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An overview of the African spongillaflies (Neuroptera: Sisyridae)

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Abstract – The Sisyridae (Neuroptera) fauna of the African continent is surveyed. New country records: *Sisyra afra* Kimmins, 1935 from Zimbabwe, *Sisyra nilotica* Tjeder, 1957 from Senegal, and the genus *Sisyra* Burmeister, 1839 from Nigeria (based on a female not identified to species). A map with country-level distributional records of all species is given. Colour photographs of *Sisyborina marlieri* (Tjeder, 1976), *Sisyra afra*, *Sisyra nilotica*, and *Sisyra producta* Tjeder, 1957 are published for the first time.

Key words – Palaearctic, Afrotropical, faunistics, new distribution records, photographs

Dedication – Dedicated to the memory of Jane Goodall (1934–2025), whose life and legacy are deeply connected to Africa; she was an inspiration to many of us to follow our dreams.

INTRODUCTION

Africa is the second largest continent, with an area of approximately 30 million square kilometres. Its territory is shared by the Western Palaearctic and Afrotropical Regions, and its extremely diverse climate and geography foster an exceedingly rich wildlife. Despite these, hardly more spongillafly species (Neuroptera: Sisyridae) have been recorded from Africa than from Europe, a continent that is merely one-third the size of Africa. This striking disparity might be explained by the fact that spongillaflies are in general rarely collected and natural history collections hold small amounts of preserved Sisyridae.

Two genera of spongillaflies occur in Africa: *Sisyborina* Monserrat, 1981 and *Sisyra* Burmeister, 1839. *Sisyborina* is a small, endemic Afrotropical genus, hitherto represented by three species (Tjeder 1976, Monserrat 1981, Flint 2012, Szőke 2024*a*). Szőke (2024*a*) revised the genus and provided an identification key to the species. *Sisyra*, the most species-rich genus of the

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family, occurring in all major biogeographic realms, is represented by ten species in the continent, including North Africa (belonging to the Western Palaearctic Region) and the sub-Saharan area (belonging to the Afrotropical Region) (Oswald 2025). Two additional species of *Sisyra* have been recorded from neighbouring areas of the Middle East (Israel, Saudi Arabia) (Flint 1966, Letardi *et al.* 2020), and these may also occur in North Africa.

Distributional data for most Afrotropical spongillafly species are severely limited, and the majority of the species remain known only from the localities presented in the original descriptions. Significantly more records are available for the European range of the Western Palaearctic species, but their North African records are also very scarce. Faunistic and taxonomic information on these species are typically results of targeted collecting (e.g., Szőke 2024*b*), identification of historical, undetermined material kept in natural history collections (e.g., Flint 2012, Szőke 2024*a*), or the combination of these approaches (Monserrat & Duelli 2014). However, research on the taxonomy and biogeography of African spongillaflies is hampered by the scarce and scattered literature and, in some cases, by inadequate and poorly illustrated species descriptions from the past. To facilitate progress, published information on the African Sisyridae fauna is reviewed in this contribution, with special emphasis on type depositories, known distributions, and photographs of selected species. The latter are immensely useful for reliable species-level identifications, because line drawings, highlighting the most important details and diagnostic characters, sometimes do not reflect the realistic proportions and habitus of specimens, therefore they represent valuable additions for ink drawings of genitalia. Especially in old, dried (pinned) or faded and soft (in ethanol) material in small sample sizes, it may be impossible to examine and/or re-mount specimens without risking their damage, which seriously limits the usefulness of line drawings depicting only genitalia.

In this paper, for the above reasons, an overview of the spongillaflies occurring in the African continent is provided, with special emphasis on type depositories, known distributions, and photographs of the species. Additionally, based on historical material received from the Biological Museum of Lund University (MZLU), new country-level distributional records are given.

MATERIAL AND METHODS

This study is based on a literature review on African Sisyridae (covering the Palaearctic and Sub-Saharan parts as well as Madagascar), an investigation of current depositories of type specimens (especially holotypes), and the study of the African Sisyridae material of the MZLU.

Identifications to generic level were based on Monserrat (1981), Yang & Liu (2021), Assmar *et al.* (2022), and Szőke (2024*a*), to species level on

the original descriptions and subsequent redescriptions of currently valid and synonymous taxa (Navás 1910, 1935, Esben-Petersen 1915, Kimmins 1935, Smithers 1957, Tjeder 1957, 1976, Meinander 1978, Aspöck *et al*. 1980, Hölzel 1988, Flint 2012, Monserrat & Duelli 2014, Szőke 2024*a*). Specimens were identified by the author, using a Nikon SMZ800 stereomicroscope. Morphological terminology follows Aspöck (2002) and Aspöck & Aspöck (2008). Label data are given verbatim, with explanatory information in square brackets if necessary; the symbol "//" is used to separate labels. Photos were taken partly using a Nikon-D7200 camera, equipped with a Nikon AF-S Micro Nikkor 105mm objective and a DCR-150 Raynox Macro Conversion lens, controlled by Helicon Remote and stacked by Helicon Focus, and partly with a Sony Xperia 10 VI cell phone camera. Post-image works were made by Adobe Photoshop 2025.

