ular canal only rarely (16 of 738 specimens) interrupted along its length; pore counts given in Table 10. Dermosphenotic bone reduced, either absent or present but weakly ossified in adults. Infraorbital canal varies from incomplete to complete at juncture with postocular commissure over position of bone. In 133 specimens with complete IO canals, pore counts 11 (10 specimens), 12 (48), 13 (45), 14 (22), 15 (6), and 16 (2); $\bar{x}=12.8$. Most frequent pore count formulas for specimens with dermosphenotic interruption 11+2 (86 specimens), 10+2 (76), 11+3 (46), 10+3 (44), 12+2 (24), 9+2 (16), and 12+3 (13). Number of IO pores before dermosphenotic disjuncture (when present) 9 (22 specimens), 10 (125), 11 (136), 12 (43), 13 (5), and 14 (3); $\bar{x}=10.7$.

Lips and preorbital blotch occasionally prominently black but usually little or no darker than adjacent snout and chin. Chin pigmentation typical of Gulf Coast populations illustrated in Fig. 2B. Heavy pigment extending posteriorly on mandibles to near angle of mouth; gular pigment extending posteriorly to or occasionally beyond limit of mandibular pigment. This pattern of chin pigmentation not consistently developed in Mississippi Valley populations. Superficial pigmentation of head dorsum, snout, and temporal-upper opercular areas rather uniformly dark and scattered. Development of melanin along posterior margin of cleithrum variable. If present, pigment usually weak but occasionally forming poorly defined bar.

Middorsal stripe well developed before dorsal fin but less so posteriorly, not surrounding dorsal fin base. Scales on upper half of sides occasionally margined with melanin, producing faint crosshatched pattern. More often, pigment in this area more uniformly dispersed, and crosshatching obscured or obliterated. In specimens with high index of scale reduction, anterior dorsolateral scales lighter than intervening naked spaces, standing out as pale spots (see Smith-Vaniz, 1968:fig. 76). Darkened scales absent from flanks. Pigment over anterior dorsolateral myosepta formed faint chevrons in about 14 percent of breeding males and 9 percent of breeding females examined. Bar markings absent from sides. Body of breeding males not melanistic.

Dusky lateral stripe originating at base of caudal fin. On caudal peduncle it is about one scale row wide, with ill-defined borders. Stripe broadens and fades anterior to anal fin. Midlateral body sometimes slightly more dusky than upper sides, but lateral stripe rarely continuing forward to head. Pigment on upper half of opercle usually not forming band, and poorly defined band passing around snout tip rarely present. No discrete caudal spot, but lateral stripe may broaden slightly over hypural plate. At midbody, pigment may extend one-half to two scale rows below lateral line, primarily along scale borders. Dark punctulations usually lacking above and below lateral line pores. Dark pigment usually weakly to moderately developed about anus, along anal fin base, and along ventral margin of caudal peduncle. Anterior basidorsal spot absent.

Fin Pigmentation.—*N. roseipinnis* has the most specific pattern of fin pigmentation in the *roseipinnis* complex. Though fin pigment intensifies slightly during the reproductive season, the basic pattern is conspicuous in both sexes throughout the year. The following description is based on spawning adults.

In both sexes apex of dorsal fin marked by two lanceolate black spots formed by heavy melanin deposits on distal fourth of first two interradial membranes (Figs. 3D-E, 4A). Concentrations of pigment often present in and about branches of rays 3 through 8, but seldom heavy enough to form secondary spots. In males basal and posterior portions of dorsal fin liberally dusted with melanophores. In females these areas of fin more sparsely pigmented. In both sexes fin has narrow, clear border.

Anal fin dominated by black, lanceolate- or slash-shaped spot at apex (Figs. 3D-E, 4B). Primary spot located subterminally in distal third of first interradial membrane. In males entire membrane may be black, but in females pigment adheres closely to first (unbranched) ray, not extending entirely across membrane to second ray. Pigment concentrations in and around branches of second ray usually heavy, and secondary dark slash often present on membrane along posterior border