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SPECIES DIVERSITY AND ECOLOGICAL STRUCTURE OF ROVE BEETLE ASSOCIATIONS (COLEOPTERA, STAPHYLINIDAE) IN THE WETLAND COMPLEX OF LAKE DRISVIATY

Staphylinid species diversity has been studied in different habitats in the water protection zone of Lake Drisviaty and in the floodplains of the adjacent rivers. Totally 67 rove beetle species were collected in different wetland ecosystems. Three staphylinid species were recorded for the first time for the territory of Belarus. Some rare rove beetle species were also collected during the study. The beetle association's dominance structure, the life form spectrum and beetle association's structure according to habitats preference and hygropreferendum have been studied. The observed life form spectra reflect the area's peculiar features and are typical for waterlogged habitats in floodplain fens. Forest and wetland staphylinid groups prevail in the ecological group spectra in forest and open biotopes, correspondingly.

Key words: Staphylinidae, species diversity, ecological structure, wetlands, Lake Drisviaty, Belarus.
Table 2. Fig. 3. Ref.: 6 titles.

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ВИДОВОЕ РАЗНООБРАЗИЕ И ЭКОЛОГИЧЕСКАЯ СТРУКТУРА КОМПЛЕКСОВ СТАФИЛИНИД (COLEOPTERA, STAPHYLINIDAE) ВОДНО-БОЛОТНОГО УГОДЬЯ ОЗЕРА ДРИСВЯТЫ

Видовое разнообразие стафилинид было исследовано в различных местообитаниях в водоохранной зоне озера Дрисвяты и в поймах прилегающих рек. Всего было собрано 67 видов стафилинид в разных водно-болотных экосистемах. Три вида стафилинид впервые отмечены для территории Беларуси. Также некоторые редкие виды были собраны во время проведения исследований. Проанализированы доминантная структура комплексов стафилинид, спектр жизненных форм, структура комплексов жуков по биотопической приуроченности и гигропреферендуму. Выявленный спектр жизненных форм отражает основные черты территории и типичен для переувлажнённых местообитаний на пойменных болотах. Лесная и болотная экологические группы стафилинид преобладают в спектре экологических групп в лесных и открытых биотопах соответственно.

Ключевые слова: Staphylinidae, видовое разнообразие, экологическая структура, водно-болотные угодья, озеро Дрисвяты, Беларусь.
Табл. 2. Рис. 3. Библиогр.: 6 назв.

Introduction. Lake Drisviaty, a wetland complex of international importance, occupies the area of more than 6 600 ha. The Belarusian part of the wetland complex includes Lake Drisviaty, floodplains of the largest adjacent rivers Drisviata and Richyanka, the water protection zone of the Lake and large islands in the Lake. This territory includes diverse forest, meadow and mire ecosystems and is characterized by high insect diversity. Birch and black alder communities and fens are prevailing in the landscape. The site is a good example of a natural or moderately transformed wetland complex characteristic of the Eastern Baltic region.

Rove beetles (Staphylinidae) is one of the most abundant and diverse groups of the herpetobiontic beetles in wetlands. Staphylinid species diversity in the region is still poorly known. Such data are needed to identify the key insect habitats, to develop the actions for their protection and for sustainable management.

Material and methods. The study is carried out in the forest and open ecosystems on the banks of Lake Drisviaty and in the floodplains of the Drisviata and Richyanka Rivers. The insects were collected by means of soil trapping from the 7 September to the 2 October 2006 in the following habitats (Figure 1), marked by the corresponding numbers in the tables and in the figures (the nomenclature of the plant associations is cited following I.M. Stepanovich [1]):

1 — black alder forest on the bank of the lake, the fen *Carici elongatae — Alnetum glutinosae* association, 55°37'3"N — 26°39'12"E;

