

1994 WYOMING  
ANALYSIS OF <sup>1</sup>CUTTHROAT TROUT  
COLLECTIONS 1994.

Robert J. Behrke

Three ~~Four~~ collections ~~labeled O. c. pleuriticus~~ ~~from the~~ Green River drainage and ~~two~~ ~~from the~~ Bear River drainage were analyzed. All collections are from Lincoln County ~~with~~ <sup>except</sup> for Fish Creek in Sublette County. The sample from the South Fork of Fontenelle Creek probably represents a pure population of O. c. pleuriticus, but the small sample size (N=3) ~~as~~ precludes more definitive determination. The other samples ~~represent~~ are "good" representatives of the subspecies pleuriticus and utah but indicate some lingering effects of hybridization in one or a few characters.

Green River Drainage, O. c. pleuriticus  
South Fork Fontenelle Creek; ~~N=7~~ R116, T25, S23;  
July 14,  
~~Aug. 12~~, 1994; N=3; 156-220 mm TL.

These three specimens appear to be pure pleuriticus. Lateral series scale counts 193-212 (201), above lateral line 44-49 (46) and pyloric caeca counts 33-39 (36) are ~~very~~ <sup>quite</sup> typical of pure pleuriticus. All specimens have <sup>2-5</sup> <sub>1</sub> basibranchial teeth (3.3). Gill rakers 20-21 (20.3). No indication of a hybrid influence but the population is represented by only three specimens. Because of ~~limited~~ <sup>small</sup> sample size ~~& rate~~, the rating is a tentative A.

~~North Fork Smith Fork~~; R118, T20, S13,



→ Probably three (from each drainage. See North Fork  
Smith Fork discussion re. wrong subspecies label).



(2)

~~Cutthroat. If this sample is from <sup>the</sup> Green River, the larger spots (than typical for pure Green R. pleuriticus) and their more even distribution over the body, cannot be readily explained. If from~~  
→ ~~Bear River drainage, I would rate this sample as B.~~

Little Indian Creek; R117 T27 S33;

Aug. 12, 1994; N=8; 98-158 mm TL.

Tributary Fontenelle Crk. (? on La Barge). Specimens represent "good" cutthroat trout but not pure pleuriticus. Scale counts 153-196 (174), above lateral line 32-45 (38), pyloric caeca 34-48 (41), gill rakers 18-21 (19.6). One specimen lacks basibranchial teeth, seven specimens with 1-5 (3.7) teeth. The largest specimen has spotting pattern resembling pure Green R. form of pleuriticus, others are more variable in size, shape, and distribution of spots. One specimen with spots on top of head (a characteristic of rainbow trout). Overall, there is evidence of past hybridization with rainbow trout, but native cutthroat characters predominate. Grade B-.

Fish Creek; R115 T30 S29; Aug. 4, 1994;

N=9; 175-250 mm TL. Tributary in South Piney Creek drainage. Scale counts 183-196 (189) in lateral series, 38-45 (42) above lateral line; caeca counts 27-33 (30), gill rakers 19-21 (19.8), basibranchial teeth 4-23 (11.1).

The meristic characters of these specimens



④ ⑤

could pass for pure pleuriticus, although  
- basibranchial teeth are more numerous than  
expected. Spotting pattern ~~is~~<sup>if appears</sup> too variable  
to represent a pure population. One specimen  
has large spots more evenly distributed over  
body, similar to the form of pleuriticus  
native to Little Snake River headwaters. Four  
specimens show indication of fine-spotted  
Snake River cutthroat ~~influence~~<sup>influence</sup>. The spotting  
variation and, perhaps, the high basibranchial  
tooth number ~~is~~ most likely reflects  
past hybridization with Snake River cutthroat.  
The hereditary basis for the large spotted  
specimen is difficult to explain, unless  
cutthroat trout of Yellowstone Lake origin  
had once been stocked in vicinity <sup>As hybrid</sup> of ~~influence~~  
from Yellowstone Lake cutthroat tends to  
increase gill raker number (~~to~~<sup>toward</sup> 21) and  
basibranchial tooth number (toward 22). <sup>Yellowstone</sup> ~~They~~

Like cutthroat<sup>also</sup> also have well developed rakers on the  
posterior side of the first gill arch. These  
specimens do have some development of  
posterior gill rakers but they are feeble. There  
~~Grade B~~ is no indication of an influence  
from rainbow trout. Grade B.

