

Kobayashi, K. and H. Watabe.* Toyoha Junior High School; *Hokkaido University of Education, Sapporo, Japan. Drosophilid fauna of Rishiri Island in northern Japan.

The study on the ecology of drosophilid flies in an island is advantageous to understand interspecific relationships (MacArthur & Wilson 1967). We made a periodical collection in the Island of Rishiri (183 km² in area) from August 15 to September 27, 1983. The Island (45°N, 141°E) is located in northern Japan.

The collection was made using retainer-type traps baited with fermenting bananas. The traps were set up at four different environments, i.e., natural forest (NF), waterside (WS), grassland (GL) and human habitation (HH).

In total, 4763 specimens were obtained, involving 32 species belonging to 4 genera and 9 subgenera. The 14 common species are shown in Table 1.

Table 1. Drosophilid flies collected at four sites in Rishiri Island, 1983.

	Natural forest	Water-side	Grass-land	Human habitation	Total
Genus Leucophenga					
Subgenus Neoleucophenga					
<i>L. quinquemaculipennis</i>	49	18	1	--	68
Genus Drosophila					
Subgenus Hirtodrosophila					
<i>D. confusa</i>	25	36	8	--	69
Subgenus Dorsilopha					
<i>D. busckii</i>	1	--	2	45	48
Subgenus Sophophila					
<i>D. melanogaster*</i>	5	3	42	518	568
<i>D. sukii</i>	50	15	73	19	157
<i>D. auraria</i>	--	7	15	162	184
<i>D. bifasciata</i>	369	290	237	99	995
Subgenus Drosophila					
<i>D. funebris</i>	--	1	1	224	226
<i>D. lacertosa</i>	12	66	21	9	108
<i>D. immigrans</i>	26	18	26	41	111
<i>D. testacea</i>	460	428	128	68	1084
<i>D. nigromaculata</i>	1	--	62	22	85
<i>D. curvispina</i>	12	37	51	47	147
<i>D. histrio</i>	206	348	149	165	868
Others					
	13	10	12	10	45
Total ind. No.	1229	1277	828	1429	4763
Total spp. No.	19	19	21	18	32

The abundant species were *D. testacea* (22.8% of total samples), *D. bifasciata* (20.9%) and *D. histrio* (18.2%), all of which have been found exclusively in the natural forests of northern Japan. In the Island, however, they were commonly collected at the sites GL and HH, which are not original habitats for these species. The other species are as follows: *Amiota stylopyga** (NF), *A. albilabtris** (GL), *A. furcata* (GL, HH), *A. trifurcata** (NF, GL), *A. taurusata** (NF), *A. kappa** (GL), *A. conifera takadai** (WS, GL, HH), *A. sp.** (NF), *Scaptomyza pallida* (HH), *Drosophila coracina* (WS), *D. simulans** (HH), *D. lutescens* (NF, WS), *D. moriwakii* (WS), *D. pengi** (NF, WS, HH), *D. ezoana** (NF), *D. kanekoi** (GL), *D. bizonata** (WS), *D. brachynephros* (NF, GL, HH). The asterisks in the above species and in Table 1 indicate the species new to the Island (Takada 1956; Kaneko et al. 1969). With regard to domestic species of *Drosophila*, the abundance of *D. funebris* is noticeable. This species has not been so much collected in any districts of Japan. *D. simulans*, which colonized in Japan about ten years ago, was discovered at Rishiri Island (cf. Watabe et al. 1980).

Considering the small number, this species might have recently invaded the Island. Up to the present, about 120 species have been recorded in northern Japan, one-fourth of which has been found in the Island during the survey. We will investigate the collection records about the drosophilid flies which have hardly visited the fruit-trap.

References: Kaneko, A., E. Momma & T. Tokumitsu 1969, J. Fac. Sci. (Hokkaido Univ.), Ser. VI (Zool.) 17:381-385; MacArthur, R.H. & E.O. Wilson 1967, in: The Theory of Island Biogeography, Princeton Univ. Press, New Jersey; Takada, H. 1956, DIS 30:154; Watabe, H., E. Momma & M.T. Kimura 1980, DIS 55:141-142.

