In any of the formative stages of an investigational field, a good summary of knowledge does more to spur further work than any other stimulus. The more rapidly such a summary becomes antiquated the more successfully it will have achieved its purpose. Bryce Brown’s survey of the herpetofauna of Texas (1950) is an excellent example. It makes the present account possible by providing a ready measure of the relative importance of data available.

Inasmuch as Brown’s survey encompassed nearly all specimens in American museums, additional distributional data may be presented with little chance of duplication. The present paper includes (with rare exception, always indicated) only that material, chiefly in the University of Illinois Museum of Natural History (to which, unless otherwise indicated, specimen numbers refer) and in the private collection of the junior author (to which numbers preceded by S refer), providing locality records in counties unrepresented in Brown’s work. Very few records from other collections are included. Some have appeared elsewhere (chiefly since Brown’s manuscript was written), but they are not omitted on that account. We have omitted a number of records of species we are currently studying more intensively (Bufo americanus, B. debilis, B. insidior, B. woodhousii, Graptemys pseudogeographica).

In the present account, only those locality records indicating range extensions receive comment; the form is to be expected at the places listed if no comments appear. As Brown indicates, many literature records are unacceptable, chiefly because of error, either proved or indicated, of identification or in locality data, or both. We accordingly include herewith the collector’s name, and the date of collection, in order to provide future students with as many materials as possible for evaluation of veracity of data. Identifications are as nearly accurate as can now be attained.

The nucleus of the material here reported was accumulated incidentally by Sanders over a period of about 15 years. To this has been added much other material secured in exchange, by student field trips, and by gift. We are indebted in particular to J. L. Baughman, W. B. Davis, J. W. Hedgpeth, R. W. Reese, and Louis W. Ramsey for the gift of several lots of specimens, and to W. L. Burger, Jack Burger, I. L. Firschein, M. M. Hensley, Floyd Kringer, D. A. Langebartel, Lowell S. Miller, F. A. Shannon, and P. W. Smith for their energy in executing field work yielding other specimens. Drs. F. B. Adamstone and D. F. Hoffmeister have provided facilities for field work and study, and the Graduate Research Board of the University of Illinois financed part of the travel involved.

In this account 92 species and subspecies, and 225 new county records (i.e., not given by Brown), are listed. Range extensions of 17 species and subspecies are included. One name is changed (Graptemys versa instead of...
Graptemys pseudogeographica versa), one subspecies is revived (Scaphiofrus cccnichii rectifrenis), one race is eliminated from the list of forms known in Texas (Manctttltts qttadridigitattts iwidiis), four forms are added to the Texas frenis, Leptotyphpops in. dissecftts), and details other than distributional are given for several species (e.g. a melanistic color variant in Kinosternon f. flavescens, taxonomic features of Tantilla g. gracilis and Terrapene carolina major, and others).

CAUDATA


Ambystoma texanum (Matthes). Erath Co.: Stephenville (No. S529; Ottys Sanders; May 27, 1945), Chalk Mountain (No. S651; Ottys Sanders; Apr. 29, 1949); Hamilton Co.: Hamilton (Nos. S526-7; Ottys Sanders; Jan. 2, 1937); Hunt Co.: Commerce (No. S528; Ottys Sanders; May 1, 1937); Lee Co.: 5 mi. N Giddings (No. S666; Ottys Sanders; Oct. 26, 1950).

Diemictylus viridescens louisianensis Wolterstoaff. Anderson Co.: 6 mi. NNW Palestine (Nos. S516, S517-18, S601; Ottys Sanders; 1944, Feb. 27, 1944, Apr. 30, 1948); Bowie Co.: New Boston (No. 1324; Floyd Kringer; Apr. 29, 1948); Harrison Co.: 20 mi. E Jefferson (No. S519; Ottys Sanders; June 27, 1945); Morris Co.: ½ mi. W Cason (No. S657; Ottys Sanders; May 8, 1949). These records bridge fairly completely the surprising hiatus in past records of this species in northeastern Texas. The specimen from Bowie county was found near the banks of the Red River north of New Boston. It is a full-grown individual (43.5 mm. snout to vent) with no dorsal red markings whatever.


In attempting to determine the racial status of Texas specimens we have taken counts also on the following, representing known localities of occurrence: Anderson Co.: 21½ mi. SE Athens (No. S593); Hardin Co.: Saratoga (No. S557), ½ mi. W Saratoga (No. S600), Boy Scout Camp, Silsbee (Nos. S596-9); Harrison Co.: 20 mi. E Jefferson (Nos. S551-4).

The only reliable difference distinguishing 65% or more of the specimens of M. q. uvidus and M. q. paludicolus is, according to Mittleman's review (1947: 220, 221), the number of costal grooves. In the former, 65% possess 17 (or more?) costal grooves, whereas in the latter, 91% possess 16 or fewer costal grooves. The other differing features are of little value, since only a 3 mm. difference occurs in recorded maximum length (87 mm. v.s. 90 mm., respectively), and the best separation possible (using Mittleman's data, op. cit.: 215) on vomerine tooth counts distinguishes only 47% of M. q. paludicolus (with a combined count of 15 or more teeth) from 71% of M. q. uvidus (with 14 or fewer teeth), making an average separation of only 59%.

Lacking specimens from northeastern Texas, Mittleman did not attempt to guess to which race individuals from that area might be referable. With inadequate series of specimens, Burger, Smith, and Smith (1949:130) presumed on geographical grounds that the race represented in this area was M. q. uvidus, as indeed has Brown (1950:30-31).

Although still not wholly adequate, the specimens listed above strongly indicate that only one race occurs in Texas, and that it is M. q. paludicolus. Of at least passing interest is the fact that, so far as we are aware, no other reptiles or amphibians would parallel in distribution the dividing line that has been suggested. If two races do exist, their common range limits would be expected in extreme southeastern Texas. No evidence whatsoever exists for the occurrence of M. q. uvidus but it is still possible that a larger series of individuals
from Bowie County may show a relationship to that form not now evident. Until such a series is available, we refer all specimens to _M. q. paludicolus_.

That the latter form occurs throughout most if not all of eastern Texas is strongly indicated by the following frequencies of 40 groove counts, with the counties listed in a north-south sequence: Bowie, 15, 16; Cass, 16 (2); Harrison, 16 (4); Henderson, 16 (4); Rusk, 16 (9), 17 (2); Anderson, 16; Nacogdoches, 16 (10); Hardin, 16 (5), 17. Counts are listed only for those specimens from which accurate counts could clearly be made; most juveniles and some adults are thus omitted from this tabulation. It is possible that these counts were not made exactly as those of Mittleman; nevertheless, if two forms were involved among the specimens examined a difference in groove counts would still be evident.

**SALIENTIA**

_Acris crepitans_ Baird. _Bowie Co._: New Boston (Nos. 866-871; L. S. Miller, Floyd Kringer, G. R. Webb; Apr. 29, 1948); _Callaban Co._: 2 mi. W Putnam (Nos. 18463-73; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 8, 1950); _Jasper Co._: 5 mi. SW Normangee (No. S1608; Ottys Sanders; May 14, 1949); _Wood Co._: Hawkins (Nos. 18476-9; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 8, 1950).

None of these specimens approach the unique characters of _A. g. paludicola_. They are on the contrary rather uniformly different from that race, and not readily distinguishable from more northern individuals.


