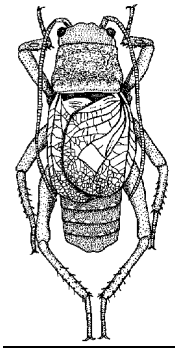

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THREE NEW SPECIES OF SEPSIDAE (DIPTERA)

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Three new species of the family Sepsidae, *Sepsis kleynbergi* **sp. n.** from Kenya, *Toxopoda freidbergi* **sp. n.** from India, and *Toxopoda pseudoviduata* **sp. n.** from Thailand and Myanmar, are described.

KEY WORDS: Diptera, Sepsidae, *Sepsis*, *Toxopoda*, new species, Kenya, India, Thailand, Myanmar.

А. Л. Озеров. Три новых вида мух-муравьевидок (Diptera, Sepsidae) // Дальневосточный энтомолог. 2010. N 209. С. 1-6.

Даны описания трех новых видов сепсид: *Sepsis kleynbergi* **sp. n.** из Кении, *Toxopoda freidbergi* **sp. n.** из Индии и *Toxopoda pseudoviduata* **sp. n.** из Таиланда и Мьянмы.

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INTRODUCTION

In present paper I continue the study of the family Sepsidae from Old World (Ozerov & Iwasa, 2008). Three new species were found beside follow material: 1) sent to me for determination by Dr. Amnon Freidberg (Tel-Aviv University, Israel: TAU) and 2) collected by Dr. Nikita Vichrev (Zoological Museum, Moscow University: ZMUM) in Thailand and Myanmar during November–December of 2009. The descriptions of these species are given below.

DESCRIPTION OF NEW SPECIES

***Sepsis kleynbergi* Ozerov, sp. n.**
Figs 1–3

MATERIAL. Holotype – ♂, KENYA: Kericho (0°20'S, 35°20'E), 25.VIII 2003, S. Kleynberg (TAU). Paratypes: 2 ♂, with same label as holotype (TAU, ZMUM).

DESCRIPTION. MALE. *Colour*. Frons, face and gena yellow to brown. Postcranium, thorax and abdomen black. First leg completely yellow. Femora of mid and hind legs black, but apex and basal part yellow. Tibiae of mid and hind legs black in basal half and yellowish in apical part. Tarsi of mid and hind legs yellowish. Wing without dark spot near apex. Basal-costal cell completely and costal cell in basal half blackish.

Pollinosity. Frons shining. Face and gena subshining. Postcranium thinly greyish pruinose, shining only along eye. Scutum greyish pruinose. Proepisternum, proepimeron, anepisternum and anepimeron shining. Katepisternum shining, but in upper posterior corner greyish pruinose. Katepimeron, meron and metepisternum thinly greyish pruinose. Metepimeron shining. Katatergite and anatergite greyish pruinose. Mediotergite shining. Scutellum greyish pruinose. Subscutellum shining. Abdomen shining.

Head somewhat flattened dorsoventrally; eye roundish. Postpedicel in profile long-oval, approximately 1.5 times as long as wide, roundish apically. 1 *oc*, 1 *poc,* 1 *ivt*, 1 *ovt*; *or* absent. Occipital sclerite with several setulae. Postgena without a seta near lower margin. 2–3 vibrissae. Arista bare.

Thorax. Postpronotal lobe and scutum bearing scattered hairs. Scutum with the following paired setae: 1 *pprn*, 2 *npl*, 1 *spal*, 1 *pal*, 0+1 *dc*. Anepisternum in posterior half bearing scattered hairs and with a long seta near posterior margin. Scutellum with well-developed apical setae; basal setae short, hair-like. Postmetacoxal bridge (metepimeral bridge) absent: posteroventral area of thorax behind and above hind coxae between metepimera membranous.

Legs. Coxa of foreleg long and simple, with 1 *d* apically. Fore femur and tibia as in Fig. 3. Coxa of midleg with a row of hairs in upper half. Femur of mid leg with 1–2 strong *a* in centre. Tibia of mid leg with 1 strong *v*, 1 *pd* and 1 *ad* at middle, with 1 preapical *d*, with apical *pv* and *av*. Femur of hind leg without striking setae. Tibia of hind leg with osmeterium-like area anterodorsally near middle, with 1 *a* at middle and 1 preapical *d*.

