



Fig. 6. Sketch map of a portion of Denton County showing the locations of stations T-63-1, T-63-5, and T-63-6.

DENTON COUNTY (61-T-)

-9

Sta. T-63-1 (Fig. 6).—Lower Goodland brown marls and shales with limy intercalations exposed in east bank of Denton Creek about 300 feet north of concrete highway bridge, 12.4 miles east of Decatur (Wise County) courthouse on Dry Weather Route of Denton-Decatur road (Texas 24). Two samples of the brown marls, one from the level of the stream bed, the other 15 feet above, were examined. The hypotype of *Ammobaculites goodlandensis* Cushman and Alexander was selected from this exposure. *Type loc.*

Sta. T-63-5 (Fig. 6).—Upper Goodland gray marls and white limestones along west bank of a tributary of Clear Creek, 1.1 miles west of Bolivar and about 150 feet north of old steel bridge on main road west from Bolivar. *Nodosaria* aff. *obscura* Reuss is figured in this paper from these strata.

Sta. T-63-6 (Fig. 6).—Upper Goodland exposure of about 15 feet of massive limestones with partings of blue marl along the south bank of Clear Creek, 0.8 miles west of Bolivar or 5 miles west of Sanger on main Sanger-Bolivar continuation westward. This is the type locality of *Cythereis mahonae* Alexander (Univ. Texas Bull. 2907:18), and is probably the type locality of *Spiroplectamina goodlandana* Lalicker (Contr. Cushman Lab. Foram. Res. 11(1):2).

-8

Comanchean  
Washita group  
Grayson fm.

61-T-2

(Denton County)

High, southward-facing bluff on north side of Denton Creek,  $3\frac{1}{2}$  miles (airline) northeast of Roanoke or  $1\frac{1}{4}$  miles due east of the small community of Giffhill. This conspicuous exposure of highly fossiliferous, grey and buff marls and nodular limestone layers can be seen from any point on the highway leading northward from Roanoke. (Map locality, U.T.Bull. 2544, fig.8, section 2; measured 75-foot section, idem, p.30, 1925. Alexander Sta. 34, U.T.Bull. 2907, p.33, 1929; Tappan & Loeblich Loc. HTL-1, J.P., vol.20, p.239, 1946; measured section, J.P., vol.14, p.94, 1940.)

Type locality for--

x Cytherella comanchensis Alexander (U.T.Bull. 2907, p.49, pl.1, figs. 7,8, 1929). Recorded as the female of the species by Alexander, Amer. Midl. Nat., vol.13, p.307, pl.28, fig.5, 1932. Cytherella obovata of Alexander, not Jones & Hinde, 1889 (U.T. Bull.2907, p.49, pl.2, fig.5,9, 1929) is recorded as the male of C. comanchensis Alexander (idem, pl.28, fig.6).

x Macrocypris graysonensis Alexander (U.T.Bull. 2907, p.59, pl.2, figs.13,14, 1929).

x Bairdia parallela Alexander (idem, p.61, pl.3, figs.1,3).

x Paracypris alta Alexander (idem, p.66, pl.3, figs.9, 12).

x Cytheridea washitaensis Alexander (idem, p.71, pl.4, figs.12, 14).

x Cytheridea graysonensis Alexander (idem, p.72, pl.5, figs.3,4).

(See Card #2)

- x Cythereis subovata Alexander (idem, p.97, pl.9, fig.5).
- x Cythereis roanokensis Alexander (idem, p.97, pl.9, fig.10).
- x Cythereis pustulosissima Alexander (J.P., vol.7, p.211, 1933), n. name for C. ornatissima Alexander (not Reuss, 1849), U.T. Bull. 2907, p.95, pl.10, figs.10, 13 (holotype), 1929. Correspondence with Alexander has clarified the type locality and holotype designation.
- x Valvulineria asterigerinoides Plummer (U.T. Bull. 3101, p.190, pl.14, fig.6, 1931).
- x Virgulina minuta Cushman (Cushman Spec. Publ. 6, p.47, pl.7, fig.3, 1936).
- x Lagenamma pyriformis Tappan (J.P., vol.14, p.94, pl.14, figs.1,2, 1940). Assigned to Nodophthalmidium by Loeblich & Tappan, 1946.
- x Reophax deckeri Tappan (idem, p.94, pl.14, fig.3).
- x Reophax minuta Tappan (idem, p.94, pl.14, fig.4).
- x Ammobaculites cuyleri Tappan (idem, p.96, pl.14, fig.10).
- x Ammobaculites testacea Tappan (idem, p.96, pl.14, fig.11).
- x Ammobaculites dentonensis Tappan (J.P., vol.18, p.560, 1944), n. name for A. variabilis Tappan (not Brady, 1884), J. P., vol.14, p.97, pl.14, fig.12, 1940.
- x Spiroplectamma ammovitrea Tappan (J.P., vol.14, p.97, pl.14, fig.13, 1940)
- x Gaudryina cushmani Tappan (idem, p.99, pl.15, fig.6)
- x Massilina planoconvexa Tappan (idem, p.100, pl.15, fig.8).
- x Placopsilina longa Tappan (idem, p.100, pl.15, figs.9, 10); GENOTYPE for Acruliammina Loeblich & Tappan (J.P., vol.20, p.252, 1946).

