Locus	Allele	W. Maui	N	E. Maui	N	Molokai	N	Lanai	N	Hawaii	N
IDH	.96		15		20	0.012	81		3		3
	1.00	0.967		1.000		0.988		1.000		1.000	
	1.04	0.033									
HK-1	1.00	1.000	8	1.000	2	0.971	52			1.000	3
	1.02					0.029					
ME	.98		21		20	0.008	59		6		3
	.99					0.008					
	1.00	0.952		1.000		0.949		1.000		0.833	
	1.01	0.048				0.034				0.166	
ADH	1.00	0.969	16	0.975	20	0.973	75			1.000	3
	1.04	0.031		0.025		0.027					
α-GPDH	.90		24	0.050	20		81		6		3
	1.00	0.979		0.950		1.000		1.000		1.000	
	1.10	0.021									

and Malate dehydrogenase-1 (MDH-1) loci. These loci plus Glutamate Oxaloacetate Transaminase-1 (GOT-1), Glutamate Oxaloacetate Transaminase-2 (GOT-2), Isocitrate dehydrogenase (IDH), Hexokinase-1 (HK-1), Malic Enzyme (ME), and alpha-Glycerophosphate dehydrogenase (α-GPDH) display different low frequency alleles between the islands.

Fractionation of the gene pool of D. grimshawi as found by Carson and Sato (1969) is bourne out by these molecular data. In both ES-2 and MDH-1, populations from Molokai, West Maui and East Maui are different from one another. ODH and LAP-2 provide further examples of differences between Molokai and West Maui and East Maui respectfully. It is interesting to note that the Molokai sample displays more alleles per locus than any other population and the extent this reflects sample size should be investigated.

Despite the small sample sizes, the genic similarity between D. pullipes and D. grimshawi is remarkable. The occurrence of the 1.04 allele at the LAP-2 locus suggests a relationship To east Maui or Molokai populations. Deeper invesitigation of the extent of inter- and intra-island differentiation appears warranted and should yield an exemplar of Hawaiian Drosophilid evolution.

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References: Carson, H.L. and J.E. Sato 1969, Evolution 23:493-501.

Fountatou-Vergini, J. Agricultural College of Athens, Greece. Is Drosophila subobscura monogamic?

It is generally considered that adult females of Drosophila subobscura (Col.) mate only once during their lifetime. We have recently collected data indicating that this is not true. As a by-product of another research work we have electrophoretically determined Est-5 genotype of six F_1 progeny separately from each female captured in the wild. These females originated from two different natural populations, from Mt. Parnes in Attica, and from Alikianon village in Crete. Est-5 located near the centromere end of chromosome O (an autosome), is polymorphic (at least six electrophoretically detectable alleles). At least fourteen out of 474 females (= 0.03 ± 0.008) studied from Mt. Parnes were found on qualitative grounds to be digamic (or polygamic), one on the grounds of the number of alleles found in her progeny (exceeding 4) and 13 on their genotypes. In the Cretan population 8 out of 199 females (= 0.04 ± 0.014) studied were found to be digamic (or polygamic), all on the qualitative grounds of the genotypes of their progeny. Since we have studied only one gene and only six individuals from each female progeny the estimate of the frequency of digamic females is the most conservative one. Furthermore, allele frequencies in the populations, sperm stratification, or a nearly complete sperm utilization before the second mating would tend also to underestimate greatly this frequency.