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Preliminary data on the *Drosophila* fauna in the city of Tandil, Buenos Aires Province, Argentina.

Montes, Martín Alejandro[1], Hermes José Schmitz[2], Cláudia Rohde[3], Vera Lúcia da Silva Valente[4], and Ana Cristina Lauer Garcia[3]. [1]Departamento de Biologia, Universidade Federal Rural de Pernambuco, Rua Dom Manuel de Medeiros s/n, 52171-900, Recife, PE, Brasil; [2]Laboratório de Ecologia de Insetos, Coordenação de Zoologia, Museu Paraense Emílio Goeldi, Avenida Perimetral, 1901, 66077-530, Belém, PA, Brasil; [3]Laboratório de Genética, Centro Acadêmico de Vitória, Universidade Federal de Pernambuco, Rua do Alto do Reservatório, s/n, 55608-680, Vitória de Santo Antão, PE, Brasil; [4]Departamento de Genética, Instituto de Biociências, Universidade Federal do Rio Grande do Sul, Av. Bento Gonçalves, 9500, 91501-970, Porto Alegre, RS, Brasil.

Introduction

It is said that the drosophilid fauna in temperate regions is better known than that of the tropical regions (Val *et al.,* 1981; Wheeler 1986). However, when we take into consideration what is known about the fauna of these insects in Argentina, we find that the published knowledge is precarious. The majority of the studies on drosophilids available there are centered on genetic and evolutionary questions of determined species (Barker *et al.,* 1985; Iriarte *et al.,* 2009; Soto *et al.,* 2010).

In temperate and cold regions the climatic factors have considerable influence on the drosophilid populations and limit the occurrence of many species. Because of this, Dobzhansky and Pavan (1950) stated that the number of species found dropped as they proceeded from the heat of the tropical areas to the colder regions. This indicates that it is a rare feature for a drosophilid to be adapted to life at low temperatures.

The objective of this study is to contribute to better knowledge of the Argentinean drosophilid diversity in Tandil city (located about 400 km south of Buenos Aires), an area never studied on this question up to the present.

Materials and Methods

Adult drosophilids were collected in Tandil city (37°19´S; 59°09´W), in the province of Buenos Aires, Argentina (Figure 1). This province is situated in the center-east of the country and is steppe-land mainly covered by herbaceous grass and known as the Pampas. A large part of the Pampas is at sea level, with the exception of two major mountain systems denominated Ventania and Tandilia. Tandil city itself is located in the Tandilia mountain foothills, in the southwest of Buenos Aires at about 200 meters above sea level. The climate in Tandil is temperate or humid meso-thermal with average annual temperature of 13.9°C, an average maximum of 20.1°C, and average minimum

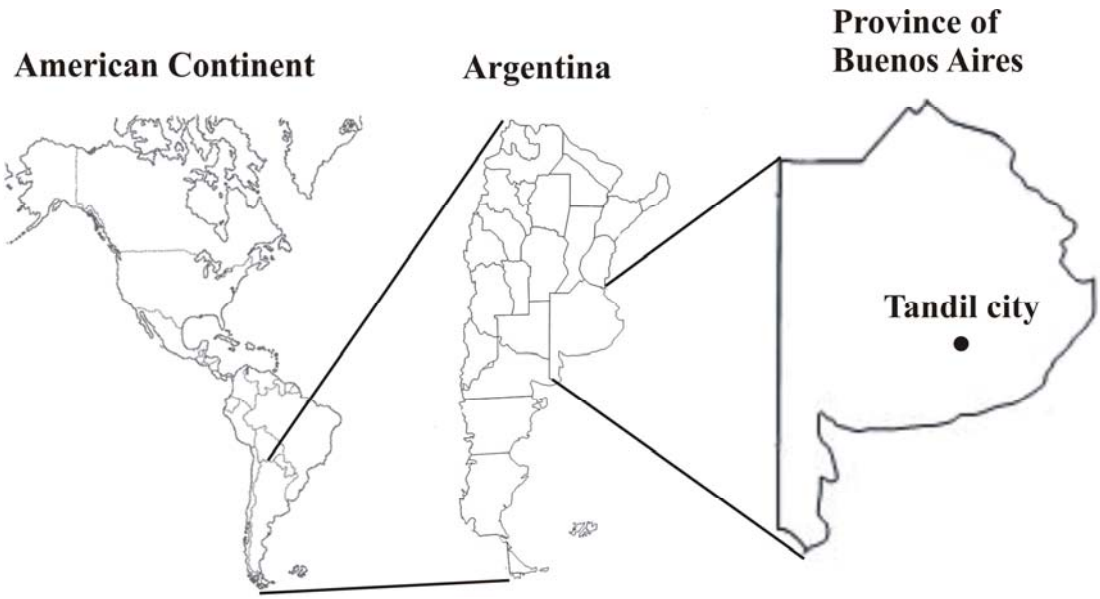

Figure 1. Location of Tandil city.

