

## SECOND FINDING OF *SPHYRACEPHALA EUROPEA* PAPP ET FÖLDVÁRI IN EUROPE (DIPTERA: DIOPSIDAE)

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The species *Sphyracephala europea* Papp et Földvári was recorded for the first time in Serbia at the site Stari Slankamen near Belgrade in November 1999. This is the second finding of the above mentioned species in Europe, which is recently (1997) described from Hungary.

KEY WORDS: *Sphyracephala europea*, Diopsidae, Diptera, new record

Diopsidae are a very interesting group of Diptera easily recognizable by the lateral horn-like extensions tipped with compound eyes, which gave them their name "Stalk-eyed flies" (Fig. 1.). In recent European Fauna (until, 1997) there was no registered presence of any species of this family, which normally inhabits tropical and subtropical regions of Africa and Asia. The only genus, which is spread outside of the above mentioned regions, is *Sphyracephala* (Say) 1917 with Holarctic relict distribution (HENNIG, 1941). The genus *Sphyracephala* includes 7 species of which the following are established in the Palearctic: *Sph. babajanidesi* Zaitcev, 1919 (Azerbaijan); *Sph. nigrimana* Loew, 1873 (Manchuria) and *Sph. beccarii* (Rondani) 1873 in several African localities (STYSKAL, 1972).

On the November 2, 1999 at Stari Slankamen at the Danube, about 2 km northern from the mouth of the river Tisza (Fig. 2.) we came upon a perfectly still, packed swarm of tiny insects on the completely naked, dried, high bank of loess. Disturbed by our presence, numerous flies of strange

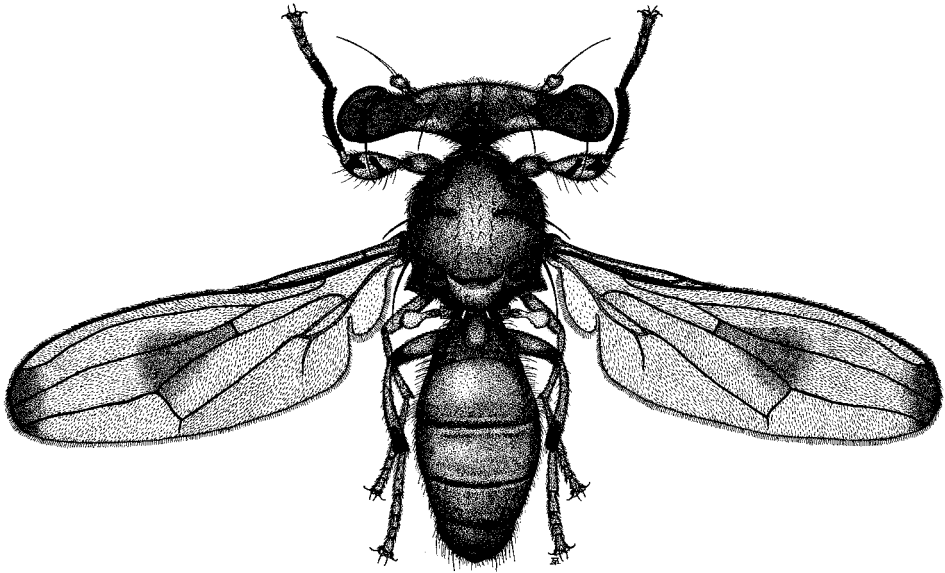


Fig. 1. *Sphyracephala europea* Papp et Földvári, male.

