analysis was at the level of an individual, whereas the phenomenon seems to be operative at the colony level. Our pooling all egg layers on one side essentially prevented us from observing patterns at the colony level. Once this was noticed, a simple graph of number of empty cells in a colony against proportion of egg-layers among females from that colony was plotted. It clearly revealed the positive association.

The second application concerns risk taking behaviour of mice *Peromyscus maniculatus* in west Canadian winter. The experimental data were made available by Dr Paul Anderson of the University of Calgary, Canada.

The location of this experiment was a frozen lake surrounded by forest. The mice normally reside on the lake shore and forage in the ecotone under cover. In winter, with lower food availability the animals widen their search area. They experience the risks of over exposure and predation.

The experiment involved keeping food boxes with suitable opening containing sunflower seeds at various perpendicular distances from the ecotone, and checking if the food is eaten. They are moved 1.5 m further away if they have been visited and 1.5 m closer otherwise. Two different directions are involved:towards the lake and towards the forest.

Here the response recorded is $y = 1$ (box visited and seeds eaten) or $y = 0$ (box not visited). The explanatory variables considered were distance of the box and maximum as well as minimum temperatures of the day. Two data sets, one when the boxes were on the lake and the other when the boxes were in the forest, were analysed separately.

The following were the main predictions behind the experiment: (i) As the distance of the food box from ecotone increases, the chance of it being visited should decline since the risk of predation increases, (ii) As the cover on the forest side is better, this decline in visitation should be sharper on the lake side than on the forest side, (iii) As the maximum and minimum temperatures rise, for a given distance, the chance of visitation should increase.

All these can be tested by examining the beta coefficients. It was found that the coefficient for distance was significant and negative. This supports prediction (i). In absolute value, the coefficient for distance in lake data was found to be significantly greater than in the forest data. This supports prediction (ii). The coefficients for temperature were significant and positive. This supports prediction (iii).

COMPUTER PROGRAMS

The three kinds of computations necessary in using logistic regression namely estimation of regression constants, tests of hypotheses and goodness of fit testing, together involve a substantial amount of numerical work and recourse to a computer is almost inevitable. Necessary programs both in BASIC and FORTRAN have been prepared and their listings are available from authors on request. The program in BASIC is prepared for EIKO-II desk top computer while the FORTRAN program is written for ICL 1904 S computer.

29 January 1987

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ANNOUNCEMENT

THE THIRD WORLD ACADEMY OF SCIENCES AWARD IN BIOLOGY FOR 1986

Prof M. A. Viswamitra, Chairman, Department of Physics, Indian Institute of Science, Bangalore, has been awarded the prestigious 1986 award in Biology (the prize amount–$10000) by the Third World Academy of Sciences for his outstanding contributions to the understanding of DNA structure. The award is to be conferred upon him during Septr. '87 in Beijing during the ceremonial session of the second general conference.