scutum covering 3/5 to 4/5 of dorsum length (Fig. 70). Book-lung covers and spinnerets grey brown. All legs mostly yellow to grey-yellow, all femora dark brown and patellae I brown dorsally. Palps brown, femora and tibiae sparsely covered with white and black hairs, cymbium covered with dark brown hairs. Palpal structure as in Figs 58-64.



FIGS 58-71

Phlegra touba sp. n. (♂ ♀ paratypes from Ivory Coast: Touba). (58) Male palp, ventral view. (59) Ditto, prolateral view. (60) Embolus, median view. (61) Ditto, dorsal view. (62, 63) Ditto, ventral view. (64) Ditto, lateral view. (65) Epigyne, ventral view. (66) Spermathecae, dorsal view. (67) Diagrammatic course of insemination duct. (68) Colour pattern of male face, frontal view. (69) Male carapace, lateral view. (70) Male, general appearance, dorsal view. (71) Female, general appearance, dorsal view. Scale lines: 0.1 mm (58-66), 1 mm (70-71).

FEMALE (from Touba). *Measurements*. Carapace 1.7, long, 1.2 wide, 0.8 high at PLE. Ocular area 0.6 long, 0.9 wide anteriorly and 1.0 wide posteriorly. Diameter of AME 0.3. Abdomen 2.2 long, 1.7 wide. Chelicera length 0.6. Clypeus height 0.2. Length of leg segments: I 0.8+0.5+0.5+0.3+0.4; II 0.8+0.4+0.4+0.3+0.3; III 0.9+0.5+0.5+0.6+0.4; IV 1.2+0.6+0.9+0.9+0.5. *Leg spination*. Leg I: Fm d 1-1-2; Tb

v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb pr 0-1-0. v 1-1-2ap; Mt v 2-2ap. Leg III: Fm d 1-1-4; Pt pr and rt 0-1-0; Tb d 1-0-0, pr and rt 0-1-1-0, v 1-0-2ap; Mt pr and rt 1-0-2, v 2-2. Leg IV: Fm d 1-1-3; Pt pr and rt 0-1-0, Tb d 1-0-0, pr and rt 1-1-1, v 1-0-2ap; Mt pr and 1-1-2, v 1-1-2ap. *Coloration*. Carapace brown, with dark brown eye field and whitish thorax region (Fig. 71). Sternum brownish grey. Clypeus and 'cheeks' brown-yellow, with white scales and hairs around eyes. Chelicerae brownish. Abdomen yellow-grey, with brownish yellow dorsum and with a poorly marked colour pattern of yellowish patches and stripes (Fig. 71). Book-lung covers and spinnerets grey. All legs yellow, with brownish rings. Epigyne and spermathecae as in Figs 65-66.

DISTRIBUTION: Three localities in Ivory Coast (Touba, Bouaké and Gagnoa).

Phlegra trifoveolata Lessert, 1927

Figs 76-78

Phlegra trifoveolata Lessert, 1927: 439-440, fig. 21 (D♂♀; ♀ syntypes in the MHNG, examined).

TYPES: Two ♀ syntypes (MHNG) from Congo, "Faradji I" [most probably, Faradje (3°41'N, 29°42'E)], American Museum Congo Expedition [one ♀ is without legs on its right side].

DIAGNOSIS: This species displays a unique conformation of the ♀ copulatory organs. The fossae are not developed, the epigynal pocket is displaced from the epigastric furrow and resembles the central blind-ending pocket of the Pelleninae. The insemination ducts are heavily sclerotized (Figs 77-78), a feature absent in other *Phlegra* species known to us. All these characters are unique in *Phlegra* and therefore are reliable diagnostic characters of *P. trifoveolata*. It is likely that this species is not a member of *Phlegra*, but its correct placement can be resolved only when males have been found and described.