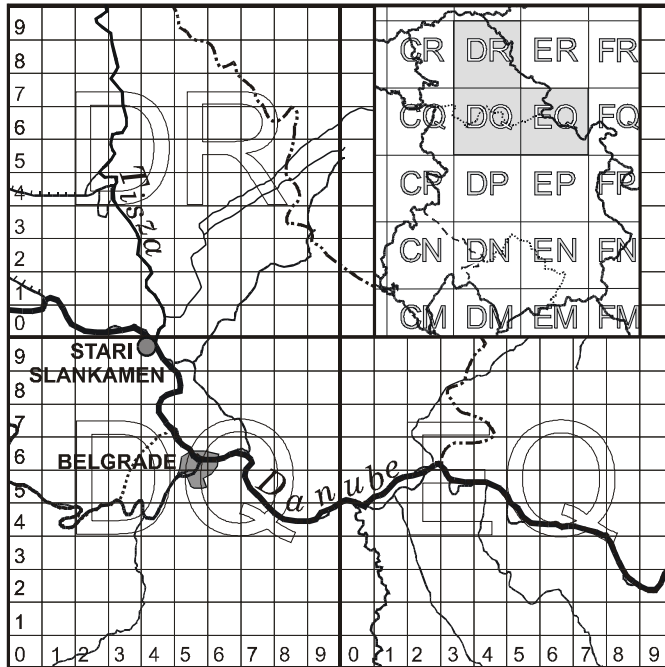
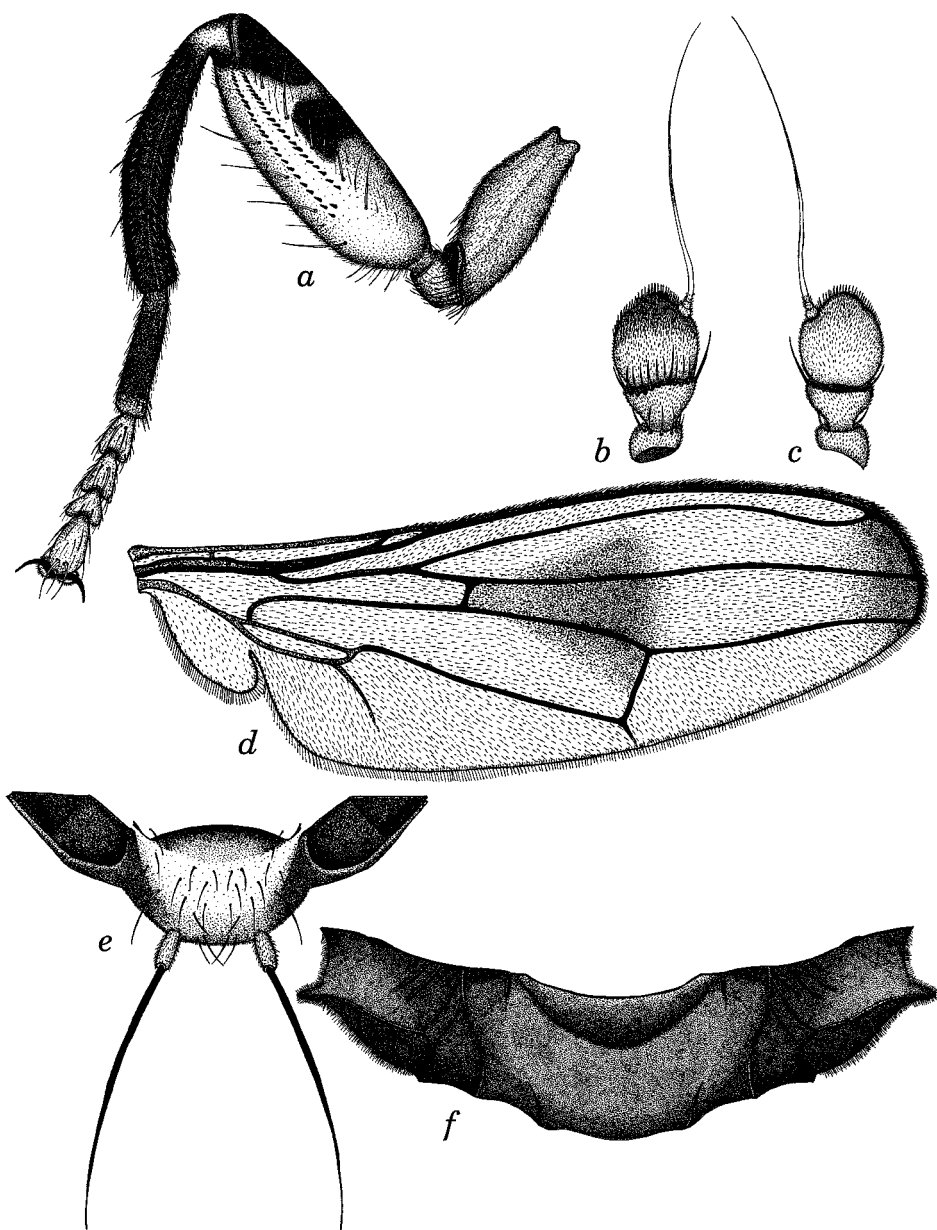