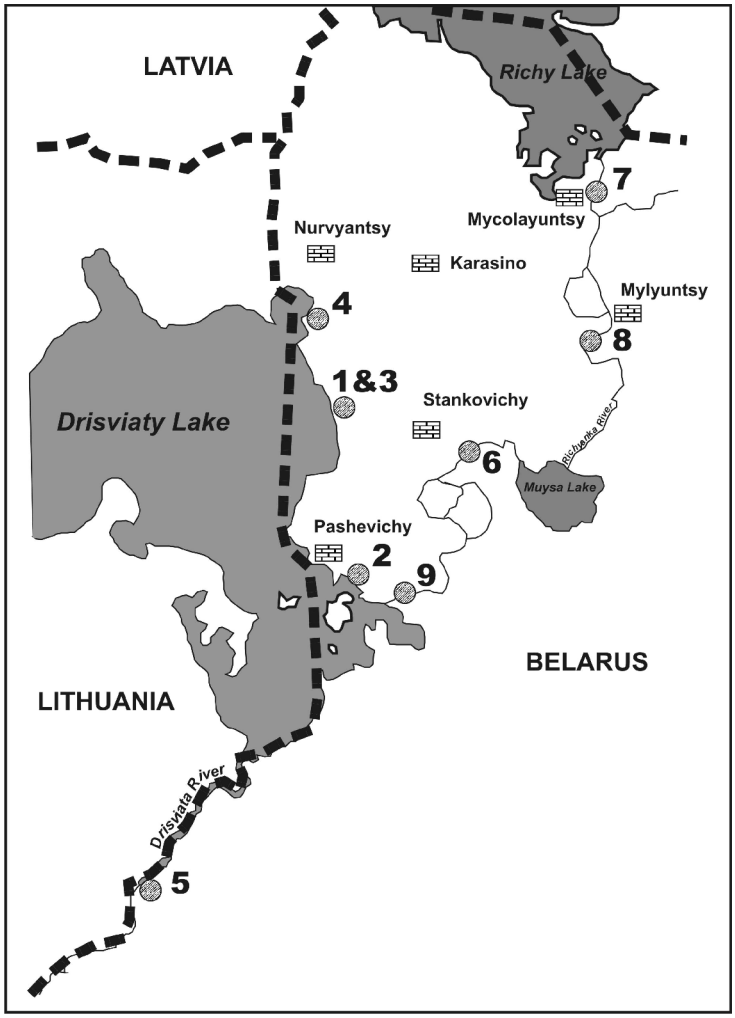

Figure 1. — The scheme of the region of study with the sites of trap locations (indicated by circles)

Рисунок 1. — Схема региона исследований с местами установки ловушек (обозначены кружками)

2 — pine forest on the bank of the lake, dominant associations — *Pyrolo-Pinetum* and *Pleurozio schreberi-Pinetum*, 55°38'27"N — 26°38'39"E;

3 — mesophytic meadow — *Festucetum rubrae* association, 55°37'3"N — 26°39'1"E;

4 — fen on the bank of the lake, dominant associations — *Phragmitetum communis* and *Caricetum lasiocarpae*, 55°38'58"N — 26°38'39"E;

5 — fen in the Drisviata River floodplain, dominant associations — *Caricetum elatae*, *Equisetetum limosi* and *Caricetum distichae*, 55°32'77"N — 26°35'33"E;

6 — fen in the lower Richyanka River floodplain, dominant associations — *Caricetum elatae*, *Phragmitetum communis* and *Caricetum lasiocarpae*, 55°36'33"N — 26°41'33"E;

7 — fen in the upper Richyanka River floodplain, dominant associations — *Caricetum lasiocarpae* and *Caricetum elatae*, 55°4'12"N — 26°43'58"E;

8 — black alder forest in the Middle Richyanka River floodplain, *Urtice-Alnetum glutinosae* association, 55°38'4"N — 26°43'49"E;

9 — fen in the Richyanka River mouth, dominant association — *Salicetum pentandro-cinereae*, 55°35'58"N — 26°4'22"E.

Plastic cups with an opening diameter of 72 mm and a volume of 250 ml were used as pitfall traps. A formalin mixture (4%) was used as a fixing agent. The cups were filled by formalin up to $^1/_3$. At each site, 15 cupswere arranged along the random rectilinear transect 5 m apart.

The following classes of beetle abundance were determined to estimate the association dominance structure: dominants — species with abundance more than 5%; subdominants — abundance from 2 to 5%; recedents — abundance from 1 to 2%; subrecedents — abundance less than 1% [2].

The life form spectrum was determined according to J. Boháč's system [3—4] with some modifications. The species were divided into groups according to habitats preference and hygropreferendum with the use of data from Central Europe [5] and the author's own observations.

Results and discussion. Totally 67 rove beetle species were collected in the wetland ecosystems of Lake Drisviaty (Table 1). In the coastal biocenoses, the most diverse beetle species composition was observed in the mesophytic meadow (site 3) where 21 species were found. The poorest in the species number was the fen at site 4, where only 1 specimen of the single species *Olophrum consimile* was found. Staphylinid species compositions were quite different at every site. *Acrotona fungi*, *Ischnosoma splendidum*, *Anthobium atrocephalum* and *Drusilla canaliculata* were recorded in all studied biocenoses.

Three rove beetle species were recorded for the first time in the Belarusian territory — *Sunius melanocephalus*, *Mycetoporus forticornis* and *Trichiusa immigrata*. One male of the first species, one female each of the second and the third species were found at site 3. *Sunius melanocephalus* and *Mycetoporus forticornis* prefer soils rich in humus. They are common in dry habitats including meadows and fields, on the borders of ecosystems. The mesophytic meadow is a very typical habitat for them. *Trichiusa immigrata* is an immigrant from North America. It was recorded for the first time in Europe, in Germany, in 1975 and is known to be distributed across all Europe including Scandinavia. The species inhabit composts and dung.

