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*PSEUDEMYS NELSONI*, A NEW TURTLE  
FROM FLORIDA.

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IN common, no doubt, with most American herpetologists who have given the matter attention, I have long been puzzled by the section of *Pseudemys* known currently as the "*rubriventris* group." The forms comprising this so-called group—*rubriventris*, *alabamensis* and *texana*<sup>1</sup>—were first associated by Baur (1893) on the basis of a common skull character: the upper jaw bears a deep median notch bounded by a strong cusp on either side.

The possession of this feature by all three forms has been accepted generally as justification for considering them a natural and discrete subgeneric alliance. An examination of the material available, and field work in a critical area in the distribution of the forms, have suggested a number of interesting problems and have indicated the occurrence of an unnamed species in Florida.

Stejneger and Barbour (1933) give as the range of *rubriventris*, "Atlantic Coast from extreme northeast Florida to Long Island, New York; Plymouth, Massachusetts;" that of *alabamensis* is defined as, "Gulf Coast from extreme northwestern Florida to Louisiana." Thus, the impression is received that peninsular Florida is not inhabited by a member of the group; this, however, is not the case. Lonnberg (1894) found *rubriventris* in Orange Co., Marion Co. and the St. Johns River, while Brimley (1907), and Van Hyning (1933) record it from Orlando (Orange County) and Alachua County, respectively. DeSola (1935), who gives Dr. Wright credit for calling attention to its occurrence in the

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<sup>1</sup>The relationships of this form will be discussed in another paper.

Everglades, lists it as *P. alabamensis*. Actually, the terrapin to which these authors have referred is abundant throught the peninsular, in some areas outnumbering *floridana*.

Among naturalists with whom I have conversed, opinion as to the proper name for the Florida red-bellied terrapin has been about equally divided between *alabamensis* and *rubriventris*. During the past year I have had the opportunity of examining several topotypes (including the types) and other specimens of *alabamensis* and numerous examples of typical *rubriventris*; a comparison of these with a large number of Florida specimens has shown that the peninsular population is consistently different from either of the named species.

A search for intergrades between the peninsular form *alabamensis*, in the Florida panhandle, has produced nothing. Moreover, I have been unable to locate a specimen or authentic record of *rubriventris* from the area between northern Florida and northern North Carolina. Mr. C. S. Brimley, Raleigh, North Carolina, and Mr. E. B. Chamberlain, Charleston, South Carolina, inform me that they have never seen it in their respective states. Further, a study of the range of individual variation in the three forms indicates that certain characters do not overlap.

The affinities of the unnamed terrapin are not obvious. The similar contours and proportions of the carapace in it and *alabamensis*<sup>1</sup> might be pointed out—pending the possible establishment of the spurious nature of the *latter* form.

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<sup>1</sup>Although I regard any final disposition of the form known as *P. alabamensis* as premature until breeding experiments have demonstrated the method of inheritance of the character by which it is diagnosed—the cusp-bounded notch in the upper jaw—I have seen strong evidence that it may eventually be placed in the synonymy of *P. f. mobiliensis*.

As mentioned above, the Check List gives the range of *alabamensis* as the coastal strip from extreme northwestern Florida to Louisiana. This territory constitutes a good portion of the range of *P. f. mobiliensis* (or all that of *mobiliensis* and part of that of Brimley's problematical race, *vioscana*). I have seen the types of *alabamensis*, the types of *mobiliensis* (PANS 241 and PANS 242) and numerous topotypes of each, and in every case I have observed that, had the specimen of *alabamensis* been decapitated, I could in no way have distinguished it from *mobiliensis*. Moreover, six specimens of *alabamensis* from New Orleans showed the same black background of cara-

On the other hand, the black ground color of the carapace, the range of variation in distribution of dorsal red pigment [cf. Agassiz (1857) pl. 26-27], and the reduction in head striping all suggest northern *rubriventris*. The nearest morphological ally of the Florida turtle seems to me to be *P. v. bangsi*. If this is an intrinsic genetic relationship, and not merely superficial convergence, it perhaps may be explained best by postulating the fragmentation of an old coastal plain stock. Subsequent to isolation of the three stocks, *rubriventris* may have become modified thru adaptation to life in higher streams, while *bangsi* and the Florida colony, confined to more limnetic situations, have retained the primitive characters.

