

June 4, 1948

WJK48-06-04-01

Back at Suwanee.

deeper

All species in/pools at 830 except for young of year. A.70, W 66.

Some observations on feeding: Pantosteus feeds over the boulders often turning sideways, frequently tugging at something (algae?) after a preliminary nuzzling. Gila jumps out of the water occasionally. Rhinichthys just worked over (915) an algal patch on the side of a boulder. It turned sideways just like a sucker.

A75, w 69 T 930 ; W 66 75 yards upstream

A77, W 78 T 950 at mouth. A ♂ Gila seen chasing a ~~XXX~~ ♀

~~XXXXXX~~ A 82 W 90 at mouth, W 76 midway, W ~~82~~ 62 at source. T 1300. Gila does not seem interested in spawning, at least in the lower stretches and they are scarce in the upper reaches of the stream where the water is cooler. Rhinichthys, however, does seem to be interested in spawning.

Rhinichthys spawned W 79, T 1345

Gila spawned W 79, T 1600. One ♂ and one ♀ passed ^{3 times} up stream through the lower portion of a weed bed, each time entering below the overhang and passing through the weeds and up to the surface

atics generally similar to that of R. a. atratulus. the ♀ moves about and the ♂ tries to place himself at her side. If two ♂ are present, the extra tries to insinuate himself between the ♂ and ♀.

W 82, T 1610 at mouth. Some interest in spawning, ♂ are chasing a ♀. (Gila)

One group of Gila may have spawned in a gravel riffle about two inches deep. I was too far away to be certain whether they spawned ~~xxxxxxxxxxxxxxxx~~ and, if so, where they did. There was a small patch of weed in the riffle.

Many ~~xxxx~~ presumed spawnings have been observed during the last two days. The pattern is less elaborate and specific than is the case with most species which I have observed. The following represents a summary of what I have seen.

~~XXXXXXXXXX~~

Rivalry between ♂: The only competition observed was that of attempting to get close to a female at the proper moment. There are no territories guarded, no ceremonials, nothing that could be termed a battle, not even the attempt to get between the rivals and the female.

Courtship: One or more males pursue the females about through the shallow pools and follow ~~xxxxxxxxxxxxxxxx~~ or accompany her into the weed beds. ~~xxxxxxxxxxxxxxxx~~ Frequently when a pair or group were in the spawning habitat,

June 4, 1948 #2

6 a ♂ would quiver slightly as he moved forward alongside the ♀, sometimes rubbing his snout along her ~~side~~ trunk. It was slightly reminiscent of the quivering of the ♂ cutthroat.

6 Mating: So far as could be seen, there was no specific mating position, since the weeds often prevented the individuals involved from coming into direct contact. I could not be certain that they spawned on these occasions, but I had the general impression that they did so. The pattern seemed to be as follows: One ♂ and a female - he ♂ placed himself close to the side of the ♀, sometimes with the pectorals interlocked, sometimes not; two ♂♂ and a ♀ - One on either side as above. ; ~~XXXXXXXXXXXX~~ several ♂♂ - All try to crowd about the ♀. On several occasions, the dorsals were observed to be erect. On one occasion, a group of 3 or 4 were seen with their mouths open simultaneously.

6 Spawning site: With the possible exception noted above, all spawnings were in beds of Zannichelia or hara, (possibly in some filamentous algae - to be checked.) A spawning pair or group would enter beneath the overhang of the weeds on the downstream side, work six inches to two feet upstream and appear at the surface. They seemed to spawn ~~XXXXXXXXXXXX~~ just prior to the moment of their appearance at the surface, although this is conjecture, being largely based on the movements involved and the manner of appearance. There was usually considerable splashing about at this time. They often lay on the surface of the weeds, half or more out of the water.

April 3, 1951 #4

R.M., Valencia Co., Sierraville

Leaves (4?) 1948

W.S.K.

Date (day) omitted on label. 4th prob. correct.

1 Crotaphytus callaris baileyi Styrax

1 87 mm Su-U.

1 Phagnosoma modestum C.

1 58 mm Su-U.