Some rare rove beetle species were also collected during the study. The record of *Encephalus complicans* is the second in the Belarusian territory. This species was recorded for the first time near Vitebsk in 1989 [6]. Only one specimen was collected at site 3. The species is rare, and usually single specimens are recorded in collections. It inhabits herbal and sedge tussocks of wet meadows. *Acylophorus glaberrimus* was found in the fen in the Drisviata River floodplain (site 5). So far, it has been recorded in Belarus in Vitebsk Region only. The species is stenoecic inhabitant of bogs and fens and is rare in collections. *Lordithon pulchellus* is a rare species, too. It has been found more often in the Belarusian Polesye being a stenoecic inhabitant of fungi, mostly in floodplain forests. Sometimes, this species can be found in open deciduous forests and parks. We discovered this species in the Middle Richyanka River floodplain (site 8), which is the most appropriate habitat for it (i.e., black alder forest of the park type with admixture of maple, birch and other kinds of trees, with numerous mushrooms). Only one specimen was collected.

The compositions of dominants as well as general species compositions were considerably different at all sites. In the black alder forest on the lake bank (site 1) only 8 species were found, with *Aleochara brevipennis*,

T a b l e 1. — Species composition and abundance (%) of the staphylinid beetles in the studied habitats in the wetland complex of Lake Drisviaty (explanation see in the text)

T a б л и ц a 1. — Видовой состав и обилие (%) жуков стафилинид в исследованных местообитаниях в водно-болотных угодьях озера Дрисвяты (обозначения *см.* в тексте статьи)

Species	Sites								
	1	2	3	4	5	6	7	8	9
Philonthus decorus (Grav.)	—	—	—	—	—	—	—	+	—
Philonthus fumarius (Grav.)	—	—	1.3	—	—	—	—	—	—
Ischnosoma splendidum (Grav.)	—	1.2	1.3	—	—	10.3	3.2	—	3.4
Ochthephilum fracticorne (Payk.)	—	—	—	—	—	6.9	—	—	—
Tachyporus chrysomelinus (L.)	—	—	2.7	—	5.5	—	3.2	—	—
Tachyporus hypnorum (F.)	—	—	5.4	—	—	—	—	—	—
Tachyporus nitidulus (F.)	—	—	—	—	—	1.7	—	—	—
Tachyporus quadriscopulatus Pand.	—	—	—	—	—	1.7	—	—	—
Tachyporus scitulus Er.	—	—	1.3	—	—	—	—	—	—
Tachyporus transversalis Grav.	—	—	—	—	—	1.7	9.7	—	—
Tachyporus dispar (Payk.)	—	—	4.1	—	—	1.7	—	—	—
Tachinus corticinus Grav.	—	—	—	—	—	12.1	6.5	—	1.7
Mycetoporus mulsanti Gglb.	—	1.1	—	—	—	—	—	—	—
Mycetoporus forticornis Fauv.	—	—	1.3	—	—	—	—	—	—
Lordithon lunulatus (L.)	—	2.3	—	—	—	—	—	—	—
Lordithon pulchellus (Mannh.)	—	—	—	—	—	—	—	+	—
Erichsonius cinerascens (Grav.)	3.8	—	—	—	—	—	—	—	—
Gabrius breviventer Sperk	—	—	4.2	—	5.5	—	—	—	—
Gabrius trossulus (Nordm.)	—	—	—	—	—	—	3.3	—	—
Gabrius osseticus (Kol.)	—	—	—	—	—	1.7	—	—	—
Acylophorus glaberrimus (Hbst.)	—	—	—	—	5.5	—	—	—	—
Xantholinus linearis (Ol.)	—	—	—	—	—	—	3.2	—	—
Gyrohypnus angustatus Steph.	—	—	—	—	—	3.5	—	—	1.7
Lathrobium brunnipes (F.)	—	—	—	—	—	—	6.5	—	—
Lathrobium impressum Heer	—	—	—	—	—	1.7	—	—	—
Euaesthetus ruficapillus (Lac.)	3.9	—	—	—	—	—	—	—	—
Stenus carbonarius Gyll.	3.9	—	—	—	—	—	—	—	—
Stenus clavicornis (Scop.)	—	2.3	—	—	—	1.7	—	—	—
Stenus geniculatus Grav.	—	—	—	—	—	—	—	—	1.7
Stenus pallipes Grav.	—	—	—	—	—	—	3.2	—	—
Stenus palustris Er.	3.8	—	—	—	—	—	—	—	1.7
Megarthrus denticollis (Beck)	—	—	1.3	—	—	—	—	—	—
Olophrum assimile (Payk.)	—	—	—	—	5.6	—	38.7	—	25.4
Olophrum consimile Gyll.	7.7	—	—	+	38.9	—	—	—	—
Olophrum fuscum (Grav.)	—	—	—	—	—	1.7	—	—	—
Arpedium quadrum (Grav.)	—	—	—	—	5.6	—	—	—	3.4