_Bufo compactilis speciosus_ Girard. _Dallas Co._: Dallas (Nos. S1497-1505, S1504-95; Ottys Sanders; May 17, 1949, May 2, 1950); _Garza Co._: 9 mi. SSE Slaton (No. S171; Ottys Sanders; May 14, 1949); _Live Oak Co._: 20 mi. S George West (Nos. 3296-8; F. A. Shannon, D. A. Langebartel, I. L. Firschein; Apr. 29, 1949), 14 mi. S George West (No. S1700; same data), 12 mi. S George West (No. S1700; same data); _Mason Co._: 11 mi. N Mason (No. S1441; Ottys Sanders; Apr. 29, 1949); _Tarrant Co._: 21/2 mi. E Hurst (Nos. 4501-2; L. W. Ramsey, E. T. Donlon; Apr. 23, 1949); _Young Co._: Bailey (No. S1472; Ottys Sanders; May 15, 1949).

The record from Dallas County marks the extreme eastern edge of the known range of the species in northern Texas, extending eastward previously indicated limits about 20 miles.

_Bufo punctatus_ Baird and Girard. _Dallas Co._: 1 mi. S Cedar Hill (No. S1059; Ottys Sanders; June 1, 1957). This record extends the accepted range of the species perhaps 35 miles.

_Bufo valliceps valliceps_ Wiegmann. _Fayette Co._: 2 mi. W Schulenburg (Nos. S1684-86; Ottys Sanders; Aug. 10, 1950); _Hardin Co._: 4 mi. SSE Saratoga (No. S1261; Ottys Sanders; May 1, 1948); _Waller Co._: Brookshire (Nos. S1688-93, S1708-12; Ottys Sanders; Aug. 10, 1950).

_Hyla cinerea cinerea_ (Schneider). _Anderson Co._: Palestine (Nos. S1095-1101; Ottys Sanders; June 5, 1943); _Henderson Co._: Athens (Nos. S1094; Ottys Sanders; May 17, 1942); _Rusk Co._: 7 mi. E Reklaw (Nos. S1608-12; Ottys Sanders; May 7, 1950); _Tyler Co._: 2 mi. NNW Warren (Nos. S1246-50; Ottys Sanders; Apr. 30, 1948).

_Hyla crucifer crucifer_ Wied. _Harrison Co._: 20 mi. E Jefferson (Nos. S1103-7; Ottys Sanders; Apr. 1, 1934); _Nacogdoches Co._: Douglas (Nos. S1398-99; Ottys Sanders; Apr. 2, 1949); _Smith Co._: 12 mi. SE Tyler (Nos. S1820-1; Ottys Sanders; Jan. 13, 1951). These records partially bridge the gap in northeastern Texas of known localities for the species, adding a northward range of about 150 miles to previous records. Shortly after capture, east Texas specimens were observed calling. The call is a high "peep" whose duration about equals the time interval between calls. About 7 calls can be emitted in 5 seconds when well under way.

_Hyla versicolor chrysoscelis_ Cope. _Anderson Co._: Palestine (Nos. S1091-2; S1093; Ottys Sanders; May 16, June 5, 1943); _Cherokee Co._: 5 mi. E Rusk (Nos. S1656-59; Ottys Sanders; May 7, 1950); _Henderson Co._: 10 mi. E Athens (Nos. S1081; Ottys Sanders; Apr. 1, 1939); _Kaufman Co._: 3 mi. E Seagoville (No. S1082;
Ottys Sanders; Apr. 2, 1939); Nacogdoches Co.: 5 mi. W Nacogdoches (Nos. S1390-93; Ottys Sanders; June 26, 1948); Rusk Co.: 4 mi. NE Henderson (No. S1655; Ruth Sanders; May 7, 1950); Somervell Co.: Glen Rose (No. S1083; Ottys Sanders; June 1940); Tarrant Co.: W shore Lake Worth, 12 mi. NW Ft. Worth (No. 4504; L. W. Ramsey, Donlon; June 14, 1949). The record from Somervell County is of special interest as a range extension of about 55 miles westward from limits previously established. It is northeastward of the indicated range of $H. v. sandersi$, but must mark nearly the extreme limit of the range of $H. v. chryoscelis$. It may actually, of course, lie within an area of intergradation. Unfortunately the specimen is badly faded, but it does possess vestiges of dark pigment in areas of the thigh where none would be expected in typical $H. v. sandersi$. Likewise it possesses the large head, and larger body size, that distinguish $H. v. chryoscelis$ from the western subspecies.

$Hyla versicolor sandersi$ Smith and Brown. Mason Co.: 7 mi. W Mason (No. S1446; Ottys Sanders; Apr. 29, 1949). The distinctive, light surface on rear of thigh, never before illustrated, is shown in text fig. 1.

$Microhyla carolinensis carolinensis$ (Holbrook). Cass Co.: 3 mi. W Douglassville (Nos. S1554, S1561; Ottys Sanders; April 21, 1950); Henderson Co.: Athens (Nos. S1228-29; Ottys Sanders; June 14, 1942); Orange Co.: 12 mi. NW Orange (No. S395; H. E. Crew, Jr.; Sept. 28, 1946); Refugio Co.: Cedar Bayou, S tip Matagorda Island (Nos. 250-1; J. W. Hedgpath; Jan. 16, 1947); Tyler Co.: 2 mi. NNW Warren (No. S1264; Ottys Sanders; Apr. 30, 1948). The Refugio County locality is the westernmost (by a few miles) for the species, at least at the coast. The specimens, adults measuring 20 mm. and 18.7 mm. snout to vent, are typical of the subspecies, possessing an extremely heavily spotted venter. There is thus, in this case, no indicated approach to the characters of $M. c. olivacea$; on the contrary, the known area of overlap in range of the two forms is extended.

$Microhyla carolinensis olivacea$ (Hallowell). Brown Co.: 12 mi. N Winchell (Nos. S1408-10; Ottys Sanders; Apr. 29, 1949); Fayette Co.: 4 mi. E Engle (No. S1794; Ottys Sanders; Aug. 10, 1950); Grimes Co.: Navasota (No. 400; H. D. Fields; Sept. 26, 1946); Hamilton Co.: 5 mi. S Hico (No. S1233; Ottys Sanders; Nov. 16, 1946); McCulloch Co.: 2 mi. S Brady (Nos. S1415-16; Ottys Sanders; Apr. 29, 1949); Mason Co.: 12 mi. W Mason (No. S1425; Ottys Sanders; Apr. 29, 1949). The specimen from Grimes County, a typical subadult measuring 22.5 mm. snout to vent and with completely unspotted venter and nearly immaculate dorsum, extends the known range of the race a few miles eastward, thus augmenting in this region also the known area of overlap between the two forms of narrowmouthed toads.

We are accepting the conclusion of Hecht and Matalas (1946) with regard to the subspecific status of $M. c. carolinensis$ and $M. c. olivacea$ in spite of numerous known areas (all narrow) of overlap of their ranges and the existence of certain differences they did not treat. Bragg (1950b:39) has verified that interbreeding and intergradation do occur at least in southeastern Oklahoma.

FIG. 1—*Hyla versicolor sandersi*, from 7 mi. W Mason, Mason Co., Texas.
Pseudacris clarkii (Baird). Brazoria Co.: Freeport (Nos. S1154, 1156; Ottys Sanders; Mar. 15, 1936); \textit{Garza} Co.: 14 mi. E Post (No. S1157; Ottys Sanders); Hale Co.: 10 mi. N Abernathy (No. S1478; Ottys Sanders; May 15, 1949); Hamilton Co.: 5 mi. S Hico (Nos. S1235-36; Ottys Sanders; Nov. 16, 1946); Lubbock Co.: 3 mi. NW Slaton (Nos. S1476-77; Ottys Sanders; May 14, 1949); McCulloch Co.: 2 mi. S Brady (Nos. S1419-20; Ottys Sanders; Apr. 29, 1949); Stonewall Co.: 8 mi. E Aspermont (No. S1538; Ottys Sanders; May 14, 1949). The specimens from Hale and Lubbock Counties extend the known range in northern Texas westward perhaps 135 miles. Burr (1936) has already recorded the specimens from Brazoria and Garza counties.

