

## Further note on the geographical distribution of the Drosophilidae in San-in region.

By Ken-Ichi WAKAHAMA

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若浜健一：山陰地方におけるショウジョウバエ科の  
分布的調査（続報）

The author, has made a collection of the drosophilid flies since the spring of 1957 hoping to make a *Drosophila* survey in San-in region (Fig. 1). He reported preliminary 23 species from the five localities in 1960. After that the further collections have been carried out and many individuals of the Drosophilidae were obtained. In this paper the author wishes to report the results.

Before going further the author must express his cordial thanks to Dr. Toyohi Okada, Tokyo Metropolitan University, for his kind help and guidance on the identification of species. And many thanks of the author are offered to Messrs. Yutaka Sadano, Kuniyuki Amatsu, Ikutaro Tanaka, Yoshinori Sugimura, Satoru Iwamoto and Hirotohi Sakuwa for their co-operations in these collections.

*Method of Collection* : Periodical collections were made at Rakuzan Park in Matsue city from April of 1957 to October of 1960 except the snowy seasons and Mt. Dakesan (ca. 320m above sea level) ranging from April to November in 1961. Temporary collections were done at Oki islet, Mt. Daisen, Kawamoto, Kami-Ito, Chikuya, Kuroda, Kitayama, Mt. Sambe, Taisha town, Akana, Kokufa, Hirose, Sho-o and Masuda (Fig. 1).

The trapping method by the fermented fruits, occasional net-sweeping and sucking method by a glass pipe were used in every collection, excepting in that of Kokufu. There was collected only in human dwellings for the heavy rain and the typhoon.

### Results

A total of 28255 specimens of the Drosophilidae have been obtained in the collections. They were represented by 50 species belonging to 10 genera as illustrated in Table 1. Most of them are lured to the fermented fruits (banana in most cases), but a pretty number of specimens were captured by net-sweeping on many kinds of grasses. Fungi-feeders as the member of the genera *Leucophenga*, *Mycodrosophila* and some species of the genus *Drosophila* were mostly captured by the sucking method. But considerable specimens of the above mentioned member were also attracted the baits. Almost specimens of the member of the genus *Amiota* were obtained by net when they were flying around our ears and eyes.

Table 1. Drosophilids flies obtained from San-in region (1957-1961).

Localities	Hirose	Kami-Ito	Daisen	Kitayama	Chikuya	Kuroda	Akana
Species							
<i>Diastata ussurica</i>	—	—	1	—	—	—	—
<i>Amiota alboguttata</i> f. <i>furcata</i>	—	—	1	—	—	—	—
<i>A. variegata</i>	—	—	20	—	1	—	—
<i>A. magna</i>	—	—	—	—	—	—	—
<i>Leucophenga argentosa</i>	—	—	—	—	—	—	—
<i>L. magnipalpis</i>	—	—	1	—	—	—	—
<i>L. maculata</i>	1	—	1	—	—	—	—
<i>L. ornatipennis</i>	—	—	—	—	—	—	—
<i>L. concilia</i>	—	—	—	—	—	—	—
<i>L. angusta</i>	—	—	—	—	—	—	—
Microdrosophila-like sp.	—	—	—	—	—	—	—
<i>Mycodrosophila splendida</i>	1	—	11	—	—	—	—
<i>M. poecilogastra</i>	1	—	8	—	—	—	—
<i>Dettopsomyia argentifrons</i>	—	—	—	—	—	—	—
<i>Liodrosophila aerea</i>	—	—	139	—	—	—	1
<i>Parascaptomyza disticha</i>	—	151	8	—	—	—	—
<i>Scaptomyza graminum</i>	—	—	—	—	2	—	—
<i>Drosophila alboralis</i>	—	—	2	—	—	—	—
<i>D. sexvittata</i>	—	—	—	—	—	—	—
<i>D. quadrivittata</i>	—	—	2	3	—	—	—
<i>D. histrioides</i>	—	—	5	1	—	—	—
<i>D. busckii</i>	—	108	1	—	62	629	—
<i>D. coracina</i>	—	—	—	—	3	—	—
<i>D. bifasciata</i>	—	—	25	—	—	—	—
<i>D. suzukii</i>	—	—	183	9	—	7	143
<i>D. pulchrella</i>	—	—	10	—	—	—	7
<i>D. lutea</i>	18	175	427	161	228	126	309
<i>D. melanogaster</i>	23	29	1	1	7	6	1
<i>D. nipponica</i>	—	72	—	—	—	—	—
<i>D. ficusphila</i>	—	—	—	—	—	—	—
<i>D. auraria</i>	5	7	40	8	182	26	36
<i>D. rufa</i>	28	28	2	73	60	1	—
<i>D. brachynephros</i>	—	35	3	—	—	—	1
<i>D. angularis</i>	3	28	11	4	—	—	6
<i>D. unispina</i>	—	—	5	—	—	—	—
<i>D. nigromaculata</i>	—	—	—	—	46	4	—
<i>D. testacea</i>	—	—	1	—	—	—	—
<i>D. bizonata</i>	5	—	26	5	3	1	1
<i>D. sternopleuralis</i>	—	—	36	—	—	—	—
<i>D. histrio</i>	—	—	7	—	—	—	—
<i>D. grandis</i>	—	—	—	—	—	—	—
<i>D. immigrans</i>	—	235	147	—	220	390	49
<i>D. curviceps</i>	—	—	14	—	—	—	—
<i>D. virgata</i>	—	—	—	—	—	—	—
<i>D. subtilis</i>	—	—	1	—	—	—	—
<i>D. pengi</i>	—	—	1	—	—	—	—
<i>D. virilis</i>	—	35	—	—	1	4	—
<i>D. sordidula</i>	—	—	2	—	—	—	—
<i>D. lacertosa</i>	—	5	7	—	—	42	1
<i>D. daruma</i>	—	—	—	—	—	—	—
undistinguished	—	3	1	—	4	—	—
Total	85	911	1150	265	819	1236	555