DESCRIPTION: MALE unknown. FEMALE (the ♀ with all legs). *Measurements*. Carapace 3.9, long, 2.9 wide, 1.7 high at PLE. Ocular area 1.5 long, 1.9 wide anteriorly and 2.0 wide posteriorly. Diameter of AME 0.6. Abdomen 5.1 long, 3.5 wide. Chelicera length 1.2. Clypeus height 0.7. Length of leg segments: I 2.0+0.6+1.1+0.7+0.7; II 1.9+1.2+1.0+0.7+0.7; III 2.6+1.5+1.3+1.4+0.9; IV 2.4+1.2+1.4+1.7+0.9. *Leg spination*. Leg I: Fm d 0-1-1-3; Tb pt 1-0, v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-1-3; Tb pr 1-1, v 1-1-2ap; Mt v 2-2ap. Leg III: Fm d 1-1-3; Pt pr and rt 0-1-0; Tb d 1-0, pr and rt 1-1-1, v 1-2ap; Mt d 1-1, pr and rt 1-2ap, v 2-2ap. Leg IV: Fm d 1-1-2; Pt pr and rt 0-1-0; Tb d 1-0, pr and rt 1-1-1, v 1-2ap; Mt d 1-0, pr and rt 1-1-2ap, v 2-2ap. *Coloration*. Carapace yellowish brown, with eye field dark brown, black around eyes and two thin longitudinal lines running from AMEs to rear edge of thorax region. Sternum, maxillae and labium yellow. Chelicerae yellowish brown. Abdomen: dorsum brown, with thin longitudinal yellow stripe; sides and venter yellow. Book-lung covers yellow, spinnerets yellow, tinged with brown. All legs mostly brownish yellow. Tb, Mt and Tr I and II dark brown. Epigyne and spermathecae as in Figs 76-78.

DISTRIBUTION: Known from the type locality only, Congo (Faradje).

***Phlegra tristis* Lessert, 1927**

Figs 72-74

Phlegra tristis Lessert, 1927: 437-438, figs 20A,B (D♂♀; ♀ lectotype in the MHNG, designated here).

TYPES: Lectotype ♀ (MHNG; designated here; Figs 72, 73) from Congo, "Faradji I" [most probably, Faradje (3°41'N, 29°42'E)], American Museum Congo Expedition [the ♀ lectotype is without legs on its right side]. – Paralectotypes: 1 ♂ 2 ♀ (MHNG; from the type series), collected together with the lectotype [one ♀ is without carapace, the ♂ is without both palps].

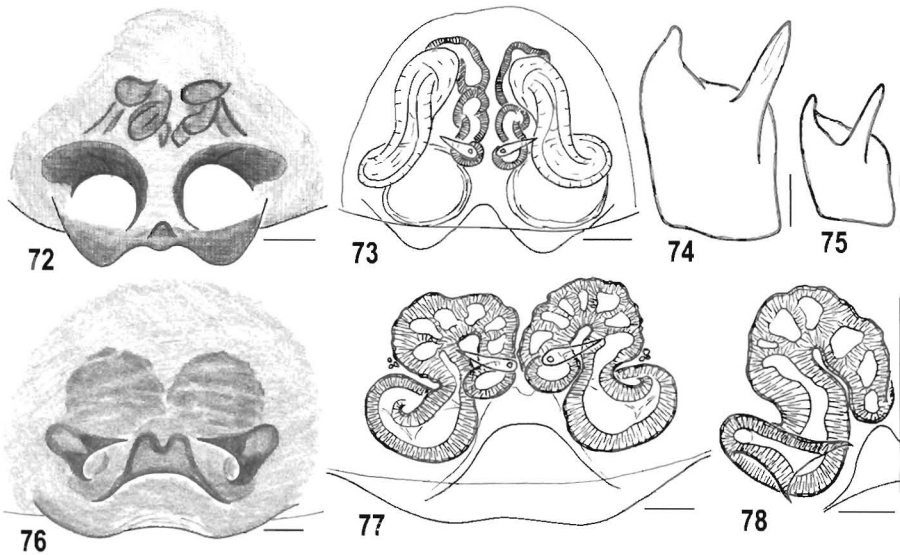
OTHER MATERIAL EXAMINED: KENYA. 1 ♀ (MHNG, 77/31), Tana River, c. 10 km N of Garsen, 23 October 1977, V. Mahnert.

DIAGNOSIS: *P. tristis* belongs to the *fasciata* species group (*sensu* Logunov, 1996) and is most closely related to *P. lugubris* (see above). The females of *P. tristis* can be easily distinguished from those of the latter species by the wider and shorter median septum of the epigyne and by the different shape of the rear epigynal margin (compare Figs 72 with 26, 57). We have been unable to properly compare the males of both species, as the ♂ paralectotype of *P. tristis* lacks both palps. The only relevant structure available for study was the three remaining palpal segments (femur, patella and tibia). A comparison of these segments with those of *P. lugubris* showed that the tibia and tibial apophysis of *P. tristis* are almost twice the size of those of *P. lugubris* (compare Figs 74 with 75; both apophyses are illustrated to the same scale) and hence left no doubt that these species are different.

