

BEHAVIORAL ACTIVITY OF *ANISOMORPHA BUPRESTOIDES*
POSSIBLY ASSOCIATED WITH HURRICANE CHARLEY
(PHASMATODEA: PHASMATIDAE)

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On August 13, 2004, Hurricane Charley was making its way northeast through Central Florida. As the storm approached, I observed a large aggregation of two-lined walking sticks, *Anisomorpha buprestoides* (Stoll). I conservatively estimate there were several hundred pairs in the immediate vicinity, mostly of the Ocala color variant as described by Hetrick (1949). The habitat is located in North Central Lake County on land contiguous with the Ocala National Forest. The habitat is typical Florida scrub consisting of turkey oak (*Quercus laevis*), Chapman's oak (*Q. chapmanii*), sand live oak (*Q. geminata*), crooked wood (*Lyonia ferruginea*), scrub pawpaw (*Asimina obovata*), and palmetto (*Serenoa repens*). As is typical of *A. buprestoides*, the walking sticks were resting during the daylight hours on palmetto leaves. The time was 7-7:30 PM, about 45 minutes before sunset. The air was particularly calm as the outer edges of Hurricane Charley approached.

Then, as if some invisible signal had been sent, walking sticks began vibrating their legs against the palmetto leaves. Only the paired males exhibited this behavior. Clark (1974) reported that an *A. buprestoides* male may attach to the back of a female for up to three weeks. I noted that the paired females and the bachelor males did not drum their legs. I was unable to find any single females to report. It seemed that most, if not all, the paired males were drumming primarily with their prothoracic legs, but they did use all six of their legs as well. Due to the numbers involved, it sounded like a group of snare drums being struck with wire whisks. They continued drumming for no more than two minutes. The females remained motionless during this activity. Several tussles occurred between the bachelor males and they fell from the palmettos. Bachelor aggression may not be related to the drumming at all because bachelor aggression behavior has been observed before by Gunning (1987).

After two minutes, a few males continued as if they were 'finishing up,' but there were no more outbursts of drumming among the pairs. Within 10-15 minutes of finishing, the first rains of Hurricane Charley began to fall on the area. I've observed this large aggregation many times, before

and after normal summer storms, and have never seen this behavior. It does not appear that the drumming behavior has been reported in the literature, although one of the anonymous reviewers of this paper also has seen the behavior.

One possible initiating cause for the drumming is the dropping atmospheric pressure associated with the oncoming hurricane. Although I didn't measure the pressure at the time, the NOAA reported a barometric pressure of 965mb or 28.5 inches as the eye passed through this area. A reasonable estimate would be 29.5 inches at the edge of the storm. Another explanation is that the drumming was merely coincidental to the hurricane. Only further observations of the drumming behavior may identify the cause.

I later attempted to stimulate the drumming response by vibrating a handful of thin plastic straps near the aggregation. This was unsuccessful. I did, however, succeed in receiving a dose of *A. buprestoides* defensive spray.

Speculating on the purpose of the drumming is difficult until further observations are made. If the drumming is territorial or mating related, this event would represent an interesting note on simultaneous behavior in *buprestoides* aggregations.

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SUMMARY

A large aggregation of *Anisomorpha buprestoides* exhibited synchronous 'drumming' of their legs prior to the onset of Hurricane Charley.

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