Wing normal, longer than abdomen, with well-developed anal lobe. Cells *bm* and *br* separate. Alula entirely covered with microtrichia; width of alula approximately 2 times as long as wide cells *bm*. Margin of upper calypter with hairs, margin of lower calypter without hairs.

Abdomen with constricted after syntergite 1+2. Tergites 3–5 each with 2 marginal setae. Surstyli symmetrical, fused to epandrium. Epandrium and surstyli as in Figs 1, 2.

Female unknown.

MEASUREMENTS. Length of body 2.8-3.1 mm. Length of wing 2.3-2.5 mm.

COMPARISON. The new species is similar to *Sepsis pronodosa* Speiser, 1924 and *S. oligochaeta* Soós, 1962, but is distinguished from them by greyish pruinose meron and metepisternum (meron shining in *S. oligochaeta* and both meron and metepisternum shining in *S. pronodosa*) and structure of male fore leg and surstylus.

ETYMOLOGY. The species is named after the collector, Mr. S. Kleynberg.

Figs 1-3. *Sepsis kleynbergi* Ozerov, sp. n., paratype male: 1) epandrium and surstylus, lateral view; 2) epandrium and surstyli, dorsal view; 3) fore leg, anterior view.

***Toxopoda freidbergi* Ozerov, sp. n.**
Figs 4–6

MATERIAL. Holotype – ♂, INDIA: Rajasthan, Nagda Temple, 25 km N Udapur Lake, 22.XI 2002, A. Freidberg (TAU).

DESCRIPTION. MALE. Body black with greyish tomentum, only scutellum anteriorly, tergite 1+2 in centre and tergite 3 anteriorly with velvety black reflection.

Head in lateral view slightly flattened dorsoventrally; eye in lateral view roundish. Gena narrow. Postpedicel in profile long-oval, approximately 2.5 times as long as wide. Arista bare. 1 minute *oc*, 1 *or*, 1 *poc,* 1 *ovt*; *ivt* absent. Occipital sclerite with 2-3 short setae.

Thorax. Scutum with the following paired setae: 2 *npl*, 1 *spal*, 1 *pal*, 0+1 *dc*; *pprn* absent. Proepisternum with several hairs near lower margin. Anepisternum without setae near posterior margin. Scutellum with well-developed apical setae, basal setae absent. Postmetacoxal bridge (metepimeral bridge) present: posteroventral area of thorax behind and above hind coxae sclerotized between metepimera.

Legs. Coxa of fore leg long and simple, with 1 strong, but short dorsal seta apically. Femur of fore leg with 2-3 anteroventral setae and 4 posteroventral setae. Fore tibia with two rows of short setae ventrally. Coxa of mid leg bare in upper half. Femur

of mid leg curved at middle. Tibia of mid leg with 1 *pd* in apical third, a row of short setae posteriorly and with a ring of apicals. Femur of hind leg with 2 short dorsal setae in apical third. Tibia of hind leg without osmeterium or osmeterium-like area, with 4 short setae dorsally.

Wing with well-developed anal lobe. Cells *bm* and *br* separate. Alula with microtrichia. Margin of upper calypter with hairs. Margin of lower calypter without hairs.

Abdomen constricted after syntergite 1+2. Tergites without setae. Surstyli asymmetrical, fused to epandrium. Epandrium and surstyli as in Figs 4-6.

MEASUREMENTS. Length of body 5.5 mm. Length of wing 3.7 mm.

Female unknown.

COMPARISON. The new species has peculiar asymmetrical surstyli. Strongly asymmetrical surstyli has same Afrotropical species, but all of them with 2 *dc*.

ETYMOLOGY. The species is named after the collector, famous Israeli dipterologist, Dr. Amnon Freidberg.

Figs 4-6. *Toxopoda freidbergi* Ozerov, sp. n., holotype: 4, 6) epandrium and surstylus, lateral view; 5) epandrium and surstyli, dorsal view.

***Toxopoda pseudoviduata* Ozerov, sp. n.**
Figs 7–9

MATERIAL. Holotype – ♂, THAILAND: Chonburi, Jomtien (~12.875°N, 100.892°E), 20-22.XII 2009, N. Vikhrev (ZMUM). Paratypes: 5♂, with same label as holotype (ZMUM); 1 ♂, THAILAND, South: Songkhla Beach, 21.X 2002, A. Freidberg (TAU); 5 ♂, MYANMAR, Shan State, env. Nyaungshwe (~20.66°N, 96.96°E), 26-30.XI 2009, N. Vikhrev (ZMUM); 1 ♂, MYANMAR, Bago division, env. Bago (~17.25°N, 96.46°E), 23-24.XI 2009, N. Vikhrev (ZMUM).