(See Card #3)

- x Nodosaria graysonensis Tappan (J.P., vol.18, p.560, 1944), n. name for  
N. bifurcata Tappan (not d'Orbigny, 1846), J.P., vol.14, p.103, pl.16, fig.5, '40
- x Nodosaria chapmani Tappan (idem, p.103, pl.16, figs.9, 10).
- x Pseudoglandulina scotti Tappan (idem, p.105, pl.16, fig.13).
- x Saracenaria cushmani Tappan (idem, p.106, pl.16, fig.17).
- x Lingulina lamellata Tappan, (idem, p.106, pl.16, fig.19).
- x Lingulina serrata Tappan (idem, p.107, pl.16, fig.22).
- x Vaginulina complanata perstriata Tappan (idem, p.108, pl.16, fig.25).
- x Lagena leptata Tappan (idem, p.112, pl.17, fig.17).
- x Lagena striatifera Tappan (idem, p.112, pl.17, fig.18).
- > Paleoploymorphina ozawai Tappan (idem, p.113, pl. 17, figs.20,21).
- > Pseudopolymorphina roanokensis Tappan (idem p.113, pl.17, figs.22,23,25).
- x Pyrulina longa Tappan (idem, p.114, pl.18, fig.2).
- x Gümbelina washitensis Tappan (idem, p.115, pl.19, fig.1).
- x Gümbelitriä harrisi Tappan (idem, p.115, pl. 19, fig.2).
- x Gümbelitriella graysonensis Tappan, GENOTYPE (idem, p.116, pl.19, fig.3).
- x Bulimina nannina Tappan (idem, p.116, pl.19, fig.4).
- x Neobulimina minima Tappan (idem, p.117, pl.19, figs.5,6)
- x Bifarina tenuilissa Tappan (idem, p.118, pl.18, fig.9).

(see Card #4)

- x Dentalinopsis subquadrata Tappan (idem, p.119, pl.18, fig.12).
- x Gyroidina loetterlei Tappan (idem, p.120, pl.19, fig.10).
- x Globigerina graysonensis Tappan (idem, p.122, pl.19, figs.15-17).
- x Globigerina planispira Tappan (idem, p.122, pl.19, fig.12).
- x Schackoina primitiva Tappan (idem, p.123, pl.18, fig.14).
- x Anomalina plummerae Tappan (idem, p.124, pl.18, figs.15, 16). New specific name for A. petita Carsey, 1926, which has been erroneously regarded as invalid and which should be revived to take precedence over A. plummerae.
- x Quingueloculina sabella Loeblich & Tappan (J.P., vol.20, p.247, pl.35, fig.20, 1946)
- x Eouvigerina laxistoma Loeblich & Tappan (idem, p.254, pl.37, figs.10-12).
- x Drepanocrinus peracutus <sup>Peck</sup> (J.P., vol.17, p.463, pl.76, figs.9-22, 26, 28, 1943).
- x Roveacrinus signatus Peck (idem, p.466, pl.74, figs.1-5, 11-14).
- x Roveacrinus spinosus Peck (idem, p.467, pl.74, figs.6,7,9, pl.76, figs.37,39).
- x Roveacrinus spinalatus Peck (idem, p.467, pl.74, figs.8,10).

**Station 13.** (Denton County.)—An excellent exposure of uppermost Duck Creek occurs where the road leading northwest from Krum to Trinity Farms crosses Hickory Creek, 8 miles from Krum. The exposure is in a low, northward-facing cliff that forms the south bank of Hickory Creek, about 150 feet north of the road. This exposure is the type locality for *Paracypris dentonensis* n. sp.

(U.T. Bull. 2907)

Loeblich & Tappan loc. HTL-38, J.P., vol. 17, p. 478 (measured sec.), 1943.

Type locality for —

- 4-14 *Paracypris dentonensis* Alexander (U.T. Bull. 2907, p. 65, 1929)
- 79-35 x *Brochammina krumensis* Tappan (J. Pal., vol. 17, p. 492, 1943)
- x *Habellinella plana* Loeblich & Tappan (Bull. Am. Pal., # 99, p. 19, 1941) (Loeblich & Tappan loc. HTL-38)
- ↑  
pl. 2, figs. 13-15

Fredericksburg group  
Goodland fm.