Abbreviations – HT = holotype; PT(s) = paratype(s); BW = black and white illustration; C = colour illustration. Abbreviations for depositories:

AMS = Australian Museum, Sydney, Australia;
CAS = California Academy of Sciences, San Francisco, USA;
CNC = Canadian National Collection, Ottawa, Canada;
FMNH = Finnish Museum of Natural History, Helsinki, Finland;
HNHM = Hungarian National Museum Public Collection Centre – Hungarian Natural History Museum, Budapest, Hungary;
MNHN = National Museum of Natural History (Muséum National d'Histoire Naturelle), Paris, France;
MZLU = Biological Museum of Lund University, Lund, Sweden;
NHM = Natural History Museum, London, UK;
NHMW = Natural History Museum, Vienna, Austria;
NMB = Museum of Natural History, Basel, Switzerland;
NMNH = National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA;
RMCA = Royal Museum for Central Africa (Musée Royal de l'Afrique Centrale), Tervuren, Belgium;
SAMC = Iziko South African Museum, Cape Town, South Africa;
ZFMK = Museum Koenig, Bonn, Germany;
ZMN = Zoology Museum of Naples (Centro Musei delle Scienze Naturali e Fisiche), Naples, Italy.

RESULTS

Three species of *Sisyborina* and ten species of *Sisyra* are known to occur in Africa; an unidentified *Sisyra* species is here recorded from Nigeria; and two additional species are known from neighbouring regions of the Middle East. Their distribution is summarised in Fig. 1.

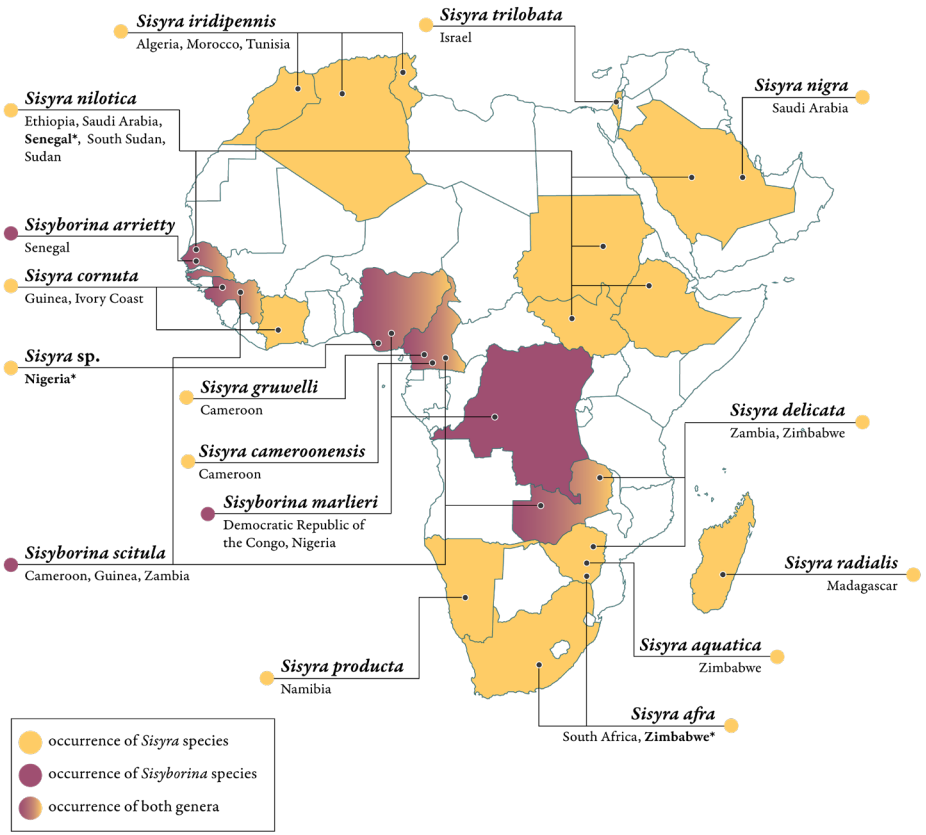


Figure 1. Distribution of the family Sisyridae in Africa (new country-level records in bold with asterisk)

Sisyborina Monserrat, 1981

Sisyborina arrietty Szőke, 2024 (Fig. 1)

Original description – Szőke (2024*a*).

Type specimens – HT (male, preserved in 70% ethanol), deposited in the MZLU; PT (one male, preserved in 70% ethanol), deposited in the HNHM (Szőke 2024*a*).

Distribution – Afrotropical. Recently described from Senegal (Szőke 2024*a*); no further distributional record has been published.

Illustrations – Habitus: Szőke (2024*a*): fig. 1 (C photo, HT), fig. 2 (C photo, PT). Wings: Szőke (2024*a*): fig. 4 (C photo, PT), fig. 5 (drawing). Male genitalia: Szőke (2024*a*): fig. 3 (C photo, HT), figs 6–7 (drawings).

Remarks – Female is unknown. This species is the smallest known representative of Sisyridae (Szőke 2024*a*).

Sisyborina marlieri (Tjeder, 1976)
(Figs 1–4)

Original description – Tjeder (1976), as *Sisyrina marlieri* Tjeder, 1976.