DESCRIPTION. MALE, FEMALE. Body black with greyish tomentum, only scutellum anteriorly, tergite 1+2 in centre and tergite 3 anteriorly with velvety black reflection.

Head in lateral view slightly flattened dorsoventrally; eye in lateral view roundish. Gena narrow. Postpedicel in profile long-oval, approximately 2.5 times as long as wide. Arista bare. 1 *oc*, 1 *or*, 1 *poc,* 1 *ovt*; *ivt* absent. Occipital sclerite with 2-3 short setae.

Figs 7-9. *Toxopoda pseudoviduata* Ozerov, sp. n., holotype: 7, 9) epandrium and surstylus, lateral view; 8) epandrium and surstyli, dorsal view.

Thorax. Scutum with the following paired setae: 1 *pprn*, 2 *npl*, 1 *spal*, 1 *pal*, 0+1 *dc*. Proepisternum with several hairs near lower margin. Anepisternum with a seta near posterior margin. Scutellum with well-developed apical setae, basal setae absent. Postmetacoxal bridge (metepimeral bridge) present: posteroventral area of thorax behind and above hind coxae sclerotized between metepimera.

Legs. Coxa of fore leg long and simple, with 3–4 apical setae. Femur of fore leg with 4 anteroventral setae and 4–5 posteroventral setae. Fore tibia with two rows of short setae ventrally. Coxa of mid leg bare in upper half. Femur of mid leg curved at middle. Tibia of mid leg with 1 *d*/*pd* in apical third, a row of short setae posteriorly and with a strong apicals *av* and *pv*. Femur of hind leg with a row of dorsal setae in apical third or half. Tibia of hind leg without osmeterium or osmeterium-like area, with a row of short setae dorsally.

Wing with well-developed anal lobe. Cells *bm* and *br* separate. Alula with microtrichia. Margin of upper calypter with hairs. Margin of lower calypter without hairs.

Abdomen constricted after syntergite 1+2. Tergites without setae. Surstyli slightly asymmetrical, fused to epandrium. Epandrium and surstyli as in Figs 7-9.

MEASUREMENTS. Length of body 4.6-5.8 mm. Length of wing 2.9-3.4 mm.

COMPARISON. The new species is close to *T. viduata* (Thomson, 1869) by structure of genitalia, but surstyli of new species are slightly asymmetrical.

ACKNOWLEDGMENTS

I am very grateful to Dr. Amnon Freidberg (TAU) for the loan of material, and to Dr. Nikita Vichrev (ZMUM), who collected Sepsidae in Thailand and Myanmar especially on my request.

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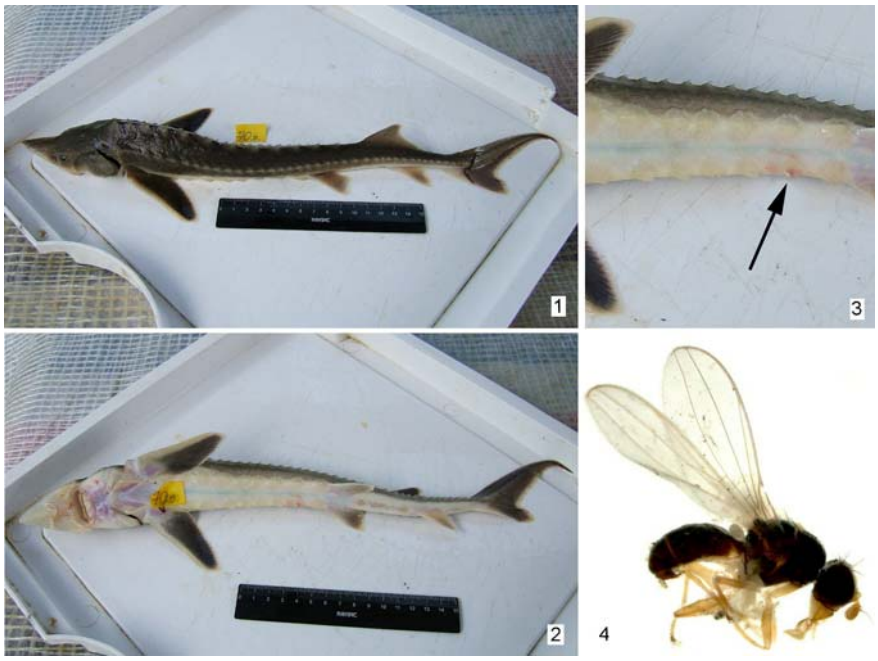
SHORT COMMUNICATION