Whatever its affinities, the Florida form appears to be distinct with reference to both geography and range of variation. Until intergrades are found I think it should be given specific designation. It is named for Mr. George Nelson, preparator-in-chief, Museum of Comparative Zoölogy, in recognition of his extensive contributions to museum collections of Florida reptiles and amphibians.

*Pseudemys nelsoni*, sp. nov.

*Diagnosis*.—Allied to the races of *P. rubriventris* but distinguished as follows. Height of carapace greater (length/height ratio: *nelsoni*, males 2.18-2.52, av. 2.32, females 1.93-2.28, av. 2.16; *rubriventris*, males 2.53-3.27, av. 3.01, females 2.41-2.83, av. 2.60). Depth of bridge greater (depth-of-bridge-at-marginal-suture-six/length ratio: *nelsoni*, males 5.56-7.60, av. 6.35, females 5.14-6.92, av. 5.78; *rubriventris*, males 8.33-12.04, av. 9.99, females 6.60-9.27, av. 7.86). Vertebral plates convex and slightly keeled behind in *nelsoni*, concave or flat and unkeeled in *rubriventris*. Shell usually constricted in region of sixth marginals in *rubriventris*, rarely slightly constricted in *nelsoni*; greatest width of carapace usually anterior to middle in *nelsoni*, posterior to middle in *rubriventris*. Markings on lower marginals

pace and soft parts and the same shell contours that distinguish the local phase of *mobilienis* (*vioscana*). Finally, three specimens of *alabamensis* from within the range of *sucanniensis* (Appalachicola, and Crystal River, Citrus Co., Florida) are in all respects except jaw structure typical *sucanniensis*.

Whether *alabamensis* is a mutant of *mobilienis*, or whether this is an instance of concurrent geographic variation can only be determined by examining litters of known parentage.

solid and smudge-like in *nelsoni*, concentric or inclosing light areas in *rubriventris*; markings on bridge lacking or consisting of a few large spots or bars in *nelsoni*, usually present and comprising oblong concentric or light centered figures in *rubriventris*.

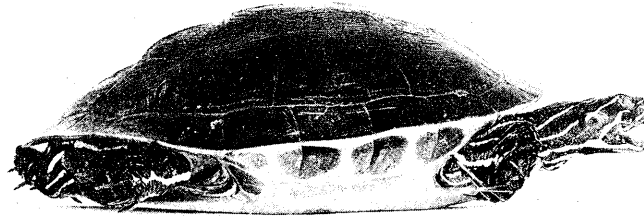


FIG. 1. *Pseudemys nelsoni*, male paratype.

Distinguished from *alabamensis* as follows. Stripes on side and top of head in adult (in area between lower edges of tympana) usually 4-6 in *nelsoni*, 13-17 in *alabamensis*. Upper marginals with concentric figures in *alabamensis*, each with one or two inconspicuous vertical or longitudinal light bars in *nelsoni*. Ground color of carapace and soft parts brownish in *alabamensis*, sooty black in *nelsoni*.

*General description*.—Carapace longitudinally rugose and highly arched, its highest point at, or slightly anterior to, middle of long axis. Length/width ratio, males 1.31-1.47, av. 1.40, females 1.32-1.47, av. 1.38; greatest width/width at marginal suture six ratio, males 1.0-1.07, av. 1.04, females 1.00-1.05, av. 1.01.

Lower jaw strongly serrate with a tooth at symphysis; upper jaw usually weakly serrate with a median notch bordered by fairly distinct cusps.

