CONTENTS

Abstract.

This fourth contribution summarizes distributional and ecological data on 162 carabid species from the Belgian fauna. Besides distribution maps, results on distribution analyses, time analyses, morphology and ecology of the mentioned species are tabulated.

INTRODUCTION

In the framework of a detailed study on the distribution of Belgian Ground and Tiger beetles, we recently gathered as much data on these beetles as possible and revised all available specimens from collections. In a previous contribution (DESENDER, 1985) a checklist was presented in which 379 species are mentioned for our country.

The following contribution is the last in a series on the detailed distribution and ecology of our carabid beetles. Besides distribution maps and results from our analyses, we also tried to summarize the present knowledge on different morphological and ecological species characteristics. This was based on the literature as well as on own observations. In this way

we hope to make such information more accessible to all interested entomologists and students. Discussion of the results from our analyses has been kept here to a minimum because more general analyses on the entire fauna are more meaningful and will be published in the future. Nomenclature and classification in this paper were used according to our recently published checklist (DESENDER, 1985).

Necessary informations on material and methods are given in detail in our first contribution in this series (DESENDER, 1986a). Summarizing this information, we first dealt with the collection and representativity of the material. After data reduction we obtained on the whole 60.298 different records on the 379 carabid species from our country, divided into 32.196 records before 1950 and 28.102 records from 1950 onwards.
After this, data processing and preparation of the distribution maps was briefly discussed, followed by the methods and sources used in distribution and time analyses. This involved on the one hand comparison of species distribution data with different abiotic and biotic factors for each U.T.M. square (altitude, most important soil type, the presence or absence of chalk in the soil, the presence or absence of acid sands or acid clay, woodland cover and woodland type, the presence of running water with high fall and finally four climatological indices), on the other hand an evaluation of changes in distribution and commonness occurring in the course of time. Furthermore the statistical analyses used were briefly outlined and some comments given on the interpretation of the results. Finally introductory information was presented on the collection and tabulation of morphological and ecological data for each species : data are incorporated on commonness and rarity, total distribution area, mean beetle size, wing developmental type, main reproductive period and habitat preference.

Comments, criticisms or complementary information and new data concerning this paper will be much appreciated.

RESULTS

a) Distribution maps

All distribution maps on species 218-379 are given on p. 20-47. Numerical and taxonomical order as well as nomenclature are according to DESENDER (1985).

The following symbols are used :

○ data before 1950 only

● data after 1950 only

■ data from both time periods

b) Distribution analyses

All results in this respect are summarized and explained in Table I, Table II and Table III.

c) Morphology and ecology of the species

Table IV, V and VI summarize these results. Data on wing dimorphism only apply to the species, tabled hereafter. Amara infima, Bradycellus collaris, Bradycellus csikii, Harpalus neglectus, Cymindis vaporariorum, Dromius notatus and Dromius sigma are known as wing dimorphic but until now we only encountered brachypterous individuals in Belgium. Licinus depressus untill now was only known as being brachypterous, were we encountered also macropterous individuals in Belgium. For several of the listed species wing development was not yet mentioned in literature, especially several Harpalus species. According to our data Microlestes maurus can be characterized as a wing polymorphic instead of wing dimorphic species. Trichotichnus laevicollis and T. nitens are special cases because in these species wing dimorphism is sex-linked : in our country males are always macropterous, females always brachypterous.

SPECIES	macropterous individuals	brachypterous individuals	total number of individuals checked
Amara infima		468	468
Bradycellus collaris		36	36
Bradycellus csikii		3	3
Bradycellus distinctus	6	4	10
Bradycellus harpalinus	384	63	447
Bradycellus sharpi	2	12	14
Harpalus atratus	2	9	11
Harpalus azureus	1	7	8
Trichotichnus laevicollis	49	31	80
Trichotichnus nitens	140	140	280
Licinus depressus	5	143	148
Masoreus wetterhalli	1	29	30
Cymindis macularis	3	11	14
Demetrias monostigma	11	501	512
Dromius linearis	3	237	240
Metabletus foveatus	13	937	950
Metabletus truncatellus	2	163	165

d) Time analysis

These results are also mentioned in Table IV,V and VI : from this list 83 species show a relative decrease against 23 only which relatively increased during recent decades. As mentioned earlier (DESENDER, 1986 a,b,c) more species are relatively decreasing which means that such species are less common and thus have become even more rare or extinct in recent decades. The difference is very pronounced in this species list : nearly all species belonging to the genera Harpalus (mostly occurring on dry grassland habitats), Chlaenius (mostly from riparian situations), Cymindis (heathlike situations), Lebia (dry grasslands) and Brachinus (chalk grasslands) show a pronounced decrease. More general results on a time analysis for all species will be given in the future (DESENDER, in prep.).

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T. Van Gijzen kindly checked our identifications from difficult and/or new species from our country.

Finally we are especially grateful to Prof. Dr. J. Hublé for his continuous support and interest during our study, as well as to Dr. J. Van Goethem for proposing the publication of these contributions in the 'Koninklijk Belgisch Instituut voor Natuurwetenschappen' and to Dr. P. Grootaert for revision of the manuscript.

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Nr	Species	1	2	3	4	5	6	7	8	9	10	11	12
218	Amara aenea	137	2	L+ZL						2	3	5	3
219	Amara anthobia	56	2	Z+ZL						2	2	4	2
220	Amara apricaria	95	3	L+ZL						2	3	2	3
221	Amara aulica	187									-2		
222	Amara bifrons	104	3							2	3	2	3
223	Amara communis	142		Z+ZL									
224	Amara concinna	145											
225	Amara consularis	155					1						
226	Amara convexior	194	-3		*		2	5			-2		-2
227	Amara convexiuscula	37	4	MC							2	2	1
228	Amara crenata	193											
229	Amara cursitans	212	-3	SL	*								-2
230	Amara curta	172		DZ	*							-1	
231	Amara equestris	151											
232	Amara eurynota	176	-4	L									
233	Amara famelica	70	3	Z+ZL							2	3	3
234	Amara familiaris	132	3	L+ZL						2	3	3	3
235	Amara fulva	80	4	Z+ZL						2	3	2	3
236	Amara fulvipes	260											
237	Amara infima	97		FZ			2	3				2	
238	Amara kulti	70		FZ								2	3
239	Amara lucida	43	4	DZ						2	1		1
240	Amara lunicollis	142											
241	Amara montivaga	235	-4	AL	*		2	5		-2	-2	-3	-2
242	Amara municipalis	171		SL									
243	Amara nitida	241										-3	-2
244	Amara ovata	155			*								
245	Amara plebeja	137		L+ZL									
246	Amara praetermissa	147											
247	Amara quenseli	88										2	
248	Amara similata	124	2	L+ZL						2	3	4	2
249	Amara spreta	51	3	Z+ZL						2	2	3	3
250	Amara strenua	71											
251	Amara tibialis	74	4	Z+ZL	*					1	2	2	1
252	Amara tricuspidata	86	2	L+ZL						2	3	4	3
253	Zabrus tenebrioides	135	-4	L+ZL									-1
254	Anisodactylus binotatus	112	3	Z+ZL						2		2	3
255	Anisodactylus nemorivagus	165					2						
256	Anisodactylus poeciloides	19	4	MC						1	2		1
257	Anisodactylus signatus	141											
258	Diachromus germanus	132		AL									
259	Stenolophus mixtus	38	3	Z+ZL						2	2	3	3
260	Stenolophus skrimshiranus	26	3	L+ZL						2	3	3	2
261	Stenolophus teutonus	100	2	Z+ZL						2	2	3	3
262	Bradycellus collaris	164											
263	Bradycellus csikii	5											
264	Bradycellus distinctus	5	5							1	1		1
265	Bradycellus harpalinus	134	4	Z+ZL							3	2	
266	Bradycellus ruficollis	140		FZ		*	1	3					
267	Bradycellus sharpi	94	3	L+ZL						2		4	2
268	Bradycellus verbasci	114		L+ZL							3		
269	Dicheirotrichus gustavii	8	5	MC						2	2	3	1
270	Dicheirotrichus obsoletus	6	4	MC						1	2	3	1
271	Trichocellus cognatus	163		FZ			2						
272	Trichocellus placidus	115	4	Z+ZL						2	2	1	1
273	Acupalpus brunnipes	36	3	Z+ZL		*				3	3	2	2
274	Acupalpus consputus	29	3	Z+ZL						2	3	2	2
275	Acupalpus dorsalis	55	3	Z+ZL						2	2	3	3
276	Acupalpus dubius	50	3	Z+ZL						2	2	3	3
277	Acupalpus exiguus	83		L+ZL						2	3		2
278	Acupalpus flavicollis	57	3	Z+ZL						2	2	2	3
279	Acupalpus meridianus	103	2	L+ZL						2	3	3	3
280	Acupalpus transversalis	39											

TABLE I. Results from distribution analyses based on the presence/absence data per U.T.M. 10 km square.

---

1 : mean altitude for each species

2 : significant results after comparison of cumulative altitudinal classes with species distribution :
2, 3, 4, 5 = significantly more occurring below respectively 300m, 200 m, 50 m, 5m;
-3, -4 = idem above respectively 200 m, 50 m

3 : significant reactions to most important soil type per U.T.M. square : MC = maritime clay, DZ = dune sand, FZ = fine sand and gravel, ZL = sand-loam mixtures, L = loam, SL = stony loam, AL = all loam mixtures

4 : species significantly more occurring in U.T.M. squares with chalk in the soil (mostly species which are more or less thermophilic)

5 : species significantly more occurring in U.T.M. squares with acid sands or acid clay (mainly species from oligotrophic situations)

6 : significant results after comparison with cumulative classes of woodland cover :
1, 2 = more than respectively 1 % or 20 % of woodland cover

7 : significant positive reactions to most important woodland type :
1 = oak, 2 = beech, 3 = coniferous trees, 5 = deciduous trees

8 : species significantly more occurring in U.T.M. squares with rivers or rivulets with more than 50 m fall per km.

9 : significant reactions to annual precipitation cumulative classes :
1, 2, 3 = less than respectively 700, 800 or 900 mm precipitation
-2 = more than 800 mm precipitation

10 : significant reactions to relative aridity index cumulative classes :
1, 2, 3 = less than respectively 35, 40 or 45 of index value
-2 = more than 40 of index value

11 : significant reactions with the first day each year a minimal temperature of 5°C is reached (in cumulative classes) :
1, 2, 3 = respectively before 5, 10 or 15 March
-1, -3 = respectively after 5 or 15 March

12 : significant reactions to annual number of days with frost :
1, 2, 3 = less than respectively 55, 65 or 75 days
-1, -2 = more than respectively 55 or 65 days.

Nr	Species	1	2	3	4	5	6	7	8	9	10	11	12
281	*Harpalus aeneus*	138								3	4	5	
282	*Harpalus anxius*	101	1	Z+ZL						2	4	4	3
283	*Harpalus ardiosacus*	185	-3	SL	*								-3
284	*Harpalus atratus*	216	-3	SL	*						-2	-1	-2
285	*Harpalus attenuatus*	25	3	Z+ZL						3	2	3	3
286	*Harpalus autumnalis*	74	3	FZ								3	3
287	*Harpalus azureus*	222	-3	SL	*		2	5			-2	-3	-3
288	*Harpalus calceatus*	336	-2	CC			2	5				-4	-3
289	*Harpalus cordatus*	173			*								
290	*Harpalus dimidiatus*	202	-3		*		2	5			-2	-3	-2
291	*Harpalus distinguendus*	133	3								4	3	3
292	*Harpalus flavescens*	19	3	Z+ZL		*					2	3	3
293	*Harpalus froelichi*	39	3	Z+ZL		*						2	3
294	*Harpalus fuliginosus*	204		FZ		*							
295	*Harpalus griseus*	113											
296	*Harpalus honestus*	252	-3	SL	*		2	5		-2	-2	-3	-2
297	*Harpalus latus*	180											
298	*Harpalus luteicornis*	184											
299	*Harpalus melancholicus*	4											
300	*Harpalus melleti*	271											
301	*Harpalus modestus*	147		CC									
302	*Harpalus neglectus*	40	3	Z						3	3	4	3
303	*Harpalus obscurus*	228											
304	*Harpalus parallelus*	234	-3	SL							-2	-3	-3
305	*Harpalus puncticeps*	155		AL	*								
306	*Harpalus puncticollis*	198	-3	SL	*		2	5			-2	-3	-3
307	*Harpalus punctulatus*	166	-4	L							-2		-1
308	*Harpalus quadripunctatus*	266	-2	CC	*		2			-2	-2	-3	-2
309	*Harpalus rubripes*	160		AL	*								
310	*Harpalus rufibarbis*	119	1	AC						4			2
311	*Harpalus rufipes*	136											
312	*Harpalus rufitarsis*	186	-4				2			-2		-1	
313	*Harpalus rupicola*	204	-3		*						-2		-2
314	*Harpalus sabulicola*	233	-3		*		2	5			-2	-3	-2
315	*Harpalus schaubergerianus*	243											
316	*Harpalus serripes*	90	5	DZ						1	2		1
317	*Harpalus servus*	16	3	Z						2	1	3	1
318	*Harpalus signaticornis*	109	2	L						2			
319	*Harpalus smaragdinus*	102	3	Z+ZL							3	6	3
320	*Harpalus tardus*	117		Z+ZL								4	3
321	*Harpalus tenebrosus*	193											
322	*Harpalus vernalis*	94	3	Z							3		
323	*Trichotichnus laevicollis*	269	-3	AL	*		2			-3	-2	-3	-2
324	*Trichotichnus nitens*	311	-3	SL	*		2	5		-2	-2	-3	-2
325	*Paraphonus maculicornis*	85	2	L			2			3	3	4	3

TABLE II. Results from distribution analyses based on the presence/absence data per U.T.M. 10 km square.

---

1 : mean altitude for each species

2 : significant results after comparison of cumulative altitudinal classes with species distribution :
1, 2, 3, 4, 5 = significantly more occurring below respectively 400m, 300m, 200 m, 50 m, 5m;
-3, -4 = idem above respectively 200 m, 50 m

3 : significant reactions to most important soil type per U.T.M. square : MC = maritime clay, DZ = dune sand, FZ = fine sand and gravel, Z = DZ+FZ, ZL = sand-loam mixtures, L = loam, SL = stony loam, AL = all loam mixtures, CC = clay on chalk

4 : species significantly more occurring in U.T.M. squares with chalk in the soil (mostly species which are more or less thermophilic)

5 : species significantly more occurring in U.T.M. squares with acid sands or acid clay (mainly species from oligotrophic situations)

6 : significant results after comparison with cumulative classes of woodland cover :
2 = more than 20 % of woodland cover

7 : significant positive reactions to most important woodland type :
1 = oak, 2 = beech, 3 = coniferous trees, 5 = deciduous trees

8 : species significantly more occurring in U.T.M. squares with rivers or rivulets with more than 50 m fall per km.

9 : significant reactions to annual precipitation cumulative classes :
1, 2, 3, 4 = less than respectively 700, 800, 900 or 1000 mm precipitation
-2, -3 = more than respectively 800 or 900 mm precipitation

10 : significant reactions to relative aridity index cumulative classes :
1, 2, 3, 4 = less than respectively 35, 40, 45 or 50 of index value
-2 = more than 40 of index value

11 : significant reactions with the first day each year a minimal temperature of 5°C is reached (in cumulative classes) :
2, 3, 4, 5, 6 = respectively before 10, 15, 20, 25 or 30 March
-1, -3, -4 = respectively after 5, 15 or 20 March

12 : significant reactions to annual number of days with frost :
1, 2, 3 = less than respectively 55, 65 or 75 days
-1, -2, -3 = more than respectively 55, 65 or 75 days.

Nr	Species	1	2	3	4	5	6	7	8	9	10	11	12
326	*Licinus depressus*	180			*					1	1	-3	-3
327	*Licinus hoffmannseggi*	295	-3	ZL+LC			2	2		-2	-2	-3	-3
328	*Licinus punctatulus*	196									-2		
329	*Licinus silphoides*	228											
330	*Badister anomalus*	32	2							2	3	2	2
331	*Badister bipustulatus*	116	1	L+ZL						2	3		2
332	*Badister dilatatus*	28	2	Z+ZL						2	2	2	2
333	*Badister lacertosus*	42	3	Z+ZL						2	2	2	2
334	*Badister peltatus*	13	3	MC							2	2	2
335	*Badister sodalis*	75	1	L+ZL						2	3	4	2
336	*Badister unipustulatus*	44	2	Z+ZL						2	2	2	2
337	*Chlaenius nigricornis*	136											
338	*Chlaenius nitidulus*	152	-4	AL							-2		-1
339	*Chlaenius sulcicollis*	112											
340	*Chlaenius tristis*	55	2									2	2
341	*Chlaenius variegatus*	195	-3	SL							-2		
342	*Chlaenius vestitus*	129											
343	*Callistus lunatus*	185	-3	AL	*						-2		-1
344	*Oödes helopioides*	106	2								4	4	
345	*Panagaeus bipustulatus*	137			*								
346	*Panagaeus cruxmajor*	148											
347	*Odacantha melanura*	44	3	MC+AL						2	2	3	2
348	*Masoreus wetterhalli*	58	4	Z						1	2	2	1
349	*Cymindis axillaris*	243	-3	SL	*		2				-2	-3	-2
350	*Cymindis humeralis*	161		FZ								-1	-2
351	*Cymindis macularis*	51	3	FZ							2	2	
352	*Cymindis vaporariorum*	197					2					-1	
353	*Lebia chlorocephala*	164											
354	*Lebia cruxminor*	205	-3		*						-2	-3	-2
355	*Lebia cyanocephala*	176			*						-2		
356	*Lebia marginata*	132									-2		
357	*Somotrichus elevatus*	9											
358	*Demetrias atricapillus*	78	2	L+ZL						2	3	3	3
359	*Demetrias imperialis*	42	3	MC						3	2	3	2
360	*Demetrias monostigma*	123	4	DZ	*					1	1		1
361	*Dromius agilis*	167											
362	*Dromius angustus*	113											
363	*Dromius fenestratus*	31	-3	SL			2			-2	-2	-1	-2
364	*Dromius linearis*	101	1							2	3	2	2
365	*Dromius longiceps*	5											
366	*Dromius melanocephalus*	69	4	Z+ZL						2	2	2	2
367	*Dromius meridionalis*	30								2	2	3	1
368	*Dromius notatus*	5	4	DZ						2	1	3	1
369	*Dromius quadrimaculatus*	136											
370	*Dromius quadrinotatus*	119	2							2	3	4	4
371	*Dromius sigma*	98											
372	*Metabletus foveatus*	77	3	Z+ZL						3	3	2	3
373	*Metabletus truncatellus*	84	4	Z+ZL						2	2	2	3
374	*Microlestes maurus*	161	-3		*								
375	*Microlestes minutulus*	193					2						
376	*Lionychus quadrillum*	135											
377	*Brachinus crepitans*	236	-3	SL	*		2	5		-2	-2	-3	-2
378	*Brachinus explodens*	201	-3	SL	*						-2	-1	-2
379	*Brachinus sclopeta*	164	-4	AL	*						-2		

TABLE III. Results from distribution analyses based on the presence/absence data per U.T.M. 10 km square.

1 : mean altitude for each species

2 : significant results after comparison of cumulative altitudinal classes with species distribution :
1, 2, 3, 4 = significantly more occurring below respectively 400m, 300m, 200 m, 50 m;
-3, -4 = idem above respectively 200 m, 50 m

3 : significant reactions to most important soil type per U.T.M. square : MC = maritime clay, DZ = dune sand, FZ = fine sand and gravel, Z = DZ+FZ, ZL = sand-loam mixtures, L = loam, SL = stony loam, AL = all loam mixtures, LC = loam on chalk

4 : species significantly more occurring in U.T.M. squares with chalk in the soil (mostly species which are more or less thermophilic)

5 : species significantly more occurring in U.T.M. squares with acid sands or acid clay (mainly species from oligotrophic situations)

6 : significant results after comparison with cumulative classes of woodland cover :
2 = more than 20 % of woodland cover

7 : significant positive reactions to most important woodland type :
1 = oak, 2 = beech, 3 = coniferous trees, 5 = deciduous trees

8 : species significantly more occurring in U.T.M. squares with rivers or rivulets with more than 50 m fall per km.

9 : significant reactions to annual precipitation cumulative classes :
1, 2, 3 = less than respectively 700, 800 or 900 mm precipitation
-2 = more than 800 mm precipitation

10 : significant reactions to relative aridity index cumulative classes :
1, 2, 3, 4 = less than respectively 35, 40, 45 or 50 of index value
-2 = more than 40 of index value

11 : significant reactions with the first day each year a minimal temperature of 5°C is reached (in cumulative classes) :
2, 3, 4 = respectively before 10, 15 or 20 March
-1, -3 = respectively after 5 or 15 March

12 : significant reactions to annual number of days with frost :
1, 2, 3, 4 = less than respectively 55, 65, 75 or 85 days
-1, -2, -3 = more than respectively 55, 65 or 75 days.

Nr	Species	1	2	3	4	5	6	7	8	9	10
218	Amara aenea	249	1043	S	A		c	7.5	m	F	19
219	Amara anthobia	69	135	D	D		r	6.5	m	F	14
220	Amara apricaria	93	200	S	F		c	7.8	m	H	19,12
221	Amara aulica	94	157	S	A		c	12.8	m	H	13
222	Amara bifrons	80	170	D	C		c	6.5	m	H	15
223	Amara communis	143	275	II	A		c	7.0	m	F	20
224	Amara concinna	3	4				m	7.8	m		
225	Amara consularis	50	72	DD	A		c	8.3	m	H	15
226	Amara convexior	64	112	DD			c	8.0	m	F	14,6
227	Amara convexiuscula	21	44	II	A	*	c	11.5	m	H	1,18
228	Amara crenata	2	3		C		m	7.8	m	F	18
229	Amara cursitans	11	13	DD	B		m	8.0	m	H	15
230	Amara curta	84	147	S	A		c	6.8	m	F	14
231	Amara equestris	33	54	DD	A		c	10.8	m	H	14
232	Amara eurynota	42	88	DD	A		c	11.0	m	F	14
233	Amara famelica	30	58	D	A		r	8.0	m	F	9
234	Amara familiaris	221	694	I	A		c	6.5	m	F	19
235	Amara fulva	76	191	D	A		c	9.3	m	H	15
236	Amara fulvipes	1	2		A		m	9.8	m		
237	Amara infima	14	20	S	A		r	4.8	b-d	F	8
238	Amara kulti	14	20	D	A		m	9.5	m		
239	Amara lucida	18	35	S	C		c	5.8	m	F	16
240	Amara lunicollis	155	367	II	A		c	7.5	m	F	20
241	Amara montivaga	42	79	DD	A		r	8.5	m	F	18
242	Amara municipalis	5	8	DD	A		m	6.5	m	HF	18
243	Amara nitida	6	16	S	A		c	8.0	m	F	18
244	Amara ovata	95	184	DD	A		c	8.8	m	F	14
245	Amara plebeja	200	689	S	A		c	7.0	m	F	20
246	Amara praetermissa	28	45	DD	A		c	7.0	m	HF	15
247	Amara quenseli	13	26	DD	A		m	8.3	m		15
248	Amara similata	180	521	II	A		c	8.8	m	F	12
249	Amara spreta	87	231	DD	A		c	8.0	m	F	15
250	Amara strenua	4	6	DD	B		c	9.0	m		
251	Amara tibialis	31	50	S	A		c	5.3	m	F	16,14
252	Amara tricuspidata	23	42	DD	A		c	7.5	m		
253	Zabrus tenebrioides	85	164	DD	C		r	13.5	m	HF	12
254	Anisodactylus binotatus	193	732	S	A		c	11.0	m	F	20
255	Anisodactylus nemorivagus	21	31	DD	C		r	9.0	m	F	8
256	Anisodactylus poeciloides	6	8	DD	D	*	c	11.0	m	F	1
257	Anisodactylus signatus	9	12	S	A		c	11.5	m	F	
258	Diachromus germanus	36	78	DD	A		m	9.0	m	F	3,6
259	Stenolophus mixtus	99	203	I	A		c	5.5	m	F	2
260	Stenolophus skrimshiranus	24	65	DD	C		c	6.3	m	F	13
261	Stenolophus teutonus	166	462	II	D		c	6.3	m	F	20,12
262	Bradycellus collaris	20	22	S	A		c	3.5	b-d		8,6
263	Bradycellus csikii	3	3		B		m	3.5	b-d		16
264	Bradycellus distinctus	7	18	S	D	*	r	4.8	d	H	17
265	Bradycellus harpalinus	167	547	I	C		c	4.1	d	H	15
266	Bradycellus ruficollis	54	89	S	D		c	3.2	m	F	8
267	Bradycellus sharpi	33	56	S	B		r	5.0	d		6
268	Bradycellus verbasci	112	233	II	C		c	5.0	m	HF	19,12
269	Dicheirotrichus gustavii	16	48	S	B		c	6.8	m	H	1
270	Dicheirotrichus obsoletus	12	24	I	D		r	6.7	m	H	1
271	Trichocellus cognatus	8	14	S	F		m	4.4	m	F	8
272	Trichocellus placidus	48	61	II	A		r	4.6	m	F	13,10
273	Acupalpus brunnipes	41	78	DD	C		c	3.5	m	F	15
274	Acupalpus consputus	52	102	S	A		c	4.4	m	F	2
275	Acupalpus dorsalis	97	280	S	A		c	3.8	m	F	3,10
276	Acupalpus dubius	64	135	I	E		c	2.9	m	F	10
277	Acupalpus exiguus	22	37	S	A		c	2.8	m	F	2
278	Acupalpus flavicollis	90	187	I	C		c	3.3	m	F	20
279	Acupalpus meridianus	125	410	DD	C		c	3.7	m	F	19
280	Acupalpus transversalis	1	1		A		m	4.9	m	F	

Table IV. Commonness and rarity, recent relative increase or decrease, total distribution area, mean beetle size, wing developmental type, main reproductive period and habitat preference.

---

1 : number of different U.T.M. 10 km squares with the species

2 : number of records (locality/year data) per species

3 : recent relative increase , decrease or stagnation of the species in our country since 1950 :
D = significantly decreasing (based on the number of records)
DD = significantly decreasing (based on the number of records as well as based on the number of U.T.M. squares with the species)
I = idem as D but increasing
II = idem as DD but increasing
S = stagnation although there are enough data to allow statistical analysis

4 : total distribution area :
A = palearctic, B = entirely european, C = western palearctic, D = euro-mediterranean, E = euro-caucasian, F = circumpolar, G = amphi-atlantic

5 : species with a coastal distribution pattern

6 : position of Belgium in the total distribution area :
c = central, r = near limits (but distribution limit not across Belgium)
m = marginal (distribution limit across Belgium)

7 : mean beetle size in mm

8 : wing developmental type in our country :
m = constantly macropterous, b = constantly brachypterous, d = wing dimorphic and p = wing polymorphic species; if two codes are given the first always refers to our own observations (material from our country), whereas the second refers to the literature

9 : main reproductive period :
F = during Spring, H = during Summer-Autumn, FH = mainly during Spring, HF = mainly during Autumn

10 : Habitat preference codes : species known mainly to occur in :
1 (salt marshes), 2 (eutrophic riparian habitats), 3 (oligotrophic riparian habitats), 4 (river banks near running water), 5 (woodland, stenotopic), 6 (woodland, eurytopic), 7 (meadow forests), 8 (dry heathland), 9 (wet heathland), 10 (marshland), 11 (bogs), 12 (ruderal habitats and cultivated fields), 13 (wet grasslands), 14 (dry grasslands), 15 (different habitats on dry sandy soil), 16 (dry dune habitats), 17 (beaches and dune slacks), 18 (stony slopes and chalk grasslands), 19 (different dry habitats, eurytopic), 20 (different humid habitats, eurytopic), 21 (living on trees), 22 (caves, cellars).