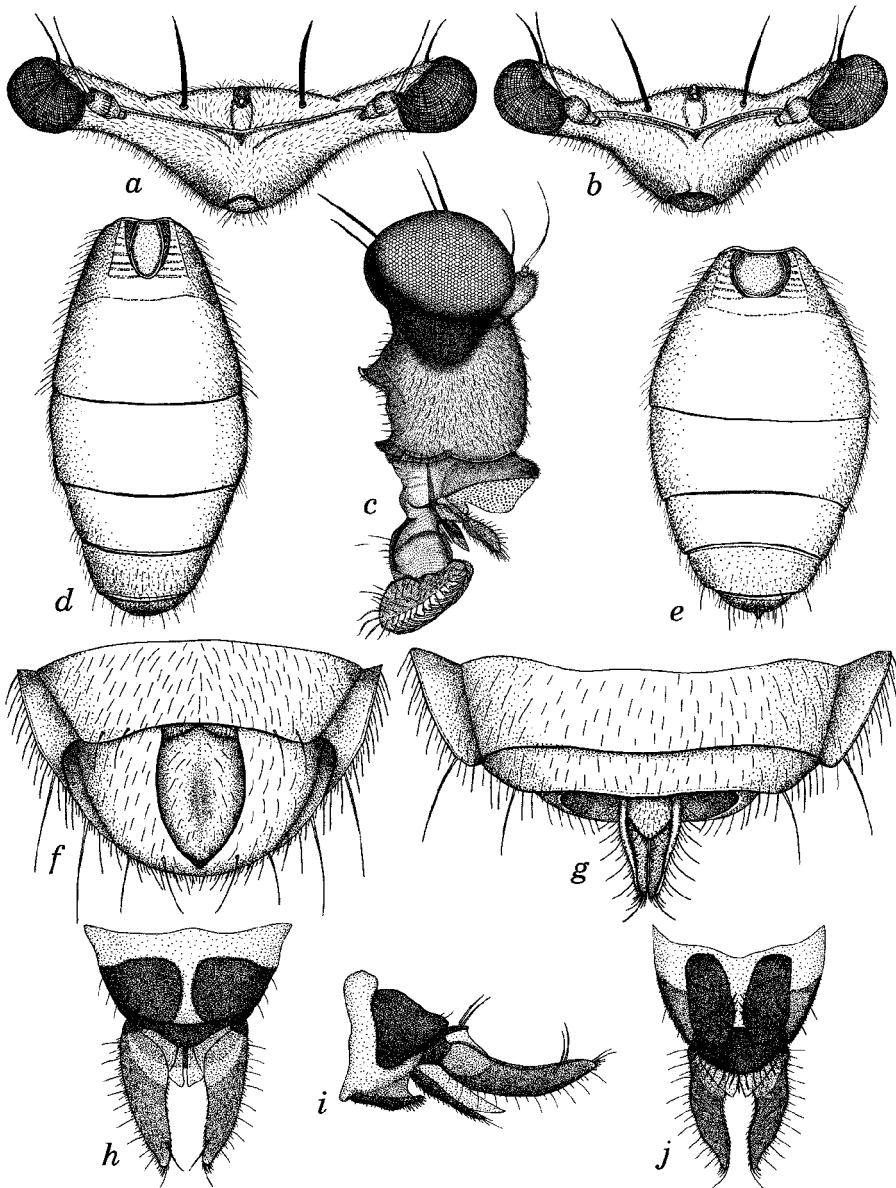


