

第一次直播文章

Passage1: Although social learning (the acquisition of specific behaviors by observing other individuals exhibiting those behaviors) is well documented among fish, few studies have investigated social learning within a developmental context in these taxa. Rather than investigating the development of a particular skill, Chapman, Ward, and Krause investigated the role of group density during development in later foraging success in laboratory-housed guppies. When raised with a small number of conspecifics (members of the same species), guppies were quicker to locate food by following a trained adult guppy than were guppies raised in large groups. This counterintuitive finding is explained by the fact that guppies reared in the high-density condition were less likely to shoal (swim in a group) with others and, therefore, were less likely to learn the benefits of social learning. Instead, fish reared in high-density situations may learn that conspecifics are to be viewed as competitors, rather than as potential sources of adaptive information. This finding suggests that at least for guppies, the early social environment may have an effect on the capacity for social learning, if not on the socially learned behaviors themselves.

1. The primary **purpose of the passage** is to

- A. note a flaw in a scientific finding
- B. describe a particular scientific study
- C. present an interpretation of a finding
- D. note a difference between two scientific findings
- E. contrast two conditions in which a particular phenomenon has been observed

2. Regarding research on **fish**, it can be **inferred** from the passage that

- A. research studies of the acquisition of important skills by fish have only recently begun to document the role of conspecifics in the learning process
- B. research on social learning in guppies suggests that guppies differ in important ways from most other fish in the means by which they learn particular skills
- C. research on social learning in fish has generally focused on the acquisition of skills other than foraging
- D. research has established that social learning occurs in some fish species without investigating the development context in which it occurs.
- E. research to investigate social learning has been done more extensively on fish than on other aquatic animals.

Passage2: Although many hypotheses have been proposed to explain why some plant communities are more susceptible than others to invasion by nonnative species, results from field studies have been inconsistent and no general theory of invasibility has yet emerged. However, a theory based on fluctuating resource availability could integrate most existing hypotheses and successfully resolve many of the apparently conflicting and ambiguous results of previous studies. The suggested theory is that a plant community becomes more susceptible to invasion whenever there is an increase in the amount of unused resources.

The diversity in the range of resource-release mechanisms could partly explain the absence of consistent ecological correlates of invasibility. In particular, the theory predicts that there will be no necessary relationship between the species diversity of a plant community and its susceptibility to invasion, since near-complete exploitation can each occur in both species-rich and species-poor communities. Though Lonsdale found a positive association between species richness and invasion, this may arise from the tendency of diverse plant communities to be nutrient poor and therefore more responsive to the effects of human-caused influxes of nutrients.

1. The passage is **primarily concerned** with

- A. assessing the empirical success of a theory
- B. explaining why no consistent theoretical account of a phenomenon has been possible
- C. advocating a potential solution to a theoretical impasse
- D. deducing testable predictions from a proposed theory
- E. describing the difficulties involved in explaining certain empirical results

2. It can be **inferred** that the author would most likely agree with which of the following assessments of **the results from field studies**

- A. Many of the results contradicted predictions of susceptibility to invasion that are based on the availability of resources unused by the community.
- B. If fluctuating resource availability were taken into account, many of the apparent inconsistencies among the results could be explained.
- C. The apparent inconsistencies and ambiguities in the results are caused by trying to make them fit an inadequate general theory of invasibility.
- D. No general theory of invasibility has emerged because none of the studies has been able to assess the degree of an invasion accurately.
- E. The results tend to show a degree of susceptibility to invasion that is lower than would be expected given the prevalence in the wild of nonnative species.

Passage3: Although some skeptics points to Arctic places such as the high latitudes of Greenland, where temperatures seem to have fallen, a recent scientific report concludes that in recent decades average temperatures have increased faster in the Arctic than elsewhere. Scientists have long suspected that several factors lead to greater temperature swings at Earths polar regions than elsewhere. First, most of the Arctic is covered in snow and ice, which are highly reflective; if snow and ice melt, the exposed soil, which absorbs heat, serves to accelerate warming. Second, the polar atmosphere is thin, so little energy is required to warm it. Third, less solar energy is lost in evaporation at the frigid poles than in the tropics.

1. Consider each of the choices separately and select all that apply.

The passage mentions which of the following as **factors** that might lead to **large temperature swings** in Earths polar regions?

- A. the amount of energy lost due to evaporation at the poles
- B. soil exposure due to melting snow
- C. the relatively thin atmosphere at the poles

2. In pointing to the apparent temperature change in the high latitudes of Greenland, **the skeptics** mentioned in the passage intend to raise as a question whether

- A. Greenland is less likely to experience extreme temperature changes than are other areas of the Arctic.
- B. Those more localized temperature drops might indicate an important trend not captured by the upward trend of average Arctic temperatures.
- C. There might be a reversal of the temperature trend in the high latitudes of Greenland.
- D. The factors that cause temperature change in the high latitudes of Greenland are different from those that affect the rest of the Arctic.
- E. Greenland has more ice and snow on the ground than do other areas of the Arctic.