1 source of such a band is the presence in high titre of the Lp (a) - like variant[14] which is a genetically determined trait[15]. This variant is poor in triglyceride and has a density of 1.05-1.09. This is, however, distinct from the slow pre-β material of density < 1.0006 found in the 2 families reported here. Data from the present study indicate that this trait is sex-linked. There is also indication that families of probands with this VLDL of 'abnormal' composition are susceptible to hyperlipidaemia, especially of hyper-cholesterolaemic nature. Only one of the 1st degree relatives of each proband was affected by this abnormal VLDL composition. This gives the proportion of affected first degree relatives in the F.P. and M.R. families as 20% and 25% respectively. This low proportion of affected 1st degree relatives suggests according to Falconer's postulate[15], a polygenic type of inheritance. Further family studies have, at any rate, to be carried out to elucidate this mode of inheritance.

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Bisalbuminemia in a bottlenosed dolphin *(Tursiops truncatus)*

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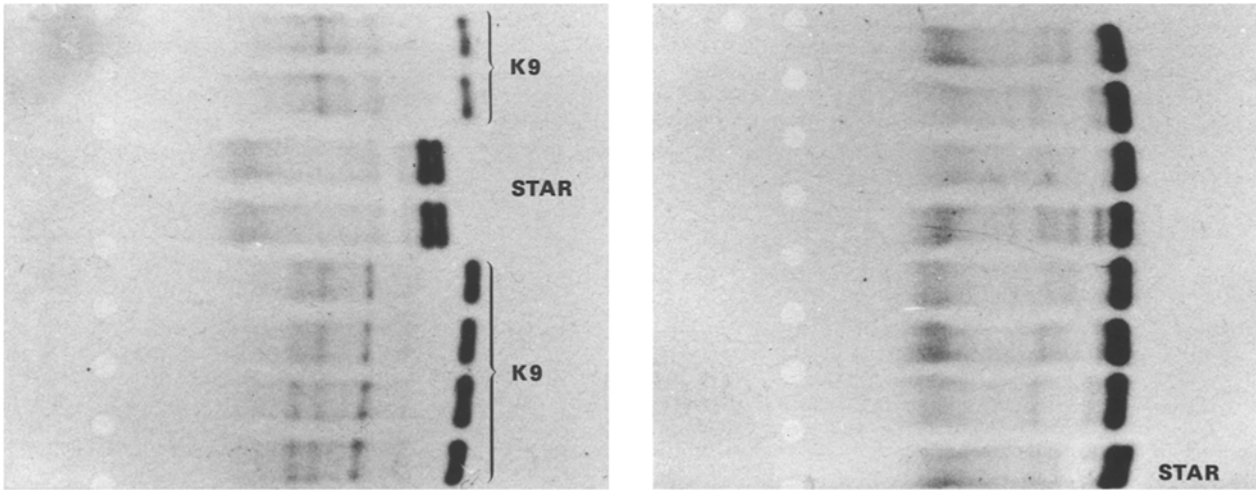
Summary. Bisalbuminemia was found in a female bottlenosed dolphin *(Turiops truncatus)* on routine examination. There is no association with disease.

On routine electrophoretic examination of blood sera from a number of dolphins *(T. truncatus)*, 1 animal was found to have 2 albumins (Bisalbuminemia) (figure). The animal (Star) with this anomaly is a female believed to be between 10 and 12 years of age. She was captured in January, 1977 in the Gulf of Mexico. There is no association, to our knowledge, of this finding with disease in this animal. Bisalbuminemia is an inherited blood protein disorder associated with 2 serum albumins differing in their physical responses to electrophoresis. Many studies have been done to show similarities and dissimilarities between the slow-moving albumin B and the fast-moving albumin A. In 1 study[2] the addition of I^{131} thyroxine to bisalbumin sera resulted in thyroxine-binding by albumin B (slow-moving) but not by albumin A. The failure of albumin A to bind added I^{131} thyroxine led to the speculation that, in the family reported, neither albumin A nor B are identical to normal human albumin.