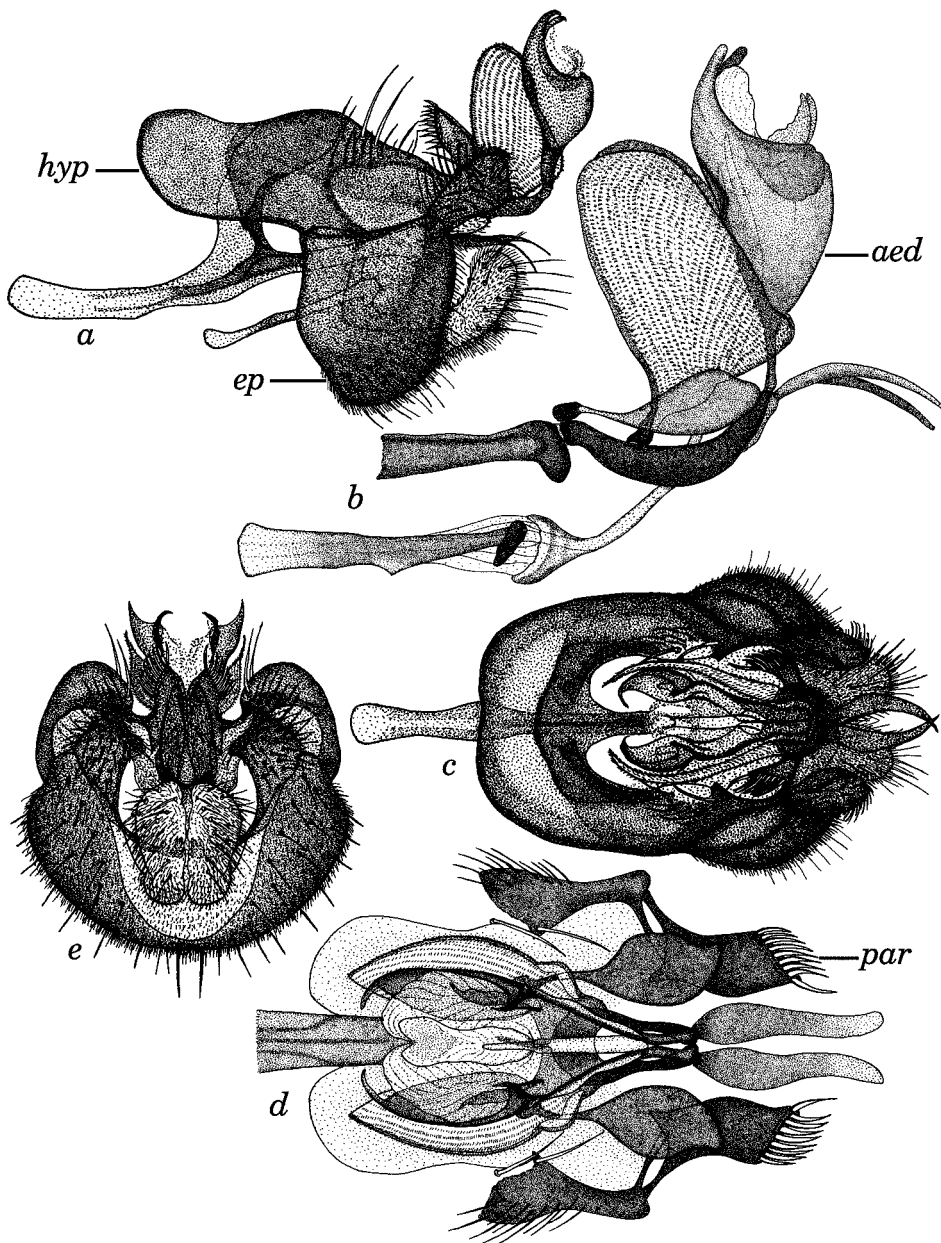
Fig. 2. UTM Map showing the position of site where the specimens of *Sphyracephala europea* Papp et Földvári have been collected.



