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We here report olive fruit (*Olea europaea*) as a new host record for the polyphagous African fig fly, *Zaprionus indianus* Gupta, from olive plantations on the southern slopes of Elburz Mountains, Iran. The collecting site is located in the province of Qazvin, Tarom-sofla, Ghouschi village, 356 m., 49°16'00"N 036°42'08"E. Olive is one of the most economically important fruits in Iran and many countries including those that are already known to be home of the African fig fly. Although the existing list of host records for *Z. indianus* includes as many as 74 fruits in 31 plant families (van der Linde *et al.*, 2006), olive was never observed to be infested by this drosophilid pest. Olive groves cover an estimated 104,680 hectares (258,670 acres) of Iran's land with an annual production of nearly 102,000 tons of olive fruit (MAJ, 2013). The dominant olive cultivars grown in this region are Zard, Mari, Dezfuli, and Shengeh, which are dual-purpose cultivars preferred for both oil production and eating as table olives. We collected the infested fallen olive fruit from the floor of the orchards and placed in the net-covered jars for the emergence of the adult flies. The emerged flies were later identified as *Z. indianus* and the monophagous tephritid olive fruit fly *Bactrocera oleae* (Gmelin). It is believed that *B. oleae* (primary pest), by causing damage on the skin of olive fruit, encourages the oviposition of the females of the secondary pest, African fig fly. Therefore, the olive groves where contaminated by the both fly species are more likely to be infested by *Z. indianus*. Since its discovery in 2008 (Parchami-Araghi and Mohammadi-Khorramabadi, 2009), the species *Z. indianus* has reportedly attacked a number of fruits including fig, olive, orange, peach, persimmon, and pomegranate in Iran.

References: MAJ 2013, Statistics Newsletter 3: 138pp. <http://maj.ir/portal/File/ShowFile.aspx?ID=648318ef-02ce-4749-9dd2-2fdae1bd699e>; Parchami-Araghi, M., and A. Mohammadi-Khorramabadi 2009, *Studia dipterologica* 16(1/2): 243-244; van der Linde, K., G.J. Steck, K. Hibbard, J.S. Birdsley, L.M. Alonso, and D. Houle 2006, *Florida Entomologist* 89(3): 402-404.



Drosophilidae of Bettadapura hill of Mysuru District (Karnataka, India).

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Drosophila has been used as a model organism for research for almost a century and thousands of scientists around the world work on it. It has richly contributed to our understanding of the pattern of eco-distribution, biodiversity (Guru Prasad *et al.*, 2010), and altitudinal variation (Guru Prasad *et al.*, 2006). The *Drosophila* species are observed in any ecosystem, from considerable altitudes to sea level, and in equatorial as well as in temperate zones (Throckmorton, 1975). The Drosophilidae family is composed by 65 genera and more than 3500 described species that occur all over the world (Bachli, 1998). The early studies on *Drosophila* in India were mainly with taxonomy. From 1970 onwards studies in other fields have also been initiated such as biodiversity. Significant progress has been made in the field of taxonomy and biodiversity of family Drosophilidae in South India. However, there are a few areas of south India, especially south Karnataka, which are not explored to analyse the fauna of *Drosophila species*. To fill up this gap at least partially, hence the present study has been undertaken in Bettadapura hill south eastern Karnataka, India, to study *Drosophila* fauna.

In the present study the *Drosophila* fauna was collected from two different altitudes (500 m and 1200 m) of Bettadapura hill (12.29°N, 75.65°E), in August 2015 which is situated in Mysuru district, of south eastern Karnataka, south India, almost near to Western Ghats. Collections were made using regular bottle trapping and banana bait methods. In bottle trapping method regular banana baits in quarter pint 250 ml milk bottles sprayed with yeast were tied to the twigs of trees at two and half feet above the ground in cool shaded

areas covered by scrubs. Next day flies were attracted by the bait and thus the bottles were collected during early morning by plugging with cotton to the mouth of the bottles. In net sweeping methods rotting fruits are spread usually beneath shaded areas of the bushes of plants. The study revealed a total of twelve different *Drosophila* species belongs to three subgenus namely Subgenus Sophophora, *Drosophila*, *Scaptodrosophila* in both higher and lower altitude of the hill being recorded.

Table 1. *Drosophila* fauna of Bettadapura hill of Mysuru district (south eastern Karnataka, India).

| Species | Altitudes | | Total |
|----------------------------|---------------------------------------|---------------------------------------|-------|
| | 500m | 1200m | |
| Subgenus: Sophophora | | | |
| <i>D. anomelani</i> | 86 | 65 | 151 |
| <i>D. jambulina</i> | 66 | 35 | 101 |
| <i>D. rajasekari</i> | 94 | 79 | 173 |
| <i>D. suzukii</i> | 91 | 78 | 169 |
| <i>D. takahashii</i> * | 36 | -- | 36 |
| <i>D. bipectinata</i> | 85 | 31 | 116 |
| <i>D. malerkotliana</i> ** | 175 | 156 | 331 |
| Total | 633 | 444 | 1077 |
| Subgenus: Drosophila | | | |
| <i>D. nasuta</i> ** | 180 | 162 | 342 |
| <i>D. neonasuta</i> | 76 | 65 | 141 |
| <i>D. repleta</i> | 42 | 15 | 57 |
| Total | 298 | 242 | 540 |
| Subgenus: Scaptodrosophila | | | |
| <i>D. brindavani</i> | 95 | 78 | 173 |
| <i>D. nigra</i> * | 23 | -- | 23 |
| Total | 118 | 78 | 196 |
| Temperature | 20 ⁰ C - 24 ⁰ C | 18 ⁰ C - 20 ⁰ C | |
| Grand total | 1049 | 764 | 1813 |

* indicates the species of least number; ** Indicates the species in maximum number.