Bear River Drainage, O. c. utah  
Lander Creek; R117 T21 S33; July 26,  
1994; N=6; 98-158 mm TL. Tributary to  
Smith Fork of Bear River. These six specimens



⑧ ④

could represent a pure population but the spotting pattern on these small <sup>fish</sup> specimens does not reflect the "ideal" of Bear River utah.

Scale counts 169-194 (178) in lateral series and 39-43 (41) above lateral line; gill rakers 17-20 (18.3); basibranchial teeth 3-18 (8.8). Only tentative <sup>pyloric caeca</sup> counts could be made on four fish, 31-36 (34). The incision on the side of the body, to allow preservation of internal organs, was made too high on the body (missing the body cavity) and decomposition of caeca had occurred. Except for the lower than expected <sup>(tentative)</sup> caecal counts (about 40-45 expected in Bear R. utah), the other meristic values are typical of pure populations. The less than ideal spotting pattern could reflect a lingering influence of past hybridization with fine-spotted Snake River cutthroat, or it could be an ontogenetic effect. Commonly, younger (age 1, into age 2, sometimes 3) cutthroat trout do not <sup>achieve</sup> exhibit the definitive spotting pattern. They tend to have relatively smaller spots arranged differently than the definitive pattern. This sample could represent an A population, but the spotting pattern of larger, older fish should be observed to compare with the "ideal" of Bear River utah (figure 8, p. 109 of my monograph; <sup>also</sup> Robert Smith's book, Native Trout of North America, first edition, <sup>p. 85,</sup> has



(6) (5)

a color photograph of cutthroat from Thomas Fork drainage). Mainly, the spots of Bear River cutthroat are relatively large, sparse, and more evenly distributed on sides of body, rather than highly concentrated on caudal peduncle, in contrast, for example, with *O. c. pleuriticus*.

Packstung Creek; R 119 T 29 S 27; Sept. 1, 1994; N=15; 84-148 mm  $\frac{TL}{SL}$ . The absence of basibranchial teeth in 6 of 15 specimens and spots on top of the head on two specimens indicate past hybridization with rainbow trout. ~~Also~~ Somewhat lower than expected scale counts  $>150$  suggest influence from rainbow trout. Surprisingly, the spotting pattern on these small fish is more typical of Bear River utah than <sup>the</sup> Lander Creek specimens. This may reflect relatively older age, adult fish. Males of 100-110 mm have developing testes and would have spawned ~~this~~ in spring of 1995 (collected Sept. 1, 1994). Evidently, the trout in this creek ~~are~~ have <sup>a very low</sup> ~~slow~~ growth rate.

Scale counts 150-179 (164) in lateral series and 34-42 (38) above lateral line; pyloric caeca 36-43 (37); gill rakers 17-19 (18.5); basibranchial teeth lacking in 6 of 15 fish, ~~eight~~ 9 fish with 2-8 (4.2).

Although obvious indications of a hybrid influence are detected, with these specimens resemble "good" Bear River utah. Grade B.



⑥

North Fork Smith Fork: R118 T29 S13;

July 26, 1954; N = 9; 89-226 mm TL.

Lateral series scales 174-193 (183), above lateral line 40-47 (43), all with basibranchial teeth 1-7 (3), gill rakers 17-20 (18.3). Specimens poorly preserved, internal decomposition obviated pyloric caecal counts. Spotting pattern variable; some specimens <sup>appear</sup> ~~are~~ intermediate between typical Bear River O. c. utah and Green River O. c. pleuriticus.

