

to be inhabited only by intergrades and their characters vary little from one creek to another.

The Hurricane Creek system lies northeast of Tuscaloosa and enters the Black Warrior almost opposite North River. As mentioned above, one collection of typical *N. b. bellus* (UAIC 326) purported to be from this creek is assumed to be the result of a data mixup. Specimens collected from this same locality both before and after UAIC 326 seem to be typical intergrades. Because of inadequate material, no comments can be made on the possibility of variation within Hurricane Creek.

ORIGIN OF INTERGRADES AND TAXONOMIC STATUS OF *N. b. alegnotus*.—The taxonomic status accorded *N. b. alegnotus* is dependent upon one's interpretation of the populations herein called intergrades. I have assumed that the approximate morphological intermediacy of these populations is the result of past gene exchange between two divergent subspecies along a zone of sharp ecological and geographic separation, the Fall Line. However, at present the most downstream locality for *N. b. alegnotus* (Valley Creek) is roughly 36 river miles upstream from the mouth of Hurricane Creek. Thus available knowledge suggests that *N. b. alegnotus* is not now in direct genetic contact with intergrades. This probably explains why the characters of the intergrades are skewed toward *N. b. bellus*. It also leaves open the possibility that years of evolution in genetic isolation have reduced or perhaps destroyed the reproductive compatibility of *N. b. alegnotus* with intergrades and/or *N. b. bellus*. The apparent recent establishment of *N. b. bellus* within the tentative range of *N. b. alegnotus*, while otherwise unfortunate, may eventually shed some light on this possibility.

The highly divergent nature of *N. b. alegnotus* and the distributional pattern involved suggest an alternative interpretation. The Fall Line populations are peripheral to the range of *N. b. bellus* and they exist in an ecological situation atypical for that form. Perhaps these populations have behaved as classical peripheral isolates (Mayr, 1963:386-93) and have diverged from the central populations because of different selective pressures, genetic drift, or for some other reason unrelated to past gene exchange with *N. b. alegnotus*. Perhaps the over-all intermediacy of the "intergrades" is only coincidental. If this were the case, *alegnotus* would merit specific rank. Although tenable, this hypothesis involves several more assumptions than does the more conservative approach taken herein.

The distribution and variation of *N. bellus* in the Black Warrior system are complex and partially analyzed at present, and the situation is likely to become more confused with time. Alterations of native distributions probably started long ago with the building of navigational locks