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The spider fauna of Russia and other post-Soviet republics: a 2000 update

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Abstract
A brief review of the recent version (July 2000) of the *Catalogue of the spiders of the territories of the former Soviet Union* is provided. Calculations of species numbers are given for post-Soviet republics and physiographical areas, mostly in comparison with 1996 and earlier data. Totally, 2824 spider species belonging to 512 genera and 49 families are known from the former Soviet Union.

Key words: spiders, catalogue, faunistics, Russia, former Soviet Union

INTRODUCTION

The basic catalogue of spiders of the former Soviet Union (FSU) (Mikhailov 1997) - followed by three annual additions (Mikhailov 1998, 1999, 2000) - covers all literature data since the 18th century till July 2000. The last calculation of species numbers in the post-Soviet republics and main physiographical areas was made in 1996 (Mikhailov 1997).

The aim of this paper is to provide recent calculations (July 2000) of the numbers of spider taxa and to reflect changes in the knowledge of the FSU spiders, based on the aforementioned catalogue.

RESULTS

Until now, 2824 spider species belonging to 512 genera and 49 families have been reported from the FSU territories (Table 1). Since the 1996 evaluation, the main increase in species composition is recorded in Salticidae (+41 species), then successively in Linyphiidae (+23), Agelenidae (+9), Theridiidae (+7), Gnaphosidae and Dictynidae (+6 each). During 1989-1996, the increase of species number was 510, or approximately 73 species annually. In 1996-2000, the respective indices are 130 and 33. Nevertheless, my estimation of the richness of the total FSU spider fauna remains as 3400-3500 species. The reason of a certain delay in the FSU spider study is connected with a decline of activity of Russian and especially other post-Soviet arachnologists, mainly in Linyphiidae (+28 species annually in 1989-1996 vs. +ca.6 in 1996-2000).

Main spider families are treated here (Tables 2 & 3) as being represented by 1.5% or more of the whole FSU species number. As earlier, Linyphiidae shows the highest diversity in species and genera in the FSU (Table 2). An enormous increase of generic diversity in Linyphiidae in 1996-2000 (+24 genera vs. +23 species) is a consequence of splitting in this family, especially in the former genus *Lepthyphantes*. The second place of Salticidae (instead of Gnaphosidae in 1996) was already predicted (Mikhailov 1997).

Analysis of the spider fauna of the post-Soviet republics (Table 3) reveals almost the same relations as in 1996: Russia supports the highest diversity, followed by Ukraine, Ka-

Table 1. Genus/species composition of spider families known from the FSU territories in July 2000 (comparative data of 1996–1989 are given in brackets).

Family	No. of genera			No. of species		
	2000	1996	1989	2000	1996	1989
Atypidae	1	1	1	5	4	2
Ctenizidae	2	2	2	3	3	3
Dipluridae	1	1	1	1	1	1
Nemesiidae	2	2	3	11	11	10
Filistatidae	4	4	1	7	7	6
Sicariidae	1	1	1	1	1	1
Scytodidae	2	2	1	5	5	2
Leptonetidae	1	1	0	1	1	0
Pholcidae	6	5	5	18	16	15
Segestriidae	1	1	1	4	4	4
Dysderidae	6	6	4	91	90	51
Oonopidae	2	2	2	3	3	2
Palpimanidae	1	1	1	2	3	3
Mimetidae	2	2	2	6	6	6
Eresidae	2	2	2	6	6	6
Oecobiidae	4	4	5	7	7	8
Hersiliidae	1	1	1	3	3	3
Uloboridae	4	4	4	6	6	6
Nesticidae	4	3	3	13	12	10
Theridiidae	22	18	17	132	125	116
Theridiosomatidae	1	1	1	2	2	2
Linyphiidae	237	213	153	873	850	654
Tetragnathidae	7	7	8	43	43	30
Araneidae	18	18	12	113	108	114
Lycosidae	17	17	14	263	247	210
Pisauridae	3	3	3	12	12	12
Agelenidae	12	7	4	54	45	44
Cybaeidae	1	1	1	6	6	3
Argyronetidae	1	1	1	1	1	1
Desidae	1	1	1	6	6	3
Hahniidae	5	5	4	17	17	10
Dictynidae	14	14	8	59	53	49
Amaurobiidae	3	3	2	8	8	9
Titanoecidae	2	2	2	19	21	13
Zoropsidae	1	1	1	1	1	1
Oxyopidae	1	1	1	7	7	6
Anyphaenidae	2	3	2	4	4	5
Liocranidae	7	7	4	29	24	19
Clubionidae	2	2	2	99	98	83
Corinnidae	3	3	4	5	4	5
Zodariidae	3	3	3	23	23	23
Cithaeronidae	1	1	0	1	1	0
Prodidomidae	2	2	1	2	2	1
Gnaphosidae	28	28	23	294	286	206
Zoridae	1	1	1	7	7	6
Heteropodidae	3	3	3	5	5	5
Philodromidae	6	6	4	74	73	61
Thomisidae	16	16	17	168	164	146
Salticidae	45	41	38	307	266	211
TOTAL 49 families	512	474	375	2827	2698	2187