The specimens appear to be pure cutthroat trout, but not ~~a~~ pure <sup>utah</sup> ~~subspecies~~.

This record of this collection should be checked (collected by Dave Belford). Although ~~labeled~~ as O. c. pleuriticus, I suspect this collection <sup>site</sup> (R 118 T 29) is from Smith Fork drainage of Bear River, not from the Green River.

The only Smith Fork of Green River drainage that I know of is in Uinta County (R 114-115 T 12-15). <sup>Also, a Smith Fork of Bear R. drainage collection was made →</sup>

In any event, the specimens do not represent either a pure O. c. utah or pure pleuriticus, <sup>but they are closer to utah.</sup> The gill raker count (18.3) is ~~more~~ typical of Bear River drainage utah. The scale counts (183 and 43), <sup>although</sup> somewhat high, <sup>for Bear River utah,</sup> ~~are more typical of~~ Bear R. utah than Green R. pleuriticus.

If this North Fork of Smith Fork is in Bear R. drainage, the smaller, more variable spotting ~~than typical for utah~~ and higher scale counts <sup>are most likely</sup> ~~could be~~ explained by past hybridization (~~about~~ 20 years ago or more) with fine-spotted Snake River cutthroat. I rate this sample <sup>as</sup> B (good, not pure).



in Lander Creek on the same date (July 26) <sup>also by Mr. Belford</sup> ~~as the North Fork~~  
~~Smith Fork collection.~~



→ cooperation agreement with USFWS re Colorado DOW  
 → scientists on "loan" from USFWS

Green R. pleuriticus

N. 7K. Smith 7K. N=9 Lincoln Co.  
 R 118 T29 S13 89-226 mm TL July 26, 94

①

N=9  
 partially decomposed (no caeca) pelvic ♂(1) ♀(8)  
 174-193 (183) 40-47 (43) no caeca +7-20 (18.3), 1-7 (3) <sup>Teeth RB?</sup>

B less than ideal spotting. <sup>but not bad (?)</sup> size distrib. sp. usn. (S.R.?) - but more like Bear R. (Utah x pleuriticus) no spots head -

Dec. Utah Lander Crk. E (Smith 7K) - July 26, 94  
 R 117 T 21 S 33 July 26  
~~Little Indian Crk. R 117 T 27 S 33 July 14~~

jt<sup>m</sup>

②

N=6 98-158 TL  
 169-194 (178) <sup>S.P. 9.99</sup> 39-43 (41) 31-36 (34) <sup>low xN=4 \*slit toothed some not penetrate body cavity</sup>  
 17-20 (18.3) 3-12 (8.8) <sup>- o.k. small sp. - not ideal? - spotting but o.k. pelvic - spots head?</sup>

Little Indian Crk. <sup>co.?</sup> R 117 T 27 S 33 Aug. 12, 94  
 Lincoln

N=8 98-158 mm.

③

B- 153-196 <sup>(S.P. 14.89)</sup> (174) 32-45 (38) 18-21 (19.6) 34-48 (41)  
 1 (no teeth) 7 (1-5 [3.7]) - longest specimen good pl. - often var. variable - or one on top head. - but not obvious hybrid-scales? - too low to variable to be pure.

Co. <sup>Lincoln</sup> pleuriticus. S. 7K. Fontinelle Crk. - July 14, 94

④ (A)

<sup>but N=3 pure</sup> N=3 156-220 mm TL . R 116 T 25 S 23  
 193-212 (201) 44-49 (46), 20-21 (20.3) 32-39 (36) -2-5 (3.3)  
 pure? - spotting good - ontogenetic effect

⑤ B- <sup>(Spotting variable)</sup>

Dec. p. Fish Crk. Sublette Co. R 115 T 30 S 29 Aug 4, 94  
 N=8 - 175 - 250 TL (large)  
 183-196 (189) 38-45 (42) -2-7-33 (30) 19-21 (19.8), 4-23 (11.1)



- scales marginal <sup>from</sup> pure - cases of -  
 teeth - well down - good cut  
 Spitting -  
 largest spec. = heushawi - like - they large <sup>(Little Inks)</sup> <sup>green back</sup> even on his  
 (teeth)  
 Yellowstone - vast rocks some not fresh.

