

Swanson thrush fed on open exposed bank. Returned 4:13.

4:15 6 chickadees; ♂ + ♀ cardinal. 4:20 coned up drainage to left; great crested flycatcher calling; Swanson thrush.

4:25 returned. 4:27 fox squirrel at edge of water. 4:32 yellow-shafted flicker, 2 chickadees. 4:35 blackpoll warbler, ♂ + ♀ cardinal. 4:45 bridge (highway 75). Phoebe, Baltimore Oriole, cardinal. Air temp 61°F; water 68°F being 7 degrees warmer than air temp. From a slope 1/10 mile NE of bridge collected 2 *Diadophis*:

680518-2 213 body, 54 tail, 5 1/2 gms wt.

680518-3 264 " 47 tail, 9 gms, ♂

In measuring the river determined that the distance traversed was 6 miles and the shortest land distance was 4 miles or 2/3 distance by river. Other 6 mile stretches of the river was measured and regardless of the area measured the land distance (shortest distance) was always approx 2/3 distance of river course. In other words, meander formation is a dynamic process and equal amounts of energy is expended per linear distance of downgrade flow. The river between time interval 9:55 and 1:45 is characterized by alternating riffles & pools while the course between 1:45 and 3:36 is relatively free of riffles and is continuous slow moving water. The character of the meander is different in the two sections of the river, the upper meandering, the lower limits less so.

Wakarusa River, (Peterson farm area, ~~NE~~ E Clinton), Douglas Co., Kansas.

May 19, 1968

Annette and I visited area S of Peterson farm and E of Clinton. Day cool, partly cloudy, wind about 15 mph. 2:00 P.M.

Birds from Sigel. 32.1 shrike, 32.6 ♂ ♀ cardinal, 32.8 Indigo bunting. 32.2 Y in road, Eng sparrows, chickadee. Creeks beyond have small amount of H₂O and clear. 33.8 eastern kingbird. 33.9 N end proposed dam (old). 34.5 redheaded woodpecker, meadowlark. 35.1 3 Cowbirds, 2 meadowlarks, redwing, killdeer, swanna sp at pond. 35.4 14 black tern flying 10-15 feet above field; lark sparrow. 35.6 bluejay. 35.7 bridge. Put hose in river on E side of bridge and planned to float to Peterson road to inspect shell area and then return by river if current not too swift. Enroute will visit the deciduous forest on slope to S.