The comparatively close relationship of \textit{P. clarkii} and \textit{P. nigrita}, accompanied by strong indication of specific distinctness, indicate that these two probably should be regarded as a superspecies (as of Mayr). Other eastern forms may well form a part of the same superspecies.

The specimens from Freeport are very small, but in comparison with \textit{P. n. triseriata} of similar size the tympanum is larger and nearer eye and rictus oris than in the latter. Their pattern is more or less typical. They were found in salt marshes very close to the ocean, in company with fiddler crabs.

\textit{Pseudacris nigrita triseriata} (Wied). Hardin Co.: 2½ mi. NE Saratoga No. 795; M. M. Hensley; Apr. 28, 1948), 2 mi. N Bragg (Nos. S1250-1; Ottys Sanders; May 1, 1938); Henderson Co.: Athens (No. S1150; Ottys Sanders; Mar. 7, 1938); Rusk Co.: 6 mi. E Henderson (Nos. S1817-9; Ottys Sanders; Jan. 13, 1951); Smith Co.: 12 mi. SE Tyler (Nos. S1823-5; Ottys Sanders; Jan. 13, 1951); Van Zandt Co.: Grand Saline (Nos. S1557-60; Ottys Sanders; Apr. 20, 1950); Wood Co.: 3 mi. N Quitman (Nos. S1555-56; Ottys Sanders; Apr. 20, 1950).

On the night of March 27, 1938, while driving from Tyler to Dallas (on Texas highway No. 64 and U. S. No. 80), the junior author heard this species singing from numerous pools along the road for the entire distance up to a point 13 miles east of Dallas. From a point 3 miles east of Dallas on into the city only \textit{P. clarkii} was heard.

\textit{Pseudacris streckeri} Wright and Wright. McCulloch Co.: 2 mi. S Brady (Nos. S1417-18, S1448; Ottys Sanders; Apr. 29, 1949); Morris Co.: ½ mi. W Cason (Nos. S1546-48; Ottys Sanders; May 8, 1949); Rusk Co.: 6 mi. E Henderson (Nos. S1403-4, 1814-6; Ottys Sanders; Apr. 24, 1949, Jan. 13, 1951); Smith Co.: 12 mi. SE Tyler (Nos. S1823-5; Ottys Sanders; Jan. 13, 1951); Van Zandt Co.: Grand Saline (Nos. S1568-69; Ottys Sanders; Apr. 20, 1950). The records for Rusk and Morris counties extend the known range of this species eastward about 65 miles. They suggest the possibility of occurrence of the species in adjacent Louisiana. Inasmuch as this species has generally been considered as a resident solely of central Texas, its discovery in eastern Texas is of considerable interest. The species there invades the pine belt habitat, shared with \textit{P. nigrita}.

\textit{Rana areolata} areolata Baird and Girard. Waller Co.: Waller (No. S1674; Ottys Sanders; Aug. 11, 1950). The specimen was taken in mid-day, when the temperature was about 100 degree F., in grass near a service station. This record, one of the very few for the state, extends the known range some 25 miles northward and about 50 miles inland.


\textit{Rana clamitans} Latreille. Anderson Co.: 15 mi. S Palestine (No. S1177; Ottys Sanders; June 6, 1943); Cherokee Co.: 7 mi. E Alto (No. S1394; Ottys Sanders; June 27, 1948); Harrison Co.: 20 mi. E Jefferson (Nos. S1178-83; Ottys Sanders; Apr. 1, 1934); Nacogdoches Co.: 5 mi. W Nacogdoches (No. S1395; Ottys Sanders; June 26, 1948); Rusk Co.: 7 mi. E Reklaw (Nos. S1603-4, S1607; Ottys Sanders; May 7, 1950); Wood Co.: Hawkins (Nos. 18506-8; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 8, 1950).

\textit{Rana palustris} Le Conte. Anderson Co.: 6 mi. NNW Palestine (No. S1173; Ottys Sanders; Feb. 27, 1944); Harrison Co.: 20 mi. E Jefferson (No. S1174; Ottys Sanders; Apr. 1, 1934); Jasper Co.: (No. 377; H. D. Fields; Oct. 26, 1946). The records from Anderson and Harrison counties tend to confirm Brown’s prediction that the species occurs throughout eastern Texas. They extend the range limits as previously recorded about 100 miles northward.
Rana pipiens berlandieri Baird. Grimes Co.: Navasota (No. 375; H. D. Fields; Sept. 26, 1946); Hamilton Co.: (No. S1176; Ottys Sanders; Jan. 2, 1937); McCulloch Co.: 2 mi. S Brady; (No. S1421; Ottys Sanders; Apr. 29, 1949); Rusk Co.: 6 mi. E Henderson; (No. S1406; Ottys Sanders; Apr. 24, 1949), 5 mi. E New Summerfield (Nos. 1606; Ottys Sanders; May 6, 1950); Titus Co.: 1½ mi. E Cookville (No. 9367; W. L. Burger, Jack Burger; June 28, 1949); Wood Co.: Hawkins (No. 18501; W. L. Burger, D. A. Langeberartel, P. W. Smith; Apr. 8, 1950).

This appears to be the most widely distributed race of Rana pipiens in Texas. Its occurrence in the extreme northeast suggests that it is unlikely another race, R. p. sphenocpehala (as here envisioned) exists in southeastern Oklahoma (as regarded possible by Bragg, 1949:213). This is especially true since in Texas the latter race appears to be limited to the southeastern corner.

All specimens listed above are more or less alike in general appearance, having a head of moderate width, and numerous dorsal spots.

Rana pipiens brachycophala Cope. Shackelford Co.: 5 mi. W Albany (No. S1175; Ottys Sanders; Apr. 14, 1936).

As implied by the work of Mittleman and Gier (1942) and especially Bragg (1949) appears that the extremely broad-headed race of Rana pipiens from western Texas is distinguishable from the race of central and eastern (except extreme southeast) Texas. Brown (1950:76) has, of course, realized this probability, but the substantiating work of Bragg (1950a) had not appeared before his work was in press. We do not believe sufficient evidence is available, however, to establish conclusively the specific status tentatively accepted by Bragg (loc. cit.), and prefer to retain for the present a more conventional subspecific arrangement.

Rana pipiens sphenoccephala Cope. Gonzales Co.: 4 mi. E Harwood (No. S1740; Ottys Sanders; Aug. 10, 1950); Hardin Co.: Silsbee (Nos. S1260, S1263; Ed Johnson, Floyd Potter; May 1, 1948). This race, like the preceding, was anticipated by Brown (1950:76-77), who has records from the same areas listed above, as well as from others undoubtedly based upon similar specimens. These are very slender-headed frogs with usually no dorsal spots upon the snout. They are readily distinguishable from representatives of the preceding two races, and appear to be identical with or at least subspecifically indistinguishable from R. p. sphenoccephala.


