

THE INFLUENCE OF PAIRING IN ADULT FEMALES OF
SCHISTOSOMA MANSONI

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Schistosoma mansoni is one of the causative agents of schistosomiasis, a major health problem in developing countries. The parasite survives in the human bloodstream and male-female pairing is an essential pre-requisite for the completion of female growth and reproductive morphogenesis. Classical studies show that the direct contact with male is required to achieve and maintain maturity of the female. To investigate and understand more about the influence of male-female interaction on gene expression, adult schistosomes from mixed infections were recovered by perfusion and two groups of adult female worms were maintained *in vitro* culture. One group was formed by females separated from males; the other by worm pairs. After 24 hours the female worms (single and paired) were collected and total RNA extracted. To identify differentially expressed genes we performed large-scale gene expression analysis using in-house constructed 4,000-element cDNA microarrays. Analysis of normalized intensity ratios was performed using SAM (Significance Analysis of Microarray). We identified 2 genes up-regulated and 563 genes down regulated in the group of female worms kept in culture without male, when compared to the group of females from worm pairs (FDR = 1%). Preliminary analysis shows that the gene expression of female kept without males affected the production of some membrane protein, interacting protein and protease precursor genes.

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