B smallest 4 g. - 2 - 8, R. - like - (intact)  
 > on 4 (more placite s.p.) -  
 prob. first - 4 (scales) - 4

O.c. Utah - Packstring Cnk.

(6) Lincoln Co. R 119 T 29 S 27, 9/1/94 N = 15

84-148 T.L. (100-110 mm <sup>develop. M</sup> <sup>m > 1000</sup> <sup>spawn next yr.</sup> <sup>low p.</sup>  
 150-179 (164), 34-42 (38), 17-19 (18.5) 36-43 (36.7)

B+ Teeth 6/15 no teeth 9 <sup>or</sup> 2-8 (4.5)  
 one w/ few spots on head

spots distrib. as Utah Burr R. (uniform not concent <sup>could</sup>)

R.B. - 30 yrs. ?  
 - only teeth  
 (small) spots  
 (on head)



- Bear R.?

N Fork Smith Fork R 118 T29 S13 Lincoln Co.

9 but Smith Fork - Green R. - (R 114 T12 S15 Union Co)

6 Hobbie Crk. drains at Bear

8 - - - - - L. Borge Crk. drains at Bear

3 Little Indian 117 27 33 Trub Fontenelle?

9  
15  
50 spec. S. Fork Fontenelle 116 25

Fish Crk. Sublette Co. 115 30 (So. Piney Crk.)

Utah

Packstring - Lincoln 119 29 -> Smith Fork

Lander Crk. - 117 28

6 collections (4 Green 2 Bear) all<sup>coll.</sup> Lincoln Co. except Fish Crk. (Sublette Co.)



## CHARACTER ANALYSES SHEET-COLORADO STATE UNIVERSITY TAXONOMY

LAB

①

 SPECIES O. c. utah LOCALITY Packstring Cr.

 COLLECTION # WF+6-94-(Pinnacle) R119 Lincoln Co.  
T29 S27

 COLLECTED BY Remick DATE 9/1/94

 MEASUREMENTS BY DSP DATE 7/95

SPECIMEN # (REFERENCE #)	148mm	140mm	131mm	124	122	115
Total L..						
Fork L.						
Body L.						
Head L.						
Orbit L.	1 wk	2 wk	5 wk	2 wk	4 wk	2
Upper jaw L.						
Dors. Orig. to Snt. tip						
Dorsal fin basal L.						
Dorsal fin depressed L.						
Adip. fin depressed L.						
Caudal peduncle D.						
Caudal peduncle L.						
Vertebrae						
1st Arch gillrakers (up)	6	6	7	7	7	7
(lower)	11	12	12	11	12	12
(total)	17	18	19	18	19	19
Branchiostegal rays right						
(left)						
Dorsal rays						
Anal rays						
Pectoral fin rays						
Scales in lateral line						
Scales above lateral line	42	37	39	39	34	40
Scales 2 rows above lat.	179	173	174	166	160	164
Pelvic fin rays	39	36	37	38	38	36
Pyloric caeca	9/9	9/9	9/9	9/9	9/9	8/9
Dentition	2	2	∅	6	8	∅
Spotting	1 (B)	1 (B)	1 (B)	1 (B)	1	1 (B)
Spots on head	2	∅	1	∅	∅	∅
Maxillary length	2	2	2	2	2	2

gr - long + fins -







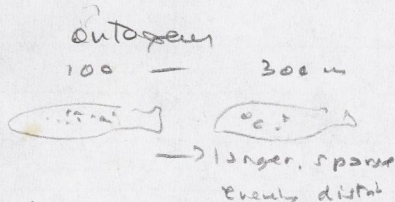
Sept. 11  
 tiny size - slow growth  
 - ♂ or ♀ or 100-110  
 meters

TIL. 84-148 m spots small, but more or less  
 evenly distrib.