Nr	Species	1	2	3	4	5	6	7	8	9	10
281	Harpalus aeneus	262	949	I	A		c	10.5	m	FH	19
282	Harpalus anxius	74	180	DD	A		c	7.3	m	FH	15
283	Harpalus ardiosacus	21	53	DD	B		r	11.5	m	H	18
284	Harpalus atratus	42	87	D	A		m	12.0	d	F	18
285	Harpalus attenuatus	24	37	S	C		r	8.0	m	F	15
286	Harpalus autumnalis	18	36	DD	A		r	8.5	b		15
287	Harpalus azureus	35	75	DD	A		c	8.0	d	FH	18
288	Harpalus calceatus	5	7	DD	A		c	12.5	m	H	15
289	Harpalus cordatus	13	21	DD	A		r	8.8	m	H	18,16
290	Harpalus dimidiatus	45	74	DD	A		m	12.5	m	F	18
291	Harpalus distinguendus	91	232	D	A		c	9.6	m	F	2,12
292	Harpalus flavescens	10	21	S	E		c	12.0	m		16
293	Harpalus froelichi	14	38	DD	A		c	9.0	m	F	15
294	Harpalus fuliginosus	17	23	DD	A		r	9.3	m	F	15
295	Harpalus griseus	39	61	DD	A		c	10.0	m	H	15
296	Harpalus honestus	39	65	S	A		r	9.0	p	H	18
297	Harpalus latus	127	277	S	A		c	9.5	m	H	19
298	Harpalus luteicornis	10	15	S	B		m	6.8	m	F	19
299	Harpalus melancholicus	3	10	D	C		c	9.0	m	H	16
300	Harpalus melleti	2	3		B		m	6.5	m		18
301	Harpalus modestus	20	26	DD	B		c	6.2	m	F	18
302	Harpalus neglectus	18	25	DD	C		c	7.3	b-d	FH	15
303	Harpalus obscurus	3	11	D	B		m	13.0	m	H	18
304	Harpalus parallelus	9	28	DD	B		m	7.3	m		18
305	Harpalus puncticeps	72	151	D	C		c	8.0	m	H	18,12
306	Harpalus puncticollis	48	102	D	C		c	8.5	m	F	18
307	Harpalus punctulatus	23	36	DD	A		c	10.0	m	H	18
308	Harpalus quadripunctatus	25	43	S	A		m	10.8	m	HF	5
309	Harpalus rubripes	131	367	D	A		c	9.5	m	HF	19
310	Harpalus rufibarbis	72	125	II	A		c	8.0	m	F	19
311	Harpalus rufipes	228	845	S	A		c	13.5	m	H	12
312	Harpalus rufitarsis	62	124	DD	C		c	9.0	m	F	15
313	Harpalus rupicola	20	39	DD	C		m	8.0	m	F	18
314	Harpalus sabulicola	13	20	DD	A		m	15.0	m	H	18
315	Harpalus schaubergerianus	2	6	D	B		m	8.8	m		18
316	Harpalus serripes	17	35	DD	A		c	10.5	m	F	15
317	Harpalus servus	21	66	S	A		r	7.8	m	F	16,15
318	Harpalus signaticornis	8	16	DD	A		r	6.5	m	H	
319	Harpalus smaragdinus	49	127	DD	A		c	9.3	m	HF	15
320	Harpalus tardus	127	355	S	A		c	9.7	m	FH	19
321	Harpalus tenebrosus	6	11	S	A		m	10.0	m	F	18
322	Harpalus vernalis	16	21	DD	A		c	5.6	b	F	15
323	Trichotichnus laevicollis	62	147	I	B		r	7.5	d	F	6
324	Trichotichnus nitens	63	144	II	B		r	7.8	d	F	6
325	Paraphonus maculicornis	20	54	DD	A		m	6.0	m	F	13

Table V. Commonness and rarity, recent relative increase or decrease, total distribution area, mean beetle size, wing developmental type, main reproductive period and habitat preference.

---

1 : number of different U.T.M. 10 km squares with the species

2 : number of records (locality/year data) per species

3 : recent relative increase , decrease or stagnation of the species in our country since 1950 :
D = significantly decreasing (based on the number of records)
DD = significantly decreasing (based on the number of records as well as based on the number of U.T.M. squares with the species)
I = idem as D but increasing
II = idem as DD but increasing
S = stagnation although there are enough data to allow statistical analysis

4 : total distribution area :
A = palearctic, B = entirely european, C = western palearctic, D = euro-mediterranean, E = euro-caucasian, F = circumpolar, G = amphi-atlantic

5 : species with a coastal distribution pattern

6 : position of Belgium in the total distribution area :
c = central, r = near limits (but distribution limit not across Belgium, m = marginal (distribution limit across Belgium)

7 : mean beetle size in mm

8 : wing developmental type in our country :
m = constantly macropterous, b = constantly brachypterous, d = wing dimorphic and p = wing polymorphic species; if two codes are given the first always refers to our own observations (material from our country), whereas the second refers to the literature

9 : main reproductive period :
F = during Spring, H = during Summer-Autumn, FH = mainly during Spring, HF = mainly during Autumn

10 : Habitat preference codes : species known mainly to occur in :
1 (salt marshes), 2 (eutrophic riparian habitats), 3 (oligotrophic riparian habitats), 4 (river banks near running water), 5 (woodland, stenotopic), 6 (woodland, eurytopic), 7 (meadow forests), 8 (dry heathland), 9 (wet heathland), 10 (marshland), 11 (bogs), 12 (ruderal habitats and cultivated fields), 13 (wet grasslands), 14 (dry grasslands), 15 (different habitats on dry sandy soil), 16 (dry dune habitats), 17 (beaches and dune slacks), 18 (stony slopes and chalk grasslands), 19 (different dry habitats, eurytopic), 20 (different humid habitats, eurytopic), 21 (living on trees), 22 (caves, cellars).

Nr	Species	1	2	3	4	5	6	7	8	9	10
326	*Licinus depressus*	22	48	D	A		r	10.0	d-b	H	16,18
327	*Licinus hoffmannseggi*	7	17	S	A		m	12.0	b	H	5
328	*Licinus punctatulus*	7	10		A		m	15.0	m	H	
329	*Licinus silphoides*	3	8	D	A		m	14.5	m	H	
330	*Badister anomalus*	18	39	S	A		r	4.5	m	F	2
331	*Badister bipustulatus*	147	299	S	F		c	5.4	m	F	6,19
332	*Badister dilatatus*	33	58	S	A		c	5.5	m	F	2
333	*Badister lacertosus*	79	112	II	A		r	6.0	m	F	
334	*Badister peltatus*	5	5		A		c	4.9	m	F	2,7
335	*Badister sodalis*	74	133	S	C		c	4.3	m	F	20
336	*Badister unipustulatus*	33	56	S	C		c	7.6	m	F	22,7
337	*Chlaenius nigricornis*	77	180	DD	A		c	11.0	m	F	2
338	*Chlaenius nitidulus*	68	190	DD	A		c	11.3	m	F	2
339	*Chlaenius sulcicollis*	4	5	DD	A		m	13.5	m	F	
340	*Chlaenius tristis*	11	16	DD	A		c	11.5	m	F	2
341	*Chlaenius variegatus*	7	11	DD	A		m	11.0	m	F	
342	*Chlaenius vestitus*	69	148	DD	A		c	9.8	m	F	3
343	*Callistus lunatus*	37	97	DD	B		m	5.6	m	F	18
344	*Oödes helopioides*	82	186	D	A		c	8.5	m	F	10,2
345	*Panagaeus bipustulatus*	75	113	S	C		c	7.0	m	F	15
346	*Panagaeus cruxmajor*	129	248	DD	A		c	8.3	m	F	13
347	*Odacantha melanura*	59	131	S	A		c	6.9	m	F	10
348	*Masoreus wetterhalli*	19	30	S	A		c	6.3	d	H	15
349	*Cymindis axillaris*	17	32	DD	A		r	9.4	m	F	8,18
350	*Cymindis humeralis*	26	41	DD	D		c	9.8	d	H	8
351	*Cymindis macularis*	9	18	S	A		r	8.9	d	H	8
352	*Cymindis vaporariorum*	22	31	DD	A		r	8.3	b-d	HF	8
353	*Lebia chlorocephala*	116	210	DD	A		c	6.7	m	F	13,19
354	*Lebia cruxminor*	36	63	DD	A		m	6.3	m	F	18
355	*Lebia cyanocephala*	10	14	DD	A		c	7.0	m	F	14
356	*Lebia marginata*	12	14	DD	A		m	4.5	m	F	
357	*Somotrichus elevatus*	1	1					4.0	m		
358	*Demetrias atricapillus*	135	337	S	A		c	5.3	m	F	20
359	*Demetrias imperialis*	46	95	I	A		c	5.5	m	F	10
360	*Demetrias monostigma*	19	61	I	A		c	4.8	d	F	16,10
361	*Dromius agilis*	84	163	D	A		c	6.1	m	F	21
362	*Dromius angustus*	24	44	S	B		c	6.3	m	F	21
363	*Dromius fenestratus*	26	38	D	B		m	5.9	m	F	21
364	*Dromius linearis*	130	286	II	C		c	5.0	d	FH	19
365	*Dromius longiceps*	1	1		E		c	5.9	m	F	17,1
366	*Dromius melanocephalus*	84	171	S	C		c	3.4	m	F	19
367	*Dromius meridionalis*	8	10	S	C		m	6.3	m	F	21
368	*Dromius notatus*	9	26	I	A		c	3.5	b-d	F	16,21
369	*Dromius quadrimaculatus*	106	228	S	E		c	5.4	m	F	21
370	*Dromius quadrinotatus*	85	164	D	D		c	4.1	m	F	21
371	*Dromius sigma*	9	29	DD	A		c	3.8	b-d	F	10
372	*Metabletus foveatus*	112	348	II	A		c	3.5	d	F	15
373	*Metabletus truncatellus*	64	101	S	A		c	3.0	d	F	14
374	*Microlestes maurus*	36	61	DD	C		c	2.6	p-d	F	18,14
375	*Microlestes minutulus*	22	28	S	A		c	3.1	m	F	15
376	*Lionychus quadrillum*	14	24	D	A		m	3.5	m	F	
377	*Brachinus crepitans*	65	144	DD	A		c	8.3	m	FH	18
378	*Brachinus explodens*	33	58	DD	A		m	6.2	m	F	18
379	*Brachinus sclopeta*	12	17	DD	A		m	6.4	m	F	18

Table VI. Commonness and rarity, recent relative increase or decrease, total distribution area, mean beetle size, wing developmental type, main reproductive period and habitat preference.

---

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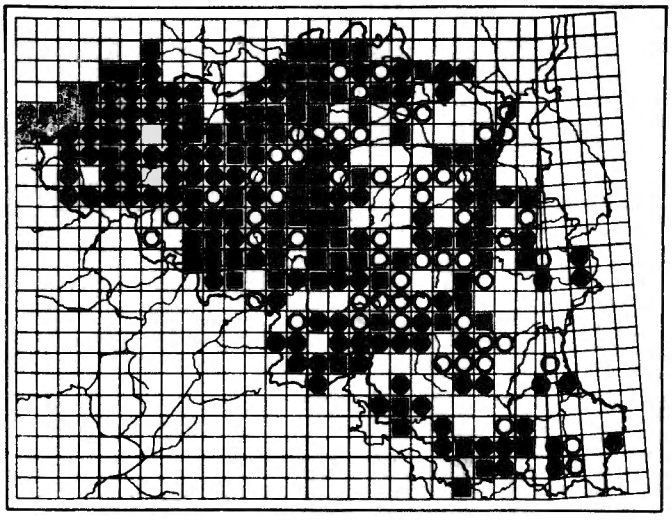
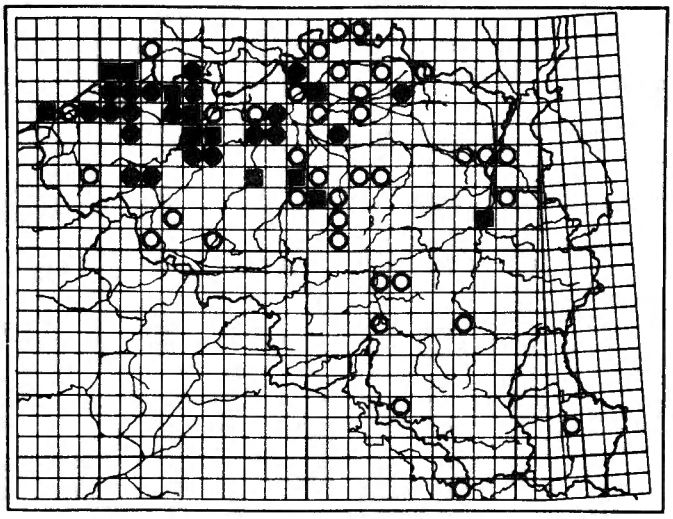
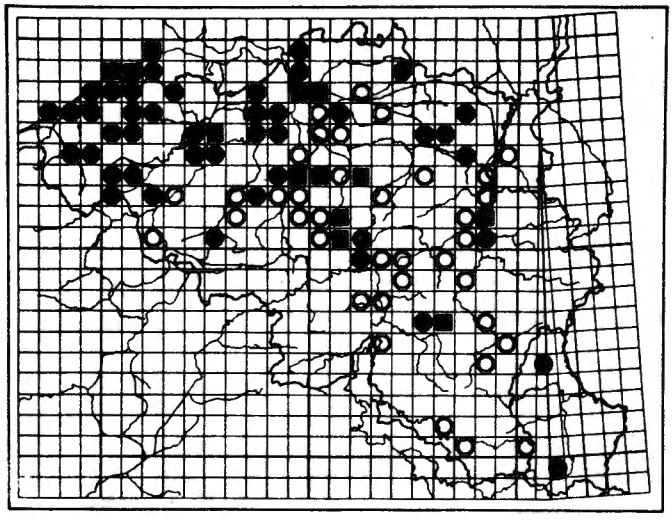


