Mathematical Biology – Matrix Population Projection Models

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- The componentwise nonnegative vector $x(t) \in \mathbb{R}_+^n$ in (1) denotes the population of a species at time step $t \in \mathbb{N}_0$.

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- That said, the model (1) is used extensively in ecological modelling.

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PROJECT

COMPADRE Plant Matrix Database & COMADRE Animal Matrix Database

The COMPADRE Plant Matrix Database and COMADRE Animal Matrix Database contain demographic information in the form of projection matrices for ca. 900 plants and over 1,200 animal species, derived from published and personally communicated research. The databases also contain taxonomic, phylogenetic, ecological, and biogeographic covariates.

Detailed description

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- Your solutions to parts (iii) and (iv) may help with part (ii).