> 71 ♀ pelvic m

30 yrs. since R.A.?

no dense concentration  
 on coastal p. (Bear H.),  
 Bear R.



Scales	$\overline{163.7}$	$S_x = 9.46$	(150-179)
	38.2	$S_f = 2.2$	(34-42)
Protus	18.53	$S_x = .74$	(17-19)
Caeca	36.67	$S_x = 2.35$	(36-43)

Basibranchial - 6/15 w/out teeth -  
 9 w/ 2-8

one w/ few spots on top of head



CHARACTER ANALYSES SHEET-COLORADO STATE UNIVERSITY TAXONOMY

SPECIES O.c. Utah - Bonneville LAB LOCALITY LANDAN G E  
 COLLECTION # WFG-94 (Smiths Fork) R117 +21 S33  
 COLLECTED BY Belford DATE 7/26/94  
 MEASUREMENTS BY DSP DATE 7/95

SPECIMEN # (REFERENCE #)						
Total L..	188 mm	178 mm	158 mm	132	152	137
Fork L.						
Body L.						
Head L.						
Orbit L.	2 very wk	1 very wk	∅	∅	∅	∅
Upper jaw L.						
Dors. Orig. to Snt. tip						
Dorsal fin basal L.						
Dorsal fin depressed L.						
Adip. fin depressed L.						
Caudal peduncle D.						
Caudal peduncle L.						
Vertebrae						
1st Arch gillrakers (up)	6	7	6	6	6	6
(lower)	12	13	11	13	13	11
(total)	18	20	17	19	19	17
Branchiostegal rays right						
(left)						
Dorsal rays						
Anal rays						
Pectoral fin rays						
Scales in lateral line						
Scales above lateral line	41	42	39	38	43	41
Scales 2 rows above lat.	186	194	169	173	175	170
Pelvic fin rays	9/9	9/9	9/9	9/9	9/9	9/9
Pyloric caeca	NP	36	35	32	31	NP
Dentition	12	18	8	8	4	3
Spotting	1	1	1	1	1	1
Spots on head	∅	∅	∅	1	∅	∅
Maxillary length	2+	2+	2+	2+	2+	2+



not idealized rooting but specimens  
small. 0.15. -

n=6

Seles  $\overline{177.83}$   $s_x = 9.99$  (169-194)

$\overline{40.67}$   $s_x = 1.86$  (39-43)

CRECA.  $\overline{33.5}$   $s_x = 2.38$  (31-36)

n=4  
— problem  
sift through  
near l.d.  
forming into  
column

Rakans  $\overline{18.3}$   $s_x = 1.21$  (17-20)

Basibranchial all with  $\overline{8.83}$   $s_x = 5.53$



Lincoln Co

CHARACTER ANALYSES SHEET-COLORADO STATE UNIVERSITY TAXONOMY

LAB

SPECIES O. clarki. pluviticus LOCALITY North Fk Smiths Fork

COLLECTION # Wyo FG Pinedale — poorly preserved? R118 T37 S13

COLLECTED BY Dave Belford DATE 7/25/94

MEASUREMENTS BY DSP DATE 8/95

SPECIMEN # (REFERENCE #)	218 mm	226 mm	198 mm	186 mm	150 mm	142
Total L..						
Fork L.						
Body L.						
Head L.						
Orbit L. <u>Post Rakers</u>	1 w	2 w	∅	∅	∅	∅
Upper jaw L.						
Dors. Orig. to Snt. tip						
Dorsal fin basal L.						
Dorsal fin depressed L.						
Adip. fin depressed L.						
Caudal peduncle D.						
Caudal peduncle L.						
Vertebrae						
1st Arch gillrakers (up)	7	8	6	6	7	6
(lower)	12	12	13	12	12	11
(total)	19	20	19	18	19	17
Branchiostegal rays right						
(left)						
Dorsal rays						
Anal rays						
Pectoral fin rays						
Scales in lateral line						
Scales above lateral line	47	44	40	44	42	40
Scales 2 rows above lat.	193	190	174	192	178	177
Pelvic fin rays	9	9	9	8	9	9
Pyloric caeca	NC	NC	NC	NC	NC	
Dentition	0? <del>NC</del>	2	3	7	1	1
Spotting	1	1	1	1	1	1
Spots on head	∅	∅	∅	∅	∅	∅
Maxillary length	3	3	3	3	3	3