In another study, the albumins were separated in the Tiselius apparatus at pH 8.6. The albumins could not be



Cellulose acetate electrophoretic separation of serum proteins of the affected animal as well as from many other dolphins for comparison. The bifid albumins in 'Star' can be seen easily. The dog sera separations are for comparative purposes only.

separated by ultracentrifugation so they were thought not to be polymers. The solubilities were almost identical. The fractions could not be separated by starch column electrophoresis or subfractionation with cationic detergents. In the same report, 25 of 43 members of a family had bifid albumins. These were not associated with disease. The heterozygous state was transmitted as a codominant characteristic with complete penetrance. The anomaly was believed to be a mutation of the gene responsible for albumin synthesis. Anomalous albumin B was thought to have tyrosine, cysteine and lysine residues substituted for an equal number of carboxyl residues in normal albumin A.

In another report[4], a family was followed for 4 generations: the bifid albumin occurred as a dominant heterozygous character. In 3 successive generations, an unusual skin condition was observed in 3 of the 7 members of a family believed to be suffering from the protein dyscrasia. However, the other 4 members with bifid albumins had no dermatological condition.

The only other animal[5] in which this condition has been found is the chicken. Inbred Brown Leghorns, White Leghorns and Rhode Island Reds were examined and found to have 2 types of albumin patterns. Results of breeding experiments were consistent with a simple Mendelian inheritance of the 2 albumins and the 2 minor components. The author believed that the genetical relationship implied a chemical similarity between the albumins. A histidine residue was thought to be involved, since they migrated at different rates below a pH of 8 but at the same rate at pH's above 8.

The bifid albumins from a 15-week-old baby[6] could not be separated on Sephadex G-100 but could be separated by preparative polyacrylamide disc-electrophoresis. There was no difference found in the amino acid composition of the 2 albumins. There appeared to be no hereditary trait associated with this condition in this child or any clinical abnormality.

In another case[7], bifid albumins were demonstrated in serum, cerebrospinal fluid and urine of an epileptic girl as well as in 15 of the 36 investigated relatives.

Recently a bisalbuminemia was found in a chicken-quail hybrid[8]. This was considered to be a case of heterosis with the offspring having the 2 parental antigenic specifications. In the present case of the dolphin, an attempt is being made to characterize the 2 albumins both chemically and serologically. This is an interesting case of an anomaly with a very characteristic marker that might be useful from a breeding standpoint.

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Variation in the importance of acoustic stimuli in *Drosophila melanogaster* courtship[1]

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Summary. There is genotype-dependent variation in the importance to females of the courtship song relative to other male generated courtship stimuli.

Averhoff and Richardson[2,3] claim that auditory cues are non-critical in the courtship and mating of *Drosophila melanogaster*. This view has been criticized by Bennet-Clark, Dow, Ewing, Manning and von Schilcher[4] who cite evidence to the contrary. The antenna of *Drosophila* acts as an auditory receptor[5]. Movement of the funiculus is detected by Johnston's organ situated near the articulation with the pedicel. The branched arista, attached rigidly to the funiculus, serves to increase the surface receptive to air displacement. Amputation of the arista reduces the movement of the funiculus induced by air displacement and effectively deafens the fly[6]. The reception of auditory stimuli by the female may be blocked by this means, or by mutations causing loss of the female's aristae[7]. Alternatively the production of auditory signals may be suppressed by amputation of the male's wings[8]. The basis of Averhoff and Richardson's assertion in respect of auditory stimuli is that the male flies from which they had amputated the wings nevertheless mated successfully.

The courtship of *D. melanogaster* consists of a set of integrated behavioural elements[9,10], and males of different inbred lines differ in the proportion of courtship time spent in performing the individual elements of their courtship display[11]. The results reported here show that females differ in their readiness to mate when deprived of auditory stimuli during courtship.

Materials and methods. 3 inbred strains of *D. melanogaster* were used, Oregon-K, Pacific and Novosibirsk. Stocks were maintained and observed at a constant temperature of 25 ± 1 °C. The flies were sorted by sex within 12 h of eclosion and both aristae of half of the females of each genotype were removed using fine jewellers forceps. The aristae were removed cleanly, close to the funiculus, which was not damaged. 50 operated and 50 intact females of

Competitive matings between intact control and operated flies

Female	Male	n	Successful matings in 30 min	χ^2	p
Intact aristaless	Intact	75	67 intact 8 aristaless	46.4	<0.001
Intact	Intact wingless	50	29 intact 21 wingless	1.28	n.s.