POTENTIAL AGE-DEPENDENT RESOURCE PARTITIONING AMONG Ameiva festiva (YOU'LL NEVER FIND LIZARDS IN A PLACE WHERE THE SUN DON'T SHINE)

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Abstract (J.K.)

Juveniles and adults of Ameiva festiva forage in different microhabitats. Testing whether resource partitioning occurs between juvenile and adult, we observed A. festiva foraging behavior. Unfortunately, we encountered very few lizards. Based on limited casual observation, we concluded that A. festiva activity is seriously depressed by a lack of sunlight.

Introduction (G.Y.)

Ameiva festiva is a nonterritorial, insectivorous lizard which forages in the leaf litter and shrub layer of the La Selva tropical wet forest (Janzen, 1983). Although juveniles and adults presumably have a similar diet, they are not typically seen foraging together in the same microhabitat, according to Janzen (1983). Perhaps larger individuals aggressively displace smaller ones from preferred foraging patches, causing temporal or spatial displacement of juveniles from microhabitats occupied by adults. Intraspecific age-dependent resource partitioning is a second possible cause of their presumed allopatric distributions. Assuming that adults outcompete juveniles in acquiring a mutually preferred limited prey type, juveniles would have to resort to the capture of alternate prey types. Allopatric distribution of adults and juveniles would result if the preferred and alternate prey types were allopatrically distributed.

Our study focused on potential age-dependent resource partitioning among A. festiva in the successional plots at La Selva. We hypothesized that juveniles and adults would eat different prey types, and that within the same microhabitat, juveniles and adults would forage where their typical prey types were locally more abundant.

Methods (J.K.)

We conducted our experiment in the successional plots at La Selva Biological Reserve, Costa Rica. Our objective was to collect foraging data (see below) on as many juvenile and adults of Ameiva festiva festiva as possible. Each of us focused on one half of the successional plot and slowly walked along the paths for two hours. Then we

switched off halves for another two hours. We conducted five such intervals.

When we encountered an adult or juvenile we recorded the time, weather, and duration of encounter. We noted the lizard's positions relative to the vegetation structure (ground or shrubs), behavior (sunning or foraging), how it was foraging (searching by vision/olfaction, looking under leaves), and what kind and size prey items it attacked. We also noted the duration of each activity.

We tallied the number of times we walked the course during each two-hour interval, and identified possible repeat sightings to arrive at our minimum number of observed individuals.

Results (J.K., G.Y.)

Sightings only occurred on the first day. We recorded the age group, the plot in which the lizard was seen, and the predominant activity (See Table One). Of the latter, "moving" refers to a lizard moving without discernible purpose; "nothing" refers to a lizard who sat in the shade and was not foraging. Food items lists any prey the lizard went after or avoided. Repeat sightings where omitted so we could have data on as many individuals as possible.

Discussion (G.Y.)

Our study was designed to reveal differences in prey type and typical foraging microhabitat (leaf litter compared to shrub layer) between juvenile and adult A. festiva. Unfortunately, our ability to test our hypotheses was handicapped by the failure to collect sufficient data on foraging. Having witnessed only three instances of predation, we could not test the hypothesis that juveniles and adults feed on different prey types. Furthermore, without knowing prey types or witnessing more foraging, we couldn't test the hypothesis that juvenile and adult distributions are related to distributions of typical prey types.

We can offer some casual observations. Although we sampled the successional plots over a 6 hour period the first day and 1.5 hours the next all of our sightings occurred on the first day within a relatively sunny span of time between 0956 and 1201. Both juveniles and adults were sighted at approximately the same time of day, but far more juveniles than adults were seen in the successional plots. Prey items pursued by juveniles included Lepidopterans and Orthopterans; neither juveniles nor adults attempted to catch Hymenopterans or Odonates. We could not address the fundamental question of whether or not age-dependent resource partitioning occurs in A. festiva festiva based on our insufficient results. Indeed, the most compelling conclusion we could draw from our study was that cool, overcast weather inhibited general activity of

this species.

Table 1 Sightings of Ameiva festiva festiva in the young and old successional plots at La Selva Biological Reserve, Costa Rica, on February 10, 1991.

Time	Age of Lizard	Age of Successional Plot	Primary Activity	Food Items
0956	Juvenile	Young	foraging*	Small Lepidopteran
1021	Juvenile	Old	sunning	—
1021	Juvenile	Young	sunning	—
1024	Juvenile	Young	foraging	Avoided bullet ant
1033	Juvenile	Young	moving	—
1040	Adult	Old	sunning	—
1048	Juvenile	Young	nothing	—
1108	Juvenile	Young	moving	—
1118	Adult	Young	nothing	—
1135	Juvenile	Old	sunning	—
1149	Juvenile	Old	nothing	—
1201	Juvenile	Young	foraging	Lepidop./Orthop.
1201	Juvenile	Young	foraging	Lepidop./Orthop.
1201	Juvenile	Young	foraging	Lepidop./Orthop.

*In all cases, foraging occurred on the ground.

Literature Cited

Janzen, Daniel. Costa Rican Natural History. Chicago: University of Chicago Press 1983.