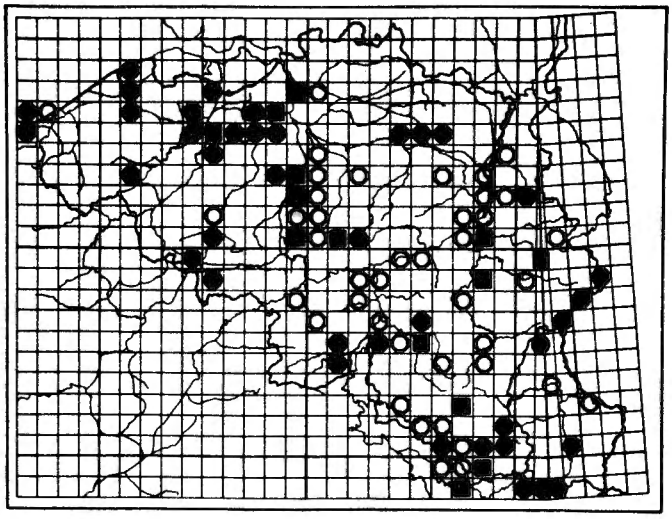
218. AMARA aenea



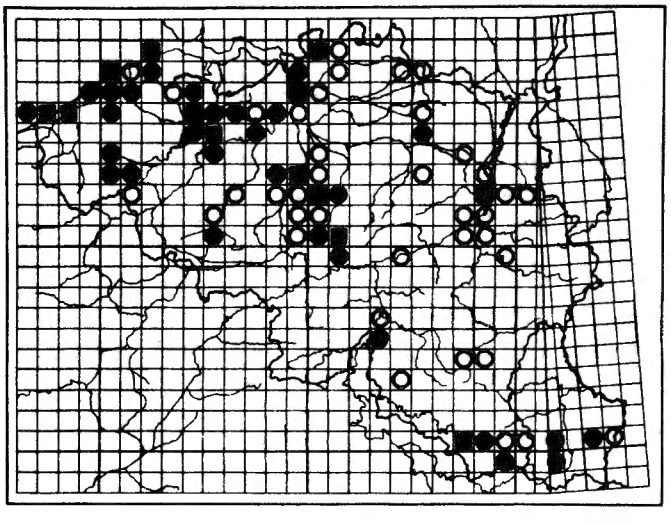
219. AMARA anthobia



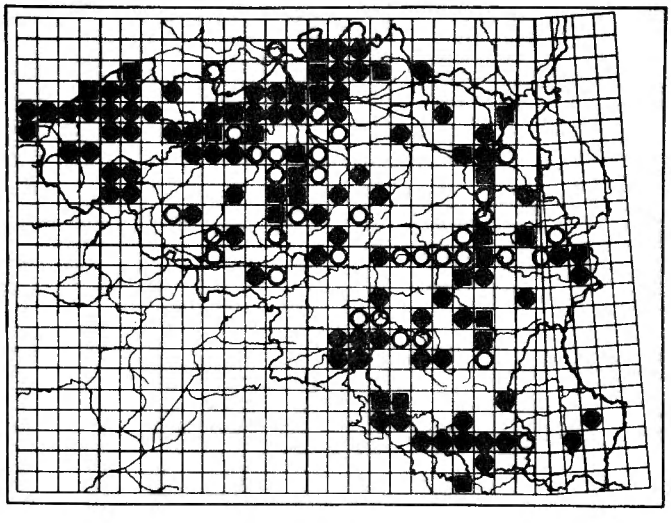
220. AMARA apricaria



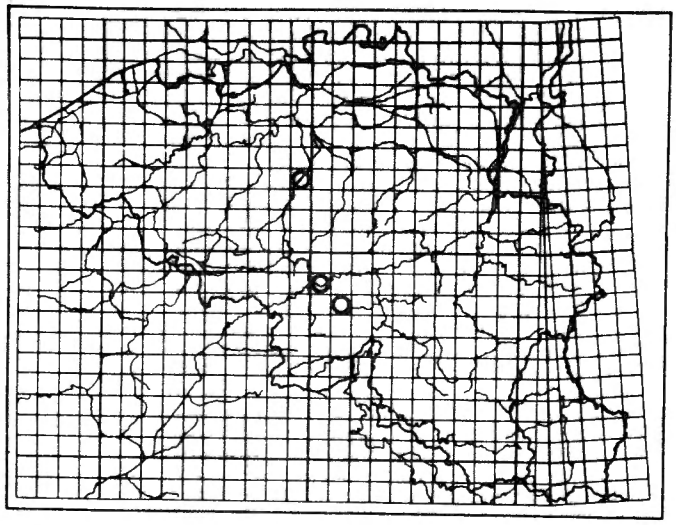
221. AMARA aulica



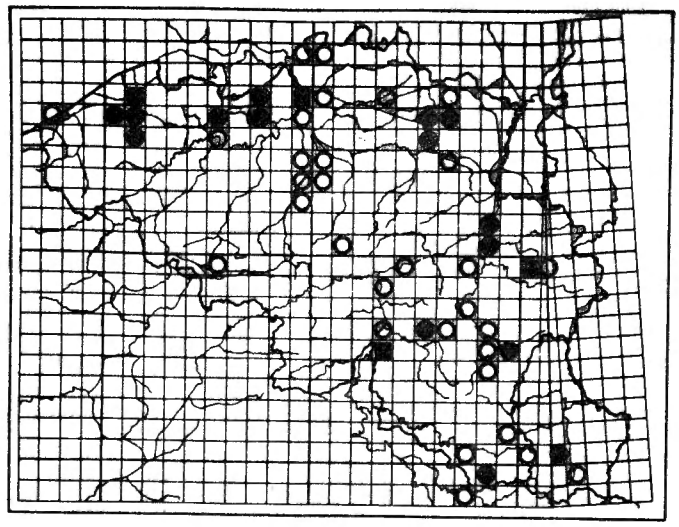
222. AMARA bifrons



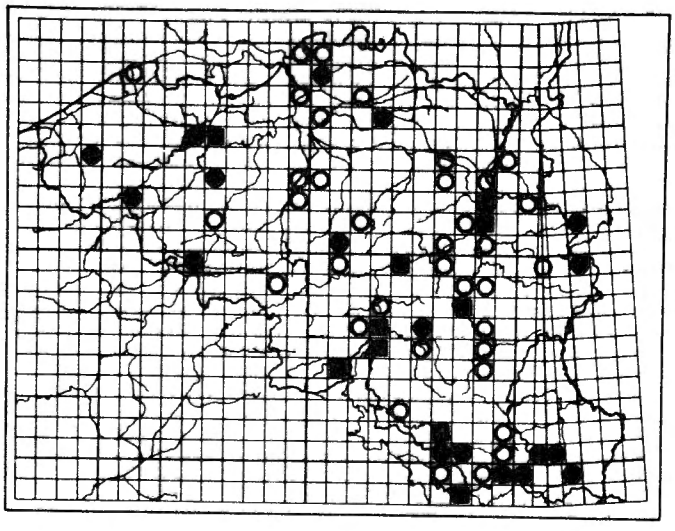
223. AMARA communis



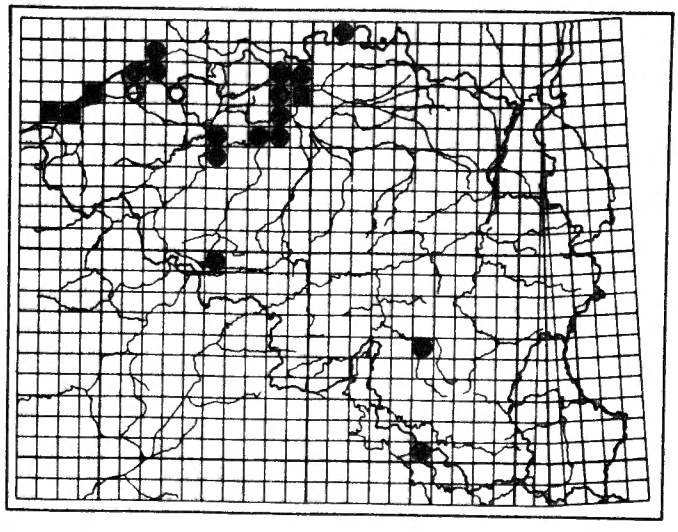
224. *AMARA concinna*



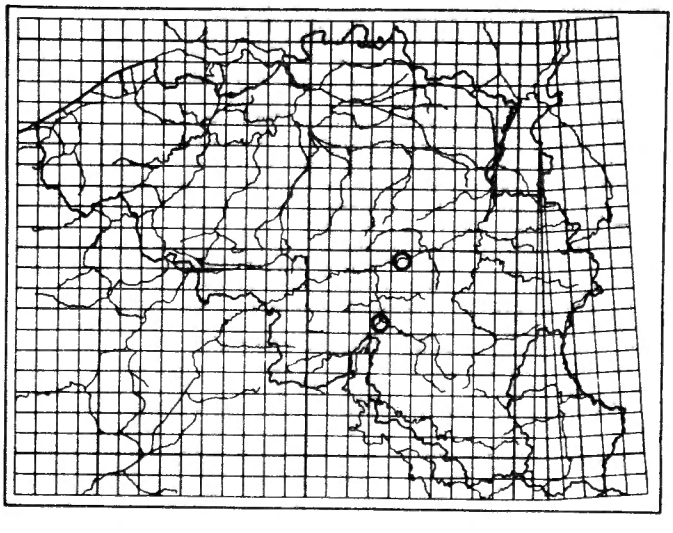
225. *AMARA consularis*



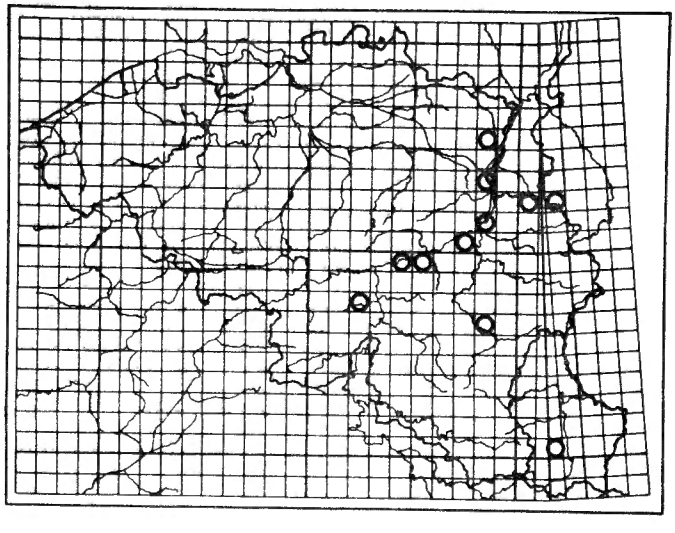
226. *AMARA convexior*



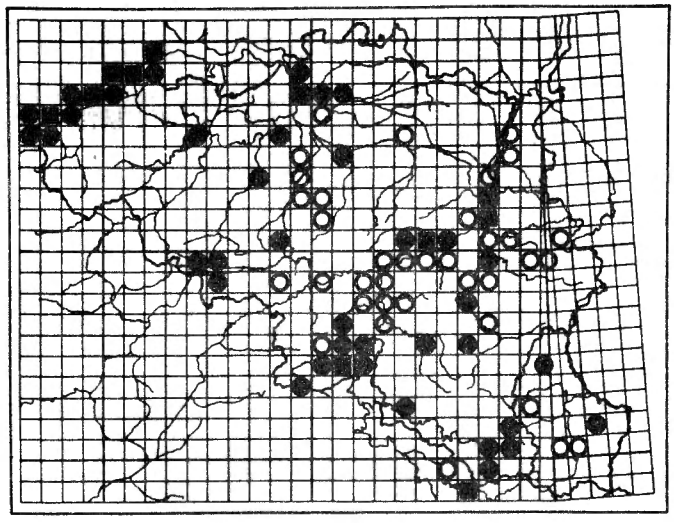
227. *AMARA convexiuscula*



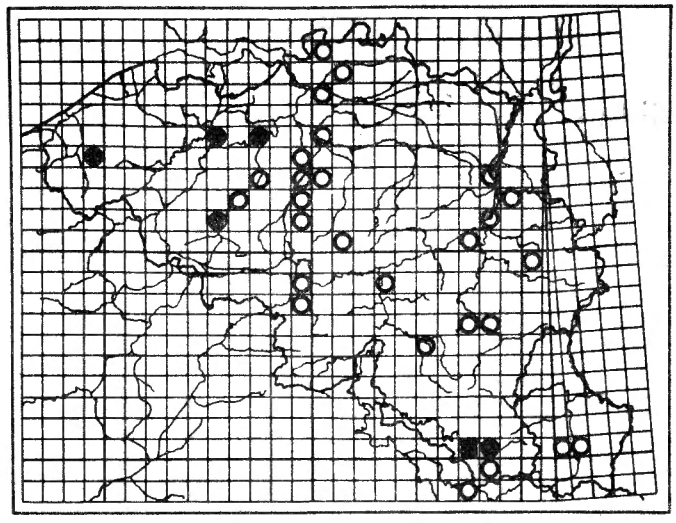
228. *AMARA crenata*



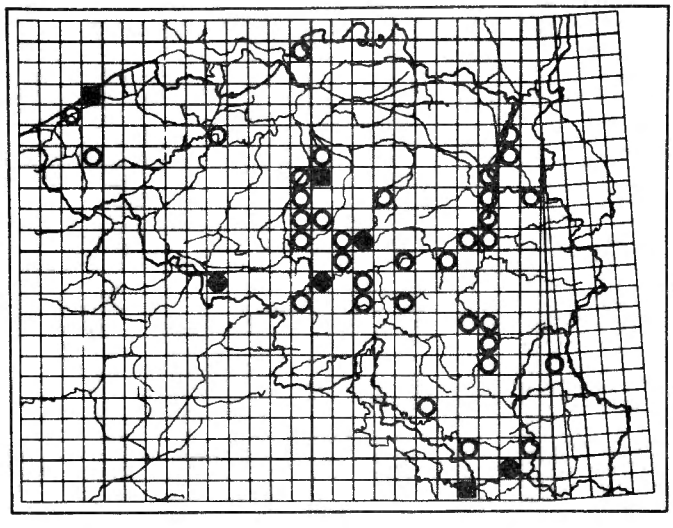
229. *AMARA cursitans*



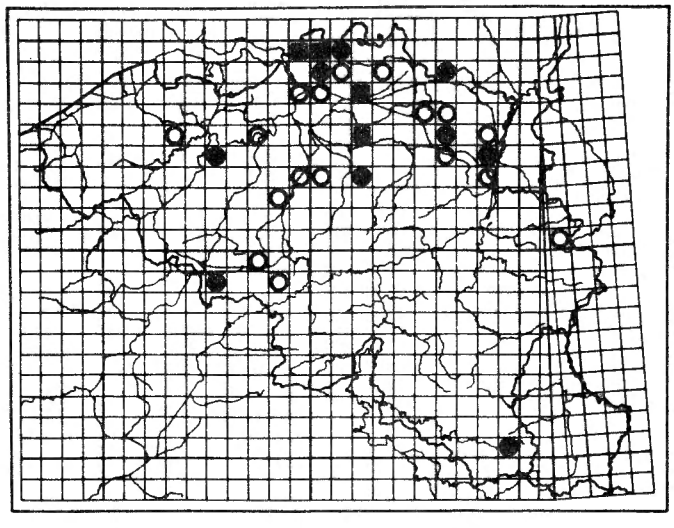
230. AMARA curta



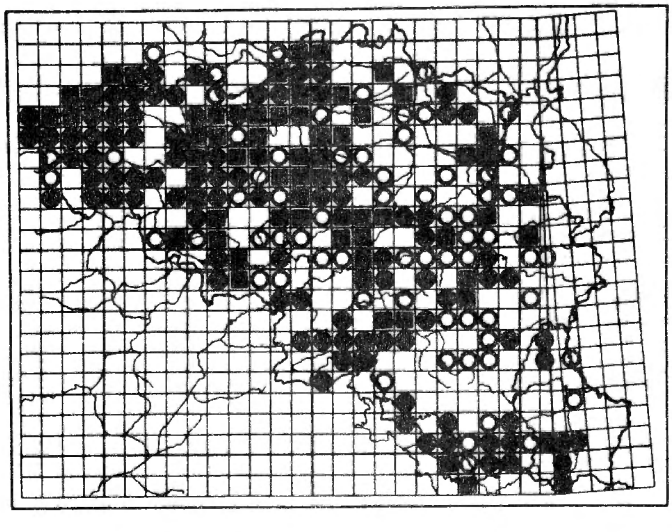
231. AMARA equestris



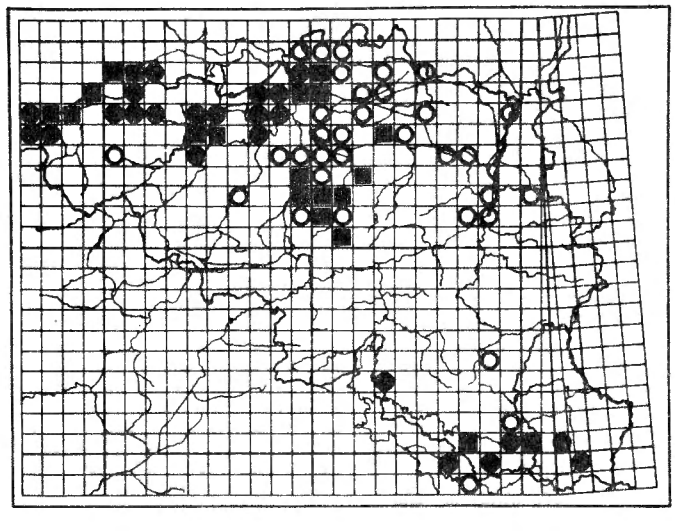
232. AMARA eurynota



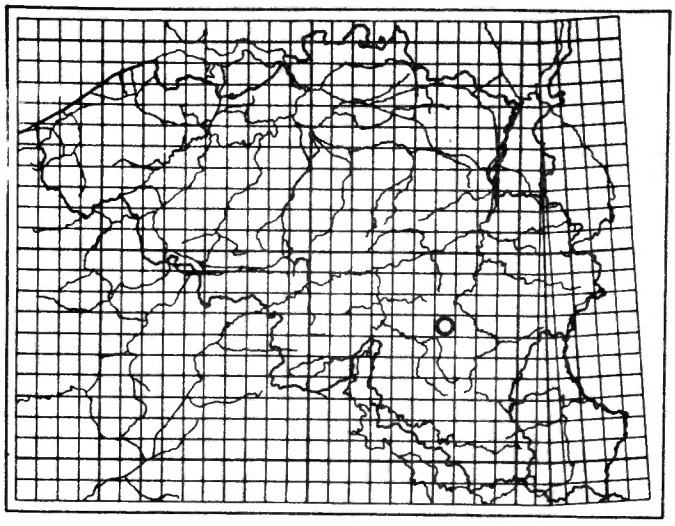
233. AMARA famelica



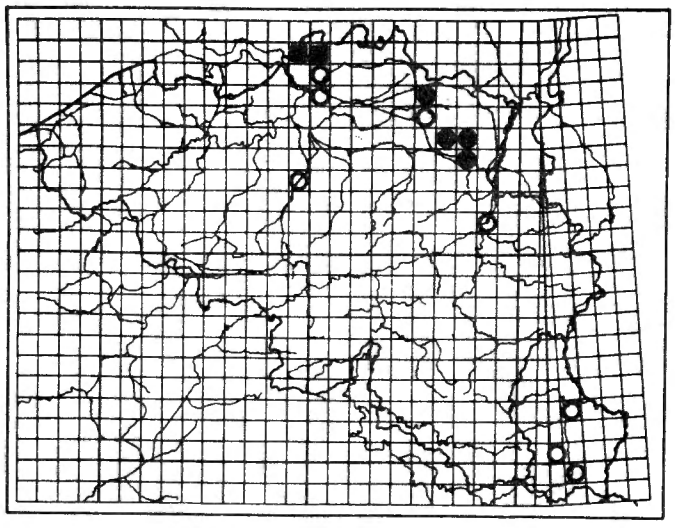
234. AMARA familiaris



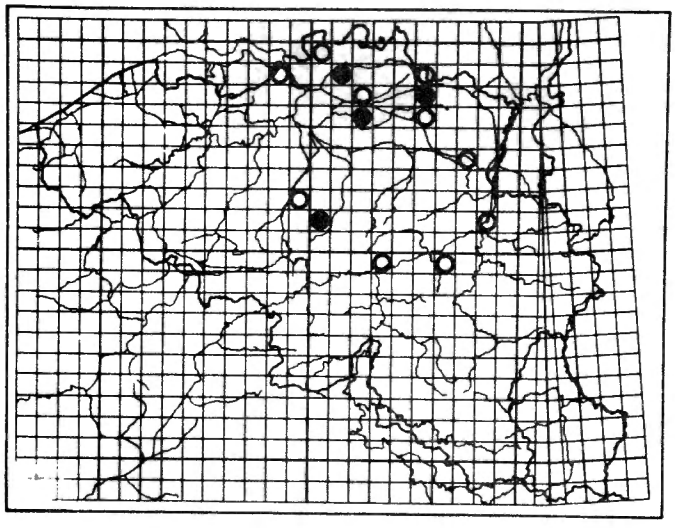
235. AMARA fulva



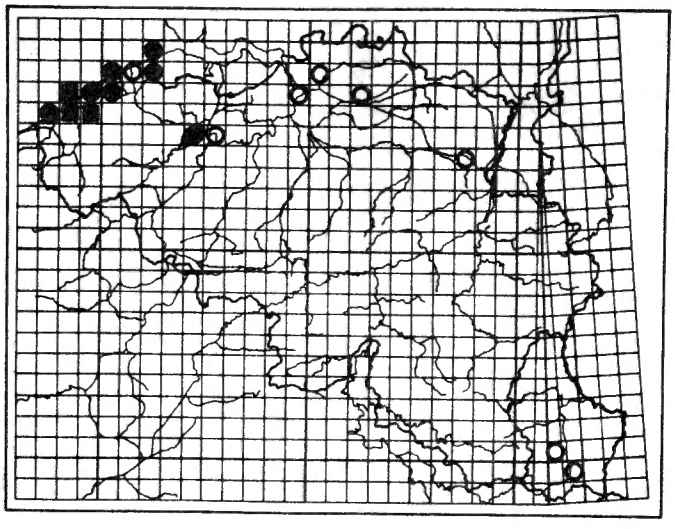
236. *AMARA fulvipes*



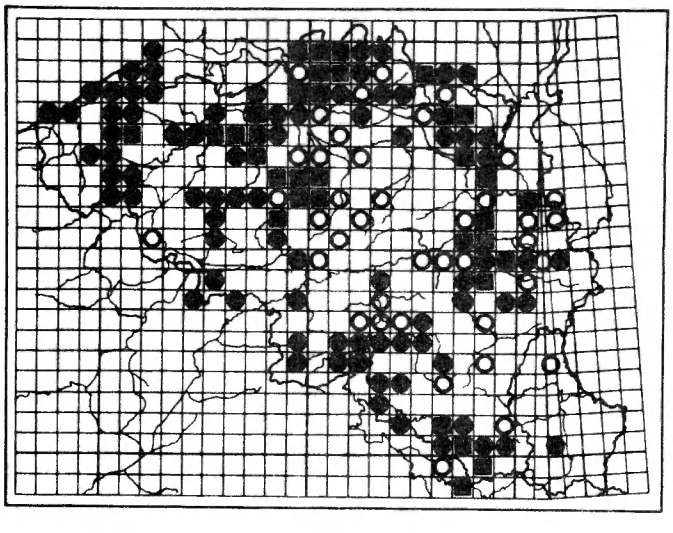
237. *AMARA infima*



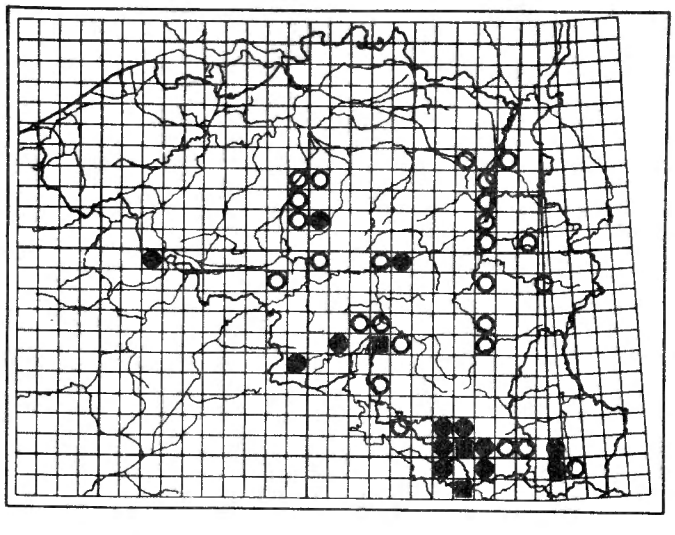
238. *AMARA kulti*



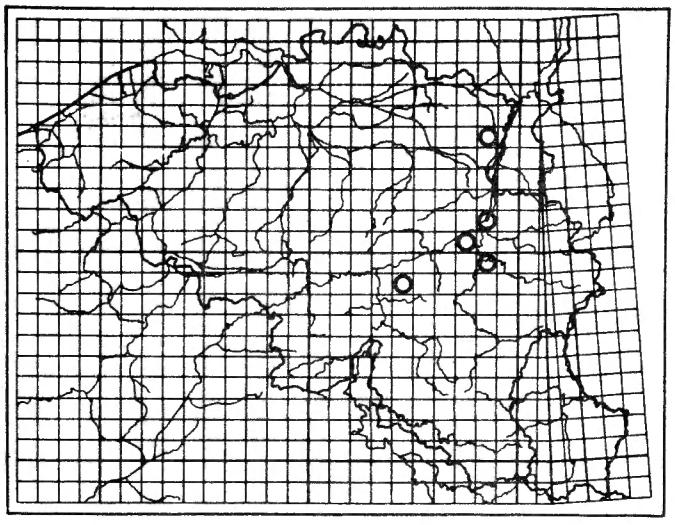
239. *AMARA lucida*



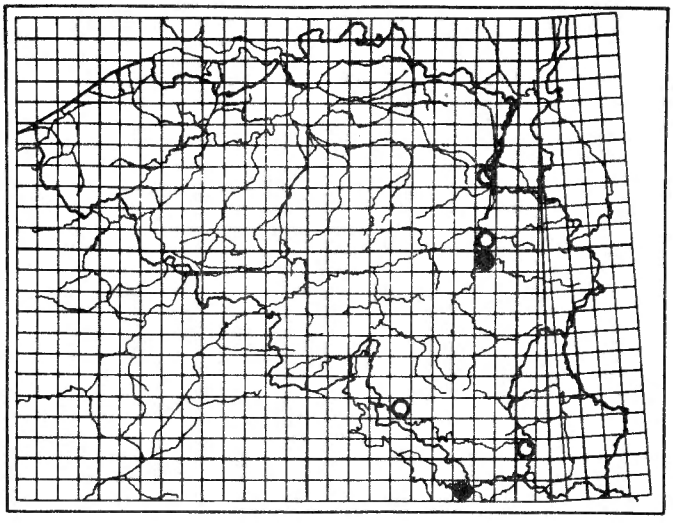
240. *AMARA lunicollis*



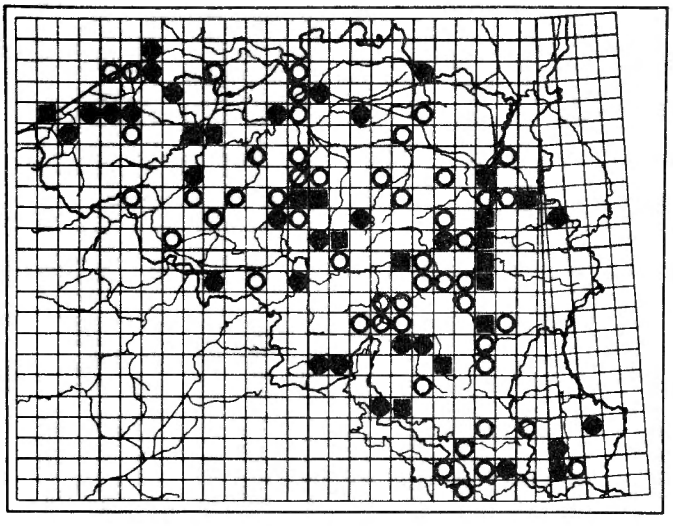
241. *AMARA montivaga*



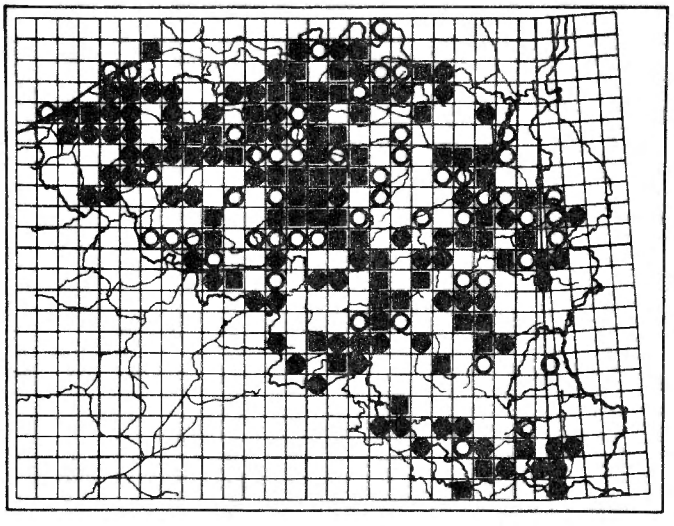
242. AMARA municipalis



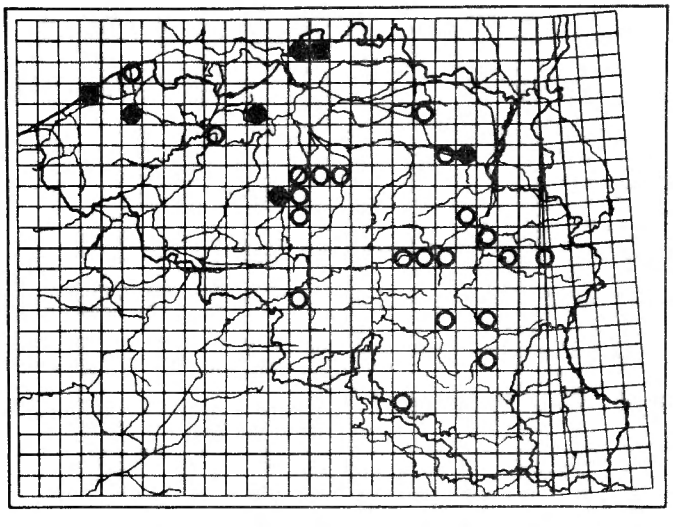
243. AMARA nitida



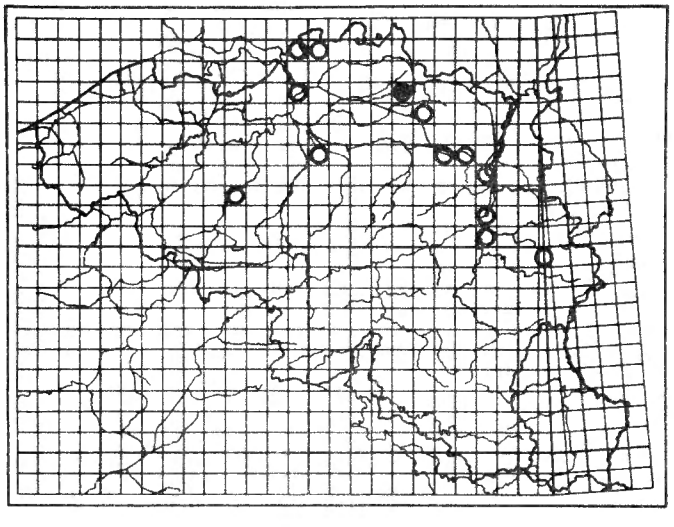
244. AMARA ovata



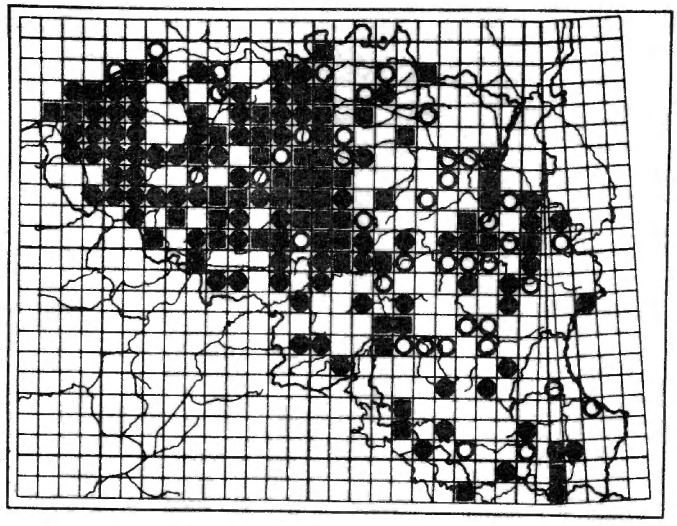
245. AMARA plebeja



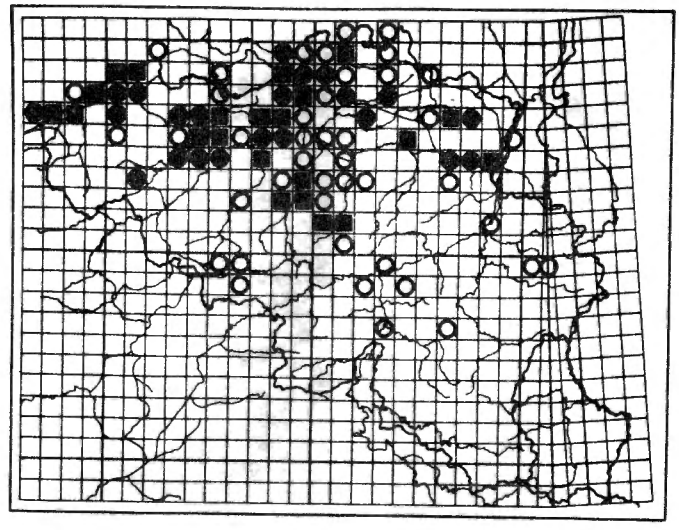
