

Apparent Absence of Blood Parasites in Southwestern Texas *Cnemidophorus*

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REFERENCES

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not been established. Research efforts in this direction seem warranted because of the many biological surveys being conducted for use in environmental statements prepared by private industries and governmental agencies. These surveys would then provide not only a list of fish species but also an indication of the environmental quality of the stream.—*John H. Carroll, Jr., Corps of Engineers Tulsa, Oklahoma 74102, Don Ingold and Michael Bradley, Department of Biology, East Texas State University, Commerce, Texas 75428.*

APPARENT ABSENCE OF BLOOD PARASITES IN SOUTHWESTERN TEXAS *CNEMIDOPHORUS*.—Potentially pathogenic blood parasites are common in many lizard populations (Ayala 1970a, 1970b, 1973; Ayala and Hutchings 1974; Telford 1970). Malaria, hemogregarines and other infectious agents are known from *Cnemidophorus* populations (Ayala 1975; Lainson and Shaw 1969; Pessoa and Lopes 1963) as well as populations of other Teiids in Neotropical regions (Ayala 1975; Peláez 1967). The distribution of these diseases is difficult to plot because negative findings are seldom reported. Here we report the apparent absence of blood parasites in a sample of 66 *Cnemidophorus* collected in southwestern Texas during the summers of 1974 and 1975.

Specimens of six species, *C. tessellatus* (12 specimens), *C. tigris* (9), *C. exsanguis* (29), *C. inornatus* (7), *C. septemvittatus* (1), and *C. gularis* (8) were collected by shooting with 22 cal. rat shot, rubber bands, or noosing. Blood obtained from a shot wound or toe clip was used to make a thin blood film on microscope slides. The slides were air dried, fixed in absolute methyl alcohol, and mailed to Cali for staining with Giemsa's blood stain and examination for blood parasites.

The lizards were collected from rural, desert sites in the following counties (species are indicated by the first two letters of the specific name): Brewster: 1 **te**, 3 **ti**, 1 **ex**, 2 **in**; Presidio: 2 **te**, 7 **ex**, 1 **se**; Jeff Davis: 7 **te**, 19 **ex**, 4 **gu**; Reeves: 1 **ti**, 1 **gu**; Culberson: 2 **te**; El Paso: 3 **ti**; Pecos: 2 **ex**, 3 **in**, 3 **gu**. In addition, 2 **in** and 2 **ti** were sampled from Dona County, New Mexico.

No blood parasites were seen in any of the smears. In contrast, when infections are present in a population, sometimes 50% or more of the animals harbor parasites. In many populations, lizards seem to acquire their infections soon after hatching (Telford 1970) and severe infections may kill juvenile or adult lizards (Ayala 1970a, 1970b, 1973). Although their impact on lizard populations has rarely been investigated, there is sufficient evidence to suggest that population density in some cases may be limited by such infectious diseases. Their absence in extreme southwestern Texas *Cnemidophorus* (although admittedly our sample is small) suggests that for these populations hemoprotozoan diseases are not important regulating factors.

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EXTENSION OF *GAURA DEMAREEI* INTO EAST TEXAS.—In a recent revision of the genus *Gaura* (Raven and Gregory, *Mem. Torrey Bot. Club* 23(1): 1–96, 1972), a new large flowered morning opening species, *Gaura demareei* Raven and Gregory, was characterized. They considered this new species to be a recent derivative of the smaller flowered, evening opening *G. longiflora* (*G. filiformis*).

G. demareei was described as existing in southwestern Arkansas but during the summer of 1965, Dr. Peter H. Raven (personal communication) collected two rather large flowered plants near Nacogdoches, Texas, which he suspected might be *G. demareei*. Recent extensive collections by us have shown that many populations in the Nacogdoches area do consist of large flowered, morning opening plants that are indistinguishable from the Arkansas *G. demareei*.

The exact distribution of *G. demareei* in east Texas has yet to be determined, but preliminary work indicates it may be somewhat restricted in the Nacogdoches area. The only morning opening representative collected outside of Nacogdoches County was a rather small flowered plant from near Karnack, Texas in Harrison County. More extensive collecting, however, needs to be accomplished in north-eastern Texas.

Of additional interest was our discovery of large flowered, evening opening plants and rather small flowered, morning opening plants indicating the possibility of hybridization and introgression between *G. demareei* and *G. longiflora*.—*Victor J. Hoff and Elray S. Nixon, Department of Biology, Stephen F. Austin State University, Nacogdoches, Texas 75961.*