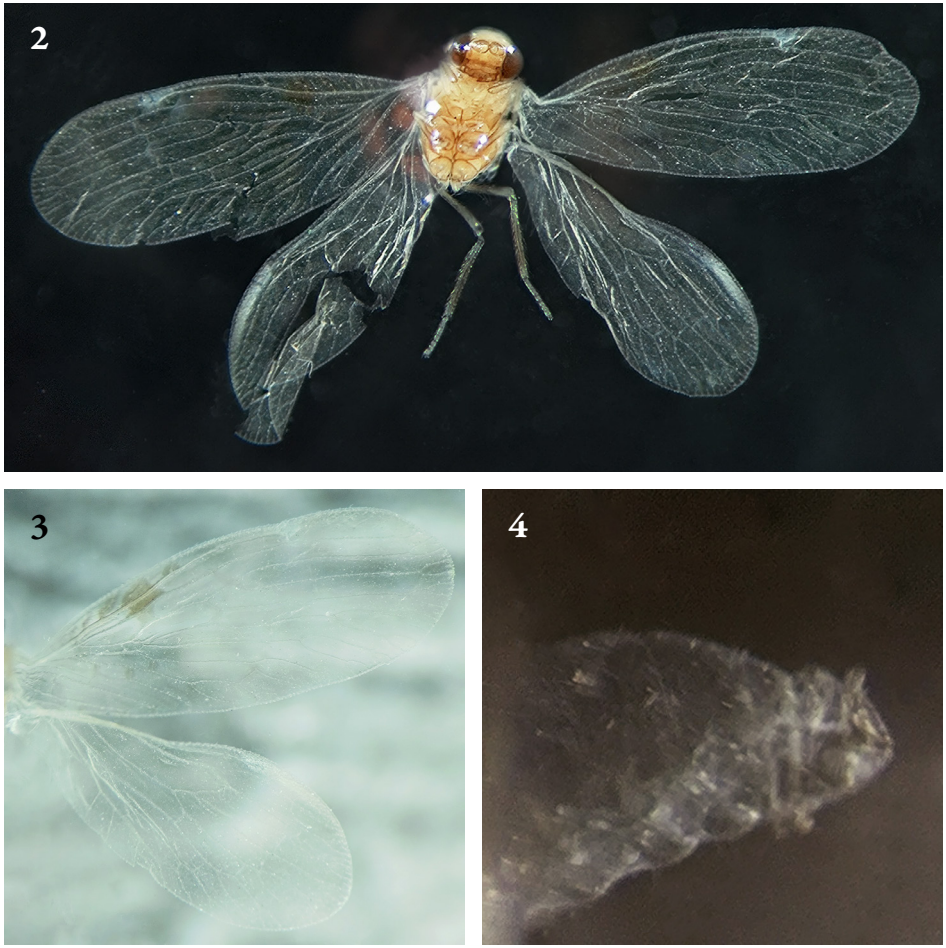
Type specimens – HT (male, pinned) and four PTs (two females and one specimen of unknown sex without abdomen pinned, one female in ethanol) from the Democratic Republic of the Congo, originally deposited in the "Institut des Parcs Nationaux du Congo Belge", now in RMCA (HT dried in a small vial, three incomplete, broken PTs (two pinned with some body parts glued to the label and with abdomen in a vial), and a further PT glued to the label (Stéphane Hanot, pers. comm.)); PT (one female, preserved in 70% ethanol) from Nigeria, deposited in the MZLU (Figs 2–4) (Tjeder 1976).

Material examined – One female, PT, "Nigeria: Benin, m. w. [= Mid-Western] State [= Edo State] 8. Apr 1973 [leg.] J.T. Medler Coll. // MZLU Type no. 7670:2", in Tjeder (1976) with more specified location: "6°25'N, 5°35'E", preserved in 70% ethanol with separated abdomen and genital segments in a small vial, deposited in the MZLU (Figs 2–4). The condition of the specimen is fairly poor: faded and soft, fragile, wings are creasy and torn, cannot be smoothed out completely (Figs 2–3). The abdomen with genital segments in a small vial is in a good condition for examination, but difficult to photograph because it floats (Fig. 4).

Distribution – Afrotropical. Described from the Democratic Republic of the Congo and Nigeria (Tjeder 1976); no further distributional record has been published.

Illustrations – Habitus: present study: Fig. 2 (C photo, female PT). Wings: in Tjeder (1976): fig. 1 (BW photo, HT), fig. 2 (drawing, HT); present study: Fig. 3 (C photo, female PT). Male genitalia: Tjeder (1976): figs 3–9 (drawing, HT). Female genitalia: Tjeder (1976): figs 10–11 (drawing, PT); present study: Fig. 4 (C photo, female PT).

Remarks – Habitus of the species is illustrated here for the first time, together with C photos of wings and female genitalia (Figs 2–4). Type specimens are "more or less defective, all lacking the distal part of the antennae" (Tjeder 1976). This is the type species of *Sisyborina* (Monserrat 1981).



Figures 2–4. *Sisyborina marlieri* (Tjeder, 1976), female PT, deposited in the MZLU, 2 = habitus, 3 = wings with the characteristic pattern on fore wing, 4 = female genitalia in the small vial (photos by Viktória Szőke)

Sisyborina scitula Flint, 2012
(Fig. 1)

Original description – Flint (2012).

Type specimens – HT (male, preserved in 80% ethanol) and PTs (three females) from Cameroon, deposited in the NMNH (confirmed, based on the online catalogue of the institution); PT (one male) from Guinea, deposited in the CNC; PT (one male) from Zambia, deposited in the CAS (Flint 2012).

Distribution – Afrotropical. Described from Cameroon, Guinea, and Zambia (Flint 2012); no further distributional record has been published.

Illustrations – Wings: in Flint (2012): fig. 9 (BW photo, female PT). Male genitalia: in Flint (2012): figs 5–7 (drawing). Female genitalia: not illustrated, but Flint (2012) noted that "genitalia appearing as figured for *S. marlieri*", referring Tjeder (1976): figs 10–11 (drawing, PT).

Remarks – The male PT from Guinea differs somewhat from the male HT from Cameroon in the shape of gonocoxite 9 in lateral view ("nearly parallel") and the orientation of the setae of them ("more mesad"); furthermore the "ninth sternite is evenly rounded apicad" (Flint 2012).

Sisyra Burmeister, 1839

Sisyra afra Kimmins, 1935
(Figs 1, 5–8)

Original description – Kimmins (1935).