246. AMARA praetermissa



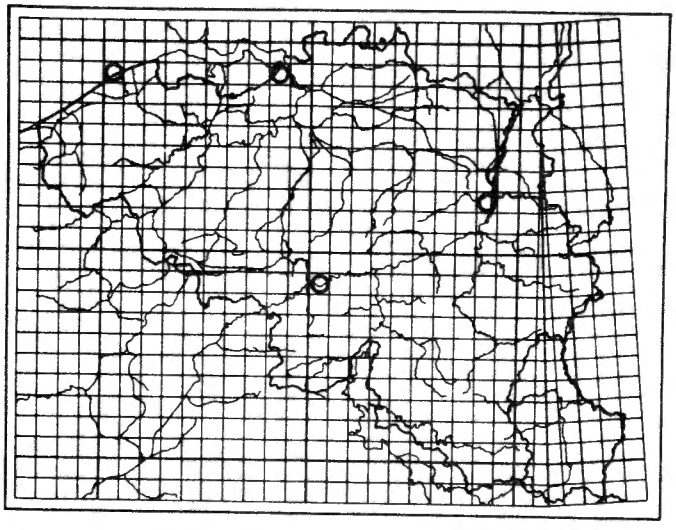
247. AMARA quenseli



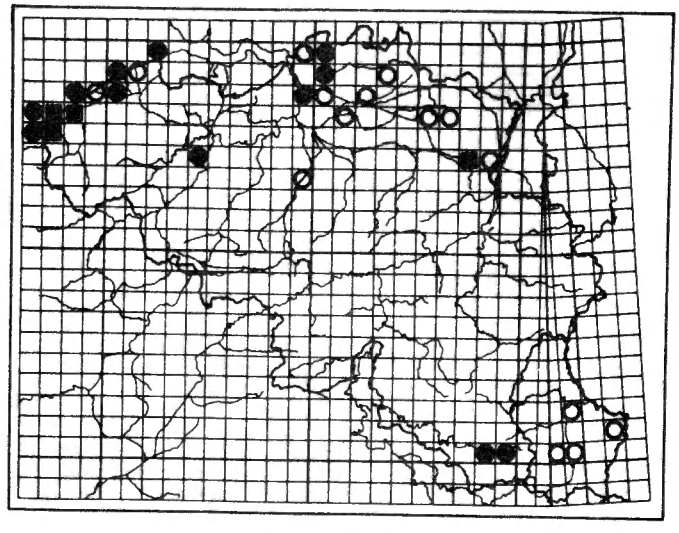
248. *AMARA similata*



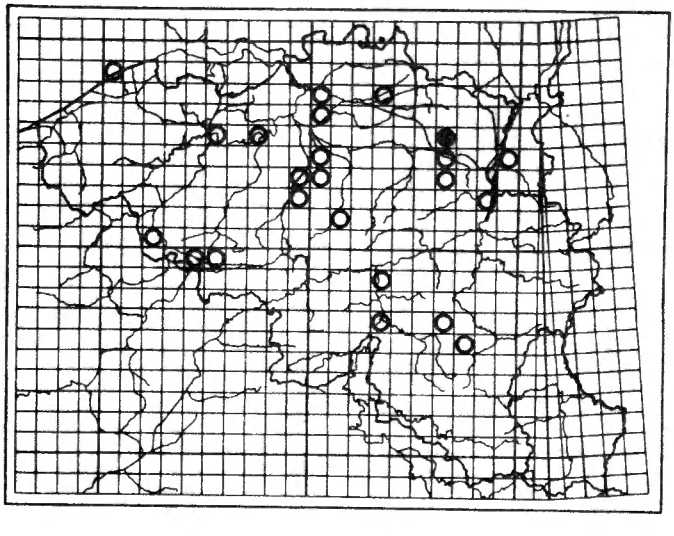
249. *AMARA spreta*



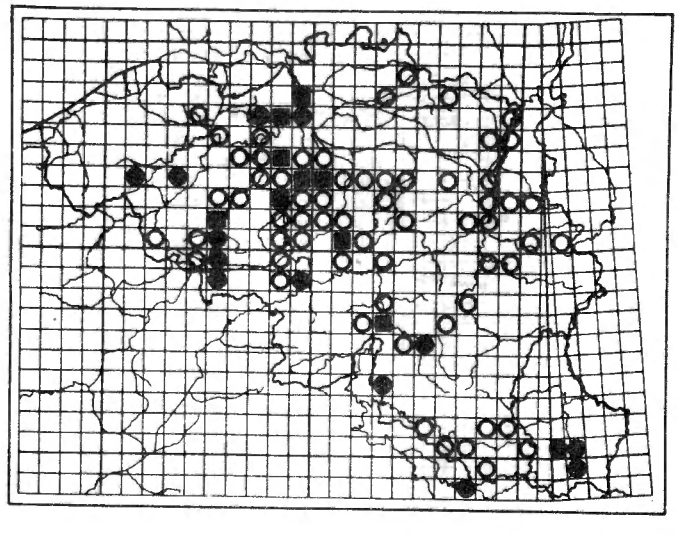
250. *AMARA strenua*



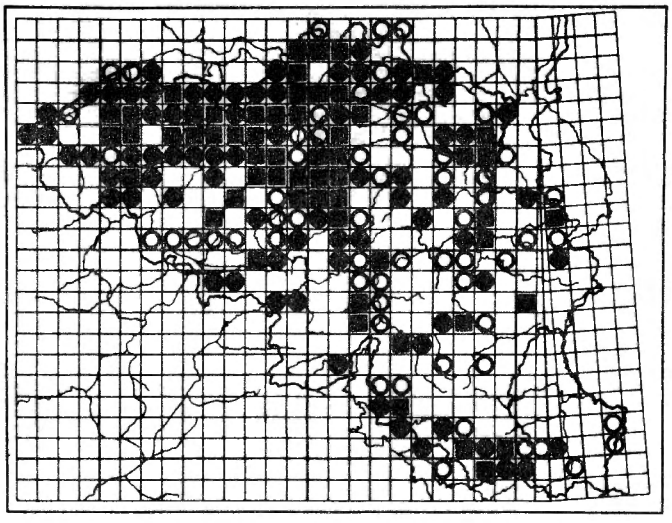
251. *AMARA tibialis*



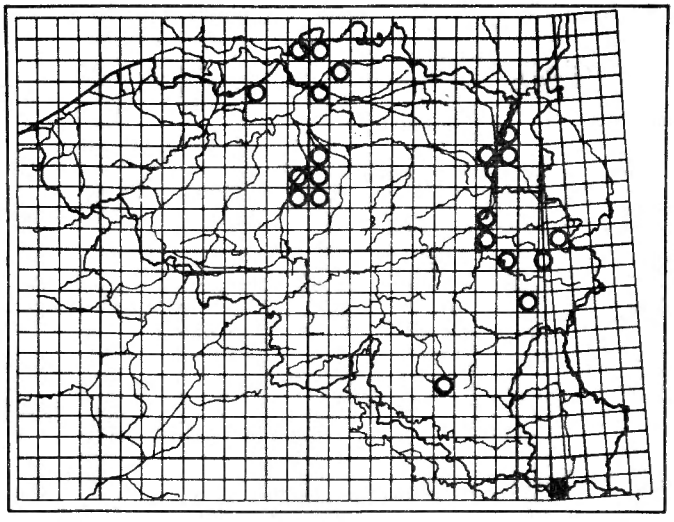
252. *AMARA tricuspidata*



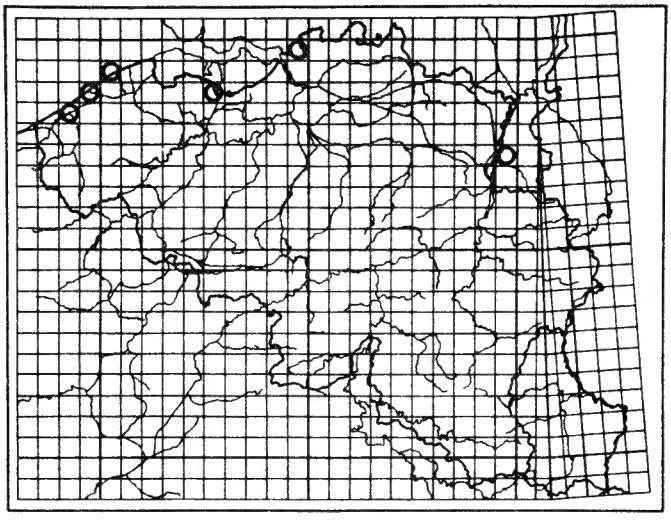
253. *ZABRUS tenebrioides*



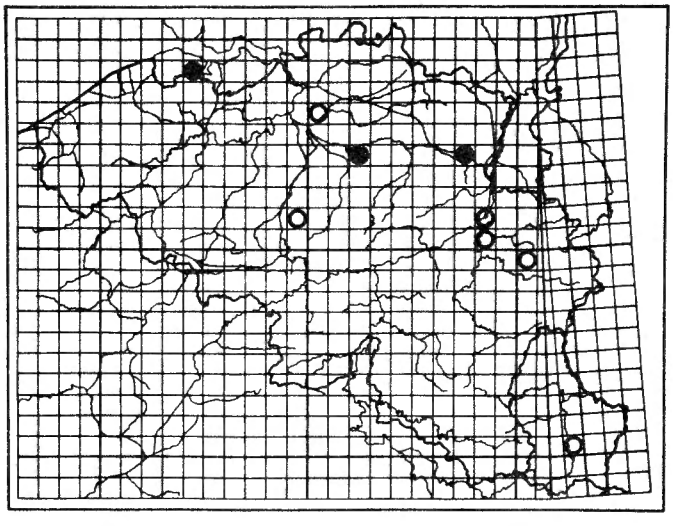
254. *ANISODACTYLUS binotatus*



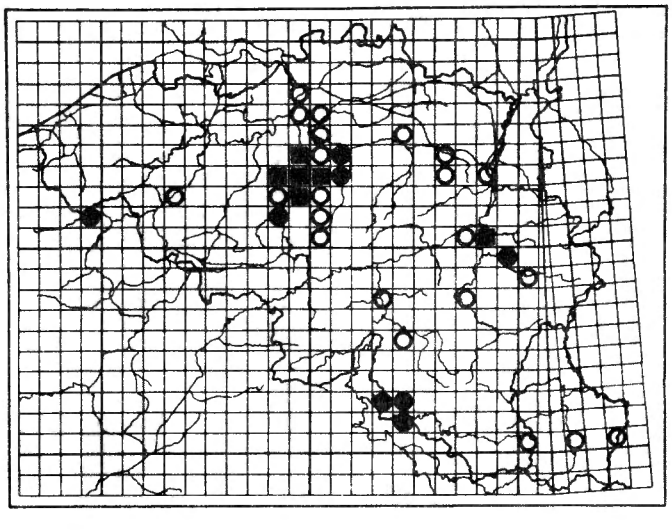
255. *ANISODACTYLUS nemorivagus*



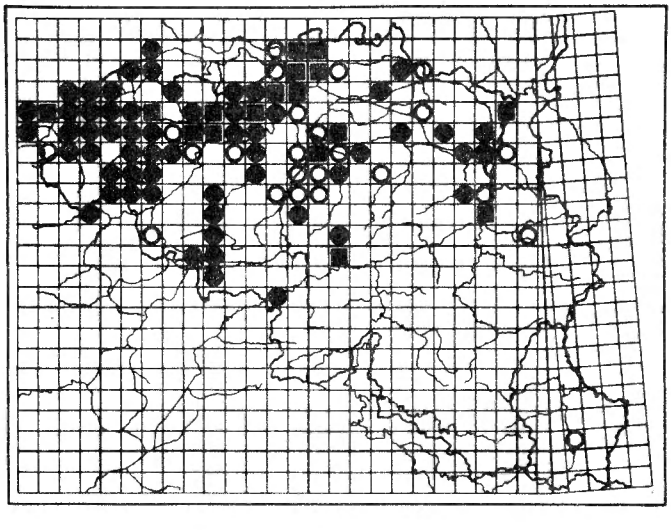
256. *ANISODACTYLUS poeciloïdes*



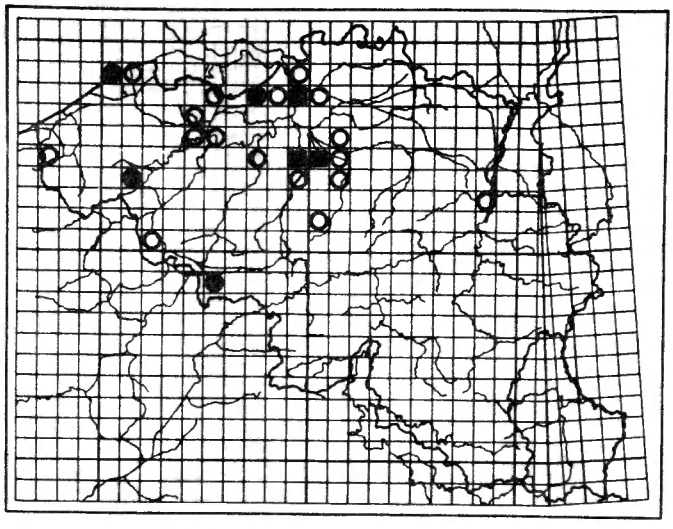
257. *ANISODACTYLUS signatus*



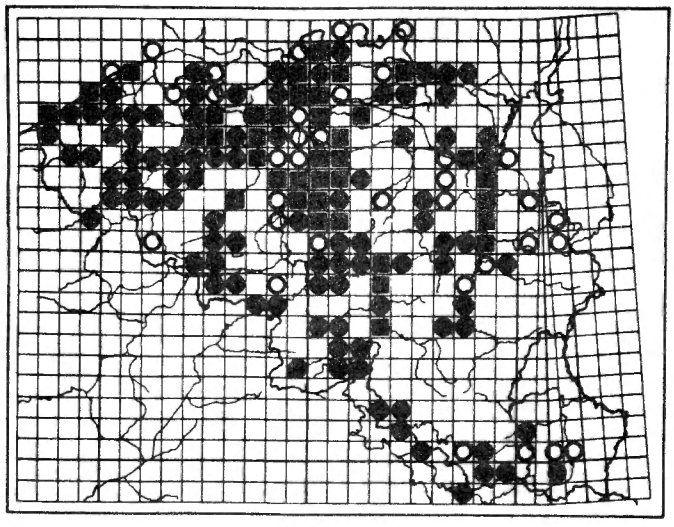
258. *DIACHROMUS germanus*



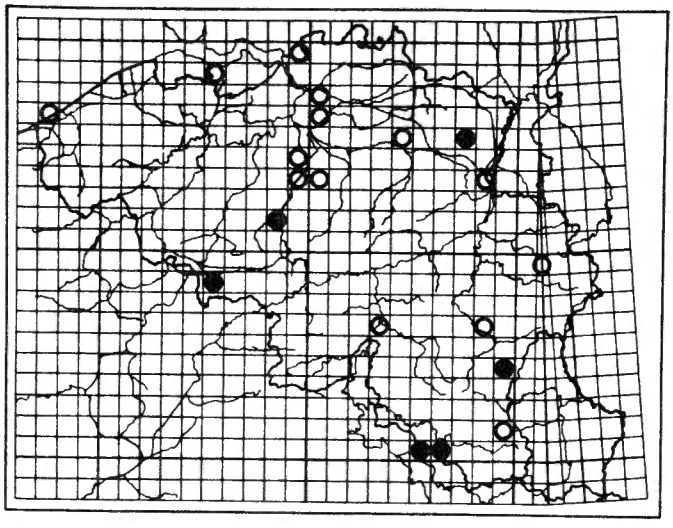
259. *STENOLOPHUS mixtus*



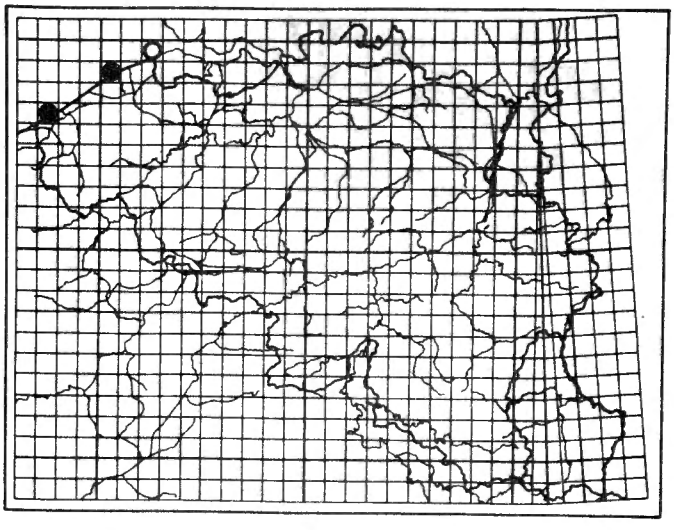
260. *STENOLOPHUS skrimshiranus*



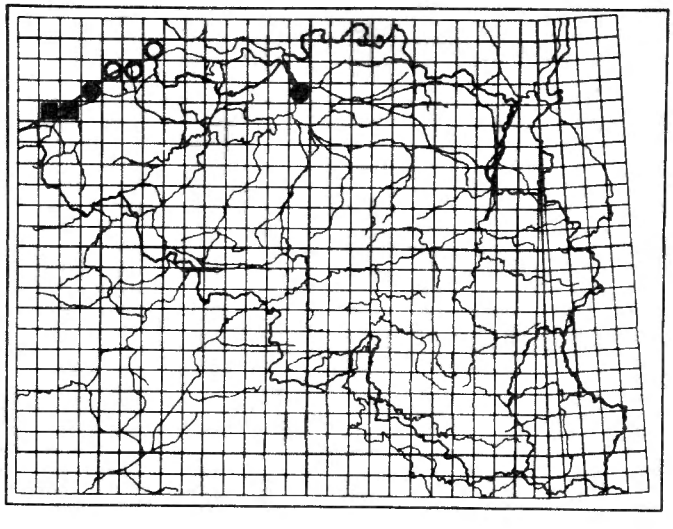
261. *STENOLOPHUS teutonus*



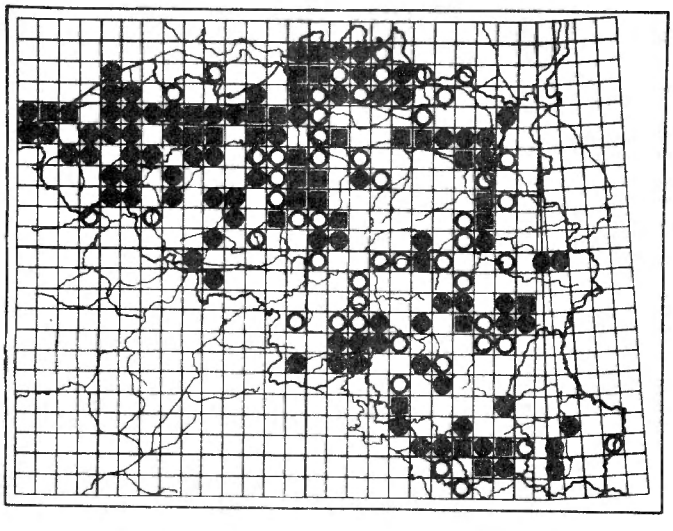
262. *BRADYCELLUS collaris*



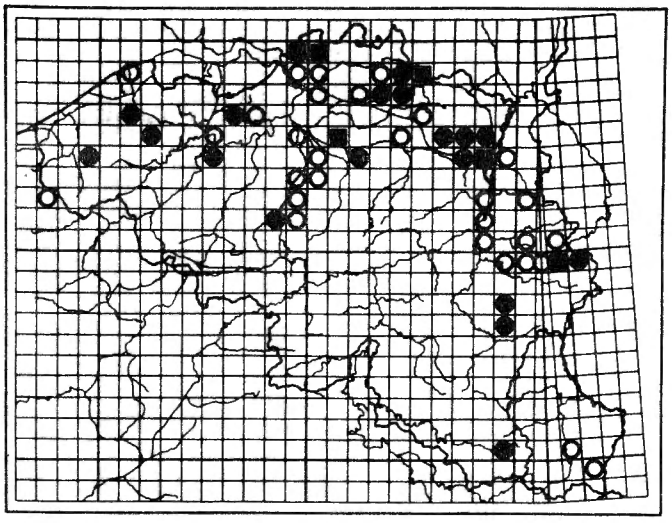
263. *BRADYCELLUS csikii*



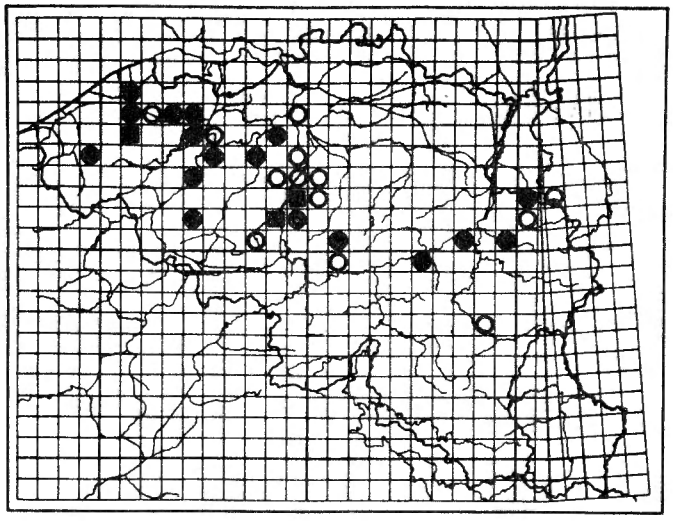
264. *BRADYCELLUS distinctus*



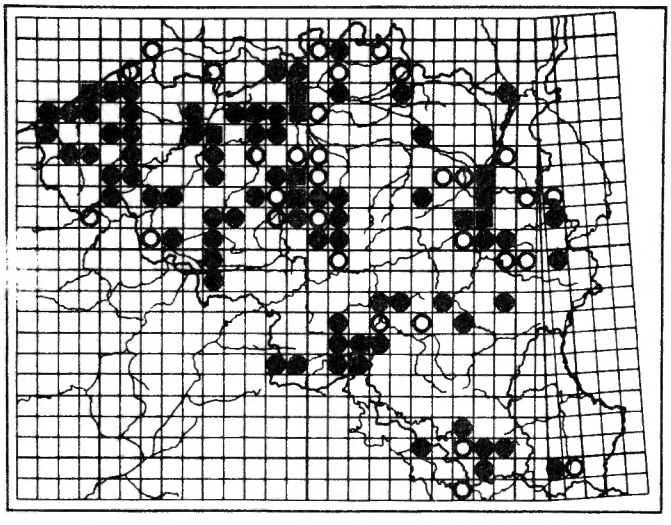
265. *BRADYCELLUS harpalinus*



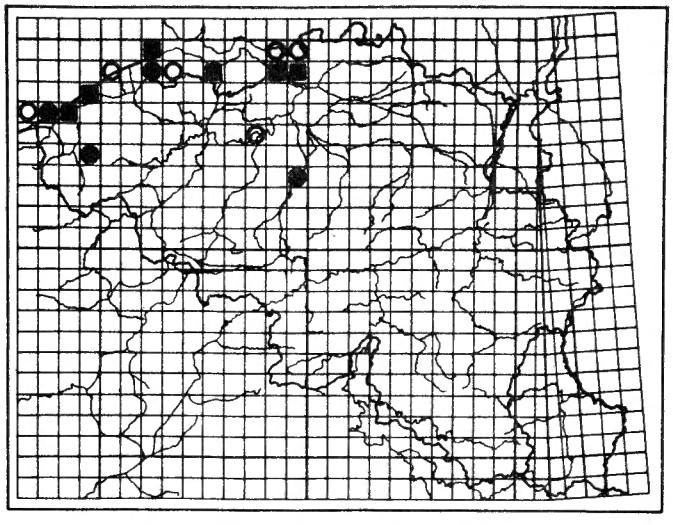
266. BRADYCELLUS ruficollis



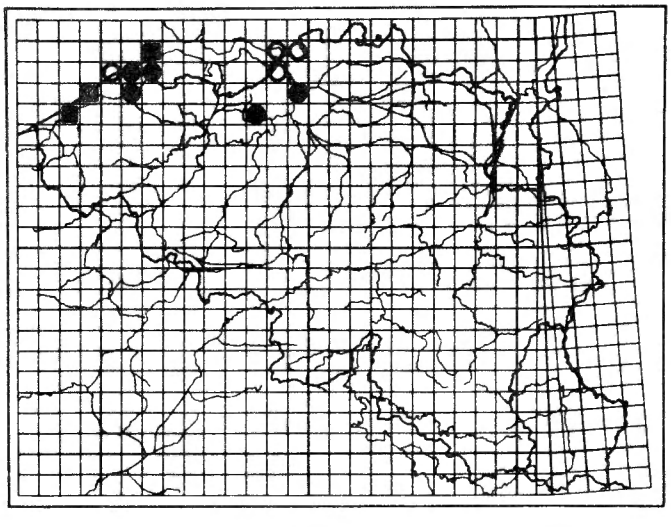
267. BRADYCELLUS sharpi



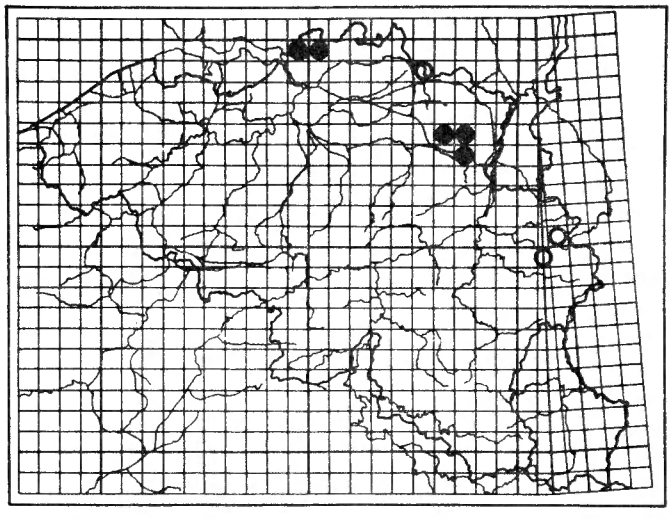
268. BRADYCELLUS verbasci



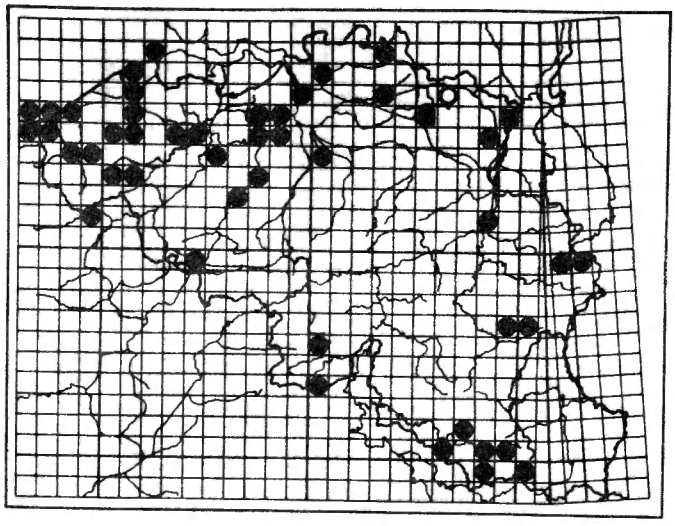
269. DICHEIROTRICHUS gustavii



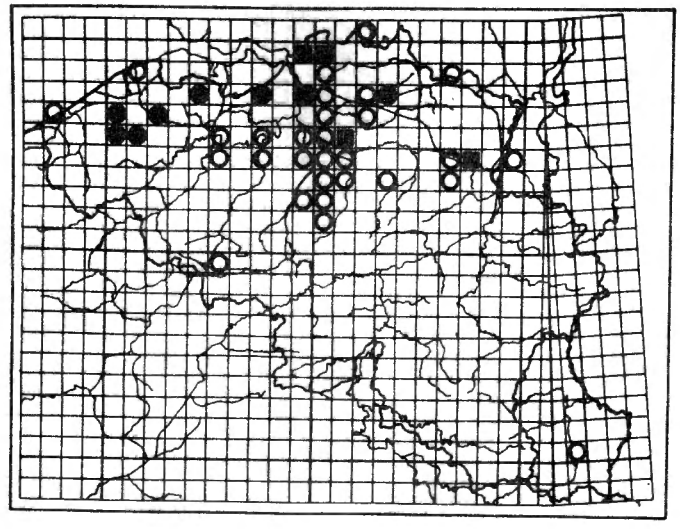
270. DICHEIROTRICHUS obsoletus



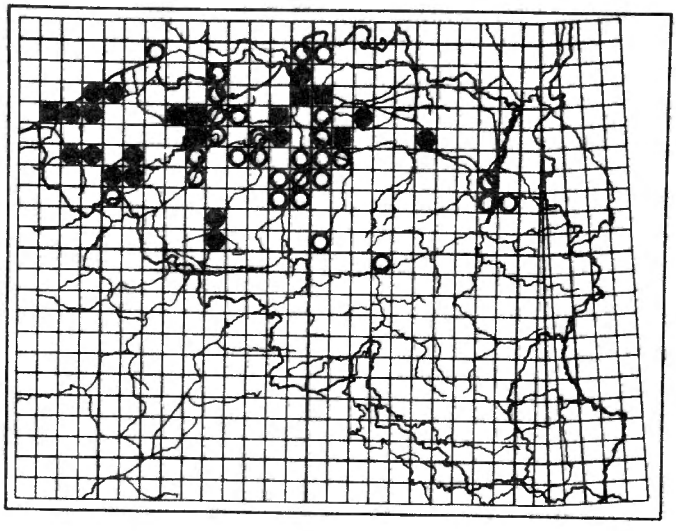
271. TRICHOCELLUS cognatus



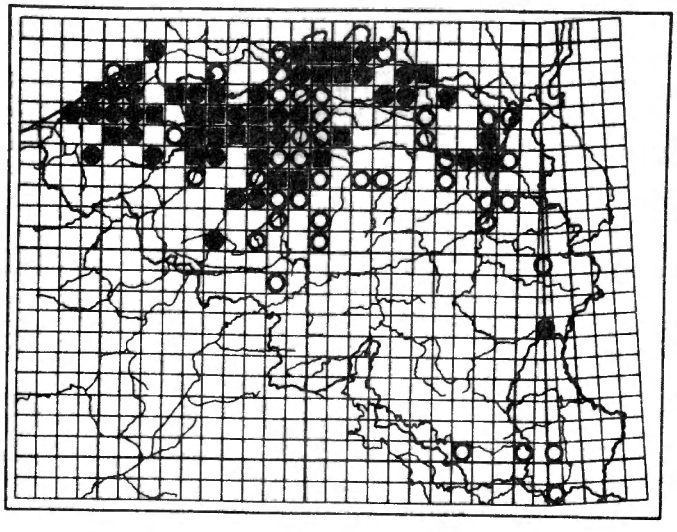