Scaphiopus couchii rectifrenis Cope. Palo Pinto Co.: 5 mi. E Mineral Wells (Nos. S1003-4; Ottys Sanders; Apr. 29, 1934); Runnels Co.: Winters (Nos. S1375-89; Bob Mitchell; May 26, 1948). These specimens differ markedly from those of extreme southern Texas and eastern Mexico, in having a larger adult size and a more uniformly reticulated pattern (when present). Individuals of S. c. couchii are smaller, darker, and their patterns tend to possess a preponderance of dark pigment which usually vaguely outlines a pair of sinuous paravertebral light lines. Inasmuch as the northern individuals resemble those from western Texas, and from Mexico west of about 101° L. west, we adopt for them the name Scaphiopus rectifrenis, based originally by Cope upon two cotypes (both now lost), one from Tamaulipas, the other from Rio Nazas, Coahuila. Smith and Taylor (1950:328) restrict the name to the Coahuila type, which would apparently represent the western race of S. couchii. We here follow that restriction, and adopt the name rectifrenis for the western race.

A satisfactory outline of the ranges and area of intergradation between these two races remains to be determined.

Scaphiopus harterii Strecker. Dallas Co.: Dallas (Nos. S1529-35, S1544-5; Ottys Sanders; May 17, 1949); Kaufman Co.: Terrell (Nos. S1005-8; Ottys Sanders); Live Oak Co.: 2 mi. S George West (No. S1443; W. L. Burger, I. L. Firschein, R. W. Reese, F. A. Shannon, P. W. Smith; Apr. 29, 1949); Rusk Co.: 6 mi. E Henderson (No. S1405; Ottys Sanders; Apr. 24, 1949); Tarrant Co.: 2½ mi. E Hurst (Nos. 4520-5; L. W. Ramsey, Donlon; Apr. 23, 1949); Walker Co.: Huntsville (Nos. S1009-10; Don Baird; May 4, 1935). The record from Live Oak county is on the extreme western edge of the known range of the species at that latitude.

Syrrophus marnockii Cope. Edwards Co.: 29 mi. SW Junction (No. S1447; Ottys Sanders; Apr. 30, 1949). We are wholly in accord with Milstead et al. (1951:550) who regard S. gaigeae as indistinguishable at the present time from S. marnockii.
PLATE I — Explanation of Figures

FIG. 1—Graptemys versa. Baylor Univ. No. 2086, Morgan Creek, Burnet Co., Texas. Carapace 67.5 mm. in length.

FIG. 2—Same as preceding.

FIG. 3—Pseudemys floridana texana. Baylor Univ. No. 3858, Christoval, Tom Green Co., Texas. Carapace 38.5 mm. in length.

FIG. 4—Same as preceding.
TESTUDINES


Graptemys versa Stejneger. Burnet Co.: Morgan Creek (Baylor Univ. No. 2086; J. K. Strecker); San Saba Co.: San Saba River (Baylor Univ. No. 6676; Zool. 107 class; Sept. 25, 1937); 6 mi. W Bend, Rough Creek (Chicago Nat. Hist. Mus. nos. 55556-7; J. E. Johnson, J. Sparks; June 19-20, 1948), 25 mi. W San Saba (Chicago Nat. Hist. Mus. no. 55561; J. Sparks; June, 1948). Mr. I. Lester Firschein advises us that another specimen, which we have not seen, was collected by him and Dr. Charles E. Burt on the Llano River, 5 miles west of Junction, Kimble County, in the summer of 1947. The specimen is now lost, but as both Dr. Burt and Mr. Firschein independently confirm its identity as Graptemys, and since G. versa is the only form of the genus known from the area, we believe the record reliable.

So far as we are aware, the only localities from which this form has been recorded heretofore are the type locality (Austin, Texas), the southern fork of Llano River, northeastern Edwards County, Texas, and the south fork of the Concho River near Christoval, Tom Green Co., Texas. Accordingly, the specimens cited above are of special interest, although they were taken within the range previously known.

The original description (Stejneger, 1925) is exceedingly brief and no further details have since appeared. Moreover, the original description is difficult to interpret and has led upon occasion to the belief that it applied to the typical eastern Texas race of G. pseudogeographica. In reality the form appears to be extremely distinct. The head and plastron patterns are so remarkably different from those of G. pseudogeographica with so little evidence of direct derivation from other races of the latter species that G. versa is here considered a distinct species.

The transverse postorbital light spot characteristic of G. pseudogeographica is present in G. versa, although somewhat narrower than usual. It extends diagonally anteromedially near the orbit border (not widely separated from the orbit as in G. geographica) and ends abruptly above the rear of the eye. It does not curve posteriorly from this point as is the case in G. pseudogeographica.

The postero-lateral end of the postorbital light spot is extended directly posteriorly from a level about even with the middle of the eye, and continues a distance about equal to the length of the rest of the marking. Thus the postorbital light spot itself can truly be said to possess an extension backward from its “lower outer” (postero-lateral) instead of the “upper inner” (anteromedial) edges. The marking is partially evident in Fig. 1 of the accompanying plate.

Three light lines cross the tympanum; the upper and lower are the broadest; the former extends to the postero-lateral edge of the orbit, the latter to the angle of the jaws. Between these is a narrow third line which parallels the uppermost throughout its length.

The plastron (see Fig. 2) in the smallest specimen (58 mm. plastron length, 67.5 mm. carapace length) is dark-marked along each of the transverse sutures — narrowly on all except the femoro-abdominal sutures. The median suture between the femorals is broadly dark-marked, and that between the humerals is narrowly dark-marked; a fairly large dark area centers about the juncture of the point of contact of the median pectoral with the median abdominal suture. This pattern is much simpler and less extensive than that of G. p. pseudogeographica, and resembles more closely that of G. geographica. In the somewhat larger individual (95 mm. carapace length) the plastral markings are virtually absent, visible only very faintly on the anterior lobe.

The specimen from Burnet County is apparently the one reported by Strecker (1909:8) as G. oculifera. Unfortunately the two reported in the same work as G. geographica could not be found in the Strecker Collection at Waco (August, 1946). Another reported (1915:13 and 1926:7) as G. oculifera from Athens, Henderson, Co., is probably either G. p. kohnii or a variant related to G. p. pseudogeographica.

In CNHM 55561, an adult female (162 mm. carapace length), the head markings are typical. In two juvenile males (FMNH 55556-7, 88 mm. and 94 mm. carapace length) the rear extension of the postorbital light spot is represented by an iso-
lated, oval or round light dot a little more than 1 mm. in diameter; this dot is situated in the expected position of the posterior tip of the extension. In one there is a short projection of the postorbital mark toward the vestigial dot, but in both individuals a distance of about 2.5 mm. separates the isolated dot from the postorbital mark. This deviation from the normal pattern is regarded simply as a (probably) normal variation in the species; it does not represent, apparently, an approach to the pattern of *G. pseudogeographica*. The smaller individual shows faint remnants of the typical juvenile pattern as described in a preceding paragraph.

*Kinosternon flavescens flavescens* (Agassiz). *Aransas Co.*: betw. Tivoli and Rockport (Nos. 2260-2; J. L. Baughman; Oct. 26, 1946), Rockport (No. 2263; J. L. Baughman; Sept. 23, 1946); *Denton Co.*: 5.3 mi. NW Carrollton (No. 17068; Otts Sanders; May 13, 1948); *Jack Co.*: 1 mi. SE Joplin (No. 18967; Otts Sanders; May 14, 1949); *Kend Co.*: Jayton (No. 18966; Otts Sanders; May 14, 1949); *Refugio Co.*: Austwell (Nos. 2264-5; B. P. Glass; June 1-2, 1946).

