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DROSOPHILID FLIES (DIPTERA) IN THE MAHALE MOUNTAINS NATIONAL PARK, TANZANIA: A PRELIMINARY REPORT

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ABSTRACT Eight species of drosophilids were collected at Kasoje in the Mahale Mountains National Park, western Tanzania, during the wet season of 1983–1984: one circumtropical species and seven Afrotropical species, all of which are new records from Tanzania. The distributions of respective species known so far suggest some affinities in the drosophilid fauna between the Mahale Mountains and central and western Africa.

Key Words: Drosophilid fly; Mahale Mountains; Circumtropical species; Afrotropical species.

INTRODUCTION

This paper describes drosophilid flies (Diptera) collected in the Mahale Mountains, western Tanzania. Since the specimens are represented only by samples collected non-systematically, many other species will be found in the future. Although the present report is not comprehensive, its brief descriptions would contribute to the accumulation of faunal data of the Mahale Mountains, which just became a national park in 1985.

For the drosophilid fly fauna in Tanzania, see Bächli (1971), Tsacas et al. (1981), and Lachaise and Tsacas (1983). These reports, however, include information on only two genera, Leucophenga and Paraleucophenga. All species reported in the present study are new records from Tanzania.

SAMPLING METHOD

The specimens were collected at Kansyana Camp of the Mahale Mountains Wildlife Research Centre in the Kasoje area at the western foot of the Mahale Mountains on the eastern shore of Lake Tanganyika (6°S, 30°E) [see maps in Uehara (1982)]. The camp (ca. 800 m above sea level) is situated at the boundary zone between semi-deciduous gallery forest and various types of secondary vegetation such as Pennisetum grassland and Acacia savannah. For the vegetation and rainfall data at Kasoje, see Nishida (1972), Nishida and Uehara (1981), and Uehara (1982).

During the wet season of 1983–1984, drosophilid flies were captured three times by the junior author (S.U.) by means of sweeping a butterfly net over garbage or fermented bananas: on 11th of December, 1983 over garbage, on 8th of January, 1984 over fermented bananas, and on 5th of February, 1984 over garbage (including many used tea leaves). Samples were stored in ethanol (ca. 30%), and later identified by the senior author (H.T.).
RESULTS

The following eight species of drosophilid flies, all of which belong to the subfamily Drosophilinae, are identified among the specimens.

Genus Drosophila Fallén


This is one of the largest genera of Drosophilidae, with about 1,580 described species in the world. Three of the approximately 15 subgenera are represented by six species of the present material.

Subgenus Drosophila Fallén
   Specimen examined: One male, Jan. 8, 1984, on fermented bananas.
   Distribution: Benin, Congo, Zaire, Tanzania (new record), Madagascar, and Seychelles.
   Feeding habitat: Plantation and second growth vegetation (Lachaise and Tsacas, 1983).
   Host-plant species: Mangifera indica, Spondias cytherea, Artocarpus sp., Musa sapientum, Psidium guajava, Citrus grandis, Manihot esculentus, etc. (Lachaise and Tsacas, 1983).

Subgenus Scaptodrosophila Duda
   Specimens examined: Two males, Feb. 5, 1984, on garbage and used tea leaves.
   Distribution: Ivory Coast, Kenya, and Tanzania (new record).
   Feeding habitat and host-plant species: Unknown.

Subgenus Sophophora Sturtevant
   Feeding habitat: Plantation, second growth vegetation, and forest/savannah mosaic (Lachaise and Tsacas, 1983).
   Host-plant species: Fruit. flower and fungus breeders; e.g., Mangifera indica, Amona senegalensis, Landolphia dulcis, Crescentia cujete, Ananas comosus, Rhipsalis sp., Carica papaya, Artocarpus utilis, Ficus sur, Staudtia gabonensis, Psidium guajava, Averrhoa carambola, Borassus aethiopum, Pandanus candelabrum, Parinari sp., Rubus steudneri, Nauclea poglobuinii, Rothmannia whitfeldii, Cyphonandra betacea, Aframomum sanguineum, Faveolus sp., and Polyoporus sp. (Lachaise and Tsacas, 1983).
   Specimens examined: Seven males, Jan. 8, 1984, on fermented bananas.
Distribution: Ivory Coast, Cameroon, Central Africa, Gabon, Congo, and Tanzania (new record).

Feeding habitat: Plantation, evergreen rainforest, swamp forest, and semi-deciduous riparian forest gallery (Lachaise and Tsacas, 1983).


Specimens examined: Six males, Jan. 8, 1984, on fermented bananas.

Distribution: Ivory Coast, Cameroon, Central Africa, Gabon, Congo, and Tanzania (new record).

Feeding habitat: Plantation, evergreen rainforest, swamp forest, and semi-deciduous riparian forest gallery (Lachaise and Tsacas, 1983).


Specimen examined: One male, Jan. 8, 1984, on fermented bananas.

Distribution: Ivory Coast, Cameroon, Central Africa, Congo, and Tanzania (new record).

Feeding habitat: Evergreen rainforest and second growth vegetation (Lachaise and Tsacas, 1983).

Host-plant species: Guarea cedrata, Psidium guajava, and Chytranthus sp. (Lachaise and Tsacas, 1983).

Genus Zaprionus Coquillett


This is one of the drosophilid genera which have silvery or chalky white longitudinal stripes on the frons and mesoscutum, with 31 described species recorded from Afrotropical, Oriental, and Australian regions.


Specimens examined: Two females, Jan. 8, 1984, on fermented bananas.

Distribution: Widespread in Afrotropical region including Ivory Coast, Uganda, and Tanzania (new record).

Feeding habitat: Plantation, second growth vegetation, savannah, and forest gallery of temporary tributaries (Lachaise and Tsacas, 1983).

Host-plant species: Papaya, orange, banana, and coffee (Burla, 1954).


Specimen examined: One male, Jan. 8, 1984, on fermented bananas.

Distribution: Widespread in Afrotropical region including Ivory Coast, Benin, Nigeria, Cameroon, Central Africa, Gabon, Congo, Zaire, Tanzania (new record), Zimbabwe (Rhodesia), and Madagascar.

Feeding habitat: Botanical garden, plantation, second growth vegetation, evergreen
rainforest, semi-deciduous riparian forest gallery, secondary forest, non-characterized forest, and forest/savannah mosaic (Lachaise and Tsacas, 1983).


DISCUSSION

The eight species of drosophilid flies reported in the present study consist of one circum-tropical species (Drosophila ananassae) and seven Afrotropical species (D. nasuta, D. dibi, D. burlai, D. bocqueti, D. tsacasi, Zaprionus vittiger, and Z. colartii), all of which are new records from Tanzania. The distribution patterns of respective species known so far suggest some affinities in the drosophilid fauna between the Mahale Mountains and central and western Africa. It is difficult, however, to know accurately the biogeographical position of the drosophilid fauna of Mahale at this stage of knowledge, because the Mahale samples are still incomplete and East African drosophilid flies have not been systematically studied yet.

Sampling method clearly affects the species composition obtained. Seven species were seen on fermented bananas (Jan. 8, 1984), while only one or two species were collected on garbage (Dec. 11, 1983 and Feb. 5, 1984). Moreover, females were represented only in two species of the present material. Further collection in the Mahale Mountains is necessary. Sampling in forest, especially high up in the canopy and along the stream, and in other different types of vegetation would provide more fruitful information.

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