*Coloration*: Ground color of carapace black; vertebrals each with an obsolescent vaguely H-shaped light figure; each costal with a λ-shaped, transverse, red, yellow or orange figure which is typically broad and conspicuous, but often obscure or lacking. An occasional specimen shows the accentuation and diffusion of red pigmentation as figured by Agassiz i.e. This is usually accompanied by more or less extensive mottling of the bridge, lower marginals, and plastron with dusky, irregular patches of pigment. I have seen two such examples in which the carapace was almost entirely red. Light ventral coloration barely encroaching on upper marginals. Plastron red, orange, or light greenish yellow; dusky dendritic pattern usually, but not always, lacking. Ground color of head and limbs lustrous black; markings greenish yellow to orange yellow. Shoulder and groin pale.

Head striping markedly reduced in adult, consisting essentially, and

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usually entirely, of the following lines. An orbito-mandibular stripe, forking at angle of jaw to send one branch to the lower margin of the orbit and another along the mandible almost to the symphysis; a maxillary stripe, extending obliquely from nostril about half way to angle of jaw; a tympano-orbital, from postero-dorsal corner of orbit to upper margin of tympanum, sometimes continuing along the neck; a supra-temporal, running obliquely upward along dorso-lateral edge of neck and head across temporal fossa to inner border of orbit (the portion of this stripe between the orbit and the anterior margin of the temporal fossa is often obliterated). Less frequently present and usually faint is the paramedian, which may either extend along the top of the head to the tip of the snout, or join the supra-temporal a short distance behind the orbit. A conspicuous sagittal stripe of varying length is usually present midway between the orbits.

*Holotype*.—Museum of Comparative Zoölogy 39888. Fellsmere, Indian River County, Florida; 1936; George Nelson, collector. Adult female. Length, 280 mm.; width 200 mm.; height 129 mm.; width at marginal suture six 198 mm.; height of bridge at marginal suture six 53 mm.

*Allotype*.—MCZ 43847. Sulfur City, Lake Co., Florida; May 1, 1935; A. Carr, collector. Adult male. Length 197 mm.; width 150 mm.; height 83 mm.; width at marginal suture six 142 mm.; height of bridge at marginal suture six 35 mm.

*Paratypes*.—MCZ 43848. Lake Newnan, Alachua Co., Fla.; April 1, 1938; A. Carr, collector. MZUM 83131. Sugarfoot Prairie, Alachua Co., Fla.; Nov. 15, 1934; A. and T. Carr, collectors. MZUM 83129. Pond near Gainesville, Alachua Co., Fla.; May 8, 1935; G. W. Van Hyning and A. Carr, collectors. MZUM 83130. Sulfur City, Lake Co., Fla.; May 1, 1935; A. Carr, collector. CM 12995. Gainesville, Alachua Co., Fla.; Dec. 14, 1932; Wesley Clanton, collector. Dept. Biol., Univ. Fla. 1748. Lake Newnan, Alachua Co., Fla.; March 24, 1938; A. Carr, collector. Dept. Biol., Univ. Fla. 741. Sugarfoot Prairie, Alachua Co., Fla.; Nov. 15, 1934; A. and T. Carr, collectors. CM 12996. Gainesville, Alachua Co., Fla.; April 1935; B. Bellamy, collector.

*Specimens examined*.—*P. nelsoni*: (Florida) Alachua Co., 55; Lake Co., near Umatilla 12; Marion Co., Silver Springs 18; Levy Co., near Manatee Springs 1; Orange Co., Apopka 6; Polk Co., Winter Haven 4; Indian River Co., Fellsmere 2; Lee Co., Bonita Springs 7; Collier Co., Tamiami Canal 4; Dade Co., Tamiami Canal 3; Homestead 2; Monroe Co., Pinecrest 4, near Flamingo 2.

*P. r. rubriventris*: Washington, D. C. 16; Pennsylvania, Philadelphia 2; Delaware, 1, Rehoboth Beach 2; Maryland, Bryan Point 1; Virginia, Ferry Landing 1; New Jersey, Vineland 1, Dennisville 1, Beasley's Point 1, Hammenton 1.

*P. r. bangsi*: Massachusetts, Plymouth 4.

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