The specimens from Aransas county are unusual in possessing dark throats, thus differing conspicuously from typical individuals in which a light throat is the rule. One (No. 2263) is extremely dark, with mottled lower jaw, venter of neck very nearly as dark as dorsum, a dim ventrolateral light line, and very faint indications of lateral light lines. The other three individuals are not quite so dark, but still darker than typical specimens. The ventrolateral light streaks are visible in all except one (No. 2261). All four are adults: 2 males and 2 females.

The specimens from nearby Refugio county, perhaps only 10-20 miles distant, are smaller, but the largest of the two (99 mm. carapace length) is light on ventral surface of head and neck as in typical individuals.

The significance of this variation remains to be established. If the deviation proves constant it is probable that a local race should be recognized.


*Pseudemys floridana boyi* (Agassiz). *Harris-Montgomery Co.*: Spring Creek, on boundary between counties at intersection with Highway 75 (Private coll. Wern­er H. Gottsch, Houston, Texas; 1 spec., live). The specimen is a typical subadult male with ocelli on the hind legs, and no inner lines between the cornua and midventral stripe, as described by Burger, Smith and Smith (1949:133). The locality is the westernmost (by about 75 miles) known for the race in southern Texas, although it is known equally far west in northeastern Texas (Athens, Henderson, Co.).

*Pseudemys floridana texana* Baur. *Tom Green Co.*: Christoval (Baylor Univ. No. 3858; W. J. Williams; June, 1928). This is a juvenile measuring only 38.5 mm. in length of carapace, yet the median notch and flanking projections are clearly evident at the apex of the upper jaw. The juvenile pattern is unique and is illustrated here for the first time. (Pl. 1, Figs. 3, 4).

*Pseudemys scripta elegans* (Wied). *Milam Co.*: 18 mi. SW Gause (No. 7063; I. L. Firschein, Dave A. Langebartel, F. A. Shannon; July 27, 1949); *Webb Co.*: La­redo (Nos. 1309-11; E. H. Taylor, H. M. Smith; June, 1932). All three Laredo spec­imens have the postocular spot separated from the line normally continuous with it posteriorly as in *P. s. gaigeae*, but the spot remains elongate and reaches the orbit, contrary to the situation in normal individuals of the latter race. These specimens may well be considered intergrades, but much closer to *P. s. elegans* than to *P. s. gaigeae*.


*Terrapene carolina major* (Agassiz). *Jefferson Co.*: Pine Island (No. 1253; L. S. Miller; May 2, 1948). This specimen possesses only 3 claws on each hind foot, but is regarded as a representative of the stated race, rather than of *T. c. triunguis*, because of the (1) conspicuous dorsal pattern of broad, radiating yellow lines and (2) the sharply upturned posterolateral margin of the carapace. One other specimen observed from near the same locality, and now in A. J. Kirn’s collection, also had a sharply recurved rear margin of the carapace. In none of the specimens of *T. c. triunguis* available is the margin turned upward to an equal degree.

*Terrapene carolina triunguis* (Agassiz). *Bexar Co.*: San Antonio (No. 2298; A. R. Cahn; 1930); *Grayson Co.*: Wood Lake (No. 2297; R. J. Peterson; May, 1941); *Milam Co.*: 6 mi. SW Gause (No. 7065; I. L. Firschein, D. A. Langebartel, F. A. Shannon; July 27, 1949). San Antonio is only some 25-30 miles west of other local-
ities recorded for the species, but the extensive investigation of the area, absence of other records, and the known frequency in occurrence of erroneous data upon Cahn specimens, render the record for that locality open to serious question.

Terrapene ornata (Agassiz). Childress Co.: 3 mi. N Childress (Nos. 24593-4; Ottys Sanders; June 16, 1951), 6 mi N Childress Nos. 24595-6; Ottys Sanders; June 16, 1951); Collingsworth Co.: Wellington (Nos. 24597-8; Ottys Sanders; June 16, 1951), 4 mi. N Wellington (No. 44599; Ottys Sanders; June 16, 1951); Gray Co.: 2.3 mi. W McLean (No. 7070; I. L. Firschein, D. A. Langebartel, F. A. Shannon; June 27, 1949); Kent Co.: 14 mi. E Clairmont (No. 18968; Ottys Sanders; May 14, 1949).

LACERTILIA

Cnemidophorus inornatus Baird. Ector Co.: Odessa (No. 2084; A. R. Cahn; June 17, 1930). The locality is a few miles northeast of others recorded for the species.

Cnemidophorus sexlineatus (Linnaeus). Upshur Co.: 5 mi. E Gilmer (No. 19002; Ottys Sanders; May 8, 1949).

Cnemidophorus tessellatus (Say) Hudspeth Co.: 14.5 mi. NW Allamore (No. 18571; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 7, 1950).

Cnemidophorus collaris collaris (Say). Menard Co.: 25.6 mi. NE Junction (No. 4479; L. W. Thomas; May 1, 1949); Callahan Co.: 2 mi. W. Putnam; April 8, 1950).

Crotaphytus collaris collaris (Say). Menard Co.: 25.6 mi. NE Junction (No. 4479; L. W. Thomas; May 1, 1949); Callahan Co.: 2 mi. W. Putnam; April 8, 1950).

Eumeces brevilineatus Cope. Llano Co.: Llano (No. 12778; C. C. Bowers; Nov. 24, 1946).

Eumeces fasciatus (Linnaeus). Morris Co.: ½mi. W Cason (No. 18988; Ottys Sanders; May 8, 1949).

Eumeces laticeps (Schneider). Rusk Co.: 4 mi. NE Henderson (No. 18983; Ottys Sanders; May 5, 1950).

Eumeces septentrionalis obtusirostris Bocourt. Leon Co.: Normangee State Park (No. 1945; C. C. Kent; Aug. 16, 1946); Titus Co.: 3 mi. S Mt. Pleasant (No. 18985; Ottys Sanders; April 21, 1950). The former locality is about 25 miles east and the latter about 100 miles east, of others recorded for the species by Brown. The Titus County locality is about 50 miles east of the projected range shown by Smith and Slater (1949: 446). The specimen from this locality has the typical light chin, broad subcaudals, divided postmental and tiny postlabials that distinguish the species from the only other (E. anthracinus) with which confusion is likely.

Holbrookia maculata lacerata Cope. Runnels Co.: Winters (No. 17100; W. A. Neely; August 11, 1938). This individual, an adult female measuring 53 mm. snout to vent, lacks the subcaudal dark spots characteristic of this race. It seems to possess the usual distinctive dorsal pattern, but is so badly discolored that this is not assured. Since the locality represented is near the middle of the range of the form, we assign this individual to race chiefly on the basis of geographic provenience.

Holbrookia texana (Troschel). Callahan Co.: 2 mi. W. Putnam (No. 18570; W. L. Burger, D. A. Langebartel, P. W. Smith; April 8, 1950); Haskell Co.: Banks of Brazos River, W Rule (No. 18970; Ottys Sanders; May 14, 1949).


Phrynosoma cornutum (Harlan). Eastland Co.: Ranger (No. 2057; A. R. Cahn; probably 1930); Kent Co.: 2 mi. W. Clairemont (No. 19005; Ottys Sanders; May 14, 1949); Live Oak Co.: Three Rivers (No. 3999; W. L. Burger, I. L. Firschein, R. W. Reese, F. A. Shannon, P. W. Smith; April 14, 1949); Taylor Co.: Lake Abilene (No. 12869; J. T. Willis; Sept. 21, 1946).

Sceloporus olivaceus Smith. Smith Co.: 5 mi. W Arp (No. 17093; Ottys Sanders). This locality is about 100 miles east of others from which Brown records the species. Burt, however (1937:536), records the species from the same locality, probably on the basis of the same specimen. The example is typical, with 28 dorsals, 12-13 femoral pores and large supraoculars.