zakhstan, and Azerbaijan. Spider faunas of Lithuania, Moldavia and Armenia are not sufficiently studied. The main increase in species richness is recorded in Georgia (+130 species), Kirghizia (+106) and Russia (+100). The last index can be explained by the immense territory under study, whereas the first two derive from the revision of Georgian spiders (Mkheidze 1997) and a check-list made in Kirghizia (Zonshtein et al. 1996). In addition, the spider study in Russia declines only minimally compared to the other post-Soviet republics.

Among physiographical areas (Fig. 1, Table 4), the most diverse in spiders are the Russian Plain, the mountains of South Siberia, the Caucasus, and the mountains of Middle Asia. The main increases in species number during the last five years are reported from West Siberia, mountains of South Siberia, Fennoscandia, the Caucasus, the Urals, and the mountains of Middle Asia (+114, +99, +87, +82, +67, and +60 species, respectively). The first index owes several contributions to the faunas of Tuva, the Altais, and Transbaikalia. Numerous doubtful records (not entered) are peculiar to the Carpathians. Adding them, the whole species diversity will be 540, not 428 species as indicated in Table 4!

Table 2. Genus/species composition of main spider families in the FSU territories in July 2000 (in %) (comparative data of 1996 are given in brackets).

Family	% of genera		% of species	
Linyphiidae	46.3	(45.1)	30.9	(31.6)
Salticidae	8.8	(8.7)	10.9	(9.9)
Gnaphosidae	5.5	(5.9)	10.4	(10.6)
Lycosidae	3.3	(3.6)	9.3	(9.2)
Thomisidae	3.1	(3.4)	6.0	(6.1)
Theridiidae	4.3	(3.8)	4.7	(4.7)
Araneidae	3.5	(3.8)	4.0	(4.0)
Clubionidae	0.4	(0.4)	3.5	(3.6)
Dysderidae	1.2	(1.3)	3.2	(3.3)
Philodromidae	1.2	(1.3)	2.6	(2.6)
Dictynidae	2.7	(3.0)	2.1	(2.0)
Agelenidae	2.3	(1.5)	1.9	(1.7)
Tetragnathidae	1.4	(1.5)	1.5	(1.6)

Table 3. Species composition of main spider families in the post-Soviet republics in July 2000 (in %) (comparative data of 1996 are given in brackets). Abbreviations: Li - Linyphiidae, Sa - Salticidae, Gn - Gnaphosidae, Ly - Lycosidae, To - Thomisidae, Te - Theridiidae, Ar - Araneidae, Cl - Clubionidae, Dy - Dysderidae, Ph - Philodromidae.