**Fig. 3.** *Sphyracephala europea* Papp et Földvári: a. fore leg; b. external aspect of right antenna; c. internal aspect of right antenna; d. wing; e. scutellum; f. postscutellum and metanotum.



**Fig. 4.** *Sphyracephala europea* Papp et Földvári: a. male head, frontal; b. female head, frontal; c. male head, lateral with mouthparts of the piercing-sucking type with labellum; d. male gaster, dorsal; e. female gaster, dorsal; f. apex of male gaster, ventral; g. apex of female gaster, ventral; h. female terminalia, dorsal; i. female terminalia, lateral; j. female terminalia, ventral.



**Fig. 5.** *Sphyracephala europea* Papp et Földvári: a. hypopygium, lateral; b. aedeagal complex, lateral; c. hypopygium, ventral; d. magnified parts of genital complex; e. hypopygium caudal view; hyp. hypandrium; ep. epandrium; aed. aedeagus; par. paramera.

Table I  
Several statistical data of measurements (in mm) and ratios of *Sphyracephala europaea*  
Papp et Földvári.

	FEMALES (n = 35)				MALES (n = 38)			
	min	max	average	standard deviation	min	max	average	standard deviation
Lenght of body	3325	4375	3923.6	284.8	3150	4125	3689.1	226.5
Width of head	1675	2275	2048	161.8	1750	2825	2211.3	229.6
Heigh of head	675	1000	864.3	79.1	625	900	795.1	53
Ratio width/height of head	2.2	2.57	2.37	0.09	2.52	3.23	2.78	0.16
Lenght of inner vertical bristle (VTI)	350	575	474.1	43.8	412.5	537.5	452.6	31.7
Lenght of exterior vertical bristle (VTE)	200	425	349.3	49.7	275	387.5	335.2	29.9
Lenght of arista	375	500	452.2	33.8	387.5	525	438.5	29.2
Lenght of thorax	1150	1700	1426.4	121.9	1025	1500	1332.6	97.8
Width of thorax	950	1425	1218.9	112.5	975	1300	1146.8	76.9
Lenght of notopleural bristle	200	362.5	295.4	39.8	250	350	287.2	27.3
Lenght of postalar bristle	425	875	691.1	84.2	550	750	653.9	54.1
Lenght of scutellum	237.5	375	307.1	30.5	237.5	350	292.8	26.4
Lenght protuberances of seta scutellaris apicolateralis	100	150	129.3	16.9	100	150	117.9	13.7
Lenght bristles of seta scutellaris apicolateralis	575	800	683.3	60.9	525	750	644.9	48.6
Lenght of wing	2925	3875	3433.2	248.6	2850	3600	3199.3	183.9
Width of wing	950	1200	1070	72.5	900	1213	1026	66.4
Ratio lenght/wide of wing	3	3.42	3.21	0.11	2.94	3.28	3.12	0.08
Lenght scabellum of haltere	100	100	126.1	10.6	100	150	125.3	12.8
Lenght pedicel of haltere	100	175	136.8	16.3	100	175	135.2	16.7
Lenght capitellum of haltere	175	250	219.3	22.8	162.5	250	206.8	23.8
Lenght coxa of fore leg	400	625	533.2	46.1	412.5	600	507.9	41.2
Lenght trochanter of fore leg	100	250	170	33.7	120.5	164.1	200	20.8
Lenght femur of fore leg	725	1100	926.8	93	725	1025	870.4	65.8

Table I (cont.)

	FEMALES (n = 35)				MALES (n = 38)			
	min	max	average	standard deviation	min	max	average	standard deviation
Lenght tibia of fore leg	625	875	748.2	66.4	600	800	726.6	52.1
Lenght tarsus of fore leg	650	650	791.4	64.2	675	862.5	764.1	53.1
Lenght metatarsus of fore leg	275	425	349.6	37.4	300	480	347.2	36.6
Lenght of abdomen	1605	2250	1983.6	132.1	1550	2125	1901.3	123.4
Width of abdomen	962.5	1375	1190.6	109.3	875	1175	1018.4	70
Ratio lenght/width of abdomen	1.51	2.02	1.67	0.11	1.65	2.16	1.87	0.09
Lenght of 1+2 tergum abdomen	700	1025	899.6	80.6	675	1050	896.7	76.3
Ratio lenght 1+2 tergum/lenght abdomen	0.37	0.5	0.45	0.03	0.375	0.54	0.47	0.03
Lenght of cercus	100	200	139.3	21.3	-	-	-	-

appearance started to fly about. Later we established that they belong to the family Diopsidae (Diptera: Acalyptratae).