Sceloporus poinsettii Baird and Girard. Brown (op. cit.: 106) states that “a literature record for Brownwood, Brown County, needs confirmation.” The record is in Smith (1938: 613), and is there stated “Brown Co.: San Saba River, south of Brownwood.” The specimens involved were collected by one of us (Smith), and there can be no doubt that they were secured on the San Saba River. The actual locality is one of the rocky cliffs such as are typically inhabited by the species, only
a few hundred yards from the mouth of the river at the Colorado River. The county actually is San Saba County, and references to Brown County are incorrect.


_Sceloporus undulatus byacinthinus_ (Green). _Angelina Co._: Lufkin (No. 18996; Ottys Sanders; Apr. 2, 1949); _Cherokee Co._: Rusk (No. 18997; Ottys Sanders; Apr. 3, 1949); _Henderson Co._: 8 mi. NW Athens (No. 17065; Ottys Sanders; April 30, 1948); _Lavaca Co._: 7 mi. S Schulenburg (No. 20207; Ottys Sanders; Oct. 29, 1950); _Liberty Co._: 1 mi. N Hardin (No. 922; Floyd Kringer; May 1, 1948); _Red River Co._: 5 mi. N Clarksville (No. 17078; Ottys Sanders; June 28, 1945); _Smith Co._: 5 mi. W Arp (Nos. 17079-10; Ottys Sanders); _Titus Co._: Mt. Pleasant (Nos. 18990-1; Ottys Sanders; Apr. 24 and May 8, 1949); _Upsur Co._: 5 mi. E Gilmer (No. 18992; Ottys Sanders; May 8, 1949). These specimens are uniformly different from examples from the eastern part of the range of the subspecies; whether the distinction is of taxonomic nature remains to be determined. The problem is currently under study.

_Scioncella laterale_ (Say). _Hamilton Co._: Hamilton (Nos. 17122-4; Ottys Sanders; Jan. 2, 1937); _Morris Co._: ½ mi. W Cason (Nos. 18977-9; Ottys Sanders; May 8, 1949), 2 mi. E Naples (Nos. 18980-2; Ottys Sanders; Apr. 21, 1950); _Titus Co._: Mr. Pleasant (No. 18976; Ottys Sanders; May 8, 1949); _Van Zandt Co._: 1.5 mi. E Edgewood (No. 18573; W. L. Burger, D. A. Langebarret, P. W. Smith).


SERPENTES

_Agkistrodon contortrix contortrix_ (Linnaeus). _Orange Co._: 12 mi. NW Orange (No. 12774; H. E. Crew, Jr.; Sept. 28, 1946).

_Agkistrodon contortrix laticinctus_ Gloyd and Conant. _Grayson Co._: Lake Texoma, 500 yards from Texas shore (No. 12772; D. A. Buck; July 5, 1946). This specimen was found swimming across the lake more than a quarter of a mile from shore. It seems clearly referable to this subspecies, although Brown (op. cit.: 213) refers specimens from “north of Denison”. Grayson County, to _A. c. mokeson_. The present individual has broad bands, 11 on body, varying in length, on middorsal line, from 5 to 10 scales, average 7.5. The bands are little narrower medially than laterally, but only 3 (the posterior) are directly continuous with the belly pattern; the others terminate on the edges of the ventrals. Only in the latter respect does the specimen resemble _A. c. mokeson_; its characters are preponderantly those of _A. c. laticinctus_.

_Agkistrodon piscivorus leucostomus_ (Troost). Mr. I. Lester Firschein advises us that he, in company with Dr. Charles E. Burt, secured one specimen of the cottonmouth during the summer of 1947, at a locality 5 miles west of Junction, Kimble Co., Texas. This is about 100 miles west of the nearest previous record at that latitude, although farther south in Texas cottonmouths are known even farther west (mouth of Devil’s River, Valverde County, and Eagle Pass, Maverick County). Brown (op. cit.: 215) states that these western records require confirmation; he does not accept them on the basis of present evidence. Ramsey’s report (1948: 228) from Paint Creek in Kimble Co., 1 mi. N Edwards Co. line, renders even more plausible both the present record and those from more southwesterly localities. We have not seen the Firschein-Burt specimen, which has been lost.


_Crotalus horridus atricaudatus_ Latreille. _Grayson Co._: Lake Texoma (No. 19374; D. H. Buck; Sept. 5, 1946). This individual, secured in an area midway between the ranges of _C. b. horridus_ and _C. b. atricaudatus_ as depicted by Gloyd (1940: 175, 188) and approximately 60 miles northeast of localities previously recorded (Brown, op. cit.: 218), is an adult agreeing perfectly with Gloyd’s (op. cit.) diagnosis of _C. b. atricaudatus_. The specimen has 27 scale rows, a well-defined postocular dark stripe, light centers in the anterior lateral blotches, and a clearly defined, contrasty pattern. Whether this indicates the nature of the entire population of the area is uncertain,
Diadophis punctatus arnyi Kennicott. Cooke Co.: Red River N Gainesville (Nos. 17036-7; Otts Sanders; March 21, 1957).

Elaphe emoryi emoryi (Baird and Girard). Cooke Co.: Red River N Gainesville (No. 24569; Otts Sanders; March 21, 1957).


Paranaja abacura reinwardtii (Schlegel). Jefferson Co.: Beaumont (No. 1096; Floyd Kringer; May 2, 1948).

Haideo striatula (Linneaus). Bowie Co.: 4 mi. N New Boston (No. 1136; R. L. Haas; Apr. 29, 1948); Denton Co.: Camp Tejas, Lake Dallas (Nos. 17043-4; Otts Sanders; Apr. 8, 1934); Erath Co.: Stephenville (No. 17045; Otts Sanders; Apr. 27, 1935); Harrison Co.: 7 mi. S Marshall (No. 3829; W. L. Burger, I. L. Firshein, R. W. Reese, F. A. Shannon, P. W. Smith; Apr. 29, 1949); Marion Co.: 12.2 mi. S Linden (Nos. 18588-92; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 9, 1950); Morris Co.: ½ mi. W Cason (No. 18949-50; Otts Sanders; May 8, 1949); Wise Co.: Decatur (No. 17049; Otts Sanders; Apr., 1940).

Heterodon nasicus nasicus Baird and Girard. Deaf Smith Co.: 4½ mi. SW Hereford (No. 24440; M. Max Hensley and W. L. Burger; August 29, 1948); Hale Co.: 10 mi. N Abernathy (No. 18944; Otts Sanders; May 15, 1949).

Hyposiglena ochrorhyncha ochrorhyncha Copé. Hudspeth Co.: 14.5 mi. NW Allamore (No. 18622; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 7, 1950). Heretofore this race has been recorded in Texas only from Brewster County, in the vicinity of the Chisos Mountains, whereas H. o. texana has been recorded from localities as near the present one as 16 mi. SE Van Horn, Culberson County, and El Paso, El Paso County. Nevertheless the present specimen appears to be essentially typical of the race, having very small spots (some split on median line) extending from the 8th to the 14th scale row, involving about 10-12 scales and separated from each other by a minimum distance of about one scale row. The ventrals are 183, caudals 47 (female), scale rows 21-21-17, total length 321 mm., tail 45 mm. The 6th supralabial is about ½ (or slightly less) dark, and the upper lateral spots are small, involving 2-3 scale rows.