Republic	Li	Sa	Gn	Ly	To	Te	Ar	Cl	Dy	Ph	Total species		Total families	
Russia	37.4	9.0	9.1	9.7	5.6	5.2	7.1	4.4	0.8	3.1	1974	(1874)	37	(37)
Estonia	39.9	6.9	6.9	9.2	4.5	7.5	5.7	3.9	0	2.6	509	(506)	25	(25)
Latvia	35.6	8.0	8.5	10.7	4.7	8.0	7.5	4.2	0	3.0	402	(401)	22	(21)
Lithuania	26.2	5.5	7.8	14.0	6.3	6.3	9.6	6.6	0.4	3.7	271	(241)	22	(21)
Byelorussia	35.4	7.0	6.1	9.5	6.3	8.0	7.5	4.6	0	2.9	412	(383)	26	(26)
Ukraine	27.2	8.6	9.8	9.2	5.7	7.8	5.8	3.6	1.9	3.0	830	(808)	37	(37)
Moldavia	19.2	7.2	6.9	11.0	10.6	7.9	7.9	5.8	2.4	2.7	292	(291)	29	(29)
Georgia	18.2	8.8	5.0	9.7	9.7	7.2	8.8	3.7	7.3	3.1	456	(326)	37	(34)
Azerbaijan	15.9	15.4	9.8	8.6	7.5	8.4	5.9	3.9	5.0	2.9	559	(500)	37	(36)
Armenia	29.1	12.6	7.9	3.2	8.7	2.4	7.1	7.1	7.9	4.7	127	(118)	19	(19)
Kazakhstan	17.0	19.2	14.1	9.7	8.2	5.0	5.8	3.2	0.3	4.2	719	(679)	34	(34)
Uzbekistan	8.7	17.5	10.7	9.1	11.3	5.8	8.1	3.6	1.0	5.2	309	(290)	33	(33)
Turkmenia	9.0	23.6	14.3	6.4	8.2	4.0	6.1	1.6	2.9	2.7	377	(353)	38	(39)
Kirghizia	21.8	18.1	11.2	5.0	8.2	6.5	7.5	1.7	1.1	2.8	464	(358)	31	(29)
Tajikistan	8.4	19.7	11.6	10.0	10.3	6.1	5.5	1.9	2.3	4.5	310	(293)	34	(34)

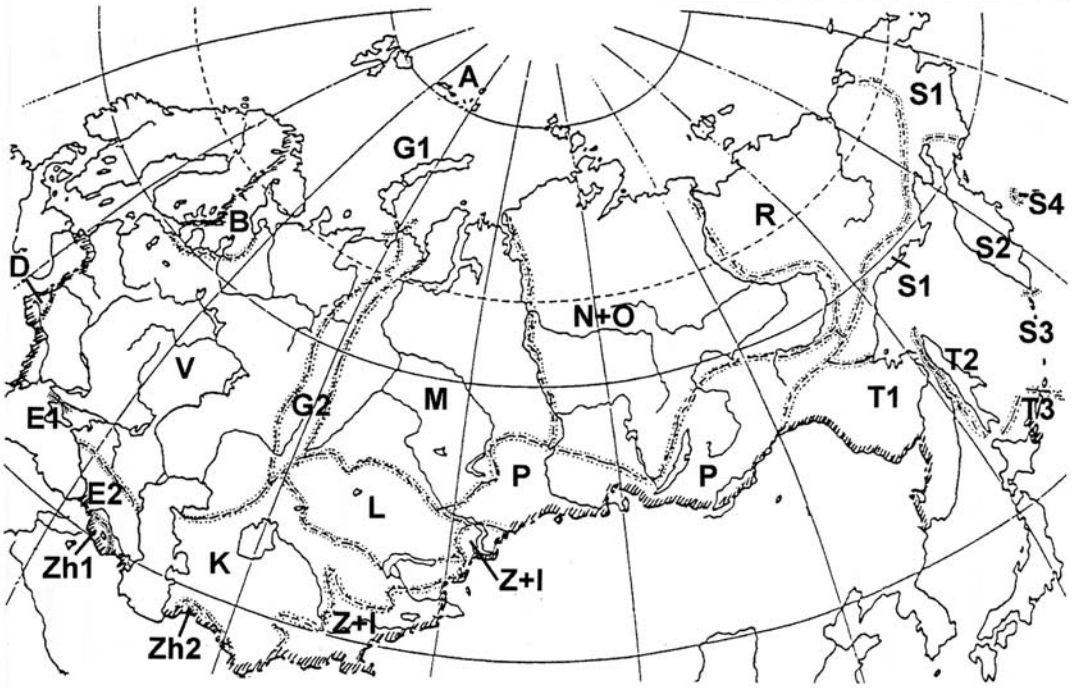

Fig. 1. Physiographical areas of the FSU. Abbreviations see Table 4.

Table 4. Spider families/species composition in the FSU physiographical areas in July 2000 (in %) (comparative data of 1996-1989 are given in brackets). Abbreviations: Li - Linyphiidae, Sa - Salticidae, Gn - Gnaphosidae, Ly - Lycosidae, To - Thomisidae, Te - Theridiidae, Ar - Araneidae, Cl - Clubionidae, Dy - Dysderidae, Ph - Philodromidae.