good spotting



CHARACTER ANALYSES SHEET-COLORADO STATE UNIVERSITY TAXONOMY

LAB

②

SPECIES Oic. planifrons

LOCALITY N. Fk Smiths Fork

COLLECTION # \_\_\_\_\_

COLLECTED BY \_\_\_\_\_ DATE \_\_\_\_\_

MEASUREMENTS BY \_\_\_\_\_ DATE \_\_\_\_\_

SPECIMEN # (REFERENCE #)						
Total L..	135mm	127mm	89mm			
Fork L.						
Body L.						
Head L.						
Orbit L. Post-GR	♂	♂	♂			
Upper jaw L.						
Dors. Orig. to Snt. tip						
Dorsal fin basal L.						
Dorsal fin depressed L.						
Adip. fin depressed L.						
Caudal peduncle D.						
Caudal peduncle L.						
Vertebrae						
1st Arch gillrakers (up)	6	12	7			
(lower)	11	7	10			
(total)	17	19	17			
Branchiostegal rays right						
(left)						
Dorsal rays						
Anal rays						
Pectoral fin rays						
Scales in lateral line						
Scales above lateral line	42	44	43			
Scales 2 rows above lat.	179	180	185			
Pelvic fin rays	9/9	9	9			
Pyloric caeca	NC	NC	NC			
Dentition	3+	4	2?			
Spotting	1	1	1			
Spots on head	∅	∅	∅			
Maxillary length	2-3	3	3			







CHARACTER ANALYSES SHEET-COLORADO STATE UNIVERSITY TAXONOMY

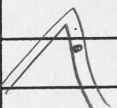
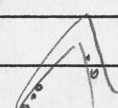
LAB

SPECIES O.c. pleuriticus LOCALITY Little Indian Cr.

COLLECTION # WFG Pinedale R117 T27 S33

COLLECTED BY Ramick DATE 8/12/94

MEASUREMENTS BY DSP DATE 7/95

SPECIMEN # (REFERENCE #)								
Total L..	158	150	129	127	134	128	112	98
Fork L.								
Body L.								
Head L.								
Orbit L.	∅	1 w	3w	4w	3w	∅	∅	2w
Upper jaw L.								
Dors. Orig. to Snt. tip								
Dorsal fin basal L.								
Dorsal fin depressed L.								
Adip. fin depressed L.								
Caudal peduncle D.								
Caudal peduncle L.								
Vertebrae								
1st Arch gillrakers (up)	7	8	7	9	8	7	7	9
(lower)	12	12	11	12	13	12	13	13
(total)	19	20	18	19	21	19	20	21
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	45	41	38	40	37	42	32	31
Scales 2 rows above lat.	196	185	169	176	171	186	156	153?
Pelvic fin rays	8/9	9/9	9/9	9/9	10/9	9/9	9/9	9/9
Pyloric caeca	40	45	40	41	44	34	48	39
Dentition	4	∅ ?	2	4	5	1	3	3
Spotting	1+	1-	1-	1	1+	1	1	1
Spots on head	∅	5	∅	∅	∅	∅	∅	∅
Maxillary length	3	3	2	2	3	3	2	3

not positive  
- these didn't stain well



Spittingy - largest very good - others good, but  
 sand variation in position - size consistent. typical  
 upper green - relatively small

- high S.P.