272. *TRICHOCELLUS placidus*



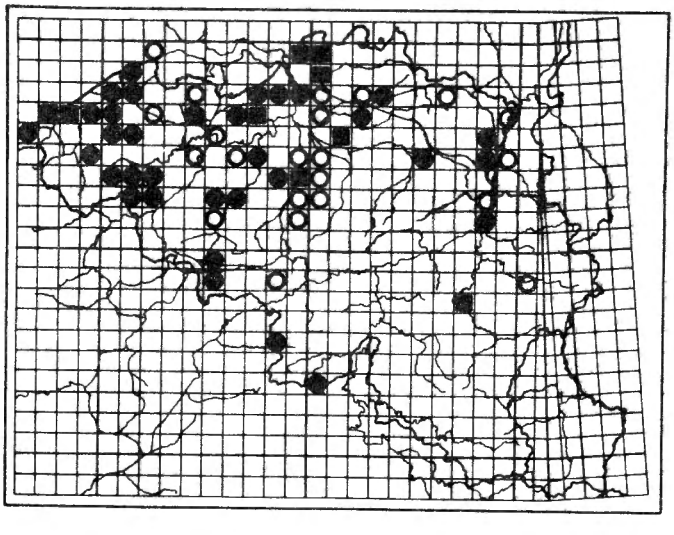
273. *ACUPALPUS brunnipes*



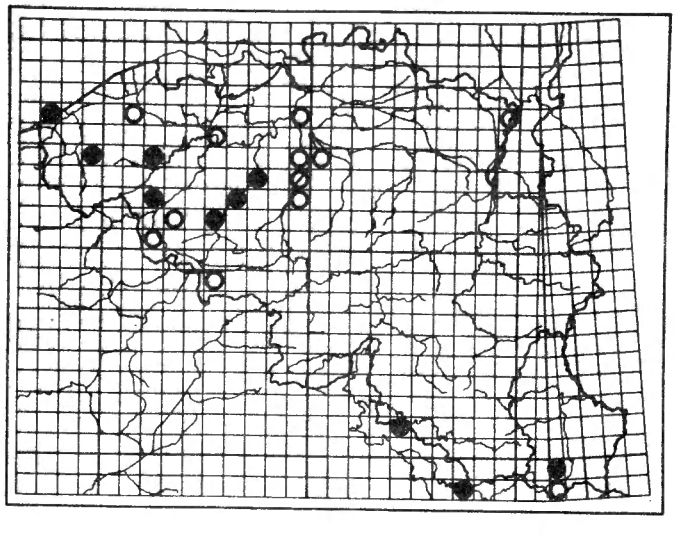
274. *ACUPALPUS consputus*



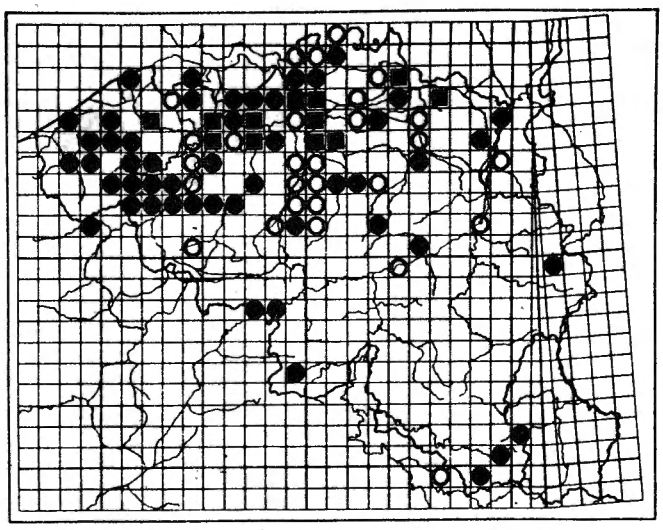
275. *ACUPALPUS dorsalis*



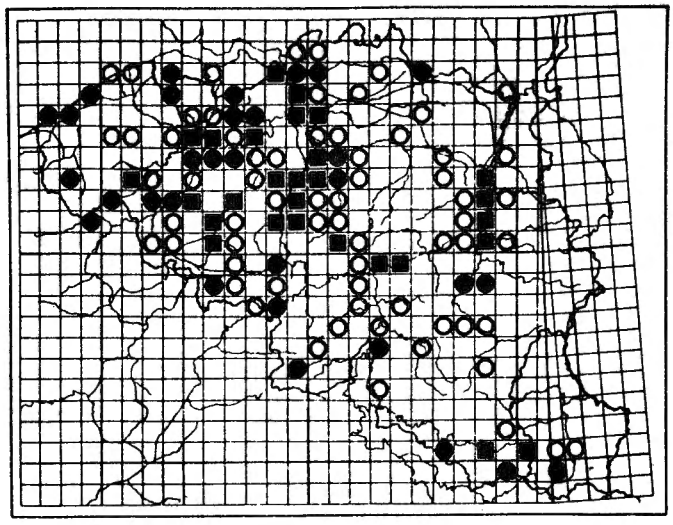
276. *ACUPALPUS dubius*



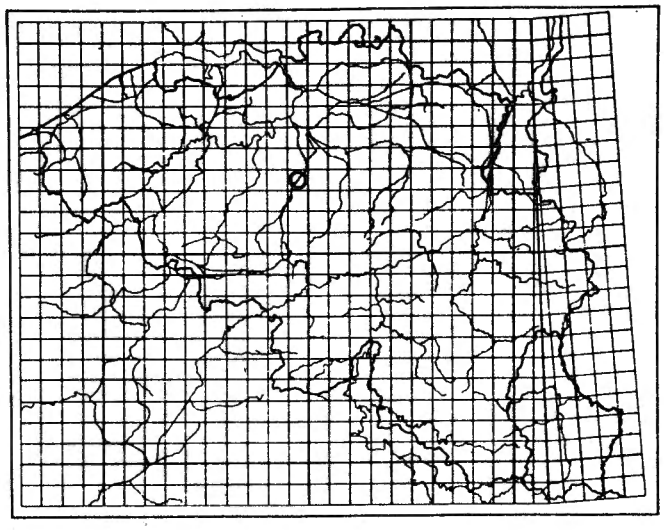
277. *ACUPALPUS exiguus*



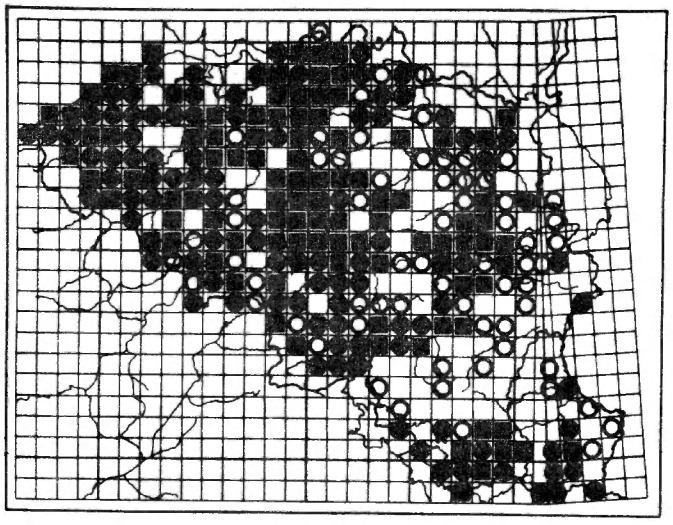
278. ACUPALPUS flavicollis



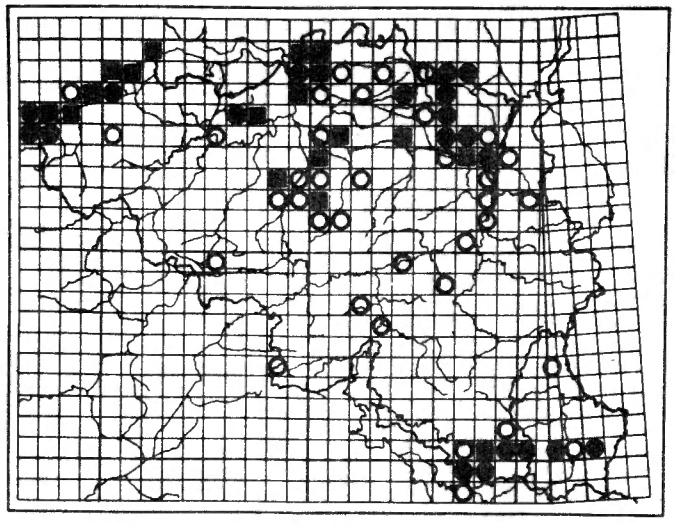
279. ACUPALPUS meridianus



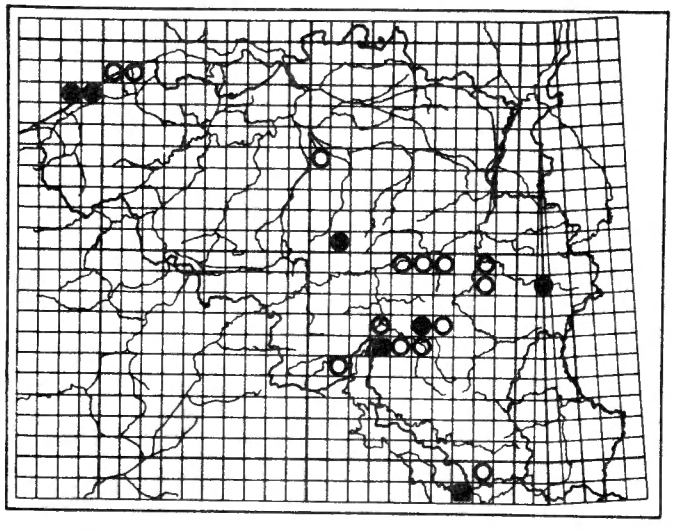
280. ACUPALPUS transversalis



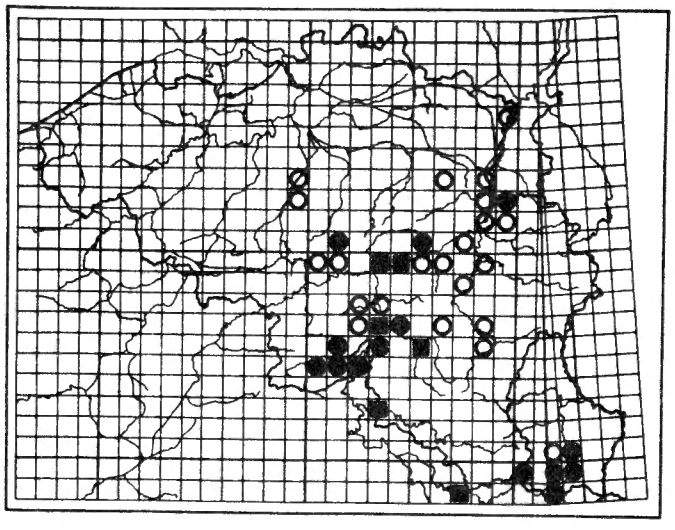
281. *HARPALUS aeneus*



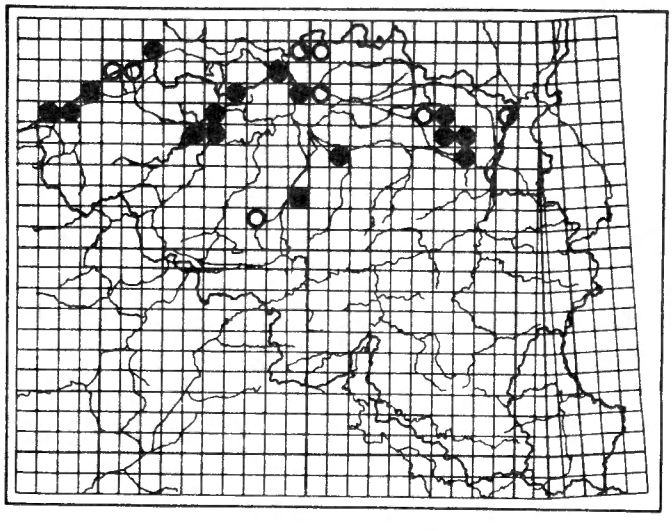
282. *HARPALUS anxius*



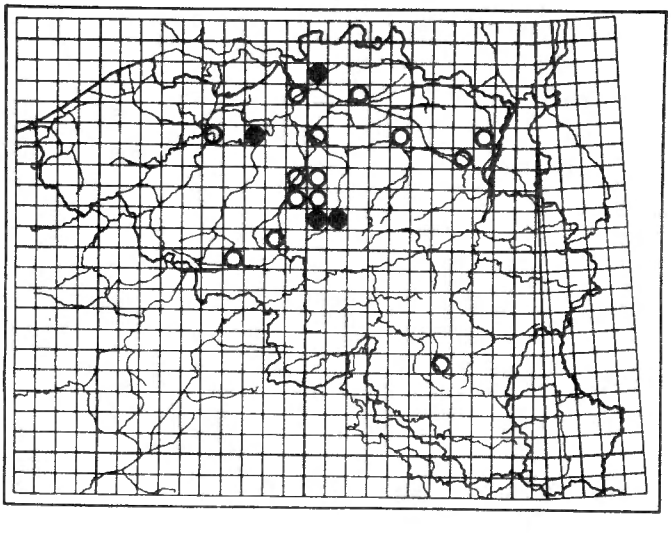
283. *HARPALUS ardiosacus*



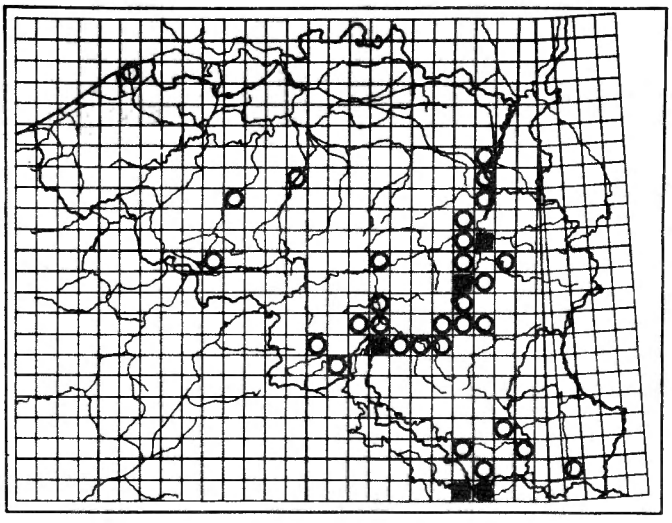
284. *HARPALUS atratus*



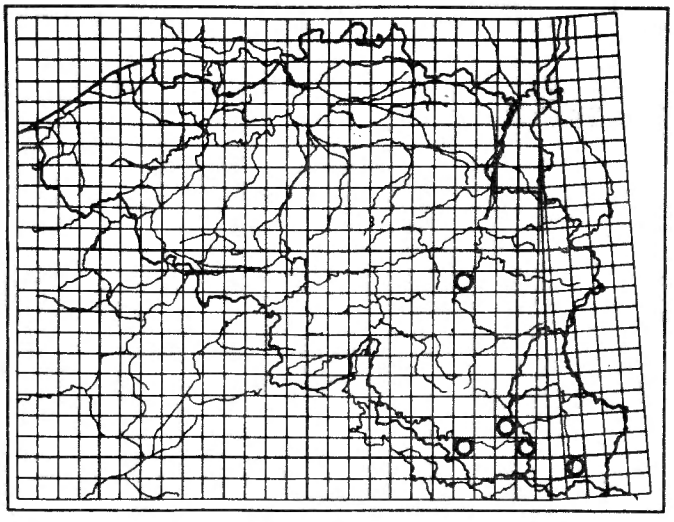
285. *HARPALUS attenuatus*



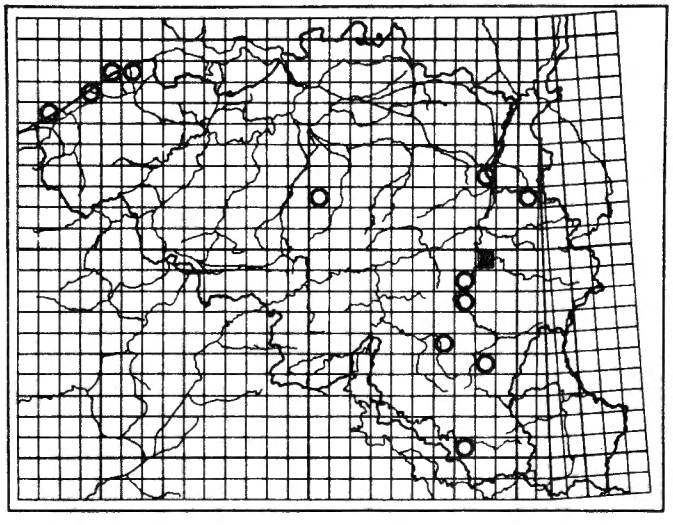
286. *HARPALUS autumnalis*



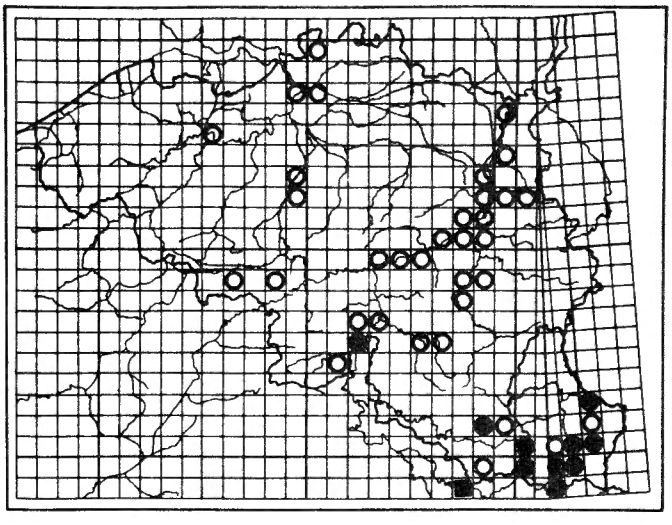
287. *HARPALUS azureus*



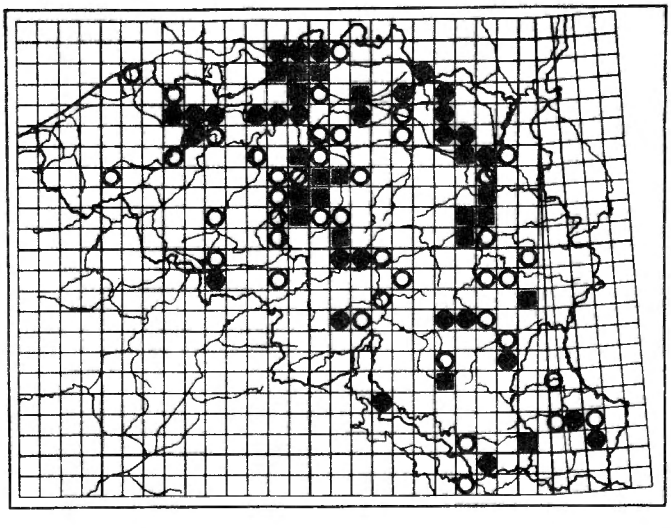
288. *HARPALUS calceatus*



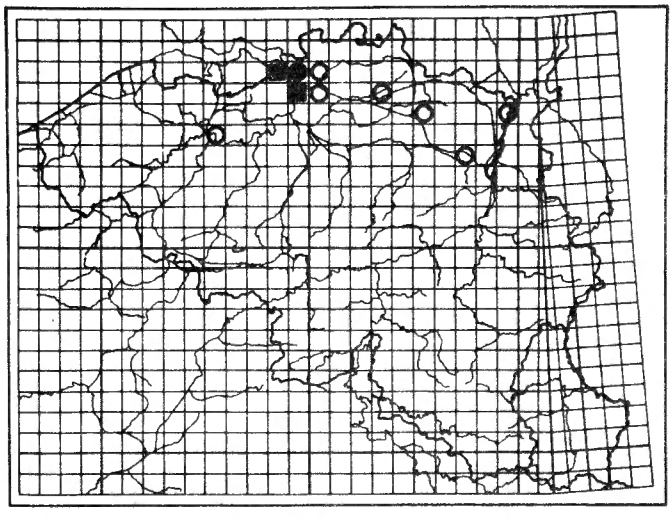
289. *HARPALUS cordatus*



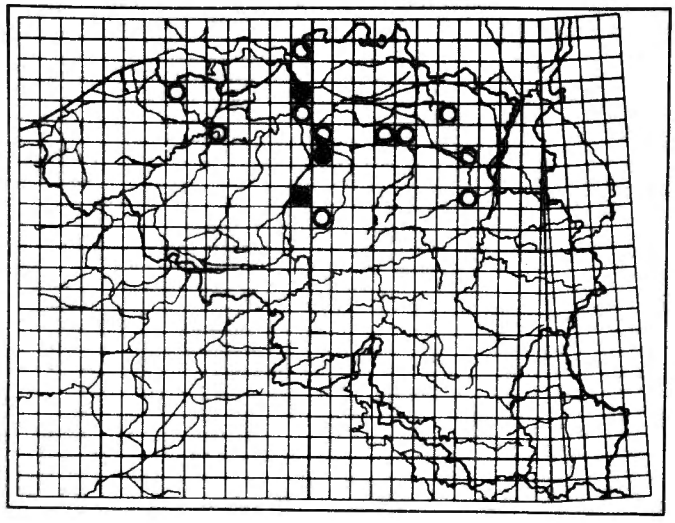
290. *HARPALUS dimidiatus*



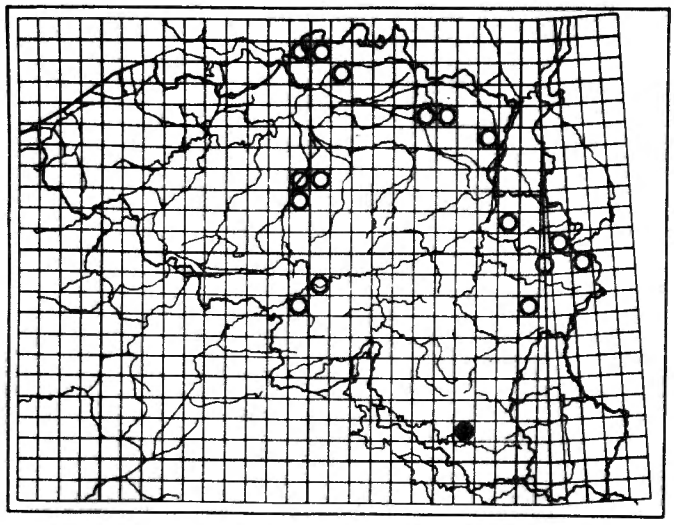
291. *HARPALUS distinguendus*



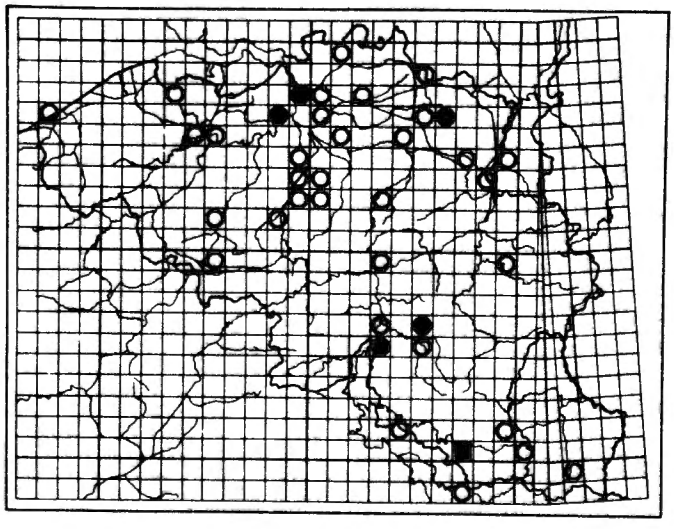
292. *HARPALUS flavescens*



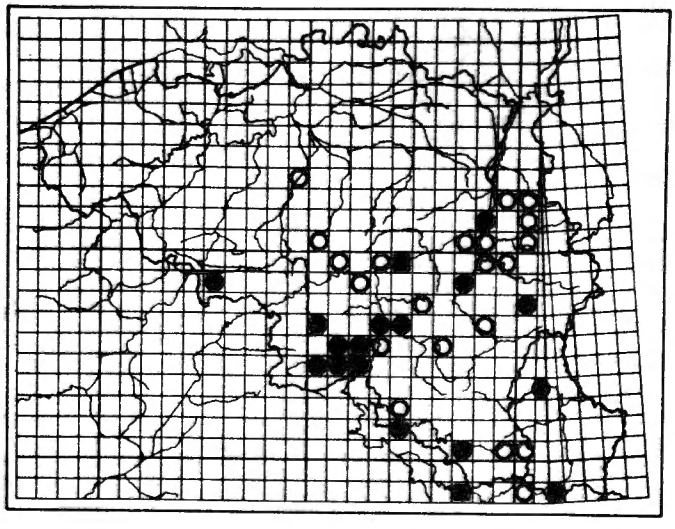
293. *HARPALUS froelichi*



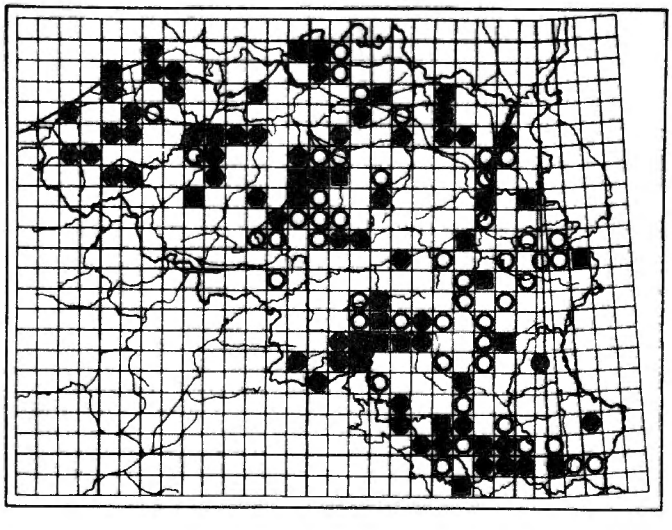
294. *HARPALUS fuliginosus*



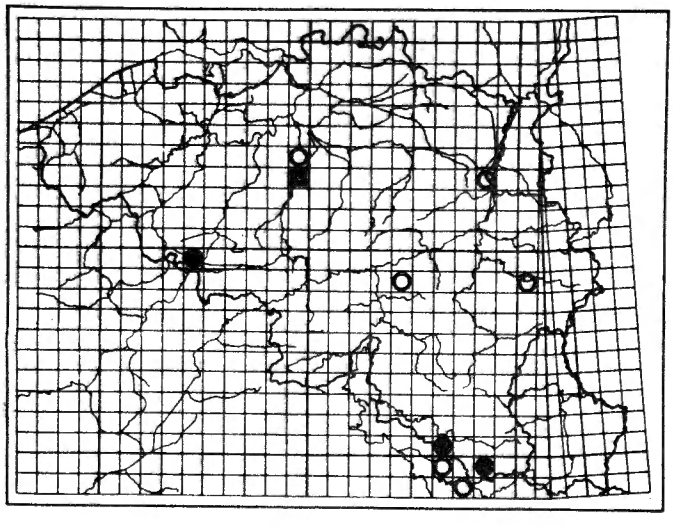
295. *HARPALUS griseus*



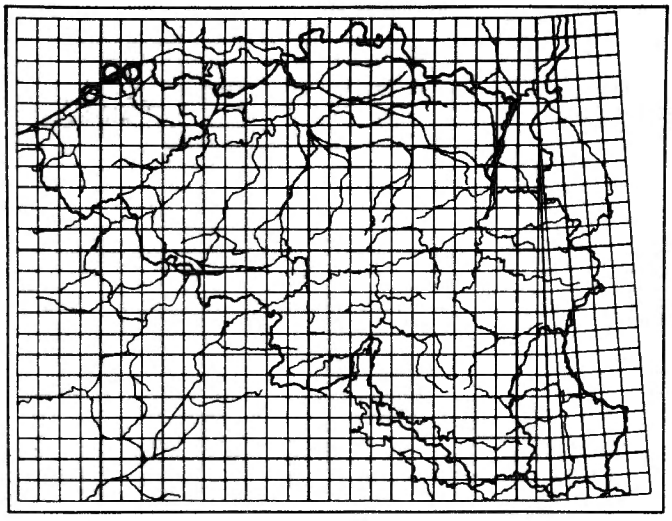
296. *HARPALUS honestus*



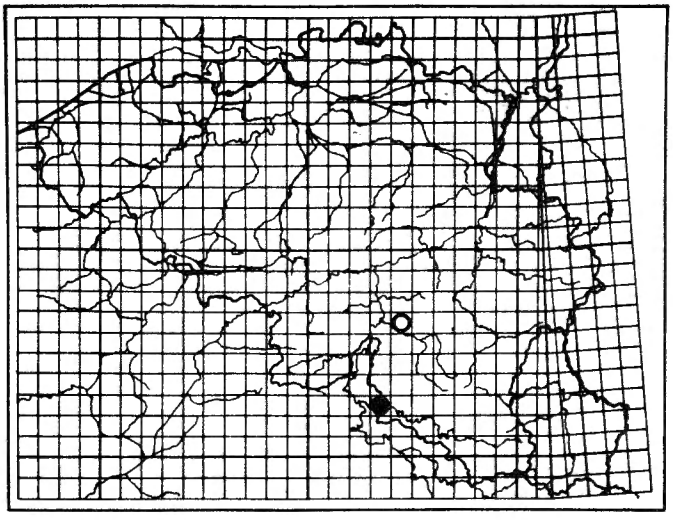
297. *HARPALUS latus*



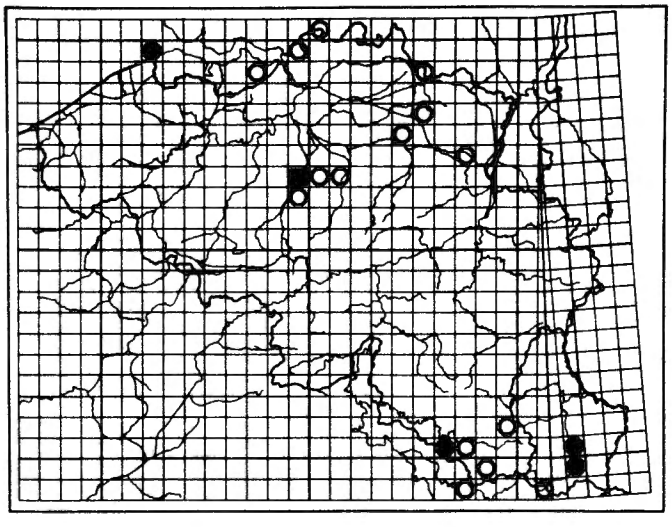
298. *HARPALUS luteicornis*