The range of this race apparently extends northward from Chihuahua into at least a small part of extreme western Texas west of the Big Bend, although it does not, apparently, reach the El Paso region nor, probably, beyond the Howard Basin region of trans-Pecos Texas.

Hyposiglena ochrorhyncha texana Stejneger. Callahan Co.: Putnam (No. 18621; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 8, 1950). A badly crushed specimen (DOR) shows the typical pattern of large lateral spots and large dorsal spots separated from each other by a maximum of less than one scale row.

Lampropeltis calligaster calligaster (Harlan). Cherokee Co.: 17.4 mi. W Henderson, Rusk County (No. 18942; Otts Sanders; May 6, 1950); Hardin Co.: 4 mi. N Votaw (No. 1106; W. L. Burger; May 2, 1948); Tyler County: Doucette (No. 1105; R. W. Reese; Apr. 30, 1948).

Another specimen from Dallas, Dallas County, Texas (No. 18941; Otts Sanders; March 23, 1950), has a remarkable pattern anomaly, the dorsal spots being relatively small, closely placed (57 on body), virtually all divided on the median dorsal line. The blotches on the Cherokee County specimen are likewise somewhat abnormal, being irregularly shaped, most of them oblique in position, widely spaced (32 on body), and somewhat constricted medially. Other individuals available indicate that at least in number and spacing of blotches two geographic races are probably recognizable in Texas; one or more may be distinguishable elsewhere. There is an obvious need for a careful study of the geographic variation in this species.

Leptotyphlops dulcis (Baird and Girard). Baylor Co.: 15 mi. N Seymour (Nos. 4490-1; L. W. Ramsey; April 15, 1949); Montague Co.: 1 mi. S St. Jo (Nos. 24579-82; Otts Sanders; June 16, 1951). All of these approach the area of intergradation of L. dulcis and L. myopicus dissecatus as determined by Klauber (Trans. San Diego Soc. Nat. Hist., 9: 107-108, 116, map p. 158, 1940). Certain data of importance in consideration of intergradation follow, respectively: dorsals 221, 223, 215, 216, 222, 224; subcaudals 14, 14, 15, 15, 15, 15; sequence, smallest to largest, of median head scales, 1-2-4-3, 3-2-1-4, 1-2-4-3, 4-3-1-2, 1-3-2-4, 2-1-4-3, first dorsal wide, narrow, wide, narrow, narrow, wide; occipitals 1-1 in all; anterior supralabials 1-1 in all; pigmented scale rows 7 posteriorly, 5 (2) or 7 anteriorly in all; lower labials dimly pigmented in one. None of these specimens clearly indicate
intergradation, although the greatly widened first dorsal (which is at least somewhat widened in all) is apparently unusual in this species, common in *L. m. dissectus*.

*Leptotyphlops myopicus dissectus* (Cope). Montague Co.: 1 mi. S St. Jo (No. 24578; Otts Sanders; June 16, 1951). If properly allocated this specimen is the first of this species to be reported east of the Pecos in Texas, although localities from which the species is recorded in Oklahoma (Klauber, *op. cit.*: 117, map p. 158) suggest occurrence of the form in adjacent parts of Texas.

The specimen might well be regarded as an intergrade between *L. dulcis* and *L. m. dissectus*, as indeed with ample justification Klauber has done with comparable specimens in Oklahoma, since it has two anterior supralabials on one side (as in *L. m. dissectus*) one on the other (as in *L. dulcis*). Because of its possession of some other peculiarities apparently more rigidly limited to *L. m. dissectus*, the specimen is assigned to that form; the concept of intergradation is not regarded as receiving support by this individual. Pertinent data follow: dorsals, 235; subcaudals, 15; sequence, smallest to largest, of median head scales, 2-4-1-3; first dorsal narrow; occipitals 1-1; pigmented scale rows, 9 posteriorly, 7 anteriorly; lower labials prominently pigmented.

From northern Texas to Kansas only two characters have been determined to be reliably distinctive of the two forms involved: number of anterior labials (two in *L. m. dissectus*, one in *L. dulcis*), and number of dorsals (230 or more in *L. m. dissectus*, fewer in *L. dulcis*). Klauber (*op. cit.*) does not give the extremes for this area, but points out the existence of a northward decrease in mean dorsal count from a southern extreme of 236.50± 1.81 in southern Texas to a northern extreme of 219.00± 2.84 in Comanche Co., Oklahoma. Our own counts do not exceed 224 for *L. dulcis*, but an overlap may nevertheless exist in this area between the two species. Klauber does, as a matter of fact, record one *L. m. dissectus* from Norman, Oklahoma, with 224 dorsals. Determinations of specimens has, however, hinged finally upon the nature of the anterior supralabial, those with the scales divided on both sides being assigned to *L. m. dissectus*, those with neither divided to *L. dulcis*, and those with one divided and the other undivided to an intergrade status.

On the other hand, if the anterior supralabial is in reality not a reliable indicator in this area, assumption that it is reliable would naturally lead to error in assuming an overlap in dorsal scale count. Of possible significance in this regard is the fact that all of Klauber’s intergrades, as well as one “*dissectus*”, have dorsal counts of 224 or less; our own “intergrade” has one of 235. Lack of clear intermediacy of dorsal counts in the possible intergrade area at least suggests that the supralabial character has there lost its stability, and that the dorsal scale count is the more reliable indicator of specific identity. Thus some individuals of *L. m. dissectus* with neither anterior supralabial divided may be expected to occur (actually, none are known even with this interpretation of identification; the nearest approach is in our present specimen, the division occurring on only one side), and some *L. dulcis* with either or both divided may occur (both conditions known to do so).

In possible support of this view, which maintains the forms as separate species despite an overlap in supralabial count in a limited area, and in dorsal scale count if the entire race is considered, are two other characters the significance of which cannot now fully be known, but which may be rigidly linked with the species throughout their ranges. In our single *L. m. dissectus*, and in the only other representatives of the species available (two *L. m. myopicus*) 9 scale rows are strongly pigmented at the posterior part of the body (even 2 more in some, but more weakly), whereas in all *L. dulcis* available (a total of 10) only 7 scale rows, as previously described for both forms, are heavily pigmented. In 3 of the 10 *L. dulcis* only 5 scale rows are uniformly pigmented anteriorly. Furthermore, and probably less significantly, all the *L. myopicus* have the median infralabials clearly pigmented; none of the *L. dulcis* do, although one specimen shows some pigment there.

We do not, of course, regard as proved the absence of intergradation between *L. dulcis* and *L. myopicus*. There is sufficient evidence to indicate, nevertheless, that intergradation may well not occur where previously suspected in Oklahoma, where the two forms have diverged to a maximum degree in dorsal scale count. The probability is that intergradation, if it does exist, will be found in Mexico, from where indeed one specimen with an intermediate anterior supralabial has been recorded (Klauber, *op. cit.*: 108, map p. 158). The whole matter of intergradation remains uncertain, however, until all differential characters are re-evaluated; degree of pigmentation is one obviously of importance. The peculiarities of known geographic trends in differ-
ential characters are such that, for the present, retention of a specific status for both *L. dulcis* and *L. myopicus* is to be recommended. Of no small interest is the fact that *L. dulcis* itself may well be composed of two or more geographic races (Klauber, op. cit.: 111) whose geographic trends do not parallel those of *L. myopicus*.

**Masticophis flagellum flagellum** (Shaw). *Marion Co.*: 12.2 mi. S Linden (No. 18580; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 9, 1950).

