

lower Mobile Bay basin is plotted in Fig. 8. The ranges of these two species interdigitate and closely approach one another, as first pointed out by Tucker (1967). In central Monroe County, Alabama, *N. b. bellus* is common in the Flat Creek system, while *N. roseipinnis* is common in the Limestone Creek system. The mouths of these creeks in the Alabama River are about two miles apart. The species have been taken in close proximity in southern Clarke County, but in this case in streams flowing in opposite directions (*N. b. bellus* in Tombigbee River tributaries, *N. roseipinnis* in Alabama River tributaries). They have not yet been collected together.

In four collections of *N. b. bellus* (TU 32486, TU 32595, TU 40443, TU 45501) from the area of distributional proximity, I have singled out a total of 6 (of a combined total of 259) specimens that are somewhat anomalous in their characters. The absence of sympatric collections of *N. b. bellus* and *N. roseipinnis* and the nature of the characters of these specimens prompt me to consider them anomalous *N. b. bellus* rather than hybrids.

The allopatric distribution of these two forms may be attributable to strong habitat segregation, competitive displacement, or some combination of these. *N. b. bellus* may not tolerate the dark-stained, acid waters of the low Coastal Plain. Such habitats are typical of *N. roseipinnis*. On the other hand, Tucker (1967:192) hypothesized that the contiguous distribution of these two forms was a consequence of competitive displacement. *N. roseipinnis* is largely restricted to the lower Coastal Plain in the Mobile Bay system. It is not found as far upstream as might be predicted from its ubiquitous distribution in more westerly drainages (Fig. 7). Perhaps competition with *N. b. bellus* is the factor restricting the distribution of *N. roseipinnis* in the Mobile basin.

REPRODUCTION.—Heretofore nothing has been published on the reproductive habits of members of the *roseipinnis* complex. I made the following observations in Calebee Creek, Co. Hwy. 229 bridge, 14.4 airmi. W. Tuskegee (T17N, R21E, Secs. 26 and 27), Macon Co., Ala.; Tallapoosa R. system; 25 May 1968.

Large numbers of *N. b. bellus* were milling over three nests of *Lepomis megalotis* (Rafinesque) in water about 1 foot deep and approximately 2 to 3 feet from shore at the edge of a pool. The area, approximately 20-foot square, was strewn with a few limbs and stumps. No current was detectable over the nests. Several seine hauls showed most of the shiners in the vicinity of the nests to be large tuberculate males with milt running freely. Shiners returned almost immediately after the seine passed over the nest and otherwise seemed oblivious to my presence.