

RESEARCH NOTE

NOTES ON THE ECOLOGY OF COFFEE PLANTATIONS

An investigation of the ecology of coffee plantations reveals certain aspects of outstanding interest. There are a number of coffee plantations in the mountainous areas of Puerto Rico which, despite the replacement by coffee trees of the arboreal species of the original forest, remain, as formerly, a favorable habitat for most of the native fauna of invertebrate animals. It is clearly evident as result of collections, notes, and data gathered during trips made at various times in the mountains of the Antilles, that coffee plantations are ecological complexes of great value.

It is clear that the principal group of trees removed in favor of coffee trees are the flora of tree ferns. As an example of the change in the composition of species let us consider the flora of Puerto Rican coffee plantations, and then follow this with a list of certain invertebrates belonging to two phyla. Within coffee plantations of this type we find, in addition to coffee trees, an admixture of orange trees, bananas, mangoes, species of *Ficus*, *Inga*, and *Cecropia*, all species of trees designed to provide the shade required by a coffee tree. There are also occasional remnants of tree ferns.

We present herewith lists of land mollusks and spiders of the web families, thus contrasting a ground-dwelling fauna with a fauna that has great powers of aerial dispersion. It should be noted that a comparison between a list of the snails of a coffee plantation and one from the original forest demonstrates a difference of less degree than we might expect, a phenomenon that can be explained by a natural flora of shrubs and ground plants. As far as the web spiders go, practically all species which normally occupy seasonal habitats in trees and shrubs are present. The following land snails are to be found:

1. *Alcadia striata* (Lamarck)
2. *Farcimen croceum* (Gmelin)
3. *Succinea approximans* Shuttleworth
4. *Zonitoides arboreus* (Say)
5. *Guppya gundlachi* (Pfeiffer)
6. *Austroselenites alticola* H. B. Baker
7. *Obeliscus terebraster* (Lamarck)
8. *Subulina octona* (Bruguiere)
9. *Bulimulus exilis* (Gmelin)
10. *Lacteoluna selenina* (Gould)
11. *Platysuccinea portoricensis* (Shuttleworth)
12. *Polydontes lima* (Ferussac)
13. *Caracolus carocolla* (Linnaeus)

The following web spiders are also in evidence:

1. *Modisimus caeruleolineatus* Petrunkevitch
2. *Achaearanea portoricensis* (Petrunkevitch)
3. *Theridion debile* Petrunkevitch
4. *Sphyrotinus guanicae* (Petrunkevitch)
5. *Theridula gonygaster* Simon
6. *Conopistha cambridgei* (Keyserling)
7. *Capichameta jayuyensis* (Petrunkevitch)
8. *Plesiometa argyra* (Walckenaer)
9. *Leucauge regnyi* (Simon)
10. *Argyope argentata* (Fabricius)
11. *Wendilgarda theridionina* Simon
12. *Gasteracantha tetracantha* (Linnaeus)
13. *Alcimosphenus borinquenae* Archer
14. *Cyclosa oculata* (Walckenaer)
15. *Eriophora edax* (Blackwall)

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