Drosophila collection in Baja California, México: New records for four species.

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Drosophila flies were collected on the Baja California Peninsula in January 2001 in 39 stations covering 22.94°N, 109.99°W to 31.66°N, 116.53°W. *Drosophila* were obtained from natural cactus rots and artificial baits of cardón *Pachycereus pringlei*, senita *Lophocereus schottii*, agria *Stenocereus gummosus,* organ pipe *Stenocereus thurberi,* prickly pear *Opuntia engelmanni,* and banana. For artificial baits, about 20 kilograms of fresh cactus tissue was cut in small cubes, placed in a 10 gallon container cover with water, and inoculated with natural rot liquid. Then, almost 300 grams of prepared rotten tissue was placed in a two-liter green soda container and local vegetation was added for perching purposes. Baits were recovered after a 3-10 day period, flies were sorted on site, and isofemale lines were set up. Specimen identities were confirmed at the University of Arizona, either by external morphology, genitalia morphology, polytene chromosomes squashes, and/or molecular analysis by the author. A total of 5251 *Drosophila* flies in 17 species were collected from 25 rotten cacti plants, 95 baits in 39 localities. Table 1 shows the species and numbers collected by state. *Drosophila* flies were more abundant at the south of Baja Peninsula during collection time. Percentage of species composition per bait type is presented in Table 2. In general, prickly pear baits were not attractive for *Drosophila* flies; only ten individuals were collected over eight baits.

Table 1. Species collected by state in Baja California Peninsula, January 2001.

Species	Baja North	Baja South	Total
D. mojavensis	90	1424	1514
D. pachea	219	664	883
D. aldrichi	124	671	795
D. mettleri	218	347	565
D. simulans	57	441	498
D. nigrospiracula	4	356	360
D. pseudoobscura	124	104	228
D. arizonae	1	116	117
D. hydei	35	55	90
D. busckii	83	1	84
D. spenceri	0	70	70
D. repleta	0	14	14
D. eremophila	0	13	13
D. azteca	0	8	8
D. mainlandi	0	6	6
D. melanogaster	1	3	4
D. mathisi	1	1	2

Upon request, the author can provide specific collection data such as flies per bait, locality, and sex of the sample. According to the book by Markow and O'Grady (2006), four species, *D. azteca*, *D. mathisi*, *D. pseudoobscura, D. spenceri*, are new records in Baja California peninsula.

Table 2. Percentage species composition per bait type in Baja California collection, January 2001. Data presented by column.

Species		Banana	Agria	Cardon	Senita	Organ pipe
	Total baits	11	28	23	21	10
	Total flies	566	1055	1022	630	374
D. mojavensis		24.9%	33.6%	29.2%	4.9%	26.5%
D. aldrichi		6.5%	24.8%	19.7%	15.9%	35.0%
D. pachea		----	1.2%	2.5%	54.1%	8.3%
D. mettleri		7.2%	4.6%	16.0%	12.5%	11.0%
D. simulans		17.8%	21.0%	11.8%	3.5%	6.4%
D. nigrospiracula		0.7%	2.4%	7.8%	8.4%	5.9%
D. pseudoobscura		14.5%	4.5%	7.4%	0.3%	4.5%
D. arizonae		3.0%	1.2%	1.7%	0.2%	1.3%
D. hydei		4.9%	4.5%	1.0%	----	0.8%
D. busckii		13.3%	0.8%	----	0.2%	----
D. spenceri		2.8%	0.5%	2.0%	----	0.3%
D. repleta		1.1%	0.8%	----	----	----
D. eremophila		1.4%	----	----	----	----
D. azteca		1.2%	----	0.1%	----	----
D. mainlandi		----	----	0.6%	----	----
D. melanogaster		0.4%	----	0.2%	----	----
D. mathisi		0.2%	0.1%	----	----	----

References: Markow, T.A., and P.M. O'Grady 2006, Drosophila, *A Guide to Species Identification and Use*. Academic Press.

Drosophila carbonaria: **reproductive notes and a new recipe to rearing it in laboratory.**

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Drosophila carbonaria Patterson and Wheeler 1942 is a single species in the carbonaria group (Sturtevant, 1942) within the subgenus *Drosophila*. This species is found in the Sonoran and Chihuahan Deserts of the Southwestern United States and Mexico. In nature, *D. carbonaria* are associated with the sap fluxes of mesquite trees (*Prosopis* spp.), and occasionally, windfall citrus fruits (Patterson, 1943). It is extremely rare to collect *D. carbonaria* on banana baits even when these baits were close to the mesquite trees (Pers. obs.). Recently, *D. carbonaria* has been introduced in the Hawaiian archipelago along with its host (Wagner, *et al*., 1990). Nevertheless, Hawaiian collections of *D. carbonaria* were associated to the sap fluxes of monkeypod trees *Samanea saman* (O'Grady, *et al.,* 2002).

Mesquite fluxes have the lowest nitrogen and phosphorus content of several described *Drosophila* host, including the cactus hosts of Sonoran desert *Drosophila* (Jaenike and Markow 2003). Thus, *D. carbonaria* likely has adopted specialized strategies to survive on its nutrient poor diet. Indeed, of 21 yeast species isolated from both mesquite and *D. carbonaria* flies, three of then were unique to this *Drosophila*-plant association (Ganter *et al.,* 1986). The paucity of research on the