COMMENTS: The type series of *P. tristis* contains one male and three females, all specimens are partly destroyed. One female has no legs on its right side and we think that this female was described and illustrated by Lessert (1927). This is why we designated this ♀ as the lectotype and illustrated it (Figs 72, 73).

DESCRIPTION: MALE (paralectotype). *Measurements*. Carapace 3.7 long, 2.4 wide, 1.4 high at PLE. Ocular area 1.4 long, 1.6 wide anteriorly and 1.7 wide posteriorly. Diameter of AME 0.5. Abdomen 3.3 long, 2.2 wide. Chelicera length 1.0. Clypeus height 0.2. Length of leg segments: I 1.9+1.1+1.2+0.6+0.6; II 1.8+1.0+1.0+0.8+0.6; III 2.0+1.1+1.0+1.3+0.7; IV 2.4+1.2+1.5+1.9+0.8. *Leg spination*. Leg I: Fm d 0-1-1-3; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-1-3; Tb pr 0-1, v 1-1-2ap; Mt v 2-2ap. Leg III: Fm d 1-1-4; Pt pr and rt 0-1-0; Tb pr and rt 1-1-1, v 2-2ap; Mt d 1-1-0, pr and rt 1-2ap, v 2-2ap. Leg IV: Fm d 0-1-2-4; Pt pr and rt 0-1-0; Tb d 1-0, pr and rt 1-1-1, v 1-2ap; Mt d 1-0, pr, rt and v 1-1-2ap. *Coloration*. Carapace yellowish brown, with eye field dark brown. Clypeus yellowish. Sternum, maxillae and labium yellow. Chelicerae brown. Abdomen yellowish grey, dorsum with brownish scutum occupying 1/2 of dorsum length. All legs mostly yellowish brown, Tb, Mt and Tr I and II dark brown. Both palps missing, except for the palpal femur, patella and tibia; palpal tibia as in Fig. 74.

FEMALE (lectotype). *Measurements*. Carapace 3.15, long, 2.10 wide, 1.03 high at PLE. Ocular area 1.18 long, 1.45 wide anteriorly and 1.55 wide posteriorly. Diameter of AME 0.46. Abdomen 4.05 long, 2.33 wide. Chelicera length 0.98. Clypeus height 0.18. Length of leg segments: I 1.43+0.88+0.85+0.63+0.53; II 1.35+0.85+0.75+0.63+0.53; III 1.60+0.69+0.85+1.05+0.60; IV 2.03+0.09+1.35+1.53+0.68. *Leg spination*. Leg I: Fm d 0-1-1-3; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-1-3; Tb pr 0-1, v 1-1-2ap; Mt v 2-2ap. Leg III: Fm d 0-1-1-2; Pt pr and rt 0-1-0; Tb d 1-0, pr and rt 1-1-1, v 1-2ap; Mt d 1-1, pr and rt 1-2ap, v 2-2ap. Leg IV: Fm d 0-1-1-2; Pt pr and



FIGS 72-78

Phlegra tristis Lessert, 1927 (72-74, ♀ lectotype and ♂ paralectotype), *Phlegra lugubris* Berland & Millot, 1941 (75, ♂ from Ivory Coast: Touba) and *Phlegra trifoveolata* Lessert, 1927 (76-78, ♀ syntype). (72, 76) Epigyne, ventral view (73, 77) Spermathecae, dorsal view. (74, 75) Tibial apophysis, prolateral view. (78) Spermatheca, ventral view. Scale lines: 0.1 mm.

rt 0-1-0; Tb d 1-0, pr and rt 1-1-1. v 1-2ap; Mt pr, rt and v 1-1-2ap. *Coloration.* Carapace entirely brownish yellow. Clypeus yellowish. Sternum, maxillae and labium yellow. Chelicerae light brown. Abdomen mostly yellow-grey, dorsum with two poorly visible brownish longitudinal stripes. Book-lung covers grey, spinnerets brown. Only legs of left side present, all of them mostly yellowish brown, Tb, Mt and Tr I and II dark brown. Palps yellow, tinged with brown. Epigyne and spermathecae as in Figs 72, 73.

DISTRIBUTION. Known from Congo (Faradje) and Kenya (Garsen).

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