Table 1. Effects of JH analogs on male mating activity of D. melanogaster.

Line	Stage	Variant, analog, concentration %	n	% of ♂♂ engaging in copulation during 30 min.
Canton-S	-	control	86	84 ± 4.0
	III	Entacon, 20	128	81 ± 3.5
LA	-	control	1049	12 ± 1.1
	I	Entacon, 4	122	33 ± 4.2
	I	" 20	129	16 ± 3.2
	II	" 4	265	15 ± 2.1
	II	" 20	158	29 ± 3.6
	III	" 4	107	28 ± 4.3
	III	" 20	158	25 ± 3.4
	III	Altozid, 10	122	25 ± 3.9

I - white prepupae (98 hrs after hatching)
II - middle pupae (130-140 hrs after hatching)
III - old pupae (165-170 hrs after hatching)

Table 2. Effects of JH analogs on female mating activity of D. melanogaster.

Line	Stage	Variant, analog, concentration %	n	% of ♀♀ engaging in copulation during 30 min.
Canton-S	-	control	159	84 ± 2.9
	III	Entacon, 20	118	83 ± 3.4
LA	-	control	147	48 ± 2.9
	I	Entacon, 4	77	47 ± 5.7
	I	" 20	91	55 ± 5.2
	II	" 4	117	52 ± 4.6
	II	" 20	108	45 ± 4.8
	III	" 4	141	55 ± 4.2
	III	" 20	142	72 ± 3.8
	III	Altozid, 10	76	59 ± 5.5
L,y ct	-	control	207	24 ± 2.3
	III	Entacon, 20	128	66 ± 4.6

Table 1 shows that mating activity in the LA line is normally quite low--only 12% of treated imago males engaged in copulation in the half-hour test period. Seven times as many Canton-S males mated in the test period. A treatment with JHA resulted in increasing mating activity in LA but not Canton-S males. The most sensitive stage of treatment was pharate adults.

Females of the LA line also have lower mating activity than Canton-S despite the fact that the line was selected only for low mating activity in males. This trait is also very low in L,y ct flies, suggesting that genes responsible for the effect reside on the proximal part of the X-chromosome. JHA application stimulated mating activity in both LA and L,y ct lines (Table 2).

Our experiments show that mating activity can be stimulated by JHA in both males and females of a low mating activity strain.

Since the cytology of the corpus allatum is abnormal in LA strain and since JHA increased mating activity, we conclude that JH is the regulator of mating activity in Drosophila.

References: Engelmann, F. 1970, Physiology of Insect Reproduction, N.Y.; Kaidanov, L.Z. 1978, XIV Intern. Cong. Gen., Symposia 91-92; Sapunov, V.B. and L.Z. Kaidanov 1977, Vest. Leningrad Univ. 15:135-142 (Russ.)

Semjonov, E.F. and A.F. Smirnov. Dept. of Genetics & Breeding, Leningrad State University, USSR. Somatic synapsis of D. melanogaster chromosomes.

Studies on chromosomal synapses were carried out in neuroblasts of third instar larvae. Flies of Canton-S were used, and also stocks with pericentromeric heterochromatic deletions of chromosome 2 (Hilliker 1975; Hilliker and Holm 1976). Chromosome preparations were made without colchicine and hypotonic treatment. The slides were stained by the C-banding method (Patkin et al. 1978). Tight synapses of homologous chromosomes have been discovered in hetero- and euchromatic regions during interphase-mitosis (prophase-anaphase). The chromocenter-like structure has been shown for heterologous heterochromatic regions until anaphase. The disturbing influence of cochicine and hypotonic treatment has been noted in relation to somatic synapsis of chromosomes (Semjonov and Smirnov 1979). There were tight homologous synpases of chromosome 2 in Df(2R)MS-2^{10}/+, Df(2L)C'/+, Df(2R)MS-2^{10}/Df(2L)C' and In(2LR)SMI/+. However, the frequency of intimic heterozygous SMI inversion of chromosome 2 increased synapses

of X chromosomes (Table 1). Sometimes interchromosome connections have been found between heterologous chromosomes.