Type specimens – HT (male) and PTs (one male "in the form of a balsam preparation", five females) from South Africa, deposited in the NHM (Dan Hall, pers. comm.) (Kimmins 1935).

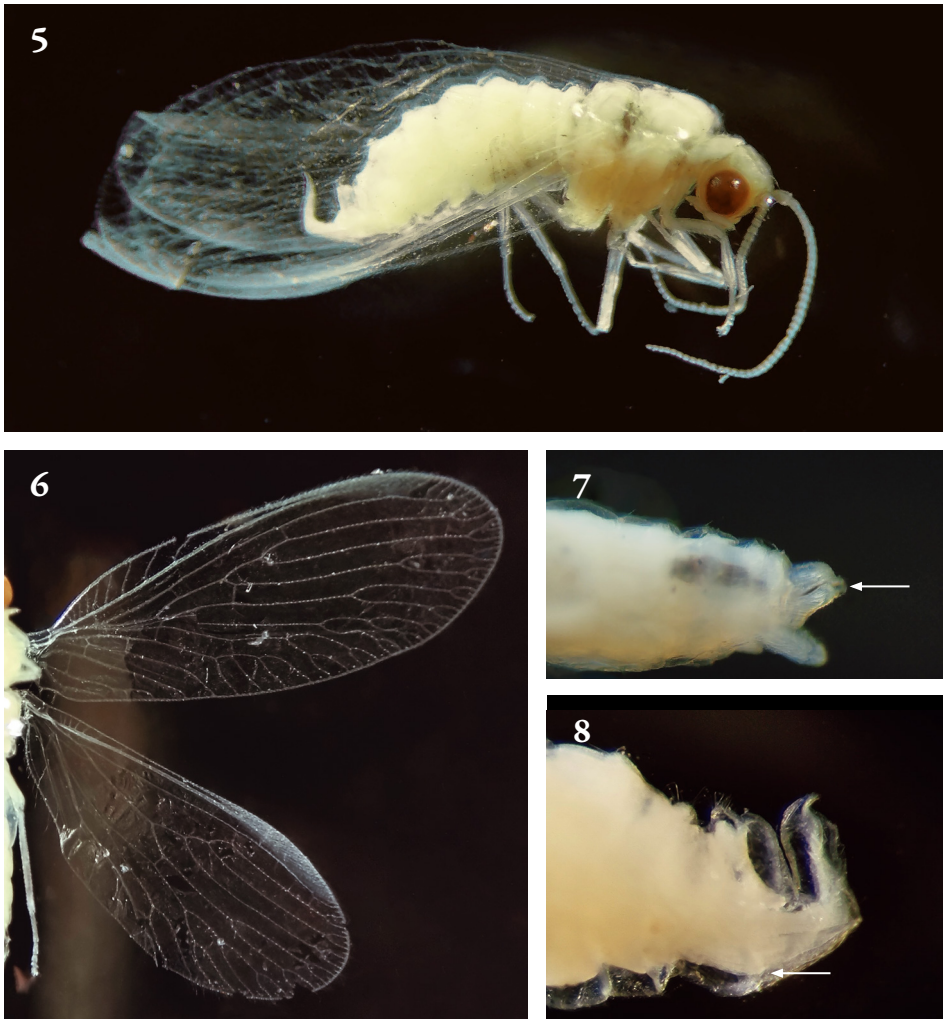
Material examined – Three males and four females (Figs 5–8), "Victoria Falls, S. Rhodesia [= Zimbabwe], sept. 1957, [leg.] B. Stuckenberg", all preserved in 70% ethanol, faded, in miscellaneous conditions (a few specimens slightly damaged with creasy wings), one male and one female with separated and prepared abdomen and genital segments in small vials, the separated male genitalia are in two parts and difficult to examine. The latter two specimens, and further one male and two females are deposited in the MZLU; one male and one female are deposited in the HNHM. Male PT (examined by photo), on slide, "Cape Province. Swellendam. 9–14.xii.1931 // S. Africa. R. E. Turner. Brit. Mus. 1932–3.", deposited in the NHM.

Distribution – Afrotropical. Described from South Africa (Kimmins 1935); its second faunistical record is presented here from Zimbabwe. First record from Zimbabwe.

Illustrations – Habitus: present study: Fig. 5 (C photo, male/female). Palpi: Kimmins (1935): fig. 1A (drawing, male). Wings: present study: Fig. 6 (C photo, female). Male genitalia: Kimmins (1935): fig. 1B–C (drawing); present study: Fig. 7 (C photo). Female genitalia: Kimmins (1935): fig. 1D (drawing); present study: Fig. 8 (C photo).

Remarks – Habitus and wings of the species are illustrated here for the first time. First C photos of genital segments of both sexes are also provided (Figs 5–8). The type specimens are from Rowland Edwards Turner's (1863–1945) collection (established and managed between 1926 and 1933), now deposited in the NHM (Kimmins 1935, Benson 1946).

Identification – The examined specimens are faded due to preservation and time; however, the small membranous lobe on the male gonocoxite 9, mentioned by Kimmins (1935), is clearly visible (Fig. 7) and allows a reliable identification of the species. Likewise, the "prominent knob" and the "wrinkles distally of the knob" on the ventral side of tergite 9 of the female, mentioned by Kimmins (1935), are good diagnostic characters, although more difficult to examine and recognise (Fig. 8). The male specimens are compared to the PT mentioned in Material examined section above.