61-T-5  
(Denton County)

Upper Goodland exposure of about 15 feet of massive limestones with partings of blue marl, along the south bank of Clear Creek, 0.8 mile west of Bolivar or 5 miles west of Sanger on the main Sanger-Bolivar continuation westward. (Univ. Texas Bull. 2907, Alexander Sta.4; Amer. Midl. Nat., vol. 13, Lozo Sta. T-63-T-6, map, p.525, 1944.)

Type locality for--

- x Cythereis mahonae Alexander (Univ. Texas Bull. 2907, p.90, pl.7, fig.7, 1929)
- x Spiroplectammia goodlandana Lalicker (C.C., vol.11, p.2, pl.1, figs.2,3, 1935)

Fort Worth formation

61-T-6  
(Denton County)

Station 16. (Denton County.)—An exposure of the Fort Worth formation, which is very rich and produces excellent material, lies about 1¼ miles northwest of Krum, just north of the small concrete bridge where the road crosses a tributary of Hickory Creek. This is the type locality for Cythereis krumensis n. sp. and C. worthensis n. sp.

p. 92, pl. 7, figs. 8, 12

p. 91, pl. 9, figs. 1, 2

Zschlich + Tappan <sup>loc</sup>  
(HTL-39, in Peck, 1943)

(U.T. Bull. 2907)

J.P., vol. 17, p. 460, 1943

Type locality for--

Roveacrinus latealatus Peck, J.P., vol. 17, p. 468, pl. 73, figs. 9-12, 14, pl. 76, fig. 1, 1943.

"2 miles north of Hebron" (Moreman, J.P., vol.1)

Type locality for--

Anomalina eaglefordensis Moreman (J.P., vol.1, p.98)

q pl. 16, fig 9, 1927

"Zone of Metococeras whitei Hyatt, in high, steep bluff on the west side of Indian ~~cr~~reek, at a point about  $6\frac{1}{2}$  miles east of the railroad crossing at Lewisville." Alexander, J.P., vol.7, p.213

Type locality for--

× Cytheropteron (Cytheropteron) eximium Alexander, J.P., vol.7, p.193, pl.27, fig.4, 1933.

Goodland fus.

61-T-9  
(Deaton Co.)

Lower Goodland lower member (u) shales with  
limy intercalations in E. bank of Deaton  
Cr., about 300' N. of concrete hwy. bridge, 12.4  
mi. E. of Decatur (Wise Co.) courthouse rou-  
nd to Deaton (Lozo Sta. T-63-1, Am. Midl. Nat.,  
vol. 31, p. 525, '44) — map, fig. 6

Type loc. for —

x Amnobaenites laevigata Lozo (Am. Mid. Nat., vol. 31, p. 538, '44)  
pl. 2, figs 2, 3

Fort Worth fm.

Road cut, 3 miles north of Ponder  
on Fort Worth-Sanger highway.

61-T-10  
(Denton County)

Type locality for--

× Flabellamina washitensis Alexander & Smith (J.P., vol.6,  
p.303, pl.45, figs.10, 11, 1932)

Fort Worth fm.

Exposure of upper Fort Worth and Denton  
formations in east bank of Denton Creek,  
1.4 miles east of Justin.

61-T-11  
(Denton County)

Type locality for--

x Frankeina incerta Alexander & Smith (J.P., vol.6, p.308, pl.47,  
fig.4, 1932)

Main St. fm.

61-T-12  
(Deer Co.)

Road cut for about 1/4 mi. along road  
leading eastward from H. Worth - Denton  
hy., about 1 mile east of hy., 3 1/2 miles  
N.E. of Rossmore. (Loeblich & Tappan loc.  
HTL-36; Bull. Am. Pal., #99, p. 6, 1941)

Type locality for —

1-6-10 x Palmula limbata Loeblich & Tappan (Bull. Am. Pal., #99, p. 12, 1941)

Weno formation

South bank of Denton Creek, just west of highway  
377, Ft. Worth-Denton Hy., where it crosses Denton  
Creek, 3 miles (airline) north-northeast of Roanoke (HTL-40,  
Loeblich & Tappan, J.P., vol.20, p.239, 1946)

61-T-13  
(Denton County)

Type locality for--

35-1, text fig. 1

x Reophax incompta Loeblich and Tappan (J.P., vol.20, p.242, 1946)

x Bugueseria cavellata C. & T. (idem, p.245, pl. 35, fig. 7, 8)