

REPRODUCTIVE STRATEGIES OF SOME TROPICAL EARTHWORM SPECIES

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Abstract : *Reproductive biology of thirteen earthworm species viz. Perionyx excavatus Perrier, Pontoscolex corethrurus (Muller), Drawida nepalensis Michaelsen, Drawida assamensis Stephenson, Drawida papillifer papillifer Gates, Lampito mauritii Kingberg, Polypheretima elongata (Perrier), Metaphire houlleti (Perrier), Dichogaster modiglianii (Rosa), Dichogaster affinis Michaelsen, Eutyphoeus gammiei (Beddard), Eutyphoeus comillahnus Michaelsen and Octochaetona beatrix Gates were studied in the laboratory under tropical climatic conditions of Tripura- a north eastern state of India. The peregrine earthworms viz. P. corethrurus, P. excavatus, P. elongata, L. mauritii, O. beatrix, D. affinis and D. modiglianii are continuous breeders with high fecundity. Native earthworm species are either semi-continuous breeders with moderate fecundity (D. nepalensis, D. assamensis and D. papillifer papillifer) or discrete breeders with least fecundity (E. comillahnus and E. gammiei). There was a dramatic increase in cocoon production by most earthworm species of Tripura during summer and monsoon in contrast to winter. Temperature affected the incubation period of the cocoons. With rise in temperature incubation period increased in P. corethrurus, P. elongata, D. nepalensis, E. comillahnus and O. beatrix and decreased in P. excavatus, M. houlleti, D. affinis, D. modiglianii and D. assamensis. High rate of cocoon production, short incubation period with higher hatching rate, as well as continuous breeding strategies in P. excavatus, P. corethrurus, L. mauritii, D. affinis, D. modiglianii and O. beatrix indicate their possible usefulness in vermiculture either for waste degradation or for soil reclamation depending upon the species.*

Key words: *Reproductive strategies, tropical earthworms, cocoon, incubation period, fecundity, hatching success*
