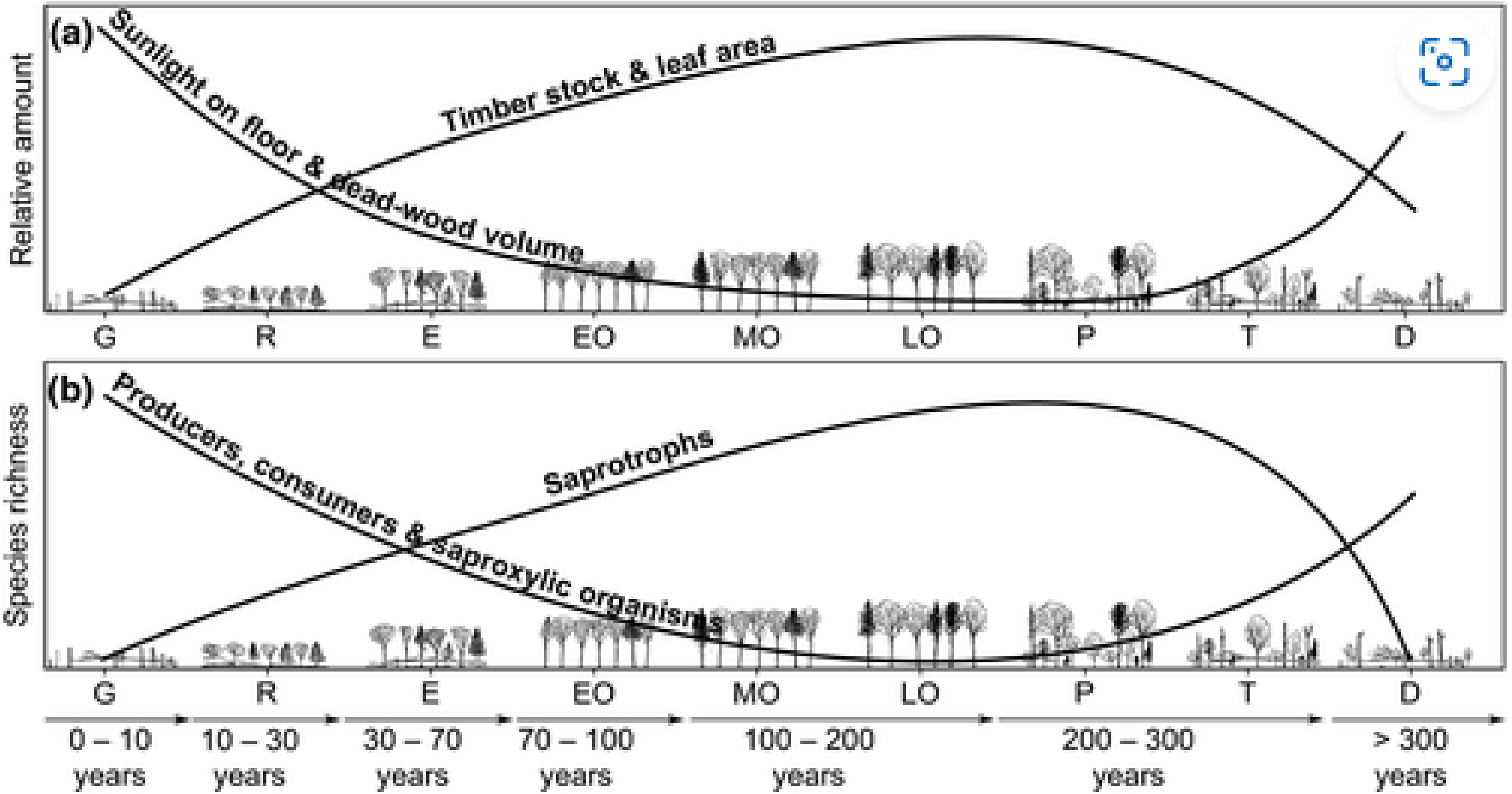
(a)
Sunlight on floor & dead-wood volume
Timber stock & leaf area
Relative amount
G
R
E
EO
MO
LO
P
T
D
(b)
Producers, consumers & saproxylic organisms
Saprotrophs
Species richness
G
R
E
EO
MO
LO
P
T
D
0 – 10 years
10 – 30 years
30 – 70 years
70 – 100 years
100 – 200 years
200 – 300 years
> 300 years