Kokufu	Sambe	Masuda	Dakesan	Taisha	Rakuzan	Kawamoto	Oki	Sho-o	Total
—	—	—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	1
—	—	—	13	—	3	1	—	—	38
—	—	—	1	—	—	—	—	—	1
—	—	—	3	—	—	—	—	—	3
—	—	—	3	—	—	—	—	—	4
—	—	—	—	—	—	—	—	—	2
—	—	—	2	—	1	—	—	—	3
—	—	—	19	—	—	—	—	1	20
—	—	—	2	—	—	—	—	—	2
—	—	—	1	—	—	—	—	—	1
—	—	—	16	—	71	—	—	—	99
—	—	—	—	—	—	—	—	—	9
—	—	—	—	—	—	—	—	1	1
—	—	—	—	2	—	—	—	1	143
—	—	—	2	—	71	—	—	—	232
—	—	—	2	—	—	—	—	—	4
—	—	—	2	—	—	—	—	—	4
—	—	—	2	—	17	—	—	—	19
—	—	—	3	—	—	—	—	—	8
—	6	—	81	9	8	—	—	3	113
—	—	—	5	47	1064	3	19	—	1938
—	—	1	42	72	153	—	4	14	289
—	—	—	3	—	—	—	—	—	28
—	142	6	159	1	73	5	57	98	883
—	3	—	1	—	—	—	—	4	25
—	351	165	2383	723	1724	12	578	308	7678
1421	4	1	64	2	83	7	4	2	1656
—	—	—	—	—	54	—	—	—	126
—	—	7	11	—	—	—	—	22	40
—	19	2	140	37	516	25	86	312	1441
—	3	—	365	87	1090	22	67	5	1831
—	—	—	51	1	—	—	—	1	92
—	6	22	847	1	228	5	—	38	1259
—	—	—	5	—	—	—	—	—	10
—	—	—	1	—	101	1	1	—	154
—	—	—	3	—	—	—	—	—	4
—	6	2	2989	6	1622	3	6	28	4703
—	9	11	223	—	18	—	12	—	309
—	—	—	2	—	—	—	—	—	9
—	—	1	1	—	—	—	—	—	2
9	37	—	620	313	—	35	354	160	2569
—	—	—	—	—	—	—	—	—	14
—	—	—	8	—	2	—	14	—	24
—	—	2	1746	—	—	—	—	1	1750
—	—	—	34	—	—	—	—	—	35
—	—	—	67	—	73	22	—	—	202
—	—	—	30	—	—	—	—	—	32
—	1	—	91	1	223	—	18	—	389
—	—	—	—	—	23	—	—	—	23
—	—	—	1	1	12	—	—	—	22
1430	587	220	10044	1303	7290	141	1220	999	28255