Figures 5–8. Voucher specimens of *Sisyra afra* Kimmins, 1935 from Zimbabwe, 5 = habitus of a female specimen, 6 = wings of a female specimen, 7 = male genitalia, the small membranous lobe marked with an arrow, 8 = female genitalia, knob and wrinkles marked with an arrow (photos by Viktória Szőke)

Sisyra aquatica Smithers, 1957
(Fig. 1)

Original description – Smithers (1957).

Type specimen – HT (female, preserved in ethanol, left wings, abdomen and maxillary palp mounted on slide, thorax damaged), originally deposited in the private collection of C. N. Smithers (Smithers 1957), now deposited in the AMS (Giovanni Ramon, Russell Cox and Cynthia Chan, pers. comm.).

Distribution – Afrotropical. Described from Zimbabwe (Smithers 1957); no further distributional record has been published.

Illustrations – Female genitalia: Smithers (1957): fig. 1 (drawing, HT).

Remarks – Private collection of Courtenay Neville Smithers (1925–2011) is held in the AMS. The holotype is the only one known specimen of the species.

Sisyra cameroonensis Flint, 2012
(Fig. 1)

Original description – Flint (2012).

Type specimens – HT (male) and PTs (one male, two females), preserved in ethanol, deposited in the NMNH (confirmed, based on the online catalogue of the institution) (Flint 2012).

Distribution – Afrotropical. Described from Cameroon (Flint 2012); no further distributional record has been published.

Illustrations – Wings: Flint (2012): fig. 8. (BW photo, female PT). Male genitalia: Flint (2012): figs 1–2 (drawing).

Remarks – The colours of the type specimens are faded in ethanol. The specimens are difficult to examine due to their condition. The genitalia of the female PTs are damaged and therefore they were not described or illustrated by Flint (2012); the venation of the female is identical to that of the male (Flint 2012).

Sisyra cornuta Monserrat et Duelli, 2014
(Fig. 1)

Original description – Monserrat & Duelli (2014).

Type specimens – HT (male, pinned) from Guinea, deposited in the NMB, in poor condition, separated into two parts (head, thorax with fore wings), hind wings and genital segments not found, currently under conservation process (Sarah Müller and Seraina Klopfstein, pers. comm.); PTs (one male, one female from Ivory Coast), preserved in ethanol, deposited in the NHMW; PTs (two males, two females), preserved in ethanol, deposited in the private

collection of V. J. Monserrat in Madrid, Spain; PTs (eight males, six females), preserved in ethanol, deposited in the private collection of P. Duelli in Zürich, Switzerland (Monserrat & Duelli 2014).

Distribution – Afrotropical. Described from Guinea and Ivory Coast (Monserrat & Duelli 2014); no further distributional record has been published.

Illustrations – Head and scapus: Monserrat & Duelli (2014): fig. 2 (drawing). Wings: Monserrat & Duelli (2014): fig. 1 (drawing). Male genitalia: Monserrat & Duelli (2014): figs 3–5 (drawing). Female genitalia: Monserrat & Duelli (2014): fig. 6 (drawing).

Identification – The conical protrusion on the vertex (as its specific epithet suggests) is unique among the African species of *Sisyra* (Monserrat & Duelli 2014).

Sisyra delicata Smithers, 1957
(Fig. 1)

Original description – Smithers (1957).

Type specimens – HT (male) and PT (one female, labelled as allotype), both preserved in ethanol except their left wings and genitalia are mounted on slides, originally deposited in the private collection of C. N. Smithers, now in the AMS (the body parts of HT, preserved in ethanol, are in good condition, however the slide belonging to the HT cannot be located) (Cynthia Chan, pers. comm.); PTs (one male, one female in ethanol), deposited in the NMNH (confirmed, based on the online catalogue of the institution); PTs (one male, one female in ethanol), deposited in the RMCA; PT (one female in ethanol), deposited in the NHM; PTs (one male, three females in ethanol), originally deposited in the private collection of C. N. Smithers, now deposited in the AMS (Giovanni Ramon and Russell Cox, pers. comm.) (Smithers 1957).

Synonym – Sisyra pallida Meinander, 1978 (synonymised by Flint (2012)). Type specimens: HT (male) and PTs (three males), deposited in the CAS, PTs (two males), deposited in the FMNH; PT (one male), deposited in the MZLU (Meinander 1978).

Distribution – Afrotropical. Described from Zimbabwe (Smithers 1957); additional record from Zambia by Meinander (1978) as *Sisyra pallida*.

Illustrations – Male genitalia: Smithers (1957): figs 2–3 (drawing); Meinander (1978): fig. 1A–B (drawing). Female genitalia: Smithers (1957): fig. 4 (drawing).

Remarks – Private collection of Courtenay Neville Smithers (1925–2011) is held in the AMS. Smithers (1957) mentioned a considerable variation in body length.

Sisyra gruwelli Flint, 2012
(Fig. 1)

Original description – Flint (2012).

Type specimens – HT (male), preserved in ethanol, deposited in the NMNH (confirmed, based on the online catalogue of the institution) (Flint 2012).

Distribution – Afrotropical. Described from Cameroon (Flint 2012); no further distributional record has been published.

Illustrations – Male genitalia: Flint (2012): figs 3–4 (drawing).

Remarks – The HT is the only known specimen, which is faded by the preservation in ethanol and its wings are broken. Its genitalia are unique in Sisyridae (Flint 2012). Female unknown.

Sisyra iridipennis Costa, 1884
(Fig. 1)

Original description – Costa (1884).

Type specimens – Costa (1884) did not mention the deposition of the type material (see Remarks).

