

18 May 2009

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RE: Update #3 on Insect Project.

Time for another update on our progress. Drs. Andrew Cline and Stephen Gamari of California Department of Food and Agriculture arrived Saturday. Dr. Cline is a beetle specialist, and Dr. Gamari a fly expert. They immediately began establishing new trap types around our existing sites to increase the number of species taken.

We established another trap locality this week on Gros Piton, but are sad to report the theft of our traps at the River Dorée site, including destruction of all the samples in the traps. This is a set back, but will not deter us. The other traps sites are producing samples at a rapid rate.

As promised last week, Fred Sibley has been working hard on the inventory of the dragonflies and damselflies. [I would like to know the local names for these groups, if someone could provide them?] Here is a summary of progress on this interesting group of animals.

The small insect Order Odonata includes the familiar dragonflies and damselflies. In number of world species (ca. 6,500), it ranks between the mammals and birds. It is perhaps the best known of all insect Orders globally, and has emerged as a frequently used biodiversity metric, allowing comparison at the alpha and beta levels because of relative ease of inventory and identification. They have also emerged as a tourist attraction, with an ever-growing and devoted following of Odonata watchers, often drawn from birders looking for a new challenge. As with birds, the first step in developing such tourist interest is in having a list and an identification guide.

The weak point for over-reliance on Odonata as a biodiversity metric is that they are all aquatic as larvae, and all belong to the same trophic level as both adults and larvae –

predators. However, this is balanced by other characteristics. The species range from highly tolerant of pollution to highly dependent on pristine water quality. Larvae of different species occur in ponds, lakes, high-order streams, rivers, estuaries and even phytotelmata (water holding plants like bromeliads). And, species range from some of the most widely distributed of animals to very localized endemics. The total list for all of the Lesser Antilles (Sombrero to Grenada) is 49 species. Thus, this group is a useful part of the picture, but only one of the several groups on which we will be reporting.

The history of St. Lucian Odonata exploration begins with a mystery. In 1842 Rambur (1842) described a tiny species of damselfly from what was thought to be the Cape of Good Hope in southern Africa. However, when it was discovered to actually be a New World species known only from Guadeloupe and Dominica, the label was reexamined and discovered to say only “Cap.” Could this be Le Cap of northern St. Lucia? We hope to test the idea of its occurrence on St. Lucia during our team’s work on the island, especially while Sibley is with us.

The first fully reported visit by an odonate collector is when Thomas W. “Nick” Donnelly of the USA collected during visits in the 1950’s and 60’s, which resulted in 10 species, one of which he described as new in a 1961 paper (repeated in Donnelly 1970). No subsequent reports have been published for St. Lucia. This formed our starting point – 10 known species and one suspect.

Insect inventory team member Fred Sibley is now half-way through his visit, and has dramatically changed this view of St. Lucia’s fauna (Table 1). By the time he arrived, our group had collected 7 species of Odonata, adding 2 species to the list, but Sibley has more than doubled the total number of species known from St. Lucia to 22, rapidly approaching ½ of the total species known from all the Lesser Antilles.

Remember that one mystery/questionable record known from “Cap?” It has still not been confirmed from St. Lucia, but a visit to the golf course at LeCap is a high priority for Sibley’s remaining time on-island, to see if it can be found in the ponds there -- a natural choice for its habitat.

Table 1. Odonata numbers in St. Lucia. X axis represents collecting events as follows: Donnelly collections, Inventory Team collections pre-Sibley, and Sibley days 1-6.