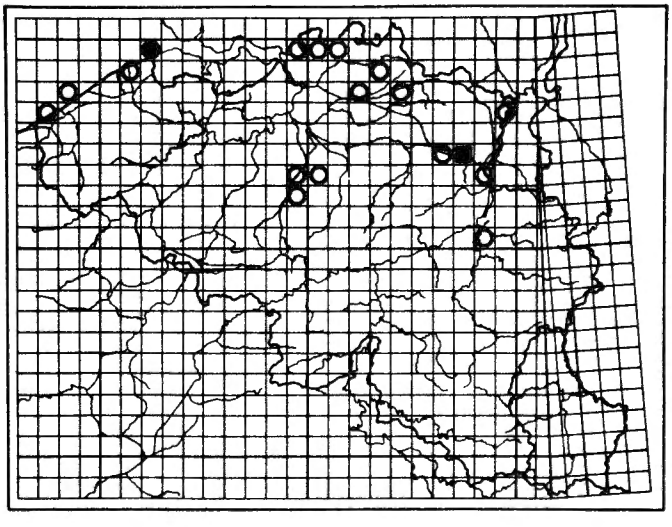
299. HARPALUS melancholicus



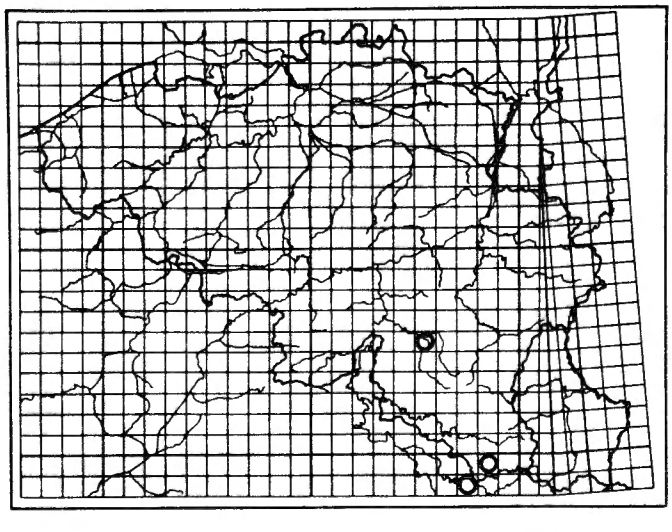
300. HARPALUS melleti



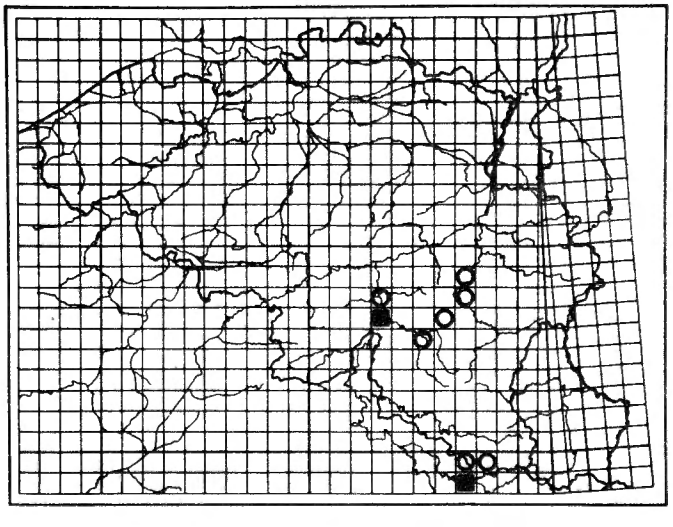
301. HARPALUS modestus



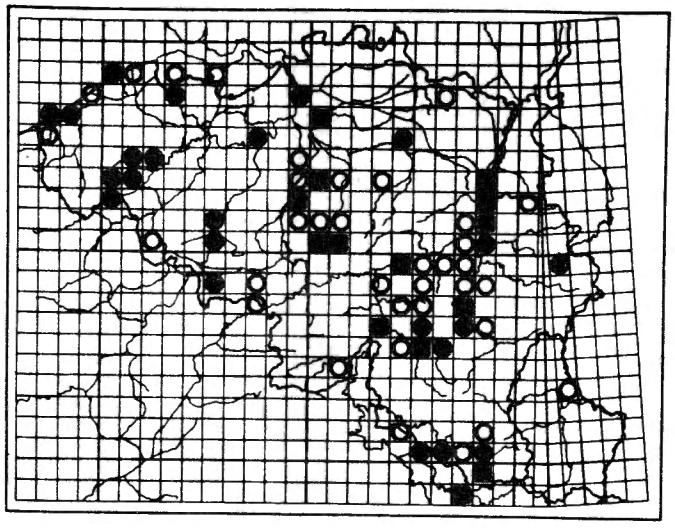
302. HARPALUS neglectus



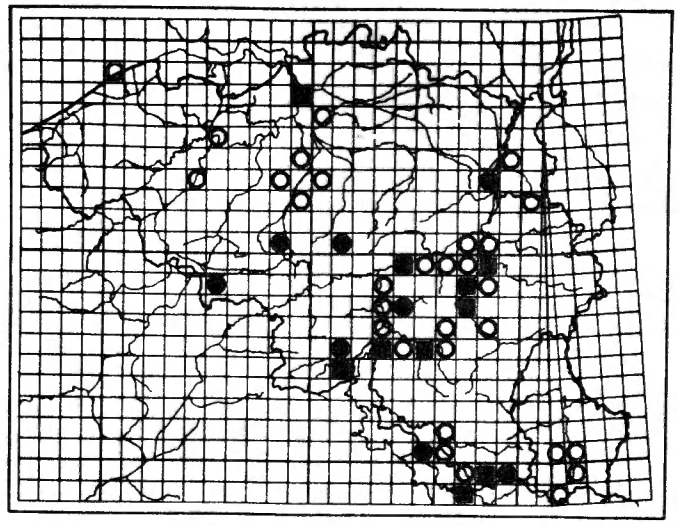
303. HARPALUS obscurus



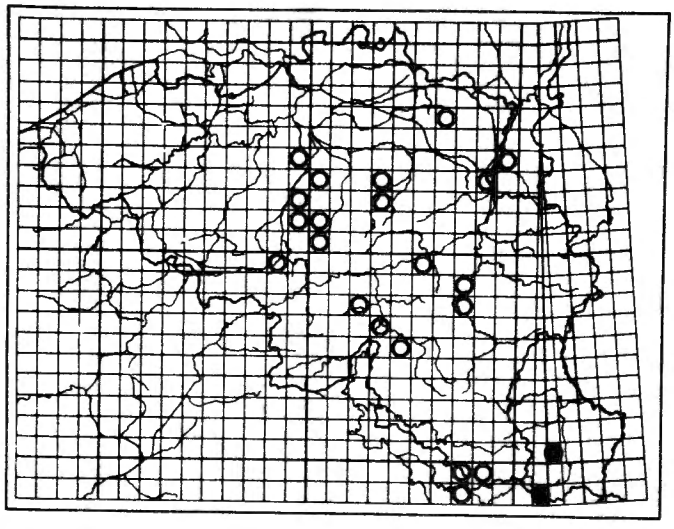
304. HARPALUS parallelus



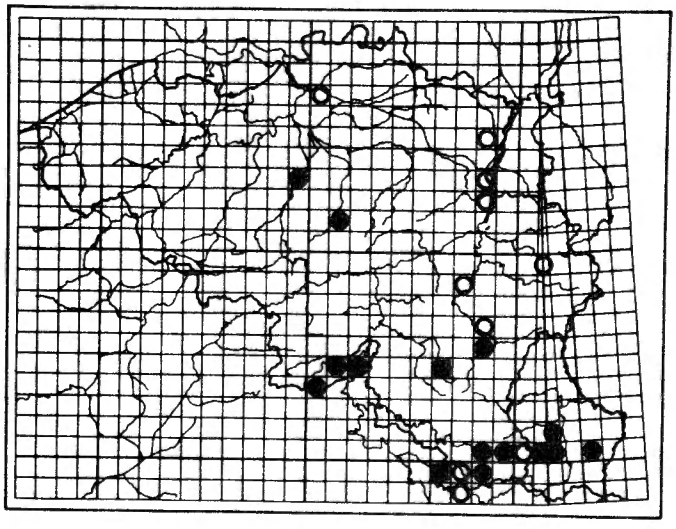
305. HARPALUS puncticeps



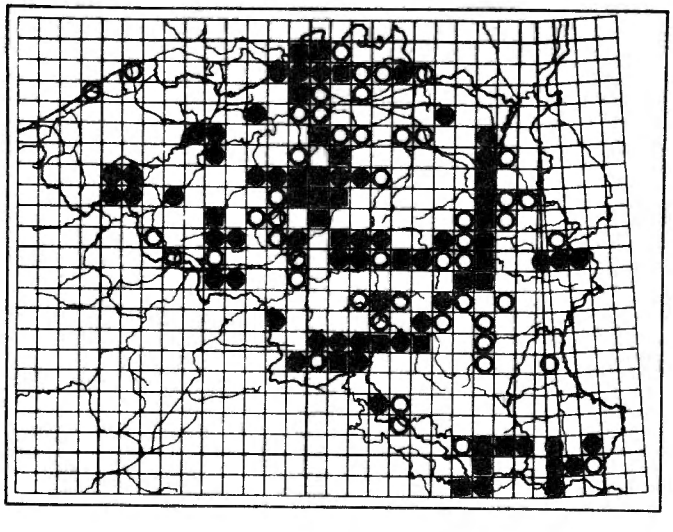
306. HARPALUS puncticollis



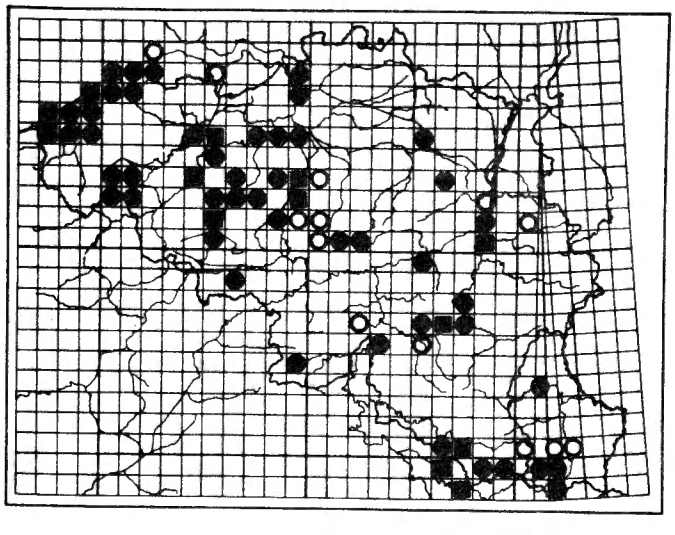
307. HARPALUS punctulatus



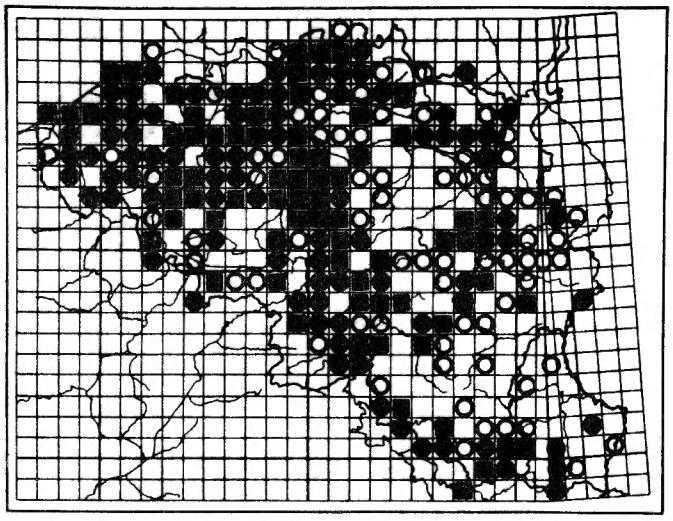
308. HARPALUS quadripunctatus



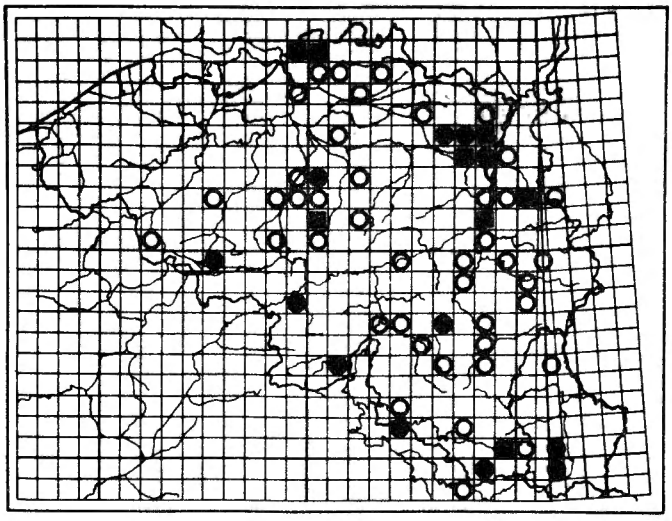
309. HARPALUS rubripes



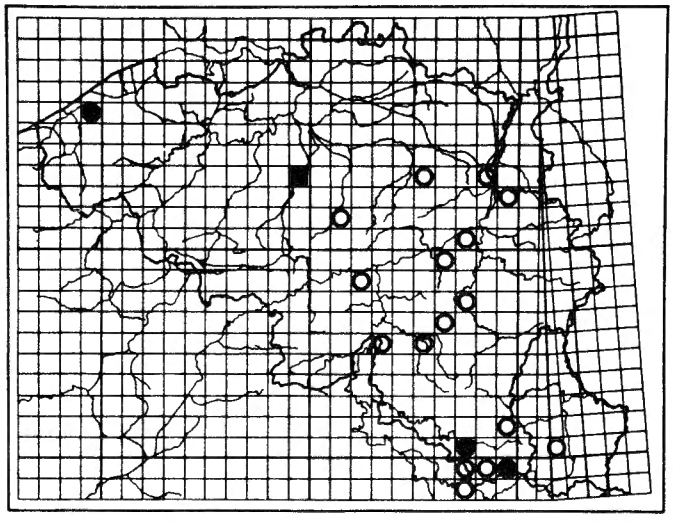
310. HARPALUS rufibarbis



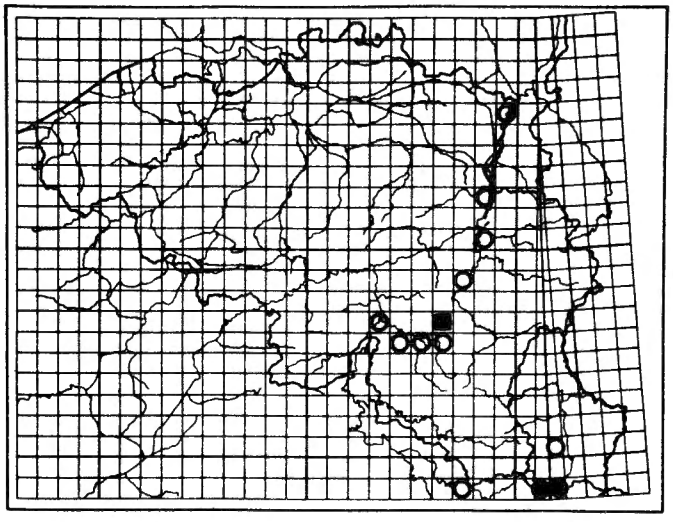
311. HARPALUS rufipes



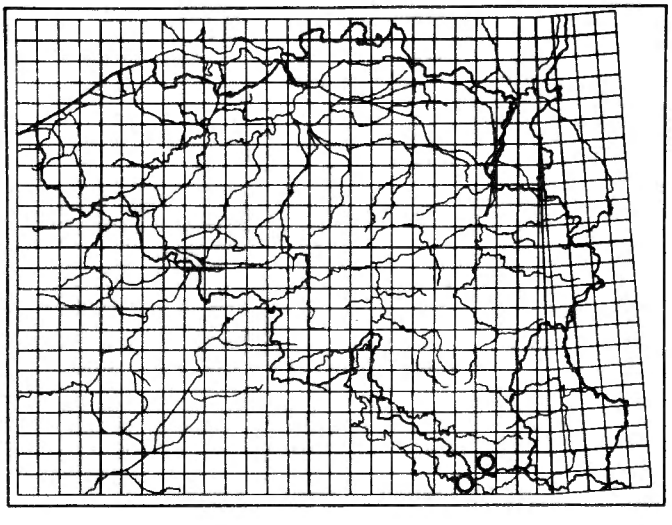
312. HARPALUS rufitarsis



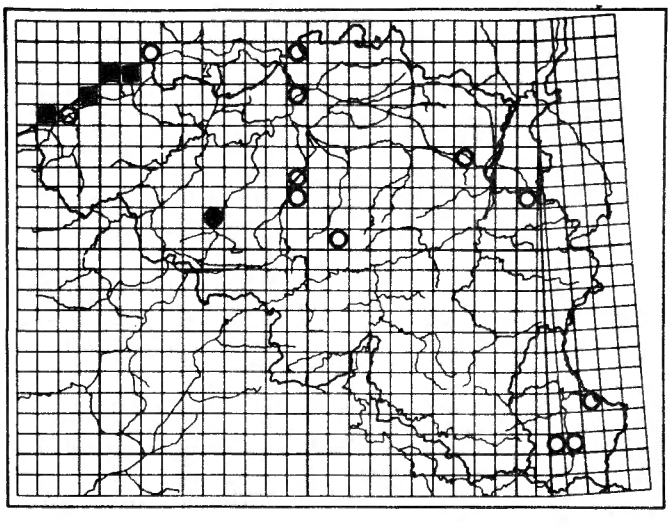
313. HARPALUS rupicola



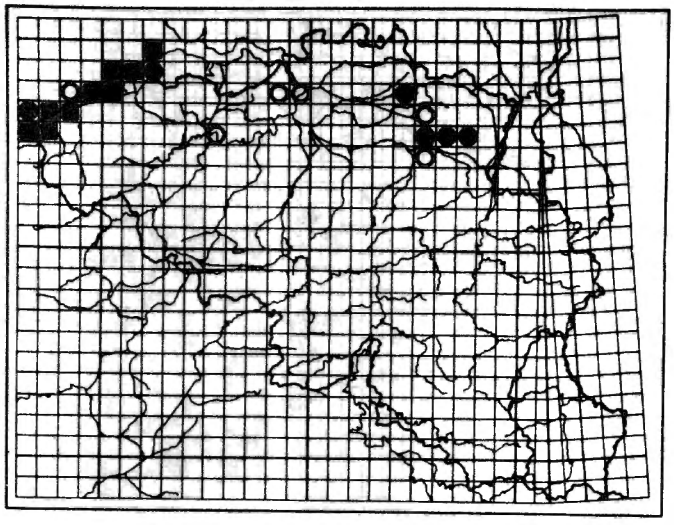
314. HARPALUS sabulicola



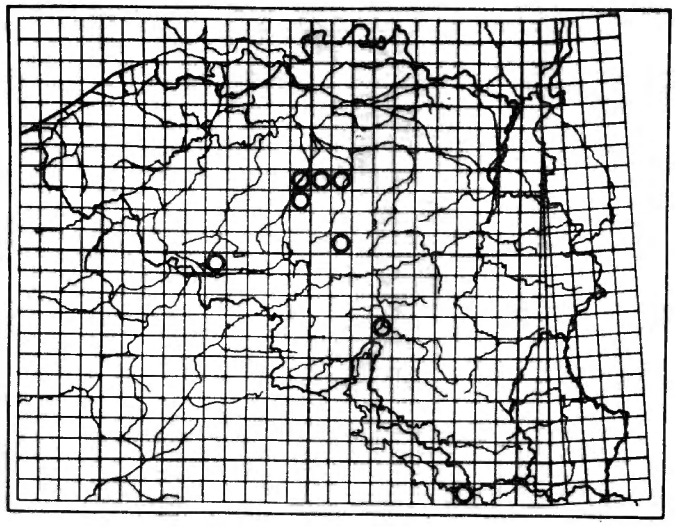
315. HARPALUS schaubergerianus



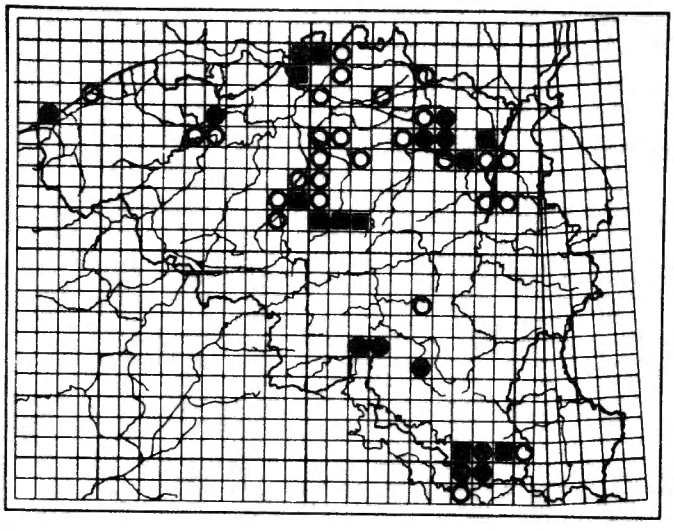
316. HARPALUS serripes



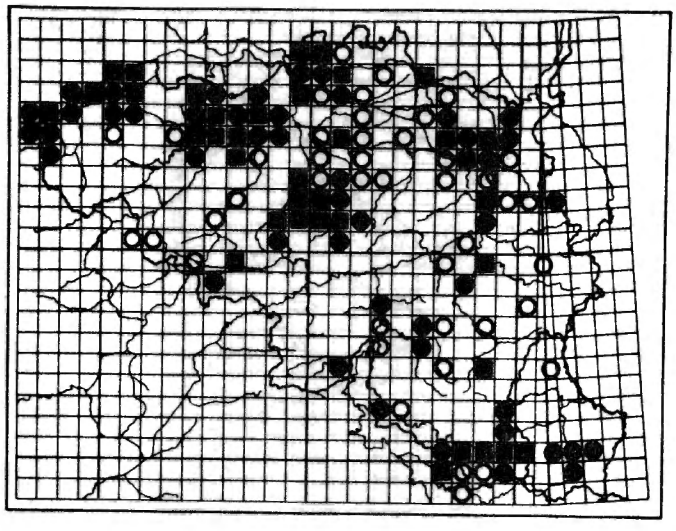
317. *HARPALUS servus*



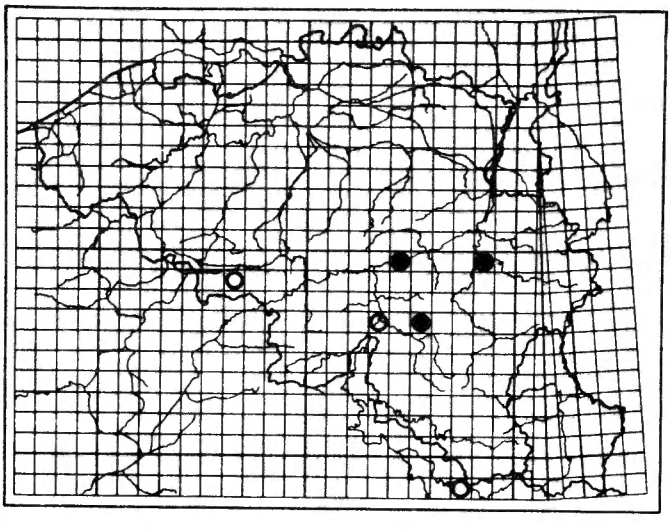
318. *HARPALUS signaticornis*



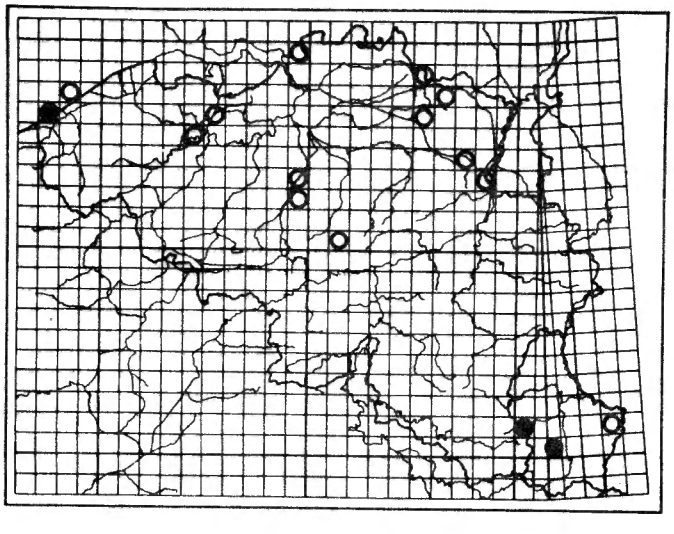
319. *HARPALUS smaragdinus*



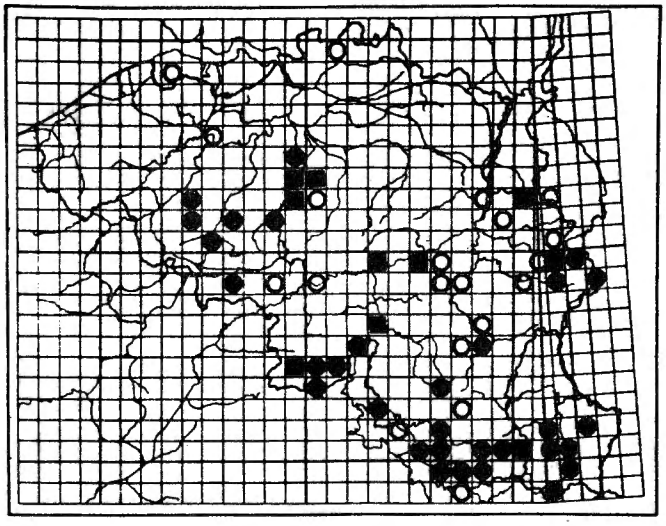
320. *HARPALUS tardus*



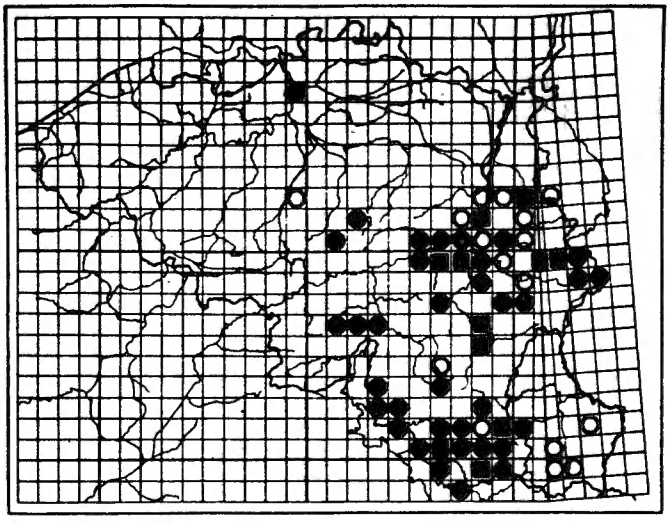
321. *HARPALUS tenebrosus*



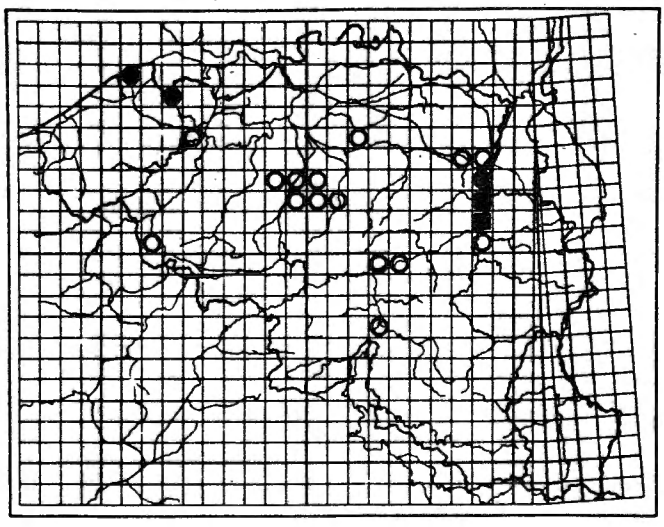
322. *HARPALUS vernalis*



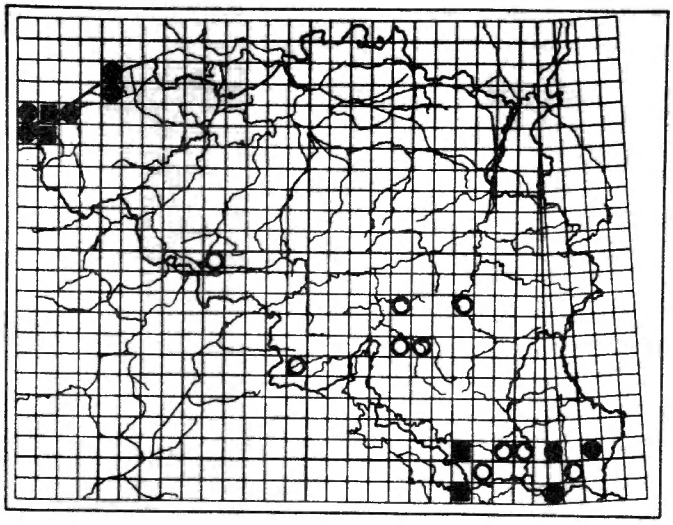
323. TRICHOTICHNUS laevicollis



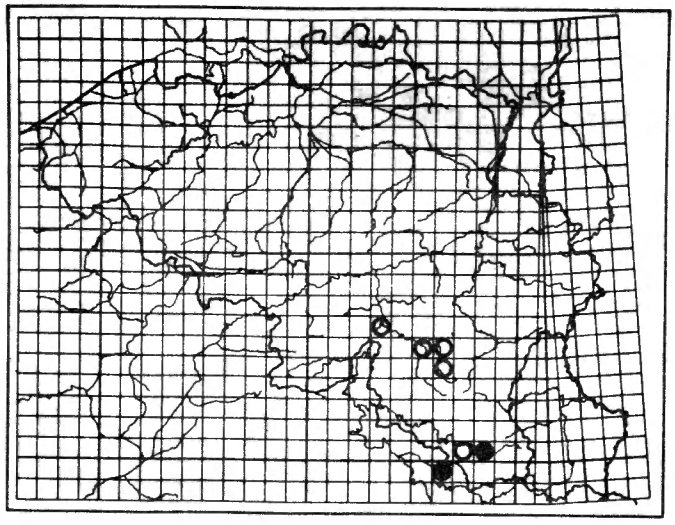
324. TRICHOTICHNUS nitens



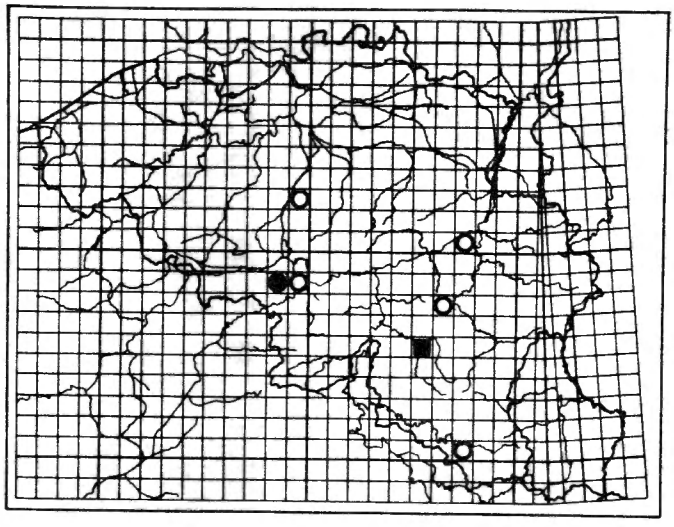
325. PARAPHONUS maculicornis