The results of our *Drosophila* survey are shown in Table 1. According to our results as altitude increases there was a decrease in number of *Drosophila* species. Totally 1,813 flies were encountered during the collection, which belong to three subgenera, namely Sophophora, *Drosophila*, *Scaptodrosophila* with twelve species. The 500 m altitude comprises 1049, and 1200 m (764) of different species of *Drosophila* flies. The Sophophora comprises more number of flies and species compared to other genera. *D. nasuta* and *D. malerkotliana* species are the common and abundant species found in both altitudes. Interestingly species like *D. takahashii* and *D. nigra* were not found in higher altitude (1200 m). The community and biodiversity was big in lower altitude compared to higher altitudes. These results are similar to our own studies of *Drosophila* in Chamundi hill (Guru Prasad *et al.*, 2006). Thus, from the present eco-distributional and population analysis of *Drosophila* in hill, it is clear that the distributional pattern of a species or related group of species is uneven in space. *D. malerkotliana* and *D. nasuta* emerged as champion species, as they are registered in more in number in both altitudes. *D. nigra* and *D. takahashii* are completely absent in the higher altitude. In a nutshell, it can be said that the *Drosophila* community of hill is highly diverse which provides the habitat for flies.

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First registry of *Canalineia* group (Diptera, Drosophilidae) at Santa Catarina State, South Brazil.

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Introduction

The *Canalineia* group includes *D. albomarginata* Duda, *D. annularis*, Sturtevant, *D. annulosa* sp. nov. *D. canalinea* Patterson & Mainland, *D. canalinioides* Wheeler, *D. davidgrimaldii*, sp. nov., *D. hendeli*, sp. nov., *D. melanoptera*, Duda, *D. panamensis* Malloch, *D. parannularis*, sp. nov., and *D. procanalineia*, Wheeler. Its diagnosis includes body color mainly dark brown, mesonotum usually with dark spots at bristles bases and complex pattern of brown and yellow areas, forming diffuse longitudinal stripes, basal scutellars convergent, legs mostly dark, tibiae yellow with 2 brown rings, cross vein clouded, and tergites with broad, brown medially narrowly interrupted marginal bands. The distribution of this group is not well known, especially because it has been widening the colonizing areas in the last ten years in the Brazilian south region.

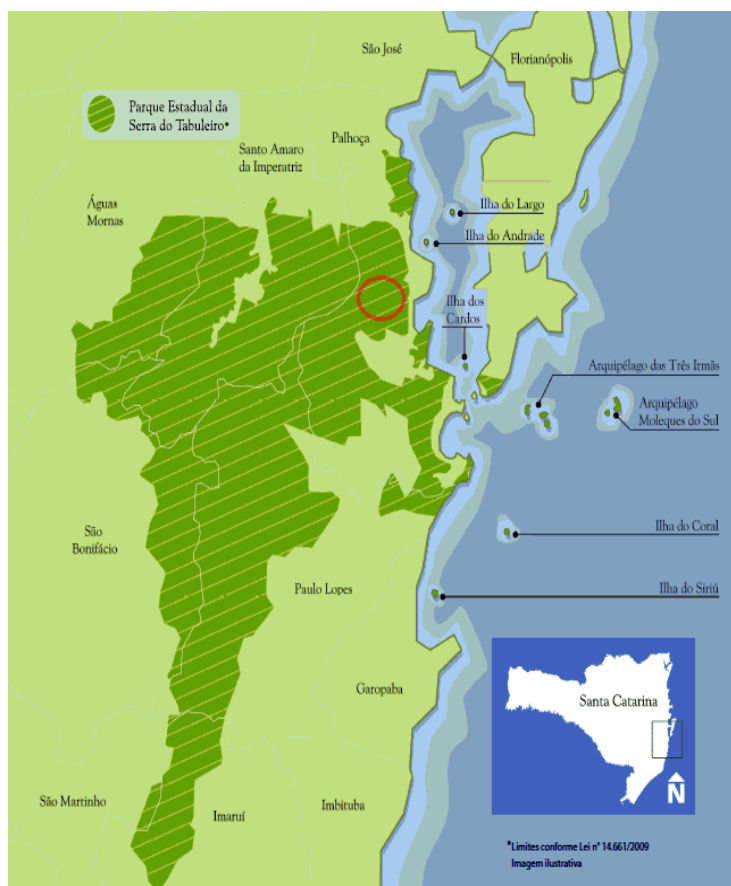


Figure 1. Map - showing the Santa Catarina State, south of Brazil, with the collecting point and a zoom view of the area. Reference: www.google.com.br/maps/

Material and Methods

The individuals of *Canalineia* group were collected in September, 2014, with traps containing fermented banana baits (Roque