Окончание таблицы 1

The completion of the table 1

Species	Sites								
	1	2	3	4	5	6	7	8	9
Eucnecosum brachypterum (Grav.)	—	—	—	—	5.6	5.2	—	—	—
Acidota crenata (F.)	—	—	—	—	—	—	3.2	—	—
Anthobium atrocephalum (Gyll.)	—	1.2	—	—	—	—	3.2	13.5	6.8
Carpelimus corticinus (Grav.)	—	—	1.3	—	—	—	—	—	—
Anotylus rugosus (F.)	—	—	—	—	5.6	—	—	—	10.1
Sunius melanocephalus (F.)	—	—	1.3	—	—	—	—	—	—
Paederus riparius (L.)	—	—	—	—	16.7	—	—	—	—
Rugilus erichsonii (Fauv.)	—	—	1.4	—	—	3.5	—	—	—
Rugilus rufipes Germ.	—	—	—	—	—	—	—	+	—
Aleochara brevipennis Grav.	53.8	—	—	—	—	—	—	—	—
Amischa analis (Grav.)	—	—	—	—	—	5.2	—	—	—
Acrotona aterrima (Grav.)	—	1.1	1.3	—	—	—	—	—	—
Acrotona fungi (Grav.)	—	64.4	12.2	—	—	31.0	12.9	8.7	5.1
Trichiusa immigrata Lohse	—	—	1.3	—	—	—	—	—	—
Oxypoda abdominalis (Mannh.)	—	—	33.8	—	—	3.5	—	4.8	—
Oxypoda praecox Er.	—	—	—	—	—	1.7	—	—	—
Oxypoda advena Mäkl.	—	—	—	—	—	3.5	—	—	—
Oxypoda elongatula Aubé	19.2	—	—	—	5.5	—	—	+	—
Oxypoda acuminata (Steph.)	—	—	—	—	—	—	—	35.6	22.0
Parocyusa rubicunda (Er.)	—	—	1.4	—	—	—	—	—	—
Ocalea badia Er.	—	—	—	—	—	—	—	1.9	—
Liogluta alpestris (Heer)	—	—	—	—	—	—	—	+	—
Liogluta granigera (Kiesw.)	—	—	—	—	—	—	—	19.2	—
Atheta graminicola (Grav.)	—	—	1.4	—	—	—	—	—	—
Plataraea dubiosa (Benick)	—	1.1	—	—	—	—	—	—	—
Drusilla canaliculata (F.)	—	23.0	17.6	—	—	—	—	10.6	15.3
Zyras collaris (Payk.)	—	—	—	—	—	—	3.2	—	—
Encephalus complicans Steph.	—	1.1	—	—	—	—	—	—	—
Myllaena intermedia Er.	—	—	2.7	—	—	—	—	+	1.7
Myllaena minuta (Grav.)	—	1.2	1.4	—	—	—	—	—	—
Aleocharinae gen.sp.	3.9	—	—	—	—	—	—	—	—
Totally species	8	11	21	1	10	19	13	13	13

Note: (+) — abundance is less than 1%.

Oxypoda elongatula and *Olophrum consimile* dominating. Other species were subdominants. In the pine forest on the lake bank (site 2) 11 species were found. Two of them, *Acrotona fungi* and *Drusilla canaliculata*, were dominants, no subdominants were recorded.

In the mesophytic meadow (site 3), where staphylinid species composition was the most diverse, the dominant structure was distinctly more complicated. Four species, *Oxypoda abdominalis*, *Drusilla canaliculata*,

Acrotona fungi and *Tachyporus hypnorum*, were dominants, *Gabrius breviventer*, *Tachyporus dispar*, *Tachyporus chrysomelinus* and *Myllaena intermedia* were subdominants. The recedent species composition was diverse.

In the Drisviata River floodplain fen (site 5) only 10 species were found. Because of the scarce number of beetle specimens collected here, all species were assigned to the dominant class. The most numerous of them were two species, *Olophrum consimile* and *Paederus riparius*, whose total abundance was above 50%.

In the lower Richyanka River floodplain fen (site 6) the species composition was the most diverse of all studied sites in the floodplain of that river. Nineteen species were found there. *Acrotona fungi*, *Tachinus corticinus*, *Ischnosoma splendidum*, *Ochthephilum fracticorne*, *Eucnecosum brachypterum* and *Amischa analis* were dominants. Four species, *Gyrohypnus angustatus*, *Rugilus erichsonii*, *Oxypoda abdominalis* and *Oxypoda advena*, were subdominants.