This discovery was very unusual, since the members of this family are characteristic for tropical and subtropical regions, but at the same time the finding was not entirely implausible since their presence has been noted in Baltic amber (HENNIG, 1965). We suspected that autochthonous relict species is in question.

Thanks to Prof. dr. G. Nonveiller, we learned that in neighbouring Hungary a new species of Diopsidae, *Sphyracephala europea* was recently described (PAPP, FÖLDVÁRI & PAULOVIĆ, 1977).

Comparing the individuals we caught (44 ♂♂ and 37 ♀♀) with the description by the above mentioned authors we concluded that they belong to a recently described species *Sphyracephala europea*. Observed minor differences in size (Tab. I) and colours are most likely the result of variability among individuals we caught. Certain differences noted in the shape of female terminalia (Fig. 4.g. – 4.j.) and hypopygium (Fig. 5.) are probably caused by different viewing angles and subjectivity in presentation morphological characters (Figs. 3. – 5.).

We find very interesting that the specimens of *Sph. europea* were

caught within a very short time period (1996. - 1999.) in two countries (Hungary and Serbia) in very similar locations on two rivers Maros and Danube with only about 120 km distance between the two. In both locations the flies were seen for the first time in the fall (October 1996, and November 1999 respectively). They formed a large group of tightly nestled individuals creating a dark stain-like formation on a high bank of loess. The swarm contained few thousands of males and females approximately in equal number.

According to the structure of the mouthparts (Fig. 4.c.) and fore legs (Fig. 3.a.) the adults are ravenous.

The biology of this species, as well as many other Diopsidae-species is unknown and will be the subject of further study.

REFERENCES - HENNING, W. 1941. 39c Diopsidae. In: LINDNER, E. (eds.): *Fliegen der palaearktischen Region*, 5 (7), Lieferung 143, pp. 1-8.; HENNING, W. 1965. Die Acalyptratae des Baltischen Bernsteins. *Stuttg. Beitr. Naturkunde*, No 145: pp. 54-64.; STEYSKAL, G. 1972. A catalog of species and key to the genera of the family Diopsidae (Diptera: Acalyptratae). *Stuttg. Beitr. Naturkunde*, No 234: 1-21.; PAPP, L., M. FÖLDVÁRI & P. PAULOVIĆ 1997. *Sphyracephala europea* sp. n. (Diptera: Diopsidae) from Hungary represents a family new to Europe. *Folia ent. hung.* 58: 137-146.;

## ДРУГИ НАЛАЗ *SPHYRACEPHALA EUROPEA* PAPP ET FÖLDVÁRI У ЕВРОПИ (DIPTERA: DIOPSIDAE)

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### И з в о д

Diopsidae су врло интересантни двокрилци који се лако познају по бочним продужецима главе на чијем се врху налазе сложене очи због чега су добиле назив "дршкастооке муве". Распрострањене су углавном у тропским и субтропским областима Африке и Азије осим рода *Sphyracephala* (Say) који се једино среће ван наведених области. Први пут фамилија Diopsidae је забележена у Европи 1997. године када је из Мађарске описана нова врста *Sphyracephala europea* Papp et Földvári.



Новембра 1999. године на голој, стрмој, готово вертикалној обали Дунава од леса код Старог Сланкамена, око 2 км узводно од ушћа Тисе у Дунав, пронађен је велики рој од неколико хиљада, густо збијених јединки необичних двокрилаца за које се касније утврдило да припадају врсти *Sphyracephala europea*. Том приликом прикупљено је укупно 81 примерак (44 ♂♂ и 37 ♀♀). Морфометријске карактеристике приказане су у Таб. I. Мала варирања у обојености и величини вероватно су резултат индивидуалне варијабилности. Разлике у грађи легалице и хипопига настале су услед субјективности у посматрању и приказивању основних морфолошких карактеристика, због чега су у овом раду детаљније приказани.

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