

**A NOTE ON SOME SUPPOSED TEXAN LOCALITIES FOR SOME
ARANEUS SPECIES
(ARANEAE, ARANEIDAE)**

Ever since the beginning of biogeography there has been a more or less implicit recognition of the interaction of distribution and ecology: that the range of any organism can only reflect the occurrence of suitable biotopes available to that species during its dispersal. The relationship between ecology, climate, and physiography is so pervasive that distinct biogeographic patterns shared by a host of unrelated organisms, ranging from intercontinental to extremely local, can be observed and defined. As a result, if a distribution map of a particular species shows one or more localities far outside the apparent

natural range, one is justified in regarding such records with suspicion, the more so if there is a difference in climate or physiography involved.

A recent publication on a group of Nearctic araneid spiders (Levi, 1971, Bull. Mus. Comp. Zool., 141:131-179) provides an example of the situation mentioned above. Reference to the many spot maps in that paper shows clearly that most species of the *Araneus diadematus* group are boreal in range, extending southward (if at all) only along the major mountain systems. Only *A. marmoreus* and *A. bicentarius* occur in the Mississippi Valley and Gulf Coast region.

Some notable exceptions to this generality may be noted, however, namely *A. nordmanni* (Map 3), *A. cavaticus* (Map 8, above), and *A. illaudatus* (Map 8, below), all of which are basically montane or northern in range with remotely isolated occurrences shown in Texas. Having some knowledge of *A. cavaticus* in the central Appalachians, I have been skeptical of its inclusion in the Texan fauna.

As is well shown by the map, this spider occurs from northern Alabama to Nova Scotia. South of Pennsylvania it is characteristically found beneath high cliffs and escarpments in mixed mesophytic forest. Where would such an animal live in the vicinity of Houston, Texas, the locality mentioned in the text?

A very similar kind of disjunction may be found in the literature on Diplopoda, and the circumstances throw some light on the Texas locality for *A. cavaticus*. Some decades ago, R. V. Chamberlin (1943) recorded three typically Appalachian taxa of millipeds also from Houston, all three of them highly unlikely residents of flat Texan pinewoods. These records were taken from material, said to have been collected at Houston by one Russell Scott and which is still, in the Chamberlin myriapod collection (now in the U. S. National Museum). The new species of *Sigmoria* that he named (*S. houstoni*) has subsequently been found in eastern Tennessee, and the status of the "new" spirobolid *Spirobolus scotti* has been discussed by Keeton (1960, Mem. Amer. Ent. Soc., 17:1-146) who found the type specimen to be only a normal individual of *Narceus annularis* (Rafinesque) which is not known to occur further south than Chattanooga, Tennessee. On the suspicion that something similar might appear in the case of *A. cavaticus*, I appealed to Dr. Norman Platnick for information on any possible Houston material in the American Museum of Natural History, where Chamberlin's arachnid material was deposited. I was not surprised when he discovered there a pair of *A. cavaticus* labeled "Houston, Harris Co., Texas, Sept.-Dec. 1941, Russell Scott."

I think that the weight of evidence points to Scott's "Houston" material being mislabeled: either it came from some real place in Tennessee (where there is a Houston County), or was sent to Chamberlin from Houston, Texas, which he assumed to be the collection site, or most likely, there was simply some outright error in labeling on the part of Chamberlin or a preparator. Anyone familiar with Chamberlin's *modus operandi* will not be surprised to learn that the myriapod material, at least, is infested with incorrect labels, and there is no reason to think he was more careful with his spiders.

Lastly, a lot of material in the same collection said to have been collected at Edinburg, Texas, is patently mislabeled (including the type specimens of Costa Rican and Peruvian millipeds) and I think that the south Texas localities shown on the maps for *A. illaudatus* and *A. nordmanni* can be traced back also to Chamberlin material. In view of the ecology and distribution of these species, it seems utterly unlikely that either — especially *nordmanni* — exists in the lower Rio Grande valley or anywhere else in Texas.

Since, as has been so rightly stated "...systematics and biogeography form an inseparable whole" (Wygodzinsky, 1967, Biol. l'Amer. Austr., 3:505-524), it is appropriate

for systematists to be on the alert for improbable disjunctions, and define or map the distribution of species with the same care that they study the characters of species. Labeling errors are lamentably frequent, but the more implausible records can be easily detected and investigated whenever biogeographic patterns are contradicted.

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