In the upper Richyanka River floodplain fen (site 7) 13 species were found. *Olophrum assimile*, *Acrotona fungi*, *Tachyporus transversalis*, *Tachinus corticinus* and *Lathrobium brunnipes* were dominants, the rest were assigned to the subdominant class.

In the black alder forest in the Middle Richyanka River floodplain (site 8) 13 species were also found. *Oxypoda acuminata*, *Liogluta granigera*, *Anthobium atrocephalum*, *Drusilla canaliculata* and *Acrotona fungi* were dominants, only one subdominant species, *Oxypoda abdominalis*, was found there.

In the Richyanka River mouth fen (site 9), in the border zone overgrown with willow shrubs, 13 species were found. *Olophrum assimile*, *Oxypoda acuminata*, *Drusilla canaliculata*, *Anotylus rugosus*, *Anthobium atrocephalum* and *Acrotona fungi* were dominants, only two species, *Ischnosoma splendidum* and *Arpedium quadrum*, were subdominants.

Almost at all studied sites, diverse life form spectra of staphylinids were recorded. This fact reflects species habitat conditions in the basic types of biocenoses of Lake Drisviaty wetland complex. From 6 to 8 beetle life forms were found in every biocenose (Table 2). Only in black alder forest at site 1 the life form spectrum was very poor and includes 4 groups only.

Nearly in all studied biocenoses litter zoophages stratobionts dominated. These beetles have inconspicuous living habits in the body of forest or meadow litter. The proportion of species from that group varied from 30—53%, but in the best studied biocenoses it was a little more than 30%. Abundance of this group was also high and reached ca. 84% at site 8. Staphylinids of this life form were not found only in the black alder forest on the lake bank (site 1), which is fen by nature and is flooded most of the year and in the fen at site 5, with its high subsoil waters table. Due to permanent water logging of soil surface in these biocenoses, conditions there are not favorable for litter staphylinid species.

The group of torphobionts is very common in the studied wetlands. These beetles inhabit wet moss in bogs and on lake and river banks. The proportion of this group varied between 14—50%, but the abundance was low. Only in black alder forest at site 1, the abundance of torphobionts reached up to 80%, primarily due to domination of two species, *Aleochara brevipennis* and *Oxypoda elongatula*.

The groups of small walking epigeobionts and psammocolimbets coastal group were found in most of the studied biocenoses. The proportion and abundance of these groups were small. The small walking epigeobionts were represented mostly by species of *Philonthus* and *Gabrius*, coastal psammocolimbetes — by *Stenus* species.

Dendrochortobionts, including in the studied biotopes diverse *Tachyporus* species and *Tachinus corticinus*, were found in open biocenoses only. Their proportion ran up to 26% and more, abundance was ca. 20% at sites 6 and 7. Stratobionts living on soil surface and in litter were found at sites 6, 7 and 8 in the Richyanka River floodplain only. Representatives of this group live on the open soil surface and in upper litter layers (e.g., *Xantholinus linearis*, *Acidota crenata*, *Oxypoda praecox* and others). Their presence in fens may be caused by an unstable hydrological regime with habitat conditions more favorable for groups living on the soil surface. These beetles can survive easily during sudden flooding. Zoophages mycetobionts, i.e. *Lordithon* species, were represented in forest biocenoses only, at sites 2 and 8.

Almost in all studied biocenoses, the group of saprophages living in decaying organic matter and soil was recorded. The proportion and/or abundance of these beetles were high at some sites. This group is represented primarily by Olophrum species, being dominant in many studied biocenoses. Saprophages small epigeobionts (e.g., *Megarthrus denticollis*) were present in the meadow at site 3 only.

Table 2. — The life form spectrum of staphylinid beetles in different habitats in the wetland complex of Lake Drisviaty (explanation see in the text)

Таблица 2. — Спектр жизненных форм стафилинид в разных местообитаниях в водно-болотных угодьях озера Дрисвяты (обозначения *см.* в тексте статьи)