### Discussion

In the previous paper, the author (1960) reported 23 species. These species were also collected in the present collections as shown in Table 1. In addition, the following 27 species were obtained as new to the San-in drosophilid fauna : *Diastata ussurica* Duda, *Amiota alboguttata* f. *furcata* f. Okada, *Amiota magna* Okada, *Leucophenga argentosa* Okada, *L. magnipalpis* Duda, *L. maculata* (Dufour), *L. concilia* Okada, *L. angusta* Okada, *Microdrosophila*-like sp., *Mycodrosophila poecilogastra* (Loew), *Liodrosophila aerea* Okada, *Dettopsomyia argentifrons* Okada, *Scaptomyza graminum* (Fallén), *Drosophila alboralis* Momma and Takada, *D. quadrivittata* Okada, *D. pulchrella* Tan, Hsu and Sheng, *D. ficuspila* Kikkawa and Peng, *D. brachynephros* Okada, *D. unispina* Okada, *D. testacea* van

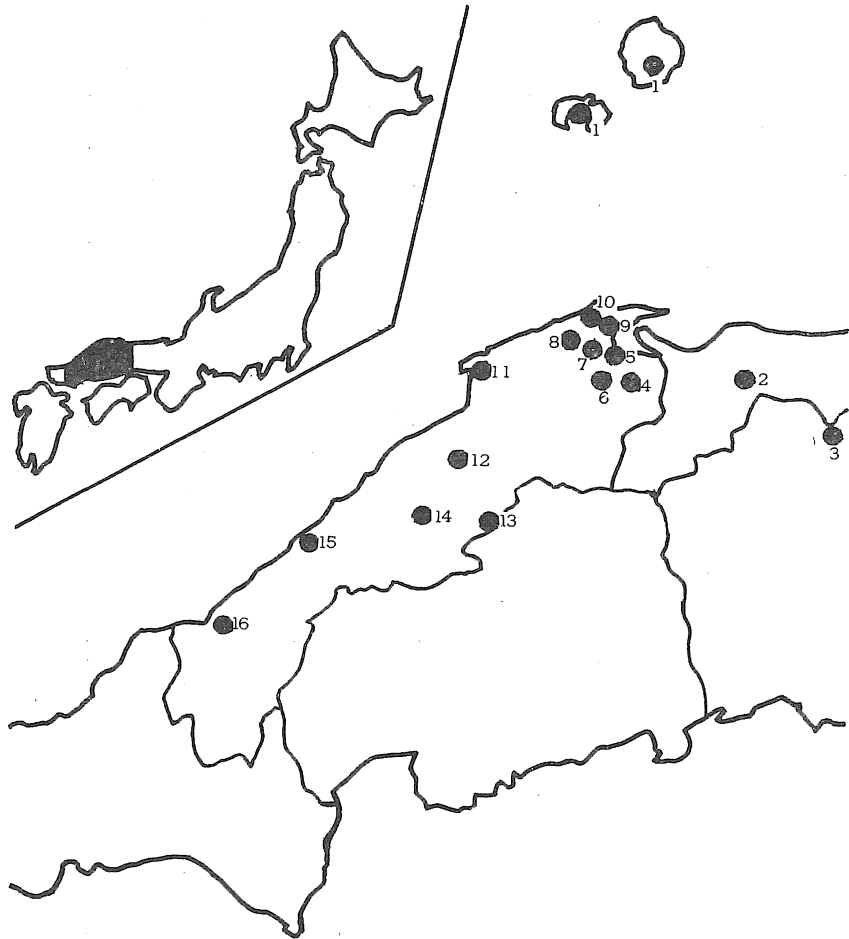


Fig. 1. Map showing 16 localities where the collections were made. 1, Oki islet. 2, Mt. Daisen. 3, Sho-o. 4, Hirose. 5, Chikuya. 6, Kami-Ito. 7, Rakuzan Park. 8, Kuroda. 9, Mt. Dakesan. 10, Kitayama. 11, Taisha. 12, Mt. Sambe. 13, Akana. 14, Kawamoto. 15, Kokufa. 16, Masuda.