of 6.9°C. Annual average precipitation is 900 millimeters (http://www.tandil.gov.ar/notas/destacados/movediza/pdf/AnexoI.pdf).

The drosophilids were collected in the *Parque Independencia* during the Summer Season (January 2008) when the average temperatures were around 21°C and rainfall was about 82 millimeters (http://www.tutiempo.net/clima/Tandil_Aerodrome/01-2008/876450.htm).

All insects were collected with the model traps proposed by Tidon and Sene (1988) using banana bait. The traps were left at the sites for three days and thereafter the insects were maintained in ethanol and identified at the species level by reference to the specialized literature.

Table 1. Absolute abundance of the *Drosophila* collected in the city of Tandil, Argentina.

Species	N
D. gaucha	711
D. buzzatii	88
D. subobscura	73
D. immigranns	26
D. simulans	23
D. nigricruria	10
D. hydei	8
D. melanogaster	4
D. nebulosa	1
D. busckii	1
Total	945

Results and Discussion

For this study we collected a total of 945 drosophilids of 10 species (Table 1). This study is the first record of *D. nigricruria* for the province of Buenos Aires and the southernmost record for *D. nebulosa* and *D. buzzatii* (Bächli, 2011).

Drosophila gaucha was the most abundant species found, representing 75% of the collected insects. This is a neotropical species widely distributed in South America (Brncic, 1987; Iriarte and Lopez, 1995) and tolerant to low temperatures.

Among the collected species, six are cosmopolitan: *D. subosbscura*, *D. immigrans*, *D. simulans*, *D. hydei*, *D. melanogaster,* and *D. busckii*. With the exception of *D. melanogaster*, all of these species had previously been registered in Mar del Plata, a city located approximately 200 km distant from Tandil city (Iriarte and Lopez, 1995).

Of the other species sampled, *D. buzzatii* was the second

most abundant corresponding to approximately 9% of the drosophilids collected in Tandil. This is probably a species originally from the Argentinean Chaco which was distributed by humans – together with its host *Opuntia ficus-indica* – to many parts of the world (Tidon-Sklorz and Sene, 1999).

Although this is still a preliminary study of the drosophilid fauna in Tandil, the diversity of the sampled species (10) was greater than that observed in areas near to those where we made our study. Iriarte and López (1995), evaluating during the four seasons of the year the fauna of these insects in the city of Mar del Plata, registered the occurrence of only seven species of which six were sampled in the present study. Data such as this suggest that further sampling of drosophilids should be made, during the different seasons of the year in Buenos Aires province.

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***Curcumin longa* and *Emblica officinalis* increase lifespan in *Drosophila melanogaster*.**

Sujata, Mohanty*, Shilpa Rawal, Pavneet Singh, and Ayush Gupta. Department of Biotechnology, Jaypee Institute of Information Technology, A-10, Sector-62, Noida-201307, Uttar Pradesh, India; *Author for correspondence (email: sujata.mohanty@jiit.ac.in).

Introduction

Every living organism ages with time. However, every individual wants to stay healthy, look younger, and live longer. In recent years, scientists are interested to discover the scientific clues to the aging process and to determine if the process of ageing is genetically or environmentally controlled, or by both. To this respect, different food components have been shown to increase life-span of many organisms; however, no conclusive evidence in favor of any particular food component has yet been established. Principally, oxygen free radicals or reactive oxygen species (ROS) are known to cause aging. Aerobic cells generate ROS as a by-product of oxidative metabolism. The primary assumption of this theory is that normal antioxidant defense levels are not sufficient, so that some ROS escape elimination causing molecular damage, some of which is irreparable and accumulates with age. If ROS cause aging, then enhanced defense against ROS