Life forms	Sites																	
	1		2		3		4		5		6		7		8		9	
	a	*b*	*a*	*b*	*a*	*b*	*a*	*b*	*a*	*b*	*a*	*b*	*a*	*b*	*a*	*b*	*a*	*b*
Zoophages																		
Epigeobionts walking, small	12.5	3.8	—	—	9.5	5.5	—	—	10.0	5,5	10,5	5,2	7,7	3,3	7,7	+	7,7	1,7
Stratobionts living on soil surface and in litter	—	—	—	—	—	—	—	—	—	—	10,5	5,2	15,4	6,4	7,7	1,9	—	—
Stratobionts living in litter	—	—	45.5	69.0	33.3	52.7	—	—	—	—	31,6	55,2	30,8	25,8	53,8	83,7	30,8	37,3
Psammocolimbets coastal	25.0	7.7	9.1	2.3	—	—	—	—	10.0	16,7	5,3	1,7	7,7	3,2	—	—	15,4	3,4
Torphobionts	50.0	80.8	18.2	2.3	14.3	5.5	—	—	20.0	11,1	5,3	5,2	—	—	15,4	1,9	7,7	1,7
Sphagnobionts	—	—	—	—	—	—	—	—	10.0	5,5	5,3	6,9	—	—	—	—	—	—
Dendrochortobionts	—	—	—	—	19.0	13.5	—	—	10.0	5,5	26,3	18,9	23,1	19,4	—	—	7,7	1,7
Sapro-coprobionts	—	—	—	—	—	—	—	—	10.0	5,6	—	—	—	—	—	—	7,7	10,1
Mycetobionts	—	—	9.1	2.3	—	—	—	—	—	—	—	—	—	—	7,7	+	—	—
Phytophages																		
Coastal	—	—	—	—	4.8	1.3	—	—	—	—	—	—	—	—	—	—	—	—
Saprophages																		
Living in decaying organic matter and soil	12.5	7.7	9.1	1.1	4.8	1.3	+	+	30.0	50,1	5,3	1,7	7,7	38,7	—	—	15,4	28,8
Epigeobionts small	—	—	—	—	9.5	2.6	—	—	—	—	—	—	—	—	—	—	—	—
Myrmecophyles																		
Symphiles	—	—	9.1	23.0	4.8	17.6	—	—	—	—	—	—	7,7	3,2	7,7	10,6	7,7	15,3
Totally groups	4		6		8		+		7		8		7		6		8	

Note: a — proportion of species, %; *b* — abundance of the life form, %; (+) — abundance is less than 1%.

Myrmecophyles (*Drusilla canaliculata* and *Zyras collaris*) were most abundant in drier biocenoses — pine forest (site 2), willow shrubs (site 9) and in the meadow (site 3), where *D. canaliculata* dominated. The class of phytophages was represented by the single group of coastal phytophages with the single species, *Carpelimus corticinus*, found in the mesophytic meadow at site 3 only.

In the ecological group spectrum, eurytopic hygrophilous species prevail (Figures 2—3). The proportion of these species varied from 26—38%, it was higher in biocenoses at Lake Drisviaty bank (sites 1—3). Stenoecic hygrophilous species were found in floodplains of Drisviata and Richyanka small rivers. Their proportion was quite low. Almost in all studied biotopes, the proportion of ubiquists was high, being caused by domination of species *Acrotona fungi* and some species of *Tachyporus* genus. Ubiquists saprophiles were less diverse and more abundant at sites 3 and 9, where substantial amounts of decaying detritus and animal dung exists.