Roser, *D. histrio* Meigen, *D. grandis* Kikkawa and Peng, *D. curviceps* Okada, *D. subtilis* Kikkawa and Peng, *D. sordidula* Kikkawa and Peng, *D. pengi* Okada and *D. daruma* Okada.

Some remarks are given for a certain species of San-in region. 1. *Microdrosophila*-like sp. ; Only one specimen of this species was captured at Mt. Dakesan in July of 1961. Okada (1956 & 1960) reported 7 species of this genus from Japan. According to his personal communication this species seems to belong to the genus *Microdrosophila* on many external characters. But it differs in the acrostichal hairs having 4 rows from the other seven species. 2. *Drosophila bifasciata* ; This species abundantly in the northern part of Japan (Momma 1957) and a little is known in the high land of the main land of Japan (Okada 1956). In San-in region this species was obtained only at Mt. Daisen (1716m above the sea level), but 3 specimens were captured in the low land at the outskirts of Matsue city in May, June and September of 1961. 3. *D. testacea* and *D. histrio* ; Both species are living in the cooler land and especially the former has stronger cline than the latter (Momma 1957). A few members of these species were captured in the low land near Matsue city. 5. Among the above mentioned 48 species, *D. busckii* (1938 specimens), *D. suzukii* (883 specimens), *D. lutea* (7678), *D. melanogaster* (1656), *D. auraria* (1441), *D. rufa* (1831), *D. angularis* (1259), *D. bizonata* (4703), *D. immigrans* (2569), and *D. subtilis* (1750) were known as the dominant species in San-in region. Especially *D. lutea* is showing the most dominance through the season. *Drosophila lacertosa* (389 individuals), *D. virilis* (202), *D. sternopleuralis* (309), *D. coracina* (289), and *Parascaptomyza disticha* (232) were known as the moderate group.

Okada (1956) reported 25 species from the Chugoku district where includes San-in and San-yo regions. In addition to his report, the following 28 species were newly added to the drosophilid fauna in Chugoku district ; *Amiota alboguttata* f. *furcata*, *Leucophenga ornatipennis*, *L. argentosa*, *L. magnipalpis*, *L. maculata*, *L. concilia*, *L. angusta*, *Microdrosophila*-like sp., *Mycodrosophila splendida*, *M. poecilogastra*, *Dettopsomyia argentifrons*, *Scaptomyza graminum*, *Drosophila alboralis*, *D. quadrivittata*, *D. histrioides*, *D. sexvittata*, *D. coracina*, *D. nipponica*, *D. angularis*, *D. nigromaculata*, *D. testacea*, *D. sternopleuralis*, *D. histrio*, *D. grandis*, *D. curviceps*, *D. pengi*, *D. sordidula* and *D. daruma*.

### Summary

Collections of the drosophilid flies were done in 16 localities in San-in region from the spring of 1957 to the present time. A total of 28255 specimens was obtained. They were divided into 50 species belonging to 10 genera.

Twenty-eight species of *Amiota alboguttata* f. *furcata*, *Leucophenga ornatipennis*, *L. argentosa*, *L. magnipalpis*, *L. maculata*, *L. concilia*, *L. angusta*, *Microdrosophila*-like sp., *Mycodrosophila splendida*, *M. poecilogastra*, *Dettopsomyia argentifrons*, *Scaptomyza graminum*, *Drosophila alboralis*, *D. quadrivittata*, *D. histrioides*, *D. sexvittata*, *D. coracina*, *D. nipponica*, *D. angularis*, *D. nigromaculata*, *D. testacea*, *D. sternopleuralis*, *D. histrio*, *D. grandis*,

*D. curviceps*, *D. pengi*, *D. sordidula* and *D. daruma* were added as new member of the drosophilid fauna to the former report in the Chugoku district.

Some remarks were given to a certain species.

#### References

- Momma, E. 1957. Jour. Fac. Sci. Hokkaido Univ. Ser. VI, Zool., 13 : 93~98.  
Okada, T. 1956. Systematic study of Drosophilidae and allied families of Japan (Gihodo, Tokyo).  
\_\_\_\_\_, 1960. Kontyû, 28 : 212~222.  
Wakahama, K. I. 1960. Coll. Ess. Comm. Shimane Univ. (Nat. Sci.), 9 : 118~120.