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Presence of two pairs of spermathecae (sperm storage organs) in a *Drosophila* female: a freak of nature.

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Females of all the species belonging to the family Drosophilidae have two types of sperm storage organs: paired and spherical spermathecae and a single elongate tubular seminal receptacle (Strickberger, 1962; Ashburner, 1989; Pitnick *et al.*, 1999). These organs can store large quantities of sperm for sufficiently long periods to fertilize a large number of eggs. Pitnick *et al.* (1999) examined 113 species belonging to the genus *Drosophila* and closely related genera and found variation in female sperm storage organ use and morphology. The spermathecae are a pair of mushroom-shaped organs attached to the upper end of the uterus and appear as two tiny dark dot-sized structures (Strickberger, 1962). There is interspecies variation in size and shape of the spermathecae (Pitnick *et al.*, 1999).

The *Drosophila bipectinata* complex belonging to the *ananassae* subgroup of the *melanogaster* species group consists of four species: *D. bipectinata*, *D. malerkotliana*, *D. parabipectinata*, and *D. pseudoananassae*, which are morphologically very similar and distributed in Australian and/or Oriental biogeographic zones (Bock, 1978). A number of studies on certain aspects of behavior, inversion polymorphism, allozyme polymorphism, hybridization, and evolutionary genetics have been documented on different members of this complex (Banerjee and Singh, 1997). In our laboratory we have initiated evolutionary studies in the *bipectinata* complex. To study gonadal morphology in hybrids of interspecific crosses, and to compare with that of parental species, we were examining the reproductive organs of males and females of different species of this complex. In a female of *D. bipectinata*, two pairs of spermathecae were observed and this observation is being reported in this note. The laboratory stock of *D. bipectinata*, in which a female with abnormal number of spermathecae was found, is a mass culture stock established from flies collected from the campus of Banaras Hindu University in 1987. In total, 114 females were examined from the same stock for gonadal morphology, but only one female was found with abnormal number of spermathecae. The spermathecae of females are depicted in Figure 1 (Figure 1a shows one pair of spermathecae in a female, and Figure 1b shows two pairs of spermathecae in a female).

This is the first report in the genus *Drosophila* showing the occurrence of two pairs of spermathecae in a female, and it has been considered as a freak of nature.

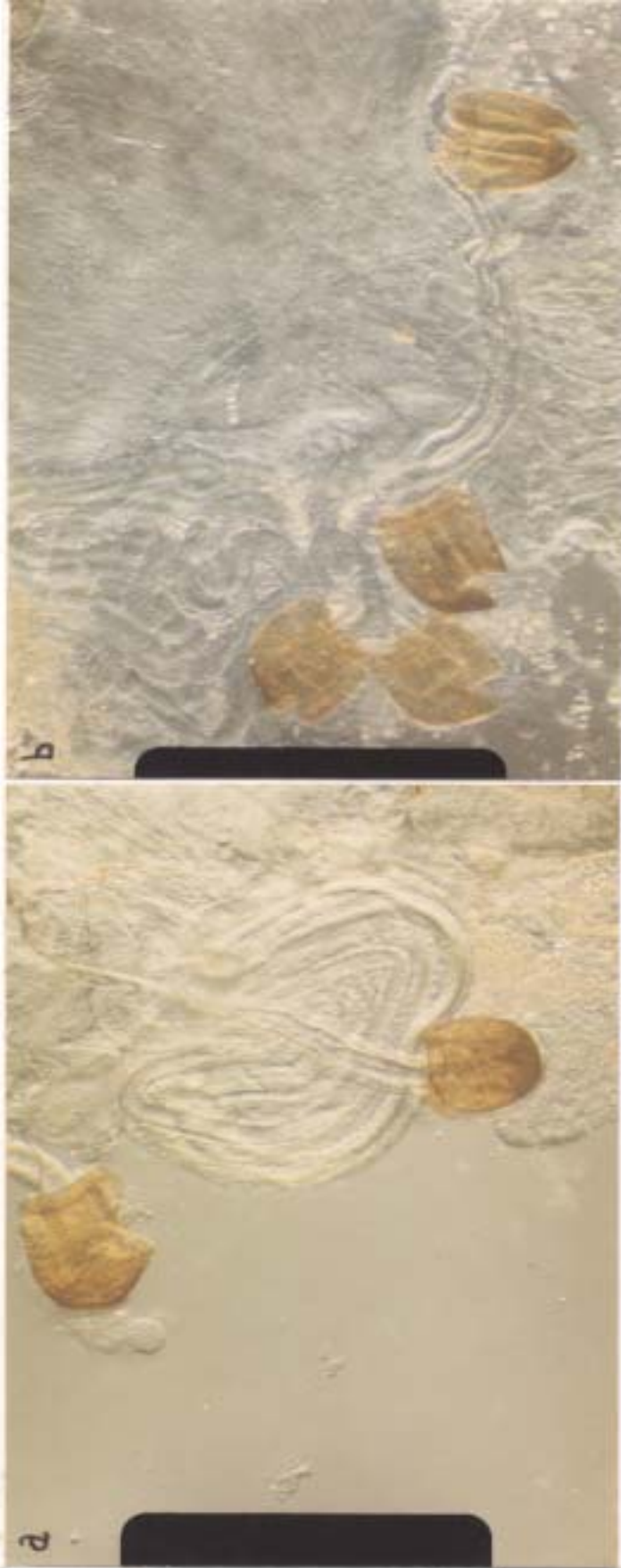


Figure 1. Photomicrographs of spermathecae in *Drosophila bipectinata* females. a, one pair of spermathecae; b, two pairs of spermathecae.

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References: Ashburner, M., 1989, *Drosophila: A Laboratory Handbook*, Cold Spring Harbor Laboratory Press; Banerjee, R., and B.N. Singh 1997, Proc. Ind. Nat. Sci. Acad., B, 63: 399-410; Bock, I.R., 1978, Austr. J. Biol. Sci. 31: 197-208; Pitnick, S., T. Markow, and G.S. Spicer 1999, Evolution 53: 1804-1822; Strickberger, M.W., 1962, *Experiments in Genetics with Drosophila*. John Wiley and Sons, Inc., New York.