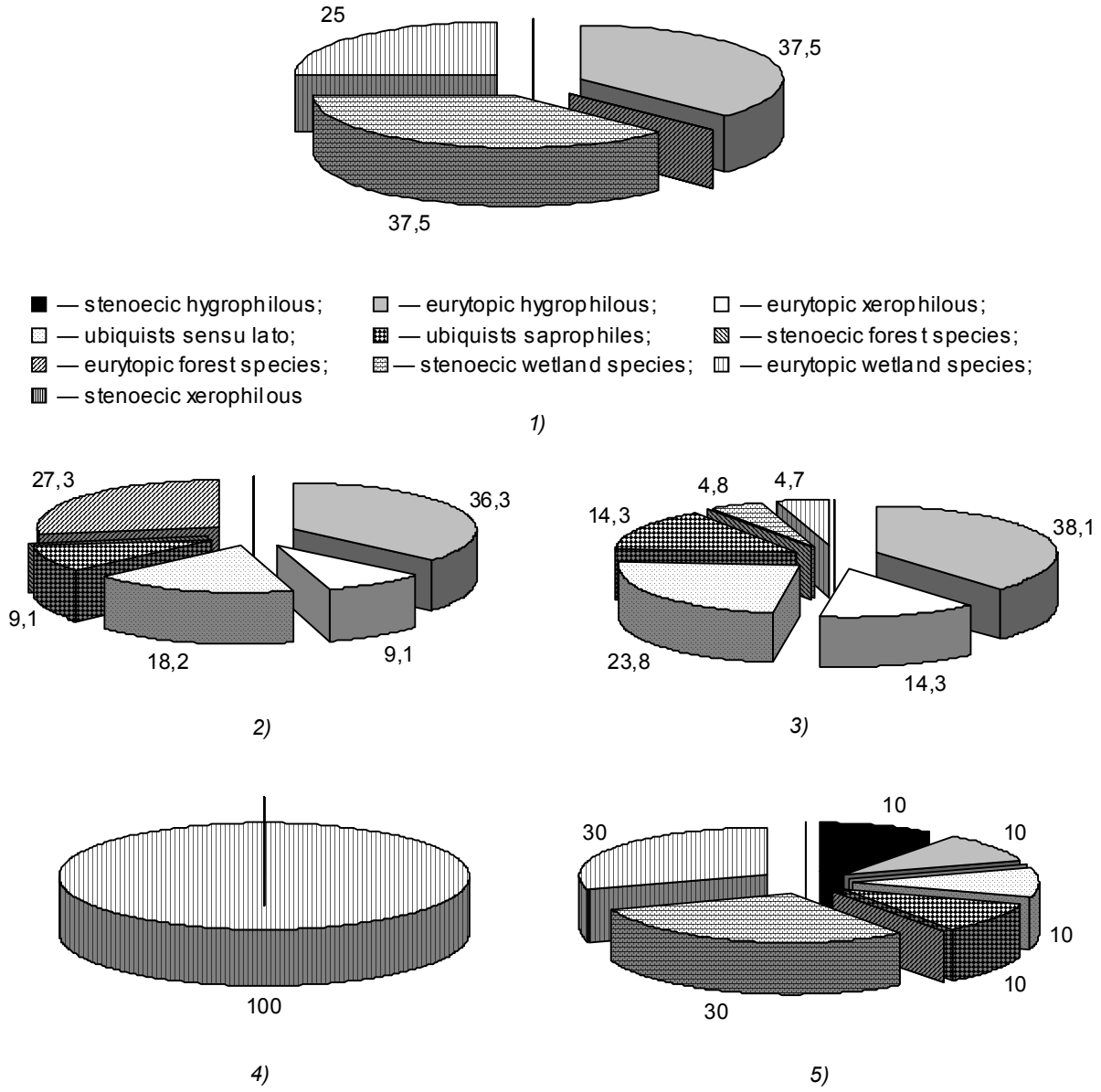

Figure 2. — The proportion of staphylinid species of different ecological groups in the studied habitats in the wetland complex of Lake Drisviaty (explanation see in the text)

Рисунок 2. — Доля видов стафилинид разных экологических групп в исследованных местообитаниях в водно-болотных угодьях озера Дрисвяты (обозначения *см.* в тексте статьи)