Code	Area	Li	Sa	Gn	Ly	To	Te	Ar	Cl	Dy	Ph	Total species		Total families	
A	Atlantic-Arctic area	100	-	-	-	-	-	-	-	-	-	2	(1-1)	1	(1-1)
B	Fennoscandia	40.5	7.0	7.6	9.5	4.1	7.8	6.4	3.2	0	2.5	516	(429-385)	26	(25-23)
V	Russian Plain	31.2	9.0	11.5	8.6	5.5	7.1	5.1	3.3	1.1	3.2	1026	(1001-936)	36	(35-36)
G1	Novaya Zemlya	85.7	-	4.8	-	-	4.8	-	-	-	-	21	(21)	4	(4)
G2	Urals	36.5	7.9	8.7	9.2	6.1	7.2	4.9	3.2	-	3.2	750	(683)	26	(24)
D	Carpathians	21.0	9.1	5.1	11.7	6.8	8.6	9.1	5.1	0.9	2.8	428	(421-435)	34	(34-35)
E1	Crimea	10.8	12.9	10.2	10.2	10.2	8.5	9.1	4.1	3.8	2.9	342	(311-308)	31	(31-31)
E2	Caucasus	19.7	12.2	10.1	9.2	7.3	6.6	5.5	3.5	6.7	2.8	834	(752)	40	(40)
Zh1	Armenian Upland	28.2	14.1	9.6	3.0	8.2	2.2	5.9	7.4	8.2	4.4	135	(127)	19	(19)
Zh2	Kopetdagh Mts.	8.3	19.6	13.8	4.6	10.4	5.4	5.8	2.5	2.1	2.9	240	(221)	36	(37)
Z+I	Mountains of Middle Asia	19.5	17.2	13.1	7.9	7.9	5.5	6.2	2.5	1.0	3.2	833	(773)	38	(40)
K	Deserts of Middle Asia	6.5	26.3	16.0	6.5	8.3	4.7	5.0	2.4	2.4	4.4	338	(318-291)	34	(35-37)
L	Kazakhstan hills	2.8	20.3	18.2	9.1	11.9	4.2	11.2	3.5	-	9.8	143	(129-103)	18	(18-15)
M	West Siberia	37.6	10.3	6.5	12.1	6.5	5.4	7.0	2.9	-	4.0	554	(440-243)	22	(21-21)
N+O	Middle Siberia	49.2	6.8	6.3	9.5	5.8	5.0	4.3	2.8	-	3.6	634	(624-532)	22	(22-24)
P	Mountains of South Siberia	31.9	10.6	11.8	12.4	6.5	5.4	4.8	3.5	-	4.8	912	(813-436)	24	(24-23)
R	Northeastern Siberia	57.2	6.3	6.8	7.1	3.8	4.5	3.5	1.8	-	3.3	397	(395-277)	17	(17-16)
S1	Continental Far North-East	59.5	4.8	5.3	7.0	2.9	3.9	3.9	2.4	-	2.9	415	(411)	18	(17)
S2	Kamchatka	51.7	2.2	3.9	11.0	3.9	5.0	5.5	3.9	-	3.9	182	(184)	15	(15)
S3	N-Kuriles	70.0	5.0	1.7	8.3	-	5.0	1.7	5.0	-	3.3	60	(54)	8	(7)
S4	Commander Islands	75.0	-	-	10.0	-	10.0	-	-	-	-	20	(19)	4	(3)
T1	Continental southern Far East	31.1	11.1	5.0	8.1	6.7	5.7	8.7	7.8	-	3.7	566	(507)	28	(25)
T2	Sakhalin	48.8	6.5	3.6	4.1	6.2	4.7	6.5	6.8	-	3.3	338	(343)	20	(20)
T3	S-Kuriles	32.2	12.8	3.4	6.0	8.7	7.4	6.0	7.4	-	4.7	149	(144)	18	(18)

A small decrease in the number of spider families in some Middle Asian areas and republics derives from the entering of only identified and described species in 2000, whereas in 1996 several indications of undescribed species were counted as well (see footnotes in Mikhailov 1997).

A greater part of linyphiids is peculiar to boreal, arctic, and northern island zones (A, G1, S4, S3, S1, R, S2, N+O, T2, B). Salticids dominate only in southern, mainly arid areas (K, L, Zh2, E1).

The above data make it obvious that a faunistic study of spiders of Russia and the FSU is not complete.

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