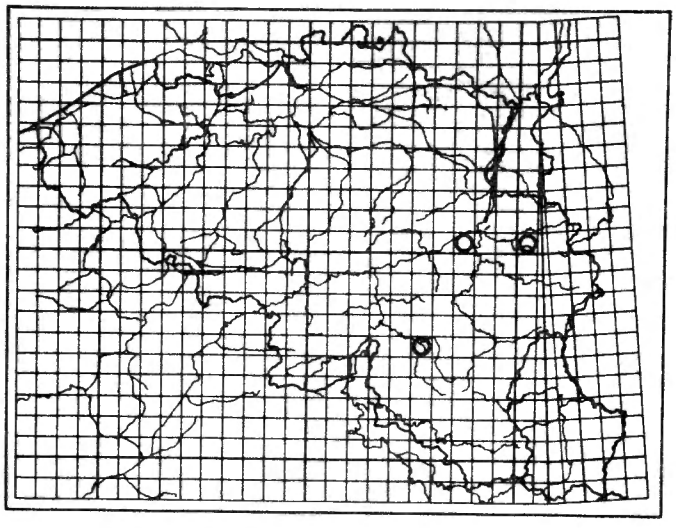
326. *LICINUS depressus*



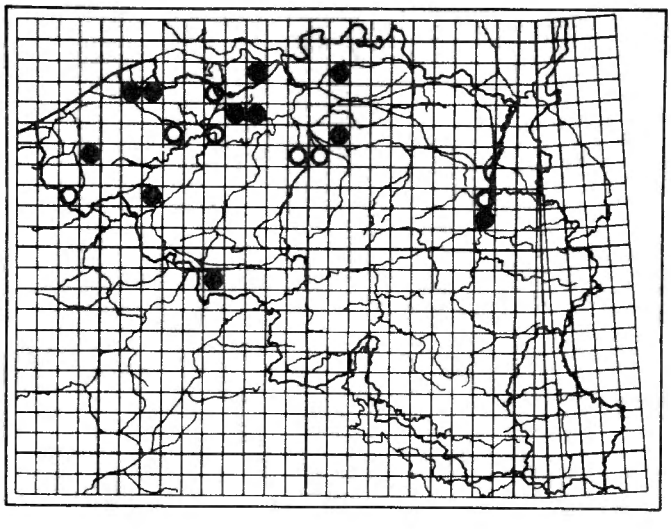
327. *LICINUS hoffmannseggi*



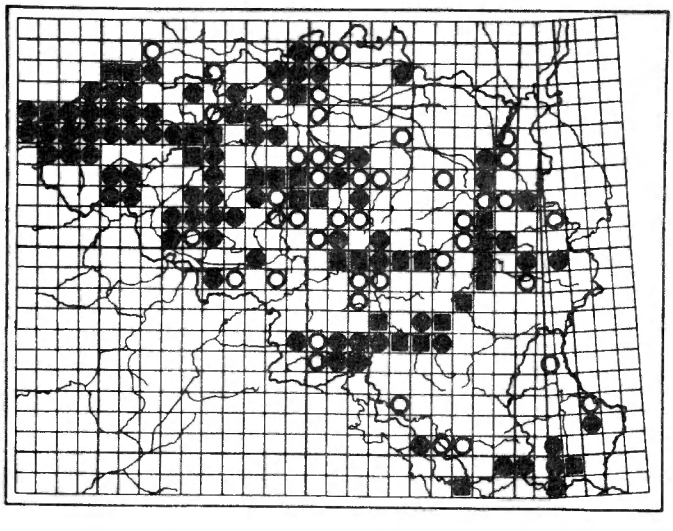
328. *LICINUS punctatulus*



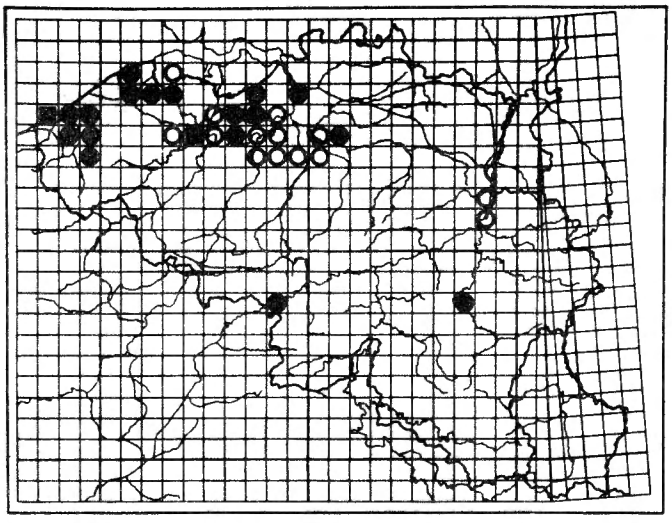
329. *LICINUS silphoides*



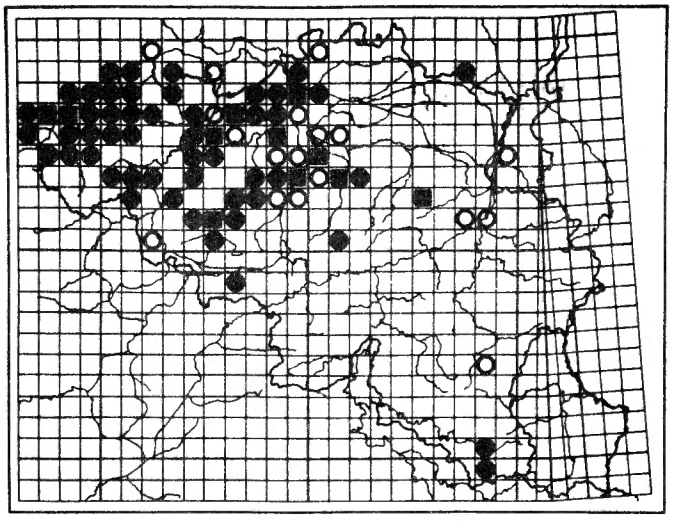
330. *BADISTER anomalus*



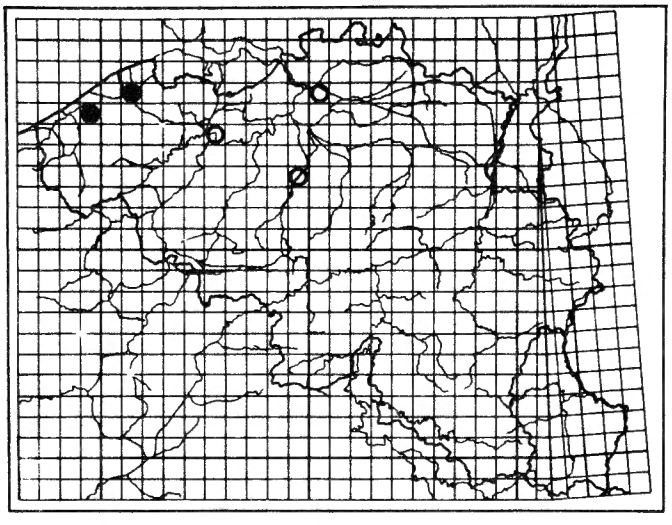
331. *BADISTER bipustulatus*



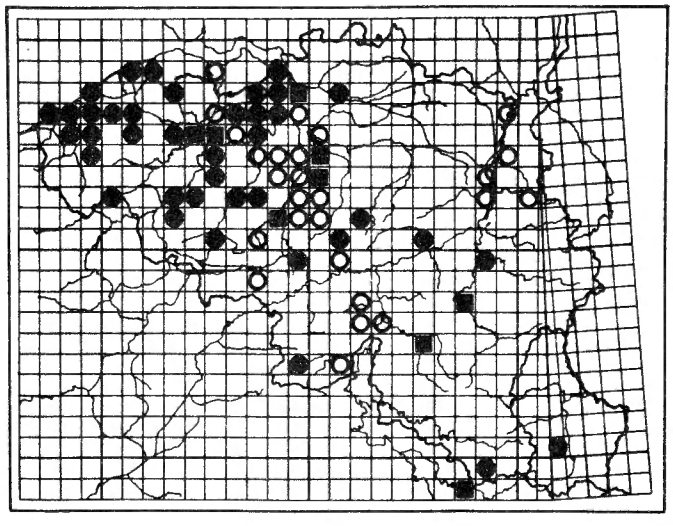
332. BADISTER dilatatus



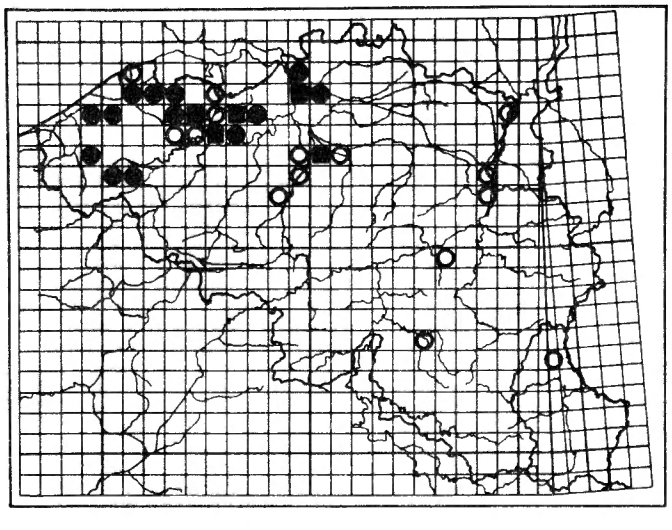
333. BADISTER lacertosus



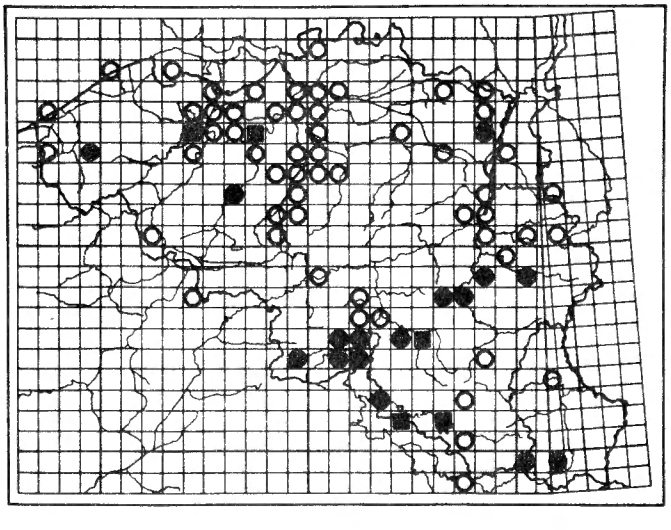
334. BADISTER peltatus



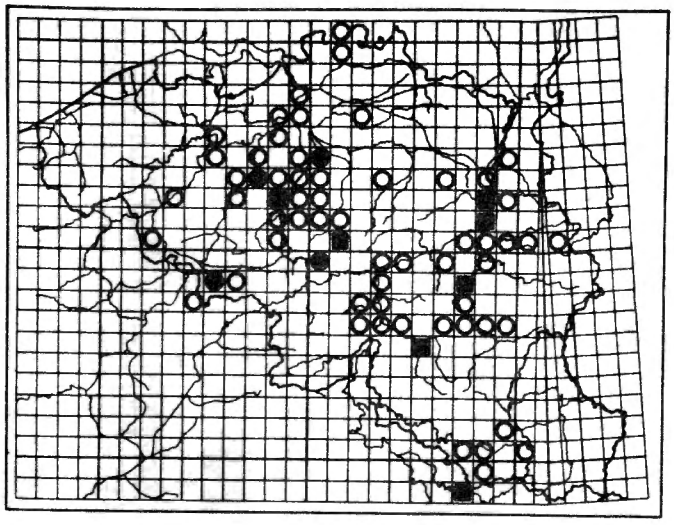
335. BADISTER sodalis



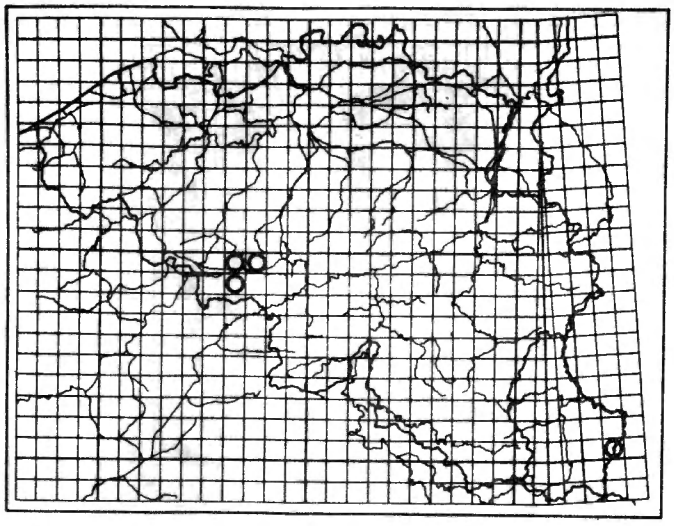
336. BADISTER unipustulatus



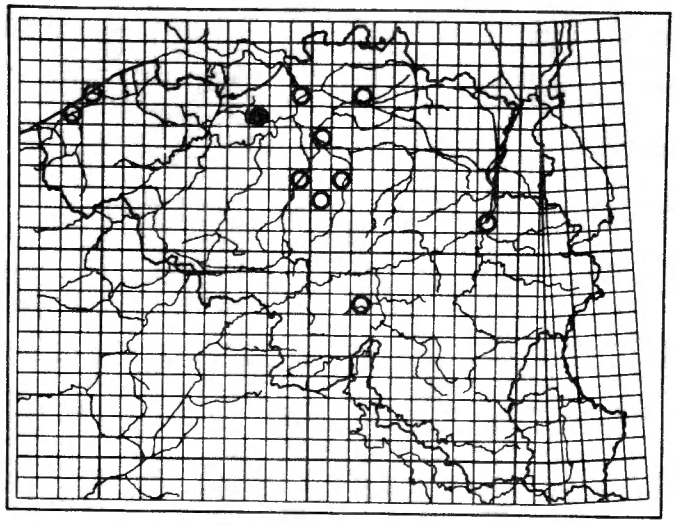
337. CHLAENIUS nigricornis



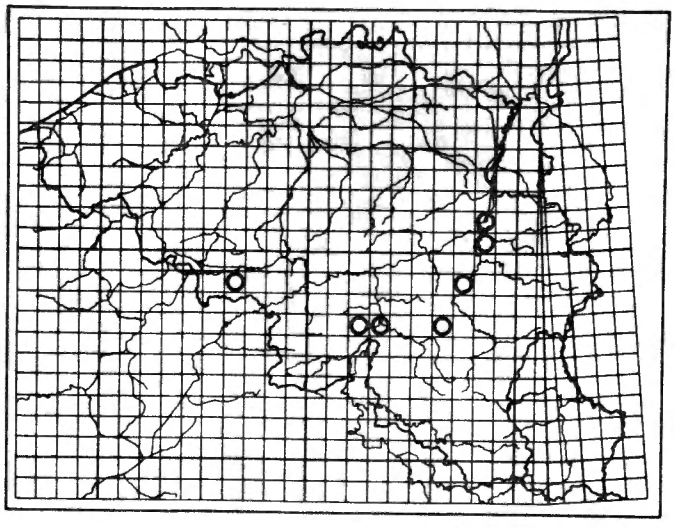
338. *CHLAENIUS nitidulus*



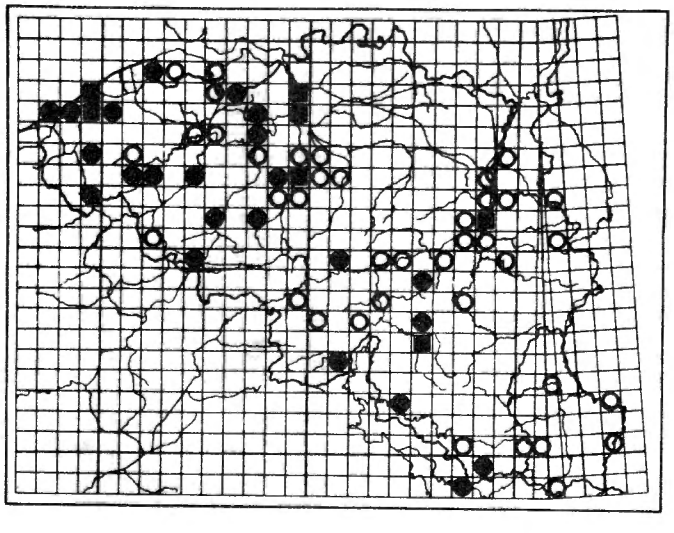
339. *CHLAENIUS sulcicollis*



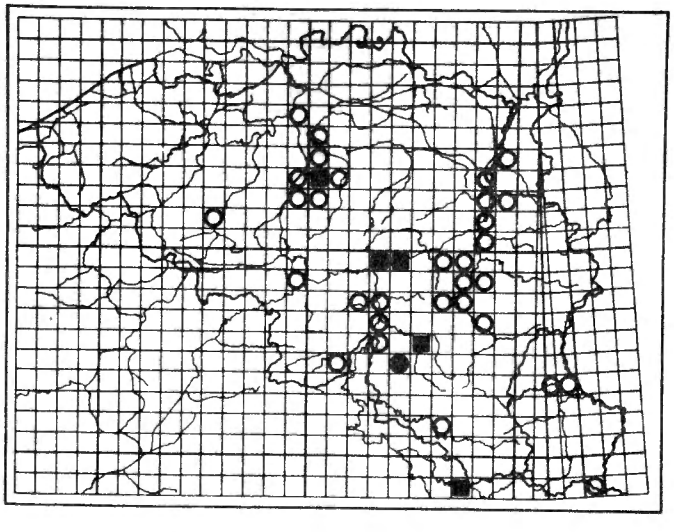
340. *CHLAENIUS tristis*



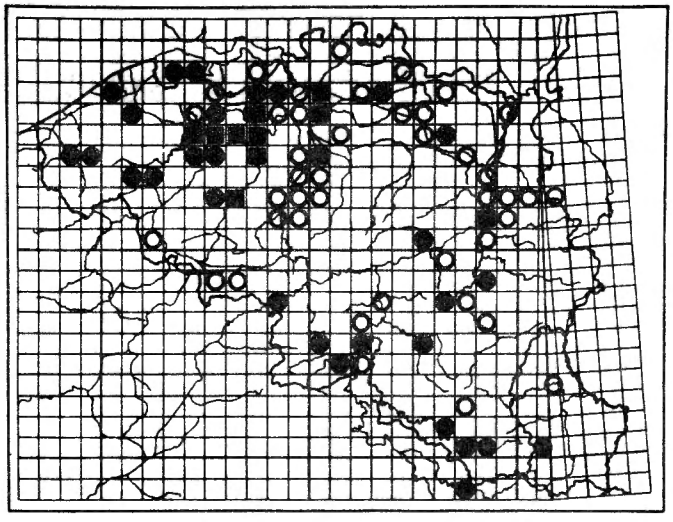
341. *CHLAENIUS variegatus*



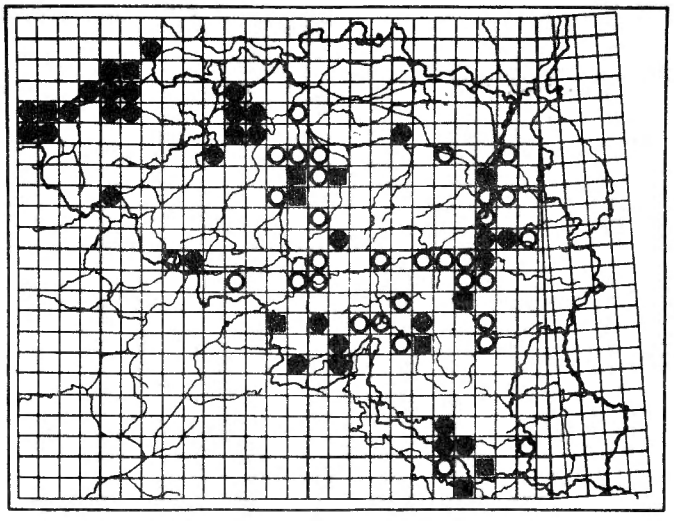
342. *CHLAENIUS vestitus*



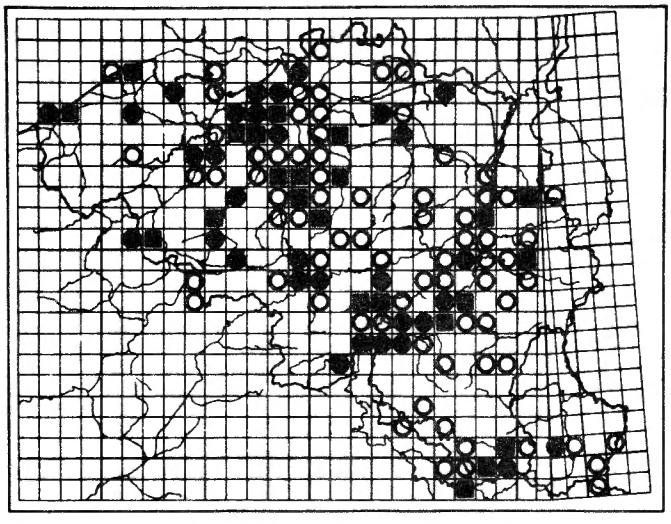
343. *CALLISTUS lunatus*



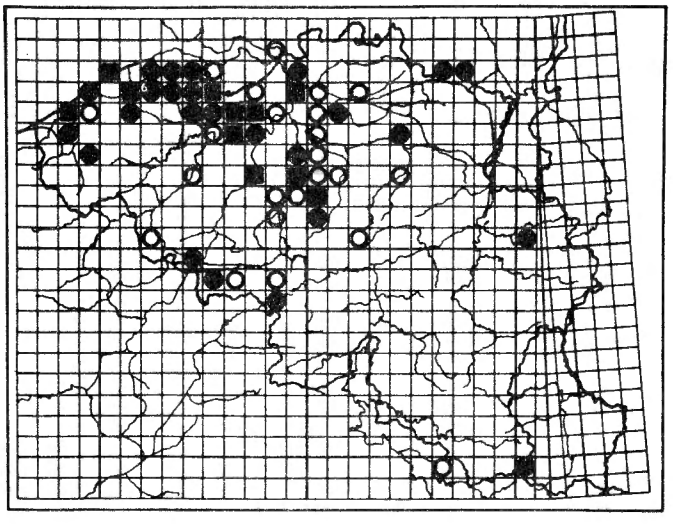
344. OODES helopioïdes



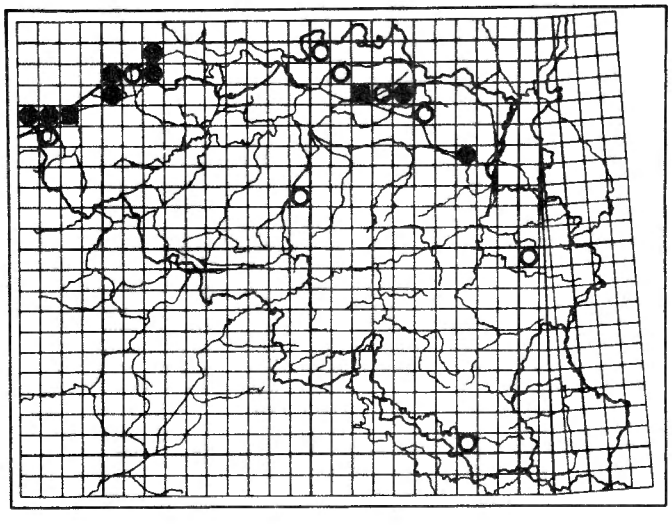
345. PANAGAEUS bipustulatus



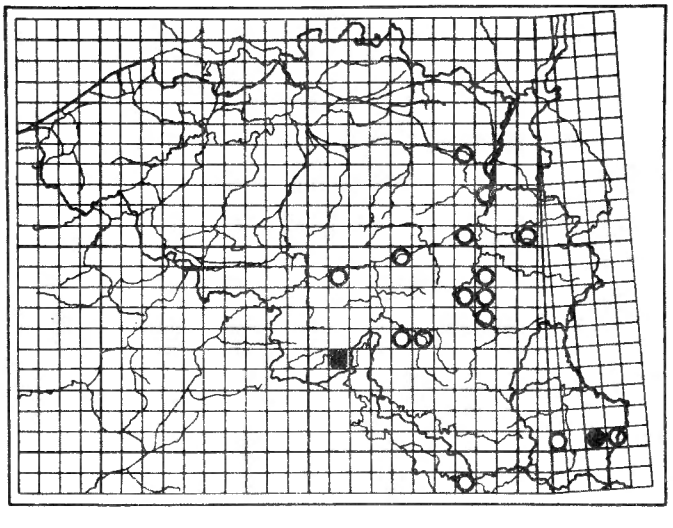
346. PANAGAEUS cruxmajor



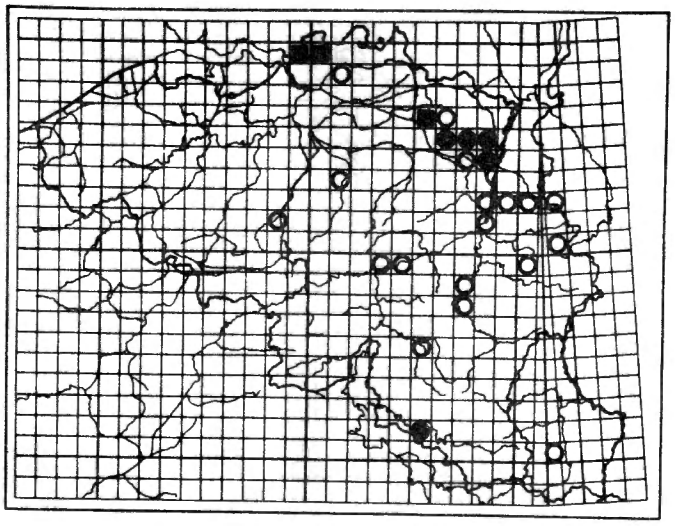
347. ODACANTHA melanura



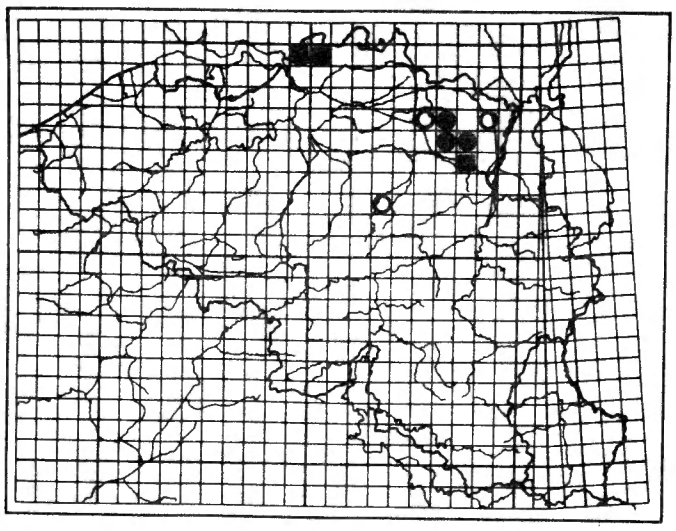
348. MASOREUS wetterhalli



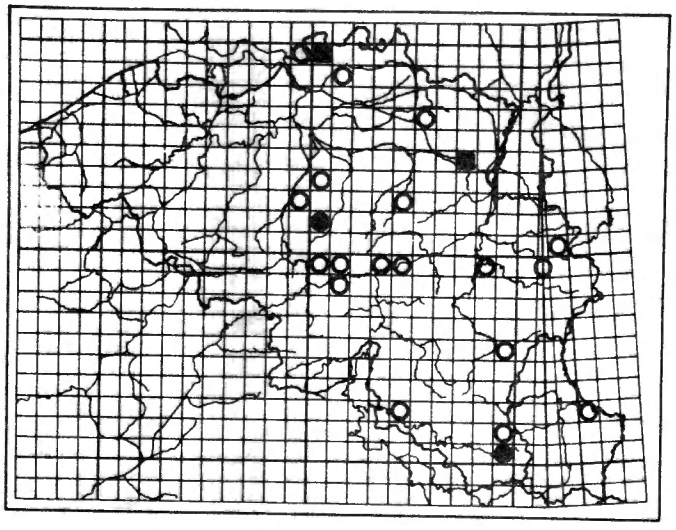
349. CYMINDIS axillaris



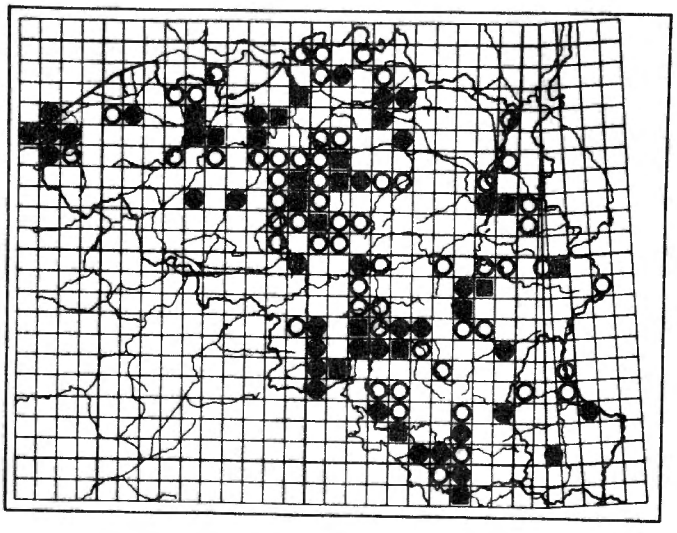
350. *CYMINDIS humeralis*



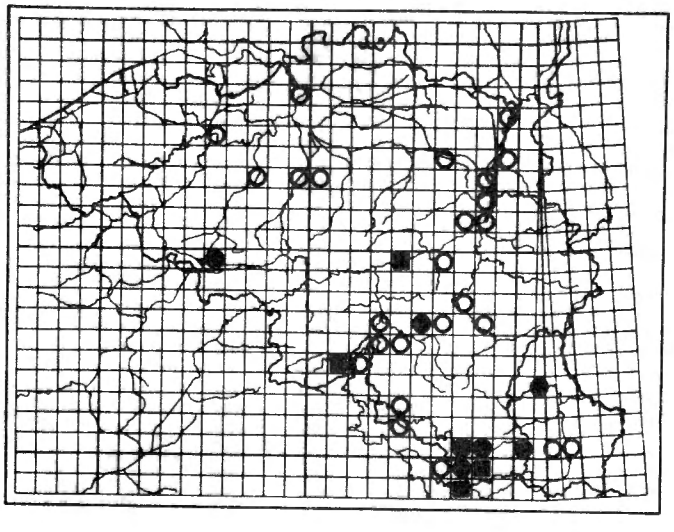
351. *CYMINDIS macularis*



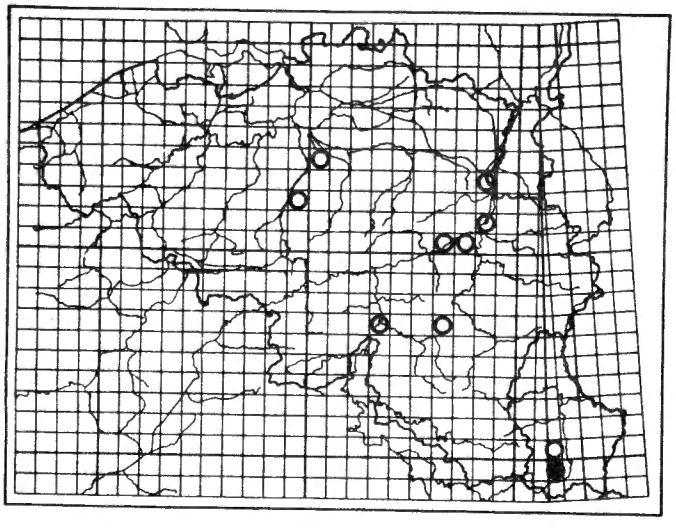
