

Directions: Read, annotate, and answer the questions.

Many ecosystems around the world are invaded by non-native species that have been introduced deliberately or accidentally by humans. Scientists call these species aliens. The abundance of aliens depends upon multiple factors including climate and species richness of the ecosystem.

An experiment was conducted to examine the establishment of the alien plants *Ailanthus altissima*, *Carpobrotus* spp., and *Oxalis pescaprae* across six Mediterranean islands. *Ailanthus altissima* is native to China, *Carpobrotus* spp. is native to South Africa, and *Oxalis pescaprae* is native to Brazil. The six islands in the experiment vary slightly in climate but each contain dunes and old fields. The data below shows the occurrence of the alien species. Randomly selected plots of land were sampled on each of the six islands to determine these values.

1. (RST.9-10.4.) Explain the meaning of these words using context clues and prefixes/suffixes.

deliberately: _____

aliens: _____

abundance: _____

establishment: _____

The numbers in Table 1. represent the quantity of alien species found in each plot of land.

2. (IOD 401) Which island did not experience the establishment of *Ailanthus*?

- a. Sardinia
- b. Lesos
- c. Mallorca
- d. Porquerolles

3. (IOD 401) On the island of Sardinia, which of the following experienced the highest occurrence of alien species?

- a. *Carpobrotus* in old fields
- b. *Ailanthus* in dunes
- c. *Carpobrotus* in dunes
- d. *Oxalis* in old fields

Island	<i>Ailanthus</i>		<i>Carpobrotus</i>		<i>Oxalis</i>	
	Dunes	Old Fields	Dunes	Old Fields	Dunes	Old Fields
Crete	0	2	3	2	1	4
Lesos	0	2	1	0	1	4
Mallorca	0	3	3	0	0	5
Menorca	0	2	4	1	1	5
Porquerolles	0	0	4	4	1	2
Sardinia	1	4	5	0	1	4

Table 1.

4. (IOD 401) Which alien species experienced the same results on two different island?

- a. *Ailanthus* in Crete and Porquerolles
- b. *Carpobrotus* in Lesos and Sardinia
- c. *Oxalis* in Sardinia and Crete
- d. *Carpobrotus* in Crete and Mallorca

5. (SIN 403) A scientist wants to add a control group to this experiment. Which of the following would be an appropriate control for this experiment?

- a. *Ailanthus* in China
- b. *Carpobrotus* in Lesos
- c. *Oxalis* in South Africa
- d. *Oxalis* in Mallorca

Name: _____ Date: _____ Period: _____

One of the major factors determining an ecosystem’s invasibility is climate. Climate refers to the weather conditions, such as temperature, precipitation, humidity, and winds, in an area over a long period of time. Temperature and precipitation are the two most important factors that determine a region’s climate. Below is temperature and precipitation data for the six Mediterranean islands.

6. (RST.9-10.4.) Explain the meaning of these words using context clues and prefixes/suffixes.

invasibility: _____

precipitation: _____

The black data representations are from the year of the experiment and the white data representations are from the following year.

7. (IOD 301) According to Figure 1, which island experienced the largest change in temperature from one year to the next year?
 a. Lesos c. Mallorca
 b. Crete d. Porquerolles

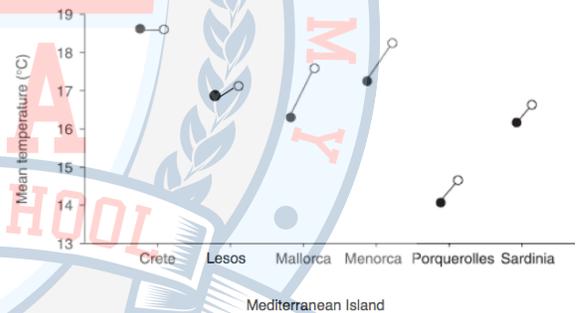


Figure 1.

8. (IOD 301) According to Figure 1, which island had the same mean temperature from one year to the next year?
 a. Lesos c. Sardinia
 b. Crete d. Porquerolles

9. (EMI 401) Which of the following conclusions is supported by data in Figure 1?
 a. The six Mediterranean Islands all experience the same climate.
 b. Most of the islands experienced a warmer year after the experiment than during the experiment.
 c. The mean temperature fluctuates 5-10 degrees between islands.
 d. Porquerolles and Lesos are the most similar in temperature of the six islands.

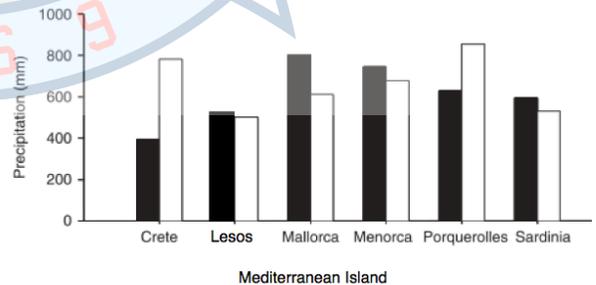


Figure 2.

10. (IOD 301) According to Figure 2, which island experienced the smallest change in precipitation from year to year?
 a. Menorca c. Sardinia
 b. Lesos d. Poroquerolles

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