**Masticophis flagellum testaceus** (Say). *Dallas Co.*: Dallas (No. 24588; Ottys Sanders; March 1948); *Duval Co.*: 4 mi. SE Benevides (No. 17854; E. H. Taylor, H. M. Smith; December 12, 1932); *Stonewall Co.*: 4½ mi. E Aspermont (No. 18940; Ottys Sanders; May 14, 1949). No. 24588 is from the extreme eastern edge of the range, but is an adult, typically marked for the race.

**Natrix erythrogaster flavigaster** Conant. *Harrison Co.*: 1 mi. E Waskom (No. 24583; Ottys Sanders; July 29, 1951). This specimen, approximately 400 mm in total length, has but faint evidence of a pattern.

**Natrix erythrogaster transversa** (Hallowell). *Austin Co.*: Stephen F. Austin State Park (No. 24565; Ottys Sanders; April 26, 1941); *Grayson Co.*: Rock Creek, Lake Texoma (No. 19382; D. H. Buck; August 13, 1946); *Kaufman Co.*: 4 mi. NE Kemp (No. 24584; Ottys Sanders; June 30, 1951). No. 19382, measuring only 620 mm in total length, possesses a very weak pattern that somewhat resembles the expected type in *N. e. flavigaster*. The other two individuals, both juveniles, have a well-developed pattern despite the fact that both localities represented border the range of *N. e. flavigaster*.

**Natrix graminei** (Baird and Girard). *Burleson Co.*: Alexander Slough (No. 12776; A. K. Sparks; September 20, 1946). Several other specimens secured at the same place are in the collection of the Department of Wildlife Management, Texas A. and M. College. This was one of the few places near the college where the species could be obtained in moderate abundance. Specimens were found at night with the aid of a gasoline lantern in a shallow slough populated also by various other species of *Natrix* and by numerous cottonmouths. *N. graminei* was distinctive by its great shyness: the heads of the snakes would be seen projecting from the water only near the limits of the lantern rays, and would disappear under the water upon closer approach. To secure the snakes it was necessary to rush the spot where a head was seen and grope quickly into the murky water, or to shoot the heads with .22 shot shells. Other species of snakes more frequently would allow cautious approach to within arm's distance.

**Natrix rhombifera rhombifera** (Hallowell). *Williamson Co.*: Willis Creek (No. 13082; J. G. Teer; Apr. 10, 1949).

**Natrix rigida** (Say). *Harris Co.*: 5 mi. N Channelview (No. 21905; Ottys Sanders; Mar. 10, 1951).

**Natrix sipedon confluens** Blanchard. *Falls Co.*: Laguna (No. 1583; C. S. Brimley; June, 1906). The locality is now known as Satin, *fide* Rand McNally reference maps.

**Rhinocheilus lecontei tessellatus** Garman. *Comanche Co.*: 5 mi. S Dublin (Cornell Univ.; Ottys Sanders; May 6, 1944); *Howard Co.*: 4.4 mi. SW Iaton (No. 18586; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 7, 1950).


**Sonora episcopa** (Kennicott). *Callahan Co.*: 2 mi. W Putnam (No. 18606; W. L. Burger, D. A. Langebartel, P. W. Smith; Apr. 8, 1950); *Hamilton Co.*: 7 mi. S Hico (Nos. 4496-7; W. L. Ramsey, Donlon; Apr. 28, 1949).

**Storeria dekayi texana** Trapido. *Anderson Co.*: 20 mi. SE Athens (No. 17028; Ottys Sanders; March 17, 1940); *Fayette Co.*: 4 mi. E Engle (No. 18959; Ottys Sanders; August 10, 1950); *Henderson Co.*: 10 mi. E Athens (No. 17029; Ottys Sanders; March 17, 1940); *Jefferson Co.*: Beaumont (No. 1170, R. L. Hass; May 2, 1948). The specimens from Anderson and Henderson counties were taken at the extreme recorded northeastern range of the subspecies in Texas, although the species is to be expected to the Arkansas border. The specimens show no tendency toward *S. d. weightorum*, which may be expected in the extreme northeastern corner.

**Tantilla gracilis gracilis** Baird and Girard. *Denton Co.*: Camp Tejas, Lake Dallas (Nos. 17034, 17053; Ottys Sanders; Apr. 8, 1934); *Kimble Co.*: Paint Creek Ranch, 29 mi. SW Junction (Nos. 4498, 18953-54; L. W. Ramsey, Ottys Sanders; April 30, May 1, 1949); *Refugio Co.*: Aransas Refuge (Texas A. & M. College; W. C.
Ta ntilia gracilis,

Were specimens from a narrow zone of intergradation omitted from our calculations, 

gracilis,

T. g. hall owelli,

T. g. gracilis.

centage of separation observed.

area designated as the intergrading zone, whereas elsewhere it is much less pronounced.

complete.

average separation is in excess of 70 %, alt hough the overlap of extremes is almost 

ro many m ore specimens from a reas near the stated zone of intergradation than from 

--- 1950a- The id ent ificati on of Salientia in Oklahoma . ResearchP .s Amph. Oklahoma,

--- 1950b--Salientian range extensions in Oklahoma and a new state record. Researches 

same locality, however, by Mittleman ( 1 949: 246).

Burger , Jack Bur ger; June 3 0, 1949 ). The specimen from Brenham marks the ex­

re extr e mes in range, and this fact more than any ot her probably reduces the per­

--- 1947 -Co ntributions to Texan herpetolo gy. V. Spiny and sca l y lizard s (Sce loporu s).

The geographic variation in ventral count is obviously of a clinal nature , the 

extreme counts occurring at the extremes in range and a transition occurring between. 

Our data do show, however , that the line is not a uniform one, but is abrupt in the 

are designated as the intergrading zone, whereas elsewhere it is much less pronounced. 

Were specimens from a narrow zone of intergradation omitted from our calculations, the percentage of separation might well have been improved. Furthermore, the samples studied were not from localities uniformly distributed over the range. We had access to many more specimens from areas near the stated zone of intergradation than from the extremes in range, and this fact more than any other probably reduces the percentage of separation observed.

A correction should be made in the range of subcaudal counts in female T. g. 

gracilis, as stated in table 1 (op. cit.: 247), from 36-49 to 33-49.

Thamnophis marciana marciana (Baird and Girard). Washington Co.: Brenham 

(No. 2675; A. J. Kirn; Apr. 26, 1945); Frio Co.: 2 mi. N Dilley (No. 6329; W . L 

Burger, Jack Burger; June 30, 1949). The specimen from Brenham marks the extreme 

eastern edge of the range of the species in Texas; a series is reported from the 

same locality, however, by Mittleman (1949:246).

Thamnophis marciana nigrolaterts (Brown). Deaf Smith Co.: 1.8 mi. W Here­

ford (No. 6407; I. L. Firschein, Dave Langebartel, F. A. Shannon; June 27, 1949).

Thamnophis sauritus proximus (Say). Burleson Co.: Alexander Slough (No. 

19395; A. K. Sparks; September 23, 1946), 1 mi. E Welborne (No. 19396; A. K. 

Sparks; September 29, 1946); Crockett Co.: mouth of Live Oak Creek, Pecos River 

(No. 4499; L. W. Ramsey; June 3, 1949); Gonzales Co.: Palmetto State Park (No. 

19398; F. W. Fitch); Harrison Co.: 7 mi. S Marshall (No. 3793; W. L. Burger, J. L. 

Firschein, R. K. predicted, F. A. Shannon, P. W. Smith; April 29, 1949); Live Oak 

Co.: Three Rivers (No. 24586; Otty Sanders; April 21, 1951); Zapata Co.: 

Zapata (No. 18921; E. H. Taylor and H. M. Smith; September 3, 1932).

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