352. *CYMINDIS vaporariorum*



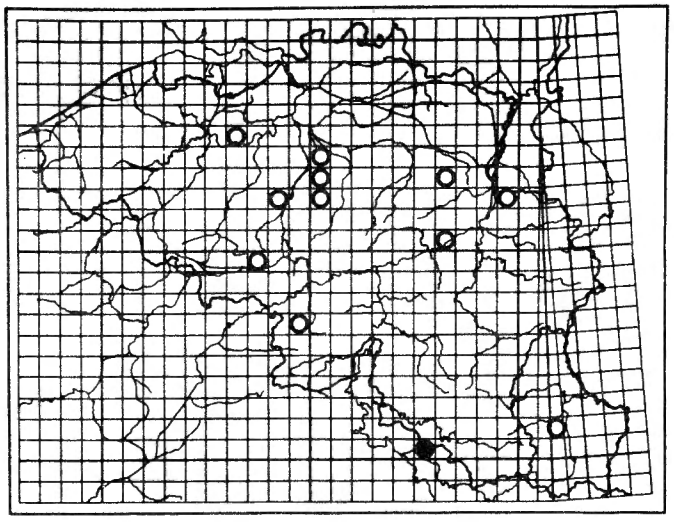
353. *LEBIA chlorocephala*



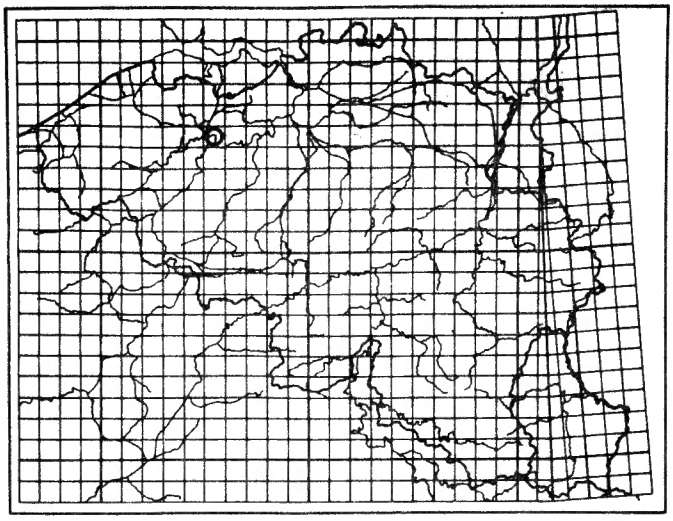
354. *LEBIA cruxminor*



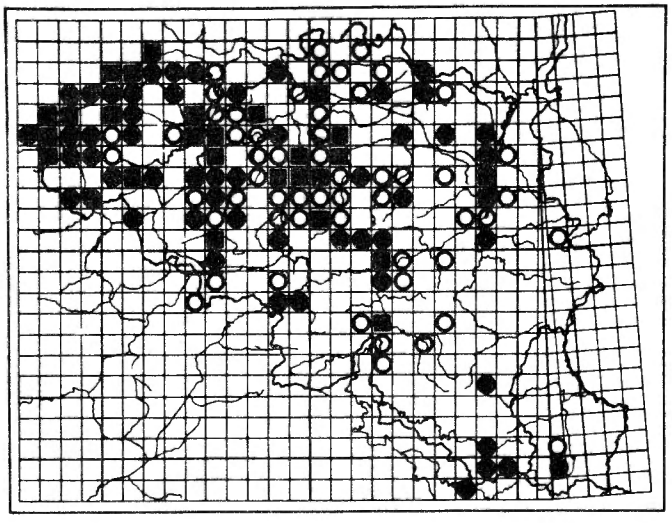
355. *LEBIA cyanocephala*



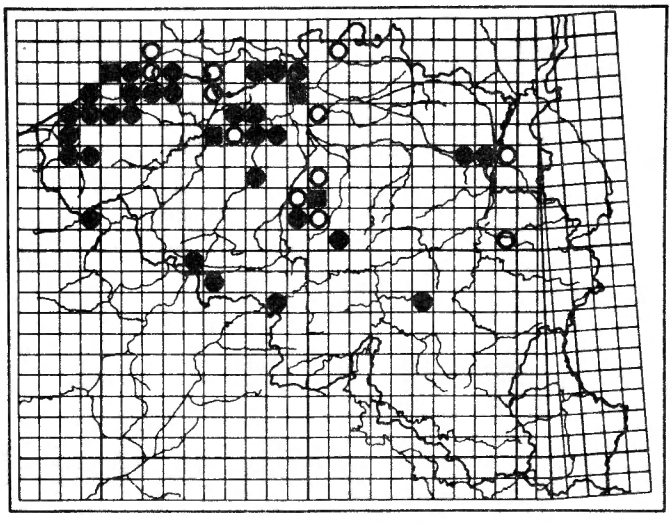
356. LEBIA marginata



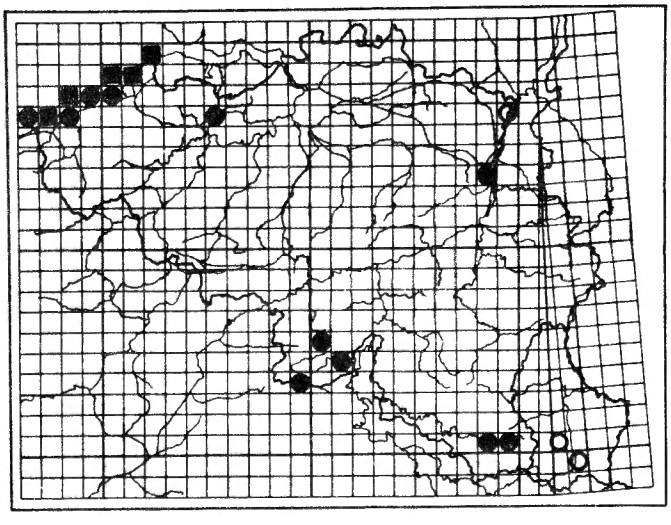
357. SOMOTRICHUS elevatus



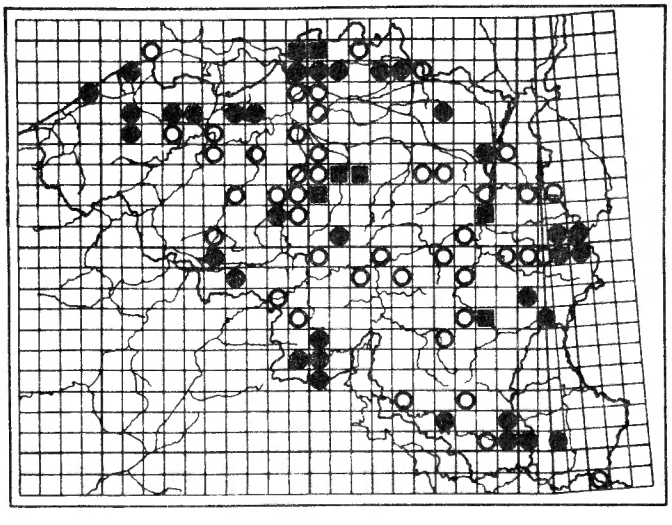
358. DEMETRIAS atricapillus



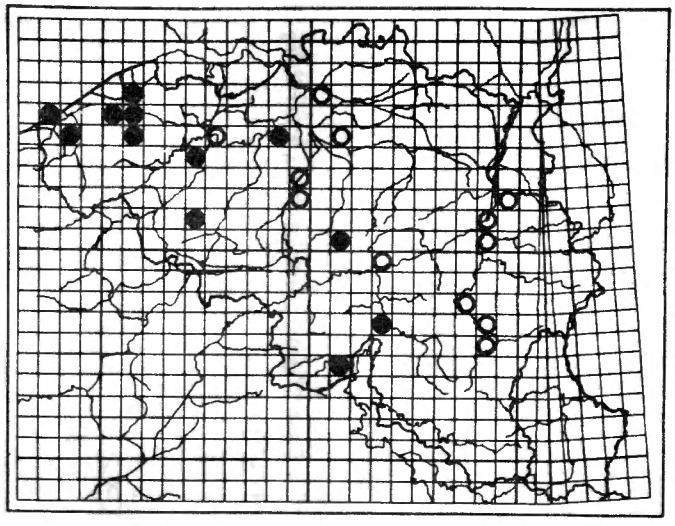
359. DEMETRIAS imperialis



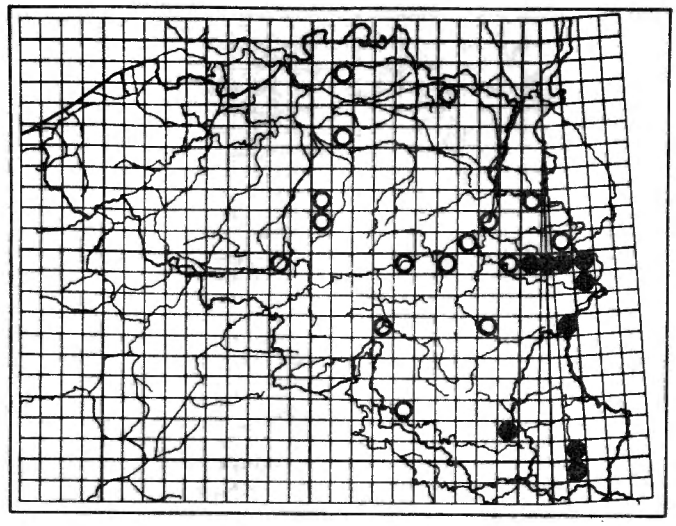
360. DEMETRIAS monostigma



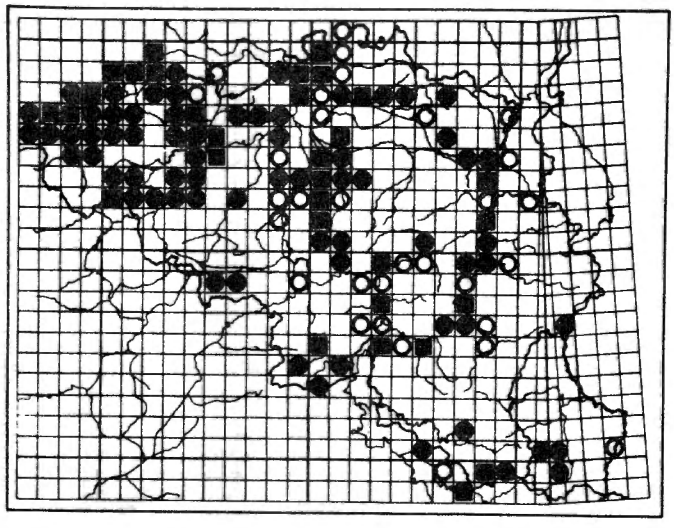
361. DROMIUS agilis



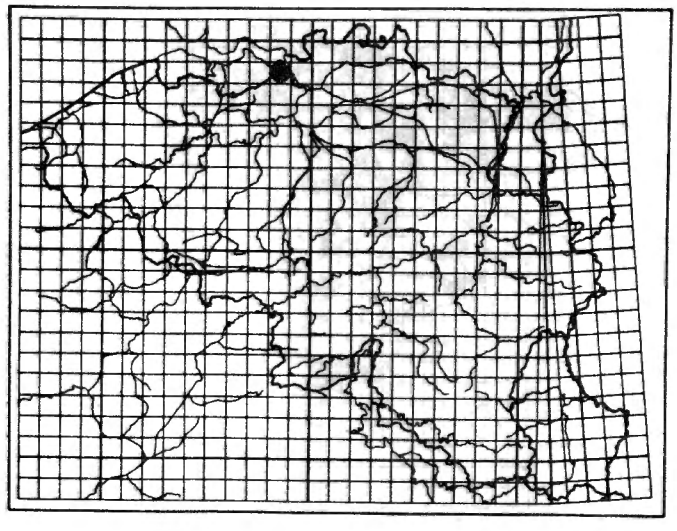
362. *DROMIUS angustus*



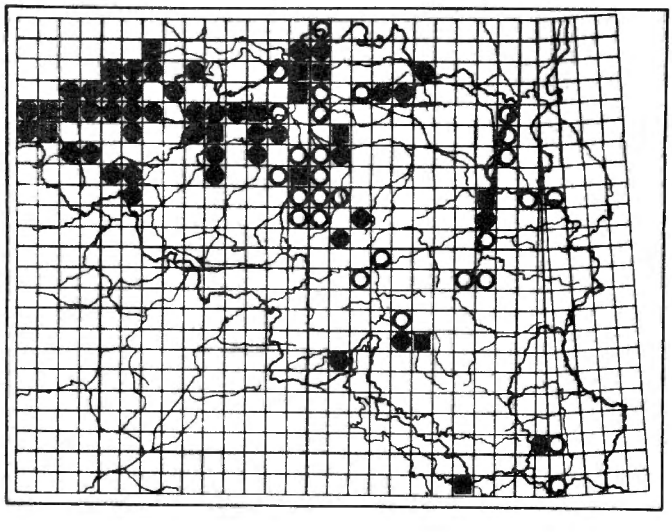
363. *DROMIUS fenestratus*



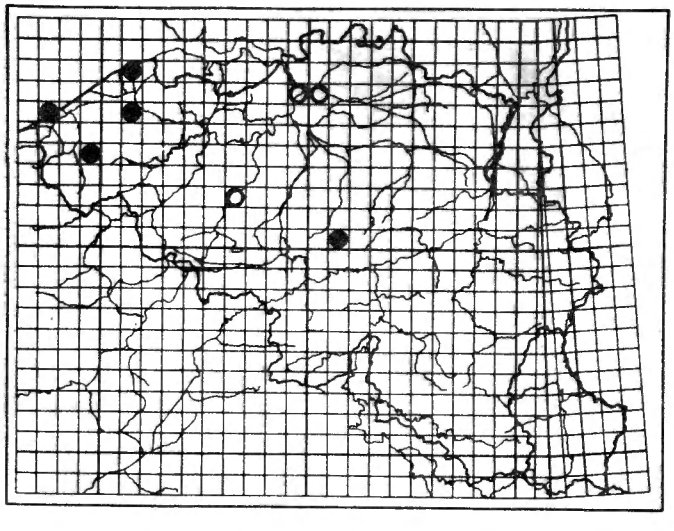
364. *DROMIUS linearis*



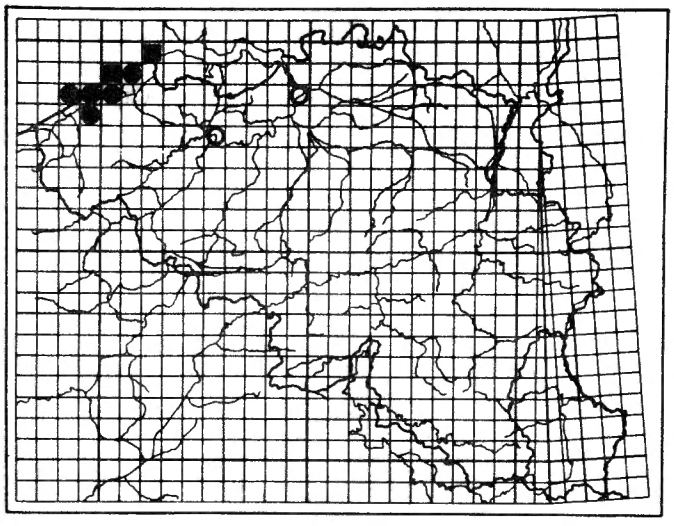
365. *DROMIUS longiceps*



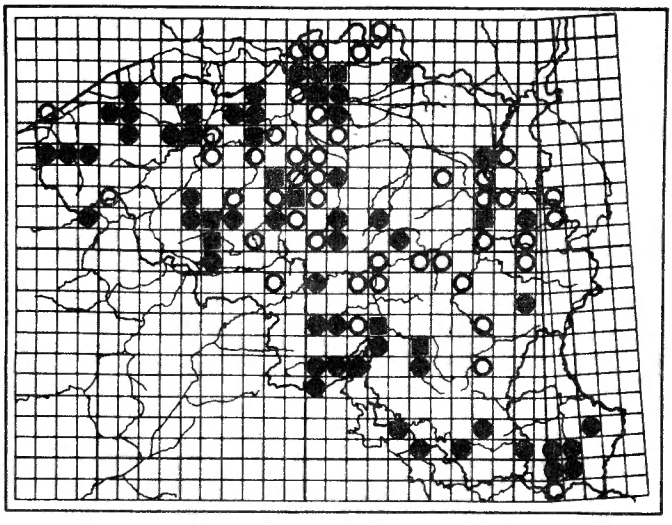
366. *DROMIUS melanocephalus*



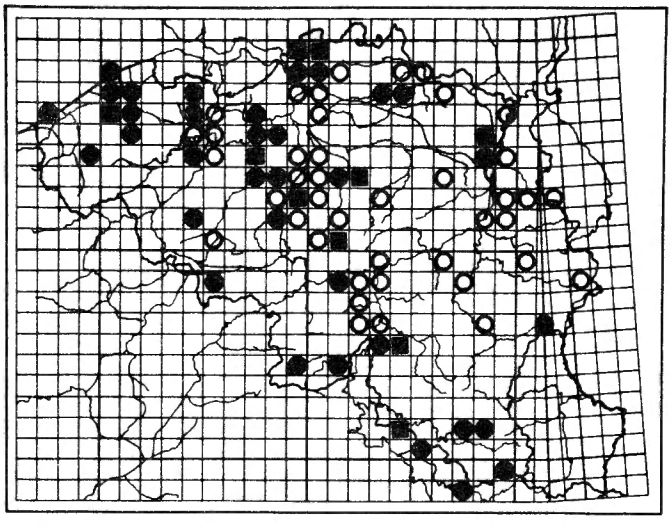
367. *DROMIUS meridionalis*



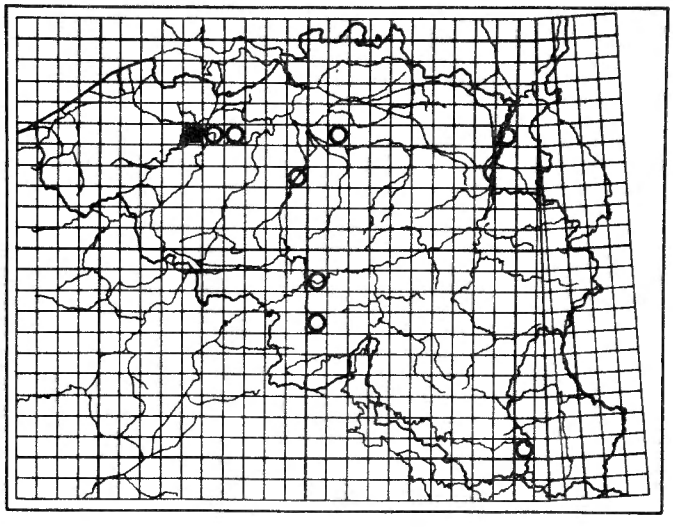
368. DROMIUS notatus



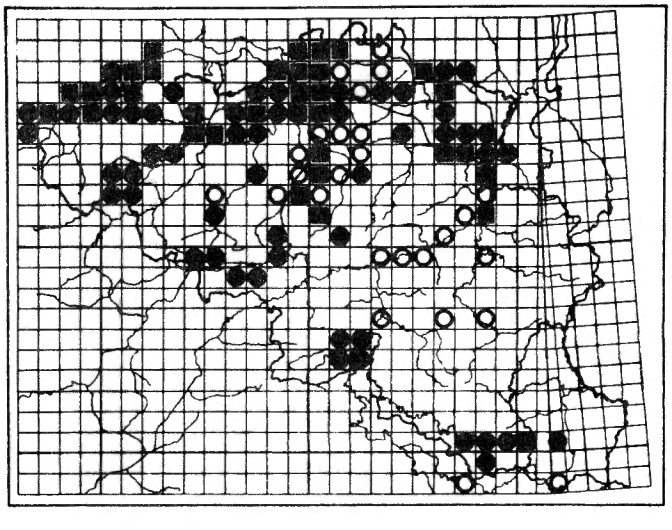
369. DROMIUS quadrimaculatus



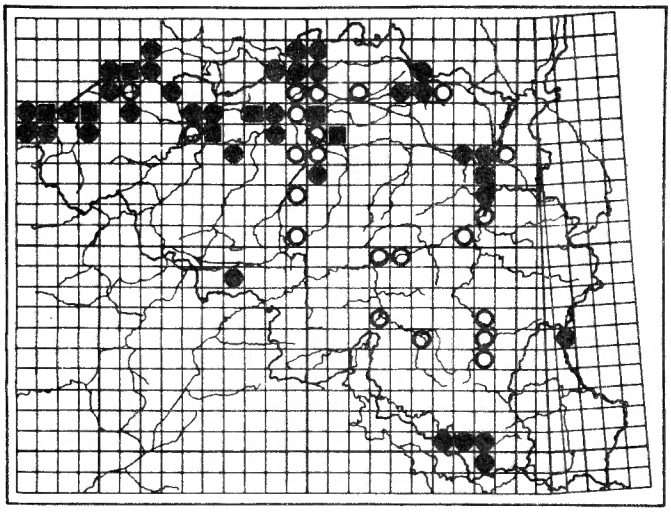
370. DROMIUS quadrinotatus



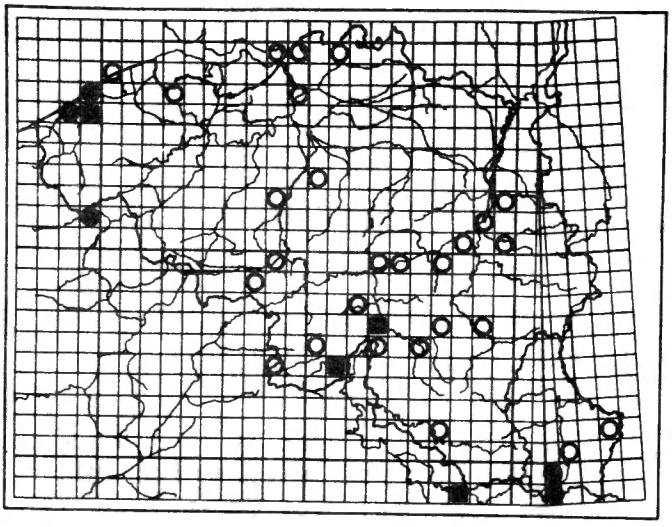
371. DROMIUS sigma



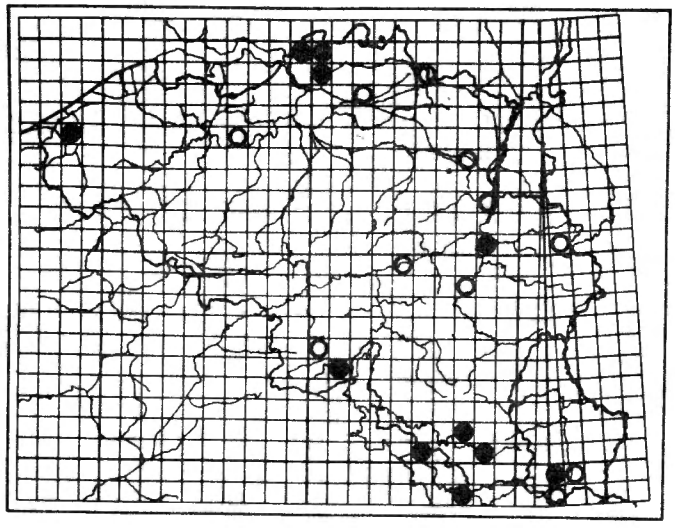
372. METABLETUS foveatus



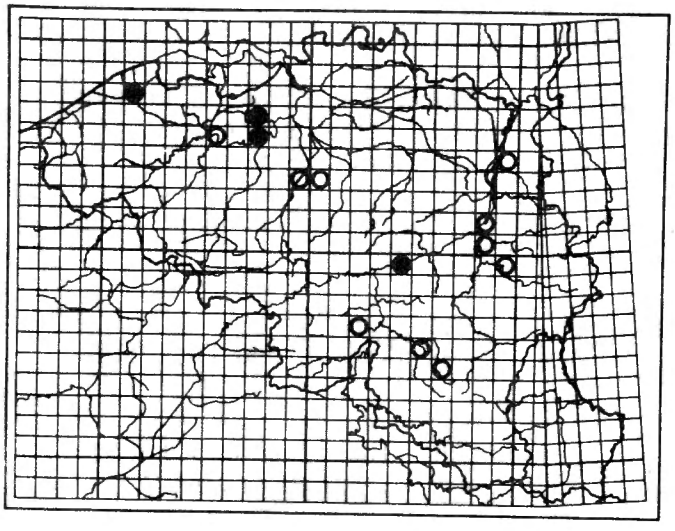
373. METABLETUS truncatellus



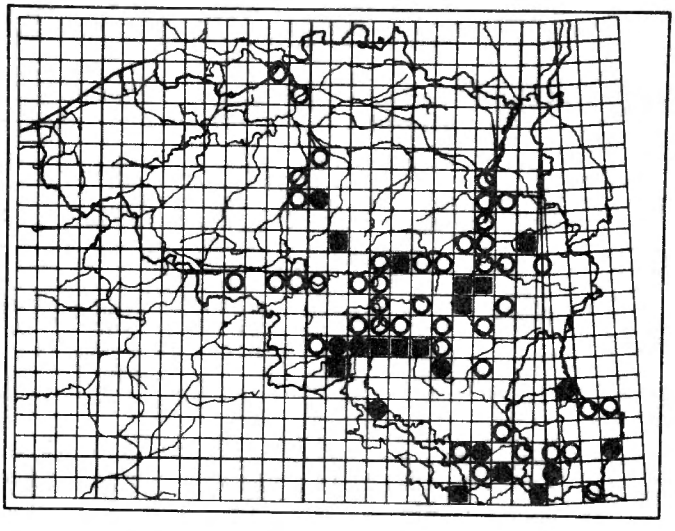
374. *MICROLESTES maurus*



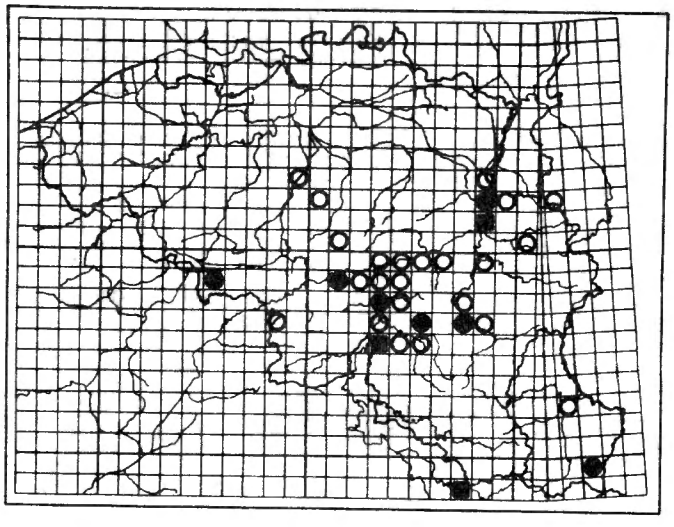
375. *MICROLESTES minutulus*



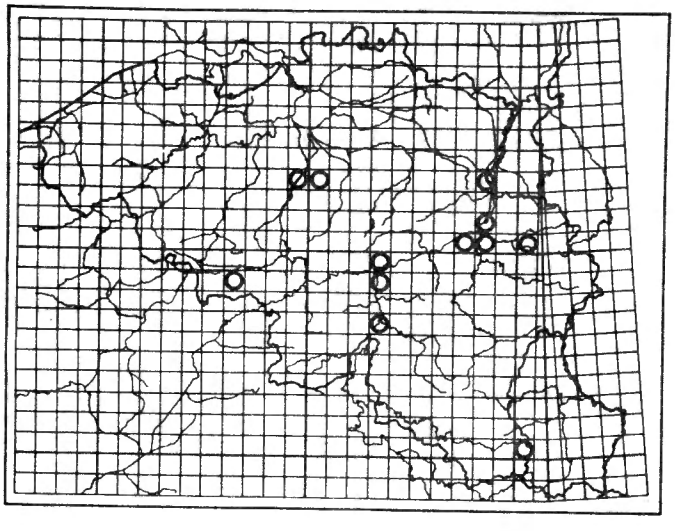
376. *LIONYCHUS quadrillum*



377. *BRACHINUS crepitans*



378. *BRACHINUS explodens*



379. *BRACHINUS sclopeta*

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