There were tight homologous and heterologous synapses of chromosomes during practically all the mitotic cycle. We propose that normal homologous synapses have been connected with the intact structure of the common chromocenter.

Table 1. Homologous synapses of chromosomes X and 2 in neuroblasts of D. melanogaster.

	Tight synapses (%)				
Chromosome	Canton-S	Df(2R)MS-2^{10}/+	Df(2L)C'/+	Df(2R)/Df(2L)	In(2LR)SMI/+
2	73.7	61.3	55.8*	29.3*	51.2*
X	48.0	52.7	51.3	48.9	57.6*

* significant differences from control (Canton-S), $P < 0.05$

References: Hilliker, A.J. 1975, Genetics 81:705; Hilliker, A.J. and D.G. Holm, Genetics 83:765; Patkin, E.L., A.F. Smirnov and M.G. Smaragdov 1978, Vestn. Ser. Biol. Leningr. Univ. 15:143; Semjonov, E.P. and A.F. Smirnov 1979, Genetika (Russ) 15:12.

Sene, F.M., M.A.Q.R. Pereira, C.R. Vilela and N.M.V. Bizzo. IBUSP, São Paulo, Brazil. Influence of different ways to set baits for collection of Drosophila flies in three natural environments.

Bait traps have been used in South America and other parts of the world in most ecological and geographical surveys of Drosophila. Dobzhansky and Pavan (1943, 1950), Pavan, Dobzhansky and Burla (1950), Freire-Maia and Pavan (1950), Pavan and Cunha (1947), Peterson (1960), and others have used this technique.

On the other hand, several investigators, especially Dobzhansky and Pavan (1950), Pavan (1959) and Brncic (1957), have pointed out that the results obtained do not always represent natural conditions, since they are affected by many factors: the weather, kinds and conditions of bait, natural foods existing within the surveyed area, feeding and flight activities of the flies, and so on. Da Cunha et al. (1957) show that species of flies are attracted in different frequencies when different yeasts are used as bait.

In the present paper we report the influence of two different types of traps using the same kind of bait, on the attraction of species of Drosophila. Beppu and Toda (1976) did a similar study in Japan and conclude that the different ways to set bait cans affect species attraction.

The collections were made in three localities, two of which are adjacent to each other: (1) Mogi-Guacu (41°11'W-22°17'S). The area is covered by cerrado vegetation and is part of a Natural Reserve belonging to the Secretaria de Agricultura do Est. de São Paulo. Four collections were made in January, March, May and June 1978. (2) Peruibe (46°56'W-24°14'S). The area is covered by restinga (or strand) vegetation, which shows a transitional type of vegetation between the dunes and the Atlantic Forest. The place where the collection was made is about 2 km away from the sand beach. Four collections were made in May, July and October 1978 and in February 1979. (3) Peruibe (46°55'W-24°14'S). The area is covered by typical dune vegetation and is situated close to the sand beach. Three collections were made in May and July 1978, and in February 1979.

In all collections, bananas and oranges seeded with baker's yeast were used as bait. The collections were made 2 or 3 days after the baits were set. The bait was placed in two different ways: (1) On the ground--the banana-orange was simply placed on the ground in an area previously cleaned in order to avoid problems of sweeping with the net during collection. The collection was done by sweeping the net over the trap while the fruits were kicked. (2) In hanging cans--the banana-orange was put inside of 1-liter cans, which were ung by wire on trees at about 1.5 meter over the ground. The collection was done by lacing a net on the can's open side. A rubber band was used to keep the net fastened on the can. By carefully tapping the can, all flies can be collected inside the net. With this technique, no flies can escape. In each collection, we have three situations: (a) cans hanging close to the ground baits, never more than 3 meters from each other; (b) ground baits situated at least