Distribution – A Western Palaearctic species occurring in Europe and in North Africa (Aspöck *et al*. 2001). Described from Sardinia (Italy) (Costa 1884), additional country records from Algeria (McLachlan 1898), Spain and Morocco (Aspöck *et al*. 1980), Portugal (Monserrat 1986), Tunisia (Güsten 2003), France (from Corsica (Letardi *et al*. 2008) and from the mainland (Canard & Thierry 2015, Leraut 2022)), Hungary (Szőke 2024*b*).

Illustrations – The original description is without any illustration, but several subsequent authors published C photos of specimens from Europe (e.g., Canard & Thierry 2015, Szőke 2024*b*) and drawings (e.g., Aspöck *et al.* 1980). No illustrations are available for North African specimens.

Remarks – The original description did not mention the deposition of the type material. However, the entomological collection of Achille Costa is held in the ZMN (based on the information on the website of the museum), including Costa's Sardinian material and types, thus, presumably including the type material of *Sisyra iridipennis* (in unknown condition). Furthermore, the website also mentions "the collection, for obvious conservation reasons, is not exposed to the public" and, apparently, the collection is unavailable for scientific examinations, too (Filippo di Giovanni (Università di Siena), pers. comm).

Sisyra nigra (Retzius, 1783)
(Fig. 1)

Remarks – A widespread Palaearctic species, which occurs also in North America (Aspöck *et al.* 2001). No African record is known, however, it has been reported from the Arabian Peninsula (Saudi Arabia) (Letardi *et al.* 2020), thus its presence in the African continent is possible.

Sisyra nilotica Tjeder, 1957
(Figs 1, 9–12)

Original description – Tjeder (1957), based on the description by Esben-Petersen (1915), see Flint (2012) and the Remarks below.

Type specimens – HT (male) from South Sudan, deposited in the ZFMK (Tjeder 1957); PT (one male) from South Sudan, examined by Hölzel (1988); PT from South Sudan (uncertain number, not specified by Tjeder (1957)); see also Remarks below.

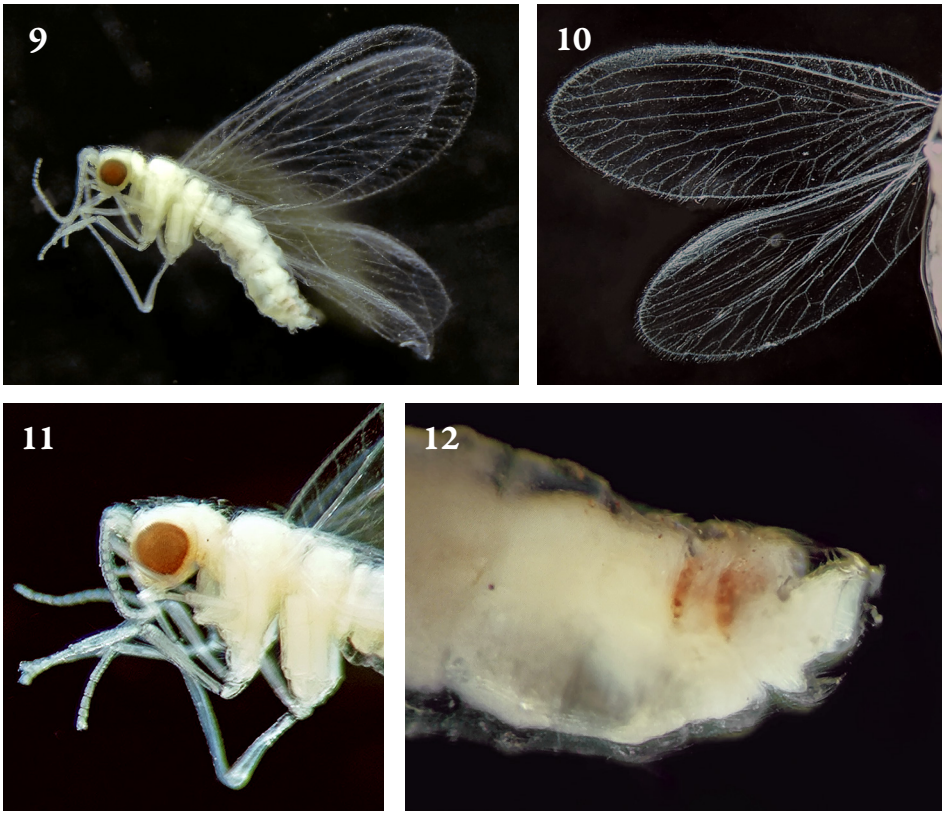
Material examined – One male, "Senegal, Village Saré Sara, 21 km ESE Kolda, in and at the junction of Rivers Koring and Tiangol Dianguina. 6.III.1977 Loc. No. 19. UTM 28PEK27-19- // Lund Univ. Syst. Dept. Sweden. – Gambia/Senegal Febr.-March 1977 [leg.] Cederholm-Danielsson-Larsson-Norling-Samuelsson", preserved in 70% ethanol, in good condition, deposited in the MZLU.

Distribution – Afrotropical. Known from South Sudan (Esben-Petersen 1915, Tjeder 1957), Sudan (Esben-Petersen 1915, Hölzel *et al.* 1999), Saudi Arabia (Hölzel 1988, Letardi *et al.* 2020), Ethiopia (Hölzel *et al.* 1999), and Senegal (present study). First record from Senegal.