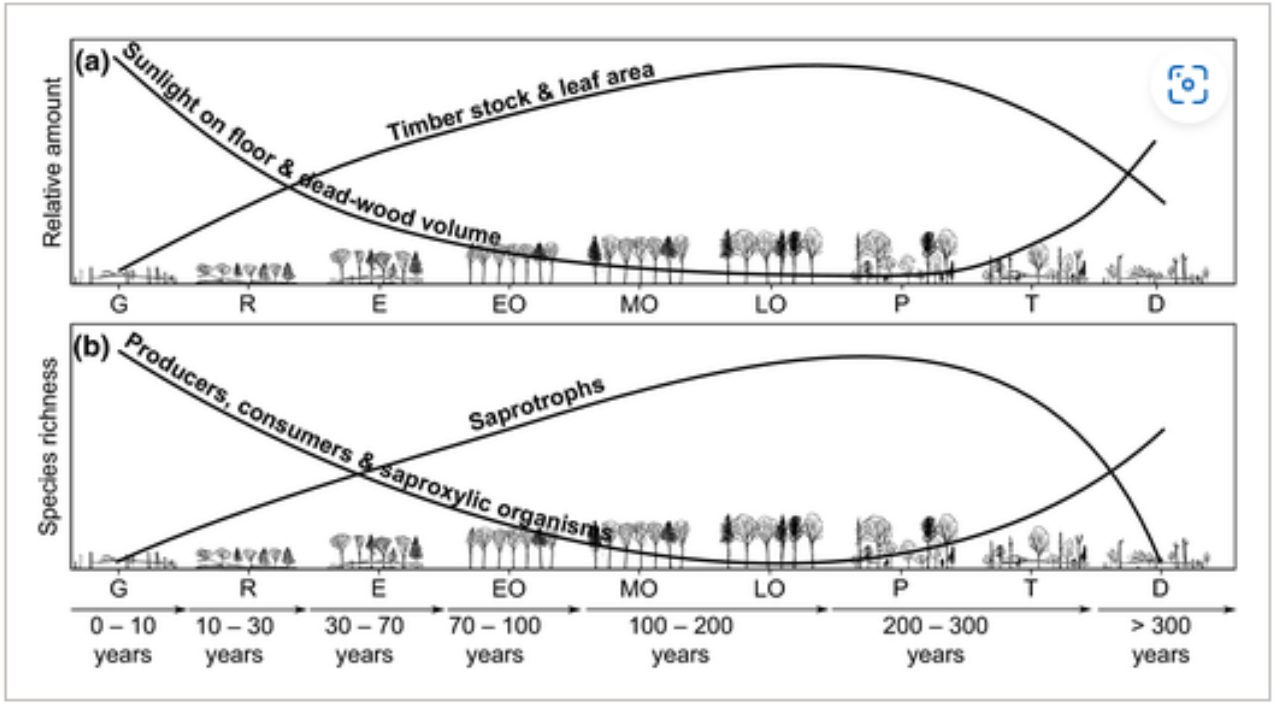

Figure 1

Open in figure viewer | PowerPoint

(a) Changes in resource availability with forest succession and (b) hypothesized response of saprotrophs, saproxylic organisms, producers, and consumers. The successional stages considered here follow Tabaku (2000), Drössler and Meyer (2006), and Zenner et al. (2016). Arrows represent an approximate timeline of the successional stages following Moning and Müller (2009). Note that the decay stage can occur already after 120 years due to forest disturbances, such as storms and bark beetle infestations. Stages: G, gap; R, regeneration; E, establishment; EO, early optimum; MO, mid-optimum; LO, late optimum; P, plenter; T, terminal; D, decay

Shade Tolerance Chart

Tolerant	Intermediate	Intolerant
Hemlock	White pine	Red pine
Balsam fir	Yellow birch	Walnut
Ironwood	Oak	Butternut
Beech	Elm	Hickory
Sugar maple	Ash	White birch
	Spruce	Black cherry
	Cedar	Tamarack
	Red maple	Jack pine
	Silver maple	Willow
	Basswood	Aspens
		Poplars
		Grey birch

Primary adaptive approaches

- **Resistance**-create conditions to withstand change and maintain normal functioning
- **Resilience**-create conditions that increase capacity to recover from disturbance or change and return to normal functioning
- **Transition (response)**-actively accommodate change to encourage adaptive response

From Millar et al. (2007)

Vermont Has Conserved One Third of the Land Needed for an Ecologically Functional Future

New study points to successes and gaps in the state's landscape-level conservation design