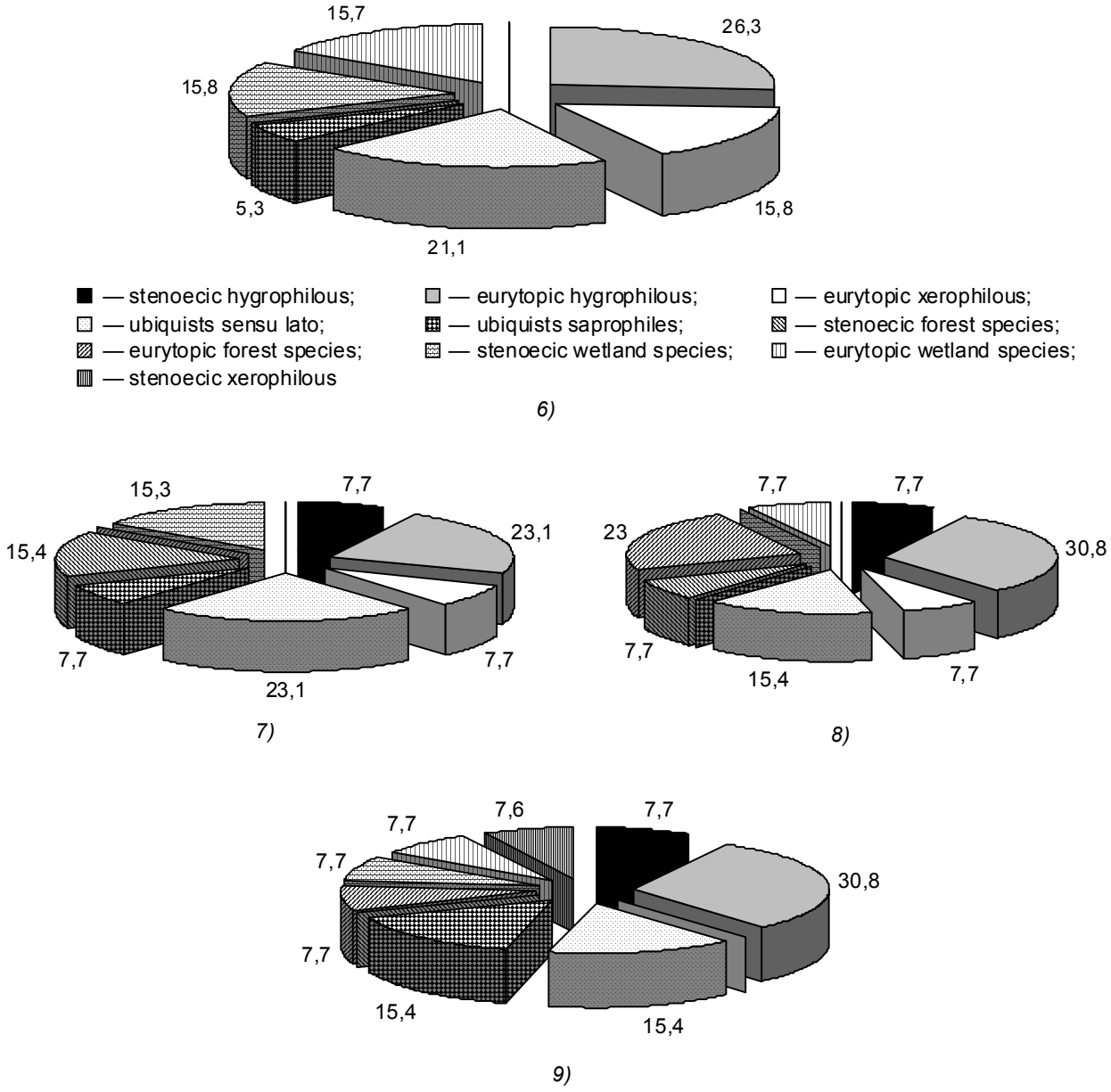

Figure 3. — The proportion of staphylinid species of different ecological groups in the studied habitats in the Richyanka River floodplain in the wetland complex of Lake Drisviaty (explanation see in the text)

Рисунок 3. — Доля видов стафилинид разных экологических групп в исследованных местообитаниях в водно-болотных угодьях озера Дрисвяты (обозначения *см.* в тексте статьи)

Both stenoecic and eurytopic forest species were found in the forest biocenoses only (sites 2, 8 and 9), except for site 7, where *Stenus pallipes* and *Acidota crenata* were found in the fen. They inhabit mostly meadows overgrown with shrubs, especially in floodplains and forest swamps.

Eurytopic and stenoecic wetland species were more common in fens on Lake Drisviaty bank and in the floodplains of Drisviata and Richyanka small rivers. These species were not found in forest biocenoses or they were represented there only by a few species (e.g., in the black alder forest at site 8).

Xerophilous species were also represented in the studied biocenoses. Their proportion was higher in the mesophytic meadow at site 3 and in the fen at site 6 where the river valley is narrow. The latter site is bounded by a high dry river terrace, wherefrom xerophilous species could disperse into the nearby fen.

Conclusion. Thus, staphylinid assemblages in different biocenoses in Lake Drisviaty wetland complex are characterized by diverse beetle species composition, which includes some species rare in Belarus. Multiple specialized species closely associated with wetlands were recorded during the sampling. Observed life form spectra reflect the area's peculiar features and are typical for waterlogged habitats in floodplain fens. Forest and wetland staphylinid groups prevail in the ecological group spectra in forest and open biotopes, correspondingly. At the same time, in all studied biocenoses, eurytopic hygrophilous species dominate. Thus, this is a reflection of habitat conditions in the wetland complex territory.

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Резюме

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ВИДОВОЕ РАЗНООБРАЗИЕ И ЭКОЛОГИЧЕСКАЯ СТРУКТУРА КОМПЛЕКСОВ СТАФИЛИНИД (COLEOPTERA, STAPHYLINIDAE) ВОДНО-БОЛОТНОГО УГОДЬЯ ОЗЕРА ДРИСВЯТЫ

Видовое разнообразие стафилинид было исследовано в различных местообитаниях в водоохранной зоне озера Дрисвяты и в поймах прилегающих рек. Всего было собрано 67 видов стафилинид в разных водно-болотных экосистемах. Три вида стафилинид впервые отмечены для территории Беларуси. Также некоторые редкие виды были собраны во время проведения исследований. Видовой состав жуков в каждом из исследованных биотопов существенно различался. Наибольшее количество видов было отмечено на мезофильном лугу (21 вид), а наименьшее — на низинном болоте на берегу озера Дрисвяты (всего 1 вид). Были проанализированы доминантная структура комплексов стафилинид, спектр жизненных форм, структура комплексов жуков по биотопической приуроченности и гигропреферендуму. Спектр жизненных форм почти во всех исследованных биотопах был разнообразным и насчитывал от 6 до 8 форм. Почти во всех биотопах доминировали зоофаги стратобионты подстилочные и встречались торфобионты, которые обитают в болотных биоценозах. Только в открытых биотопах отмечены дендрохортобионты, их доля в некоторых из них достигала более 25%. Выявленный спектр жизненных форм отражает основные черты территории и типичен для переувлажнённых местообитаний на пойменных болотах. Лесная и болотная экологические группы стафилинид преобладают в спектре экологических групп в лесных и открытых биотопах соответственно.