Illustrations – Habitus: present study: Figs 9, 11 (C photo, male). Wings: present study: Fig. 10 (C photo, male). Male genitalia: Esben-Petersen (1915): fig. 6b (drawing) as *Sisyra terminalis*; Hölzel (1988): figs 1–2 (drawing); present study: Fig. 12 (C photo). Female genitalia: Esben-Petersen (1915): fig. 6a (drawing) as *Sisyra terminalis.*

Remarks – Esben-Petersen (1915) reported specimens from South Sudan and Sudan, tentatively identified as *Sisyra terminalis* Curtis, 1854. Tjeder (1957) recognised these specimens to represent an undescribed species, and proposed the name *Sisyra nilotica* for the species in concern, without providing an original description but with a reference to the description and figures provided by Esben-Petersen (1915), apparently without seeing any specimen. He designated as holotype one of the males from South Sudan, "Lake Ambadj (Bahr el Ghazal)", and mentioned "several paratypes from Bahr el Ghazal, Bahr el Abiad, and Bahr el Zeraf, Southern Sudan", apparently also referring here to the list of examined specimens provided by Esben-Petersen (1915). As he did not

list a precise number of localities and specimens, the exact number of paratypes is uncertain, especially because he did not mention all localities from Esben-Petersen (1915), for example "Khartoum", which now pertains to Sudan, not to South Sudan. Hölzel (1988) claims that he examined a male paratype from "Bahr el Ghazal". Flint (2012) could not locate any type material of *Sisyra nilotica*, and concluded that *Sisyra nilotica* is a species inquirenda. The location of type material is still unknown; apparently Hölzel (1988) was the last who could examine a putative PT. No type specimen could be located in the ZFMK (Ximo Mengual, pers. comm.), and there is no documentation that Herbert Hölzel borrowed a paratype for examination. Hölzel's private collection is now held in the NHMW (Sattmann 2022), however, we (i.e., either the ZFMK or the HNHM) have not received any information from the NHMW so far on this collection or the whereabouts of the apparently lost types.



Figures 9–12. Voucher specimen of *Sisyra nilotica* Tjeder, 1957 from Senegal, deposited in the MZLU, 9 = habitus, 10 = wings, 11 = head and palpus in profile, 12 = male genitalia (photos by Viktória Szőke)

Identification – Because of the missing type material, the descriptions and drawings of genitalia provided by Esben-Petersen (1915) (as *Sisyra terminalis*) and Hölzel (1988) are the only basis for identification. The illustrations of the male genitalia provided by these authors are slightly different from each other mainly in terms of proportions: in the drawing of Esben-Petersen (1915) the gonocoxite 9 is smaller than in the reality; Hölzel (1988) correctly illustrated this detail. The shape of gonocoxite 9 is more accurate in Esben-Petersen (1915) than in Hölzel (1988) but smaller details are not elaborated in the necessary clarity. Both illustrations show two strong setae on the dorsal apical tooth of gonocoxite 9, nevertheless the ventral apical tooth also has two strong setae. The ventral side of gonocoxite 9 possesses an additional group of setae subapically, thinner than those on the apex; this detail, considered as of diagnostic value, was figured by Hölzel (1988). A further character, not figured by any of the above two authors, is the presence of a distinct, semicircular notch on the ventral side of gonocoxite 9 (both drawings show an angle at this place). The ectoproct and sternite 9, as well as the other sternites and tergites, have conspicuously long and dense setae, a condition unusual in other *Sisyra* species. Habitus and wings of the species are illustrated here for the first time; first C photos of genital segments of male are also provided (Figs 9–12).

Sisyra producta Tjeder, 1957
(Figs 1, 13–16)

Original description – Tjeder (1957).

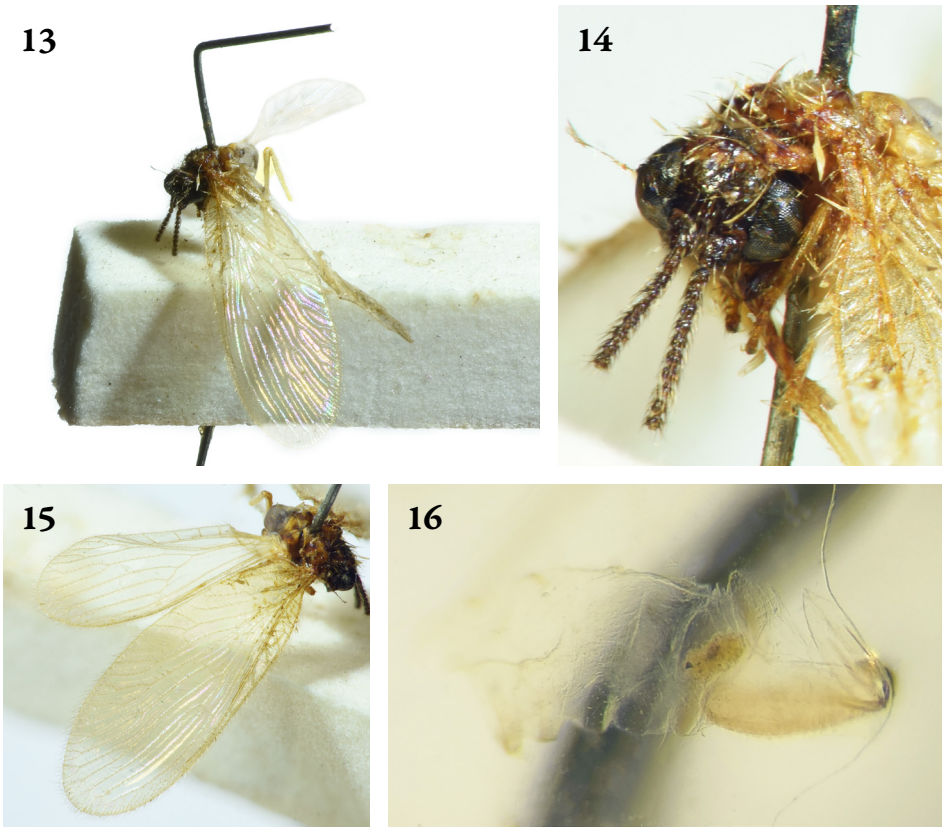
Type specimens – HT (female, pinned), deposited in the SAMC (Nokuthula Mbanyana-Nhleko, pers. comm.); PT (female), deposited originally in the private collection of Bo Tjeder (Tjeder 1957), now in the MZLU (Figs 13–16).