V. S. Sidorenko, M. B. Shedko. THE CASE OF FACULTATIVE MYIASIS BY *LEIOMYZA SCATOPHAGINA* (DIPTERA: ASTEIIDAE) OF AMUR STURGEON (*ACIPENSER SCHRENCKII*). – Far Eastern entomologist. 2010. N 209: 6-8.

В. С. Сидоренко, М. Б. Шедько. Случай факультативного миаза мухой *Leiomyza scatophagina* (Diptera: Asteiidae) у амурского осетра (*Acipenser schrenckii*) // Дальневосточный энтомолог. 2010. N 209. С. 6-8.

A parasitological examination of sturgeons of the family Acipenseridae caught in the lower course of the Amur River, in the vicinity of the town Nikolayevsk-on-Amur (53°06,69' N, 140°41,31' E), was performed in the framework of the agreement with the Khabarovsk branch of the Pacific Research Fisheries Center (TINRO-Center) since May 25 to June 12, 2009.

Altogether 18 sturgeons with body lengths of 41 to 136 cm were inspected. At the external examination of an Amur sturgeon (*Acipenser schrenckii*) with the body length of 40 cm by Smith (Figs 1, 2), a small wound closed with skin was found on the ventral side of the body at the base of the 8th scute of the ventral row (near the base of the right ventral fin) (Fig. 3). After dissecting the wound an imago *Leiomyza scatophagina* was extracted.



Figs. 1-4. 1 – Juvenile of Amur sturgeon, general appearance dorsally; 2 – the same, ventrally; 3 – wound at base of 8th scute; 4 – *Leiomyza scatophagina*, general appearance.

Fish were examined live right after they had been caught that excluded a probability of getting flies into tissues during the procedure. Moreover, growing of into the adult stage for one hour is impossible. Most likely, the invasion and laying took place in the aquatic environment. According to unpublished information from ichthyologists and fishermen, juvenile sturgeons, to which this specimen belonged, typically keep in shallow waters unlike adults. A slight injury of soft tissue was seen at the base of the scute that could allow the fly to put its egg.

This is most probably a case of facultative myiasis, a disease caused by invasion and activity of larval and adult arthropods in tissues and cavities of human or animal organism. Larvae's ability to exist in decomposing organic materials predetermined the development of larval parasitism in flies. Many species, for which necrophagy is more or less typical, can use not only meat and corps, but also festering wounds on a human or animal's body as a substrate for oviposition. In most of cases, larvae do not come out of the boundaries of wound and do not damage intact tissues of the host animal. They consume purulent exudate and dead tissues and actually do not differ much from their free living congeners [1].

Family Asteiidae includes about 100 species of 11 genera described in the world fauna [2]. These are minute to small (1.0-3.0 mm), delicate, often weakly sclerotised flies. Three genera and about 10 species are recorded from Russia. Two species of the genus *Asteia* Mg. are known from the Russian Far East [3]. Biology is poorly known. The European species of Asteiidae belong to two, ecologically different groups. *Asteia* species are considered to be (phyto-) saprophagous as larvae. *Leiomyza* species have mycetophagous larvae [4] developing in the sporocarps of fungi, and occur chiefly in woodlands.

***Leiomyza scatophagina* (Fallén, 1823)**
Fig. 4

Heteroneura scatophagina Fallén, 1823: 3.

MATERIAL EXAMINED. 1 ♂, vic. Nikolayevsk-on-Amur, ex. *Acipenser schrenckii*, 25.V-12.VI.2009 (M. Shedko).

DISTRIBUTION. Russia: Russian Far East (new record); Karelia. Belgium, Great Britain, Czech Republic, Franz Josef Land, Hungary, Ireland, Poland, Romania, Slovakia, Sweden, Switzerland, North Korea, Nearctic Region.

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