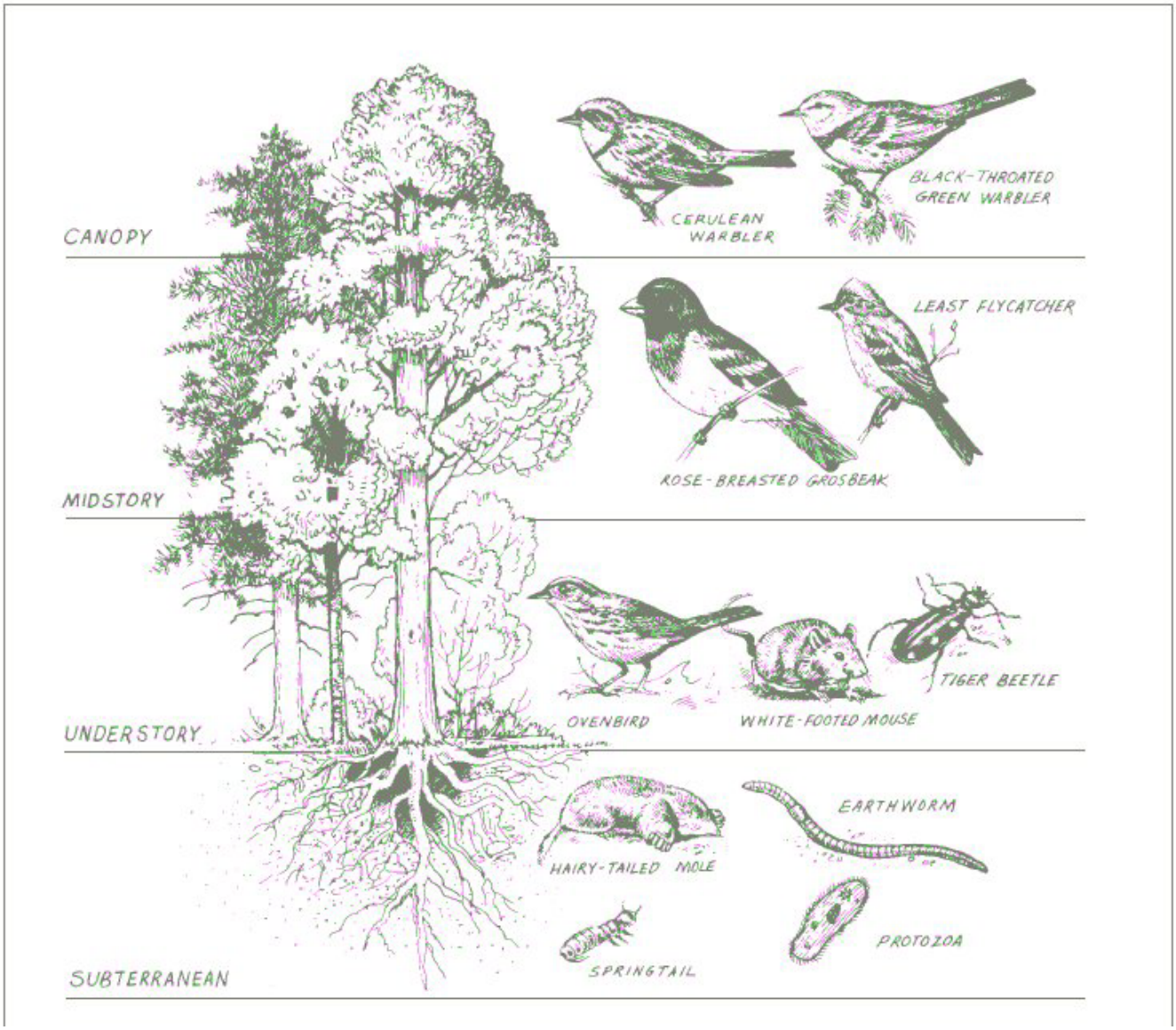
Vertical Forest Stratification

Diversity in vertical structure.

The vertical arrangement of vegetation in a forest is as important to many species as the size of the forest itself. Introduced wildlife species are dependent upon different vegetative layers in the forest—subterranean, understory, midstory, and canopy layers. (See Figure 2.) Each layer offers a unique set of habitat features. Fallen logs, snags, and cavity trees also add to vertical structure and enhance biodiversity. (See Pennsylvania Woodlands #6 in the Forest Ecology section of this CD).

Figure 2. Vertical stratification



Tree Classifications

The canopy trees compete with each other for sunlight. The position of a tree crown affects how well a tree grows relative to its closest competitors. Trees that get the most sunlight generally grow fastest. Tree crowns are classified as *dominant, codominant, intermediate* or *suppressed*.

- **Dominant** trees have crowns that rise above the general canopy level. they get full sunlight form above and on all sides.

- **Codominant** trees make up the average canopy level. Their crowns receive overhead light but surrounding trees restrict some sunlight from the sides.
- **Intermediate** trees occupy a position underneath the dominant and codominants below the general crown canopy. They receive sunlight only from directly above.
- **Suppressed** trees receive no overhead sunlight. They usually are slow-growing and weakened.

Shade tolerant tree species can grow in the suppressed level of the canopy or in the understory for many years and then, upon the death of a tree overhead, they respond with a spurt of growth to take their place in the general canopy.