Material examined – PT (female, pinned), "S.W. Africa, Otjimbumbe Kunene R., Mar. 1983, SA Mus. Exp.", separated abdomen in a small vial pinned under the specimen, deposited in the MZLU.

Distribution – Afrotropical. Described from Namibia (Tjeder 1957); no further distributional record has been published.

Illustrations – Habitus: present study: Fig. 13 (C photo, female). Wings: Tjeder (1957): fig. 139 (drawing, HT), present study: Fig. 15 (C photo, female). Head, palpi: Tjeder (1957): figs 141–147 (drawing, HT), present study: Fig. 14 (C photo, female). Leg: Tjeder (1957): fig. 148 (drawing, HT). Female genitalia: Tjeder (1957): figs 156–158 (drawing, HT), present study: Fig. 16 (C photo, female).

Remarks – Habitus and wings of the species are illustrated here for the first time; first C photos of head and genital segments of female are also provided (Figs 13–16). "PT agrees in size and characteristics with the HT" (Tjeder 1957). Male unknown.



Figures 13–16. *Sisyra producta* Tjeder, 1957, paratype, deposited in the MZLU, 13 = habitus, 14 = head and antennae, 15 = wings, 16 = female genitalia in vial (photos by Viktória Szőke)

Sisyra radialis Navás, 1910
(Fig. 1)

Original description – Navás (1910).

Type specimens – Type specimen (HT?, sex unknown), based on Navás (1910, 1935) deposited in the MNHN; now in the NMNH (confirmed, based on the online catalogue of the institution). At present, there is no information available regarding the time and reason for its transfer from MNHN to NMNH (Frédéric Legendre, pers. comm.).

Redescription – Navás (1935).

Distribution – Afrotropical. Described from Madagascar (Navás 1910); no further distributional record has been published.

Illustrations – The original description is without any illustration. Habitus: Navás (1935): fig. 27 (BW photo, HT?).

Remark – Number and sex of type specimen(s) is unknown, not specified by Navás (1910, 1935).

Sisyra trilobata Flint, 1966
(Fig. 1)

Remarks – A Western Palaearctic species (Aspöck *et al.* 2001) without any African faunistic record; however, as it was described from Israel (Flint 1966), its presence in North Africa is possible. Original description by Flint (1966) with illustrations of male (Flint (1966): figs 1–2) and female genitalia (Flint (1966): fig. 3). Type material deposited in the NMNH (confirmed, based on the online catalogue of the institution).

Sisyra sp.
(Figs 1, 17)

Material examined – One female, "Nigeria, NW State: Benin (Nig. Inst. Oil Palm. Res.8) (6.25 N, 5.35 W) 1.iv.1975, [leg.] J.T. Medler", preserved in 70% ethanol, in poor condition (wings are torn, incomplete; body and head are damaged; all legs and antennae are missing; genitalia are intact), deposited in the MZLU.

Remarks – First record of the genus *Sisyra* from Nigeria. The head and the available parts of the wing of the badly damaged single available female indicate that it pertains to the genus *Sisyra*. Its intact genital segments (Fig 17) clearly differ from most of the African species of the genus; they most closely resemble to those of *Sisyra producta*, although the shapes of tergite 9 and gonocoxite 9 are slightly, while the ectoproct is distinctly different. This specimen is currently not comparable to *Sisyra radialis*, because the sex of the type specimen of the latter species is unknown, and it is not available for examination at the present due to the temporary unavailability of the entomological collections of NMNH (Floyd W. Shockley, pers. comm.). However, based on the original description and the redescription of *Sisyra radialis* (Navás 1910, 1935), also considering that the latter species was described from Madagascar, the specimen in concern is likely not conspecific with the latter species. It may pertain either to *Sisyra cameroonensis* or to *Sisyra gruwelli*, both of which occur in West Africa (in the neighbouring country, Cameroon). Although the female of *Sisyra cameroonensis* is known, its genitalia have not been documented (they are damaged in both female PTs); the examined specimen

of *Sisyra* sp. from Nigeria shows exactly the opposite condition, its genitalia are intact but its body is damaged, thus they are incomparable. The female of the other potential species, *Sisyra gruwelli*, is unknown. There is also the possibility that this specimen represents a yet undescribed species.

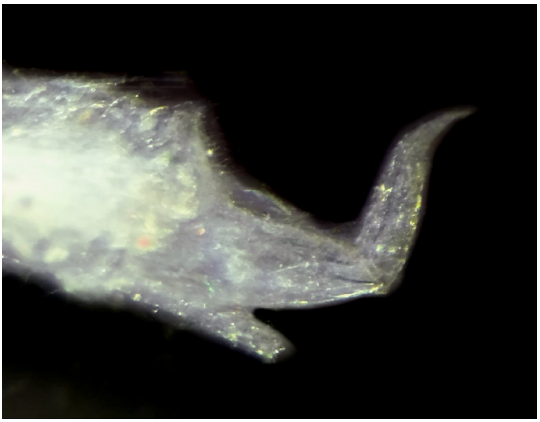


Figure 17. Genital segments of *Sisyra* sp. from Nigeria, deposited in the MZLU (photo by Viktória Szőke)

*

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