CAECA	<u>41.39</u>	$S_x = 4.27$	34-48
Scales	<u>174.0</u>	$S_x = 14.89$ !	153-196
Basi	- 1 w/out ? but ??		
GR	- <u>19.63</u>	$S_x 1.06$	18-21



Lincoln Co.

## CHARACTER ANALYSES SHEET-COLORADO STATE UNIVERSITY TAXONOMY

SPECIES O. c. pleuriticus LAB LOCALITY So. Fk Fontainebleau Crk  
 COLLECTION # WFG Pineale 94' R116 T25 S23 (SSUI=1)  
 COLLECTED BY Remick DATE 7/14/94 (n=3)  
 MEASUREMENTS BY DSP DATE 7/95

SPECIMEN # (REFERENCE #)					
Total L..	220 mm	161 mm	156 mm		
Fork L.					
Body L.					
Head L.					
Orbit L. Post GR	Ø	6 (weak)	6 (weak)		
Upper jaw L.					
Dors. Orig. to Snt. tip					
Dorsal fin basal L.					
Dorsal fin depressed L.					
Adip. fin depressed L.					
Caudal peduncle D.					
Caudal peduncle L.					
Vertebrae					
1st Arch gillrakers (up)	8	8	7		
(lower)	12	12	14		
(total)	20	20	21		
Branchiostegal rays right					
(left)					
Dorsal rays					
Anal rays					
Pectoral fin rays	9/9				
Scales in lateral line					
Scales above lateral line	46	49	44		
Scales 2 rows above lat.	212	193	199		
Pelvic fin rays	9/9	9/9	9/9		
Pyloric caeca	39	38	32		
Dentition	3	2 (small)	5		
Spotting	1	1	1		
Spots on head	4	Ø	Ø		
Maxillary length	3	3	3		



~~Early distal, small spots~~ ~~that have~~  
~~as a result~~ ~~of~~

- long fine lines

spots good - outgrowth effect  
pure f. - ? - only 3 2 small  
varieties

Scales	$\overline{201.30}$	$\sigma_x 9.71$	(193-212)
	$\overline{46.33}$	$\sigma_x = 2.52$	(44-49)
Grits	20.33	$\sigma_x = 0.58$	(20-21)
CECA	38.33	$\sigma_x = 3.79$	(32-39)
Basibranchial	- all with -	(2-5)	$\overline{3.33}$



CHARACTER ANALYSES SHEET-COLORADO STATE UNIVERSITY TAXONOMY

2

SPECIES ~~XXXXXXXXXX~~ *O.c. pleuroticus* LAB LOCALITY ~~XXXXXXXXXX~~

COLLECTION # ~~XXXXXX~~ ~~XXXXXX~~ WFG-94 Fish Co (cont)

COLLECTED BY Remmick DATE 8-4-94

MEASUREMENTS BY DSP DATE 8/95

SPECIMEN # (REFERENCE #)	<del>XXXXXX</del>	<del>XXXXXX</del>	<del>XXXXXX</del>	<del>XXXXXX</del>	<del>XXXXXX</del>
Total L..	7	8	9		
<del>Fork L.</del> →	189 mm	204 mm	173 mm		
Body L.					
Head L.					
Orbit L. Post-GR	∅	∅	∅		
Upper jaw L.					
Dors. Orig. to Snt. tip					
Dorsal fin basal L.					
Dorsal fin depressed L.					
Adip. fin depressed L.					
Caudal peduncle D.					
Caudal peduncle L.					
Vertebrae					
1st Arch gillrakers (up)	7	7	7		
(lower)	13	13	13		
(total)	20	20	20		
Branchiostegal rays right					
(left)					
Dorsal rays					
Anal rays					
Pectoral fin rays					
Scales in lateral line					
Scales above lateral line	75	44	38		
Scales 2 rows above lat.	194	184	186		
Pelvic fin rays	9/9	9/9	9/—		
Pyloric caeca	33	28	29		
Dentition	15	23	10		
Spotting	1+	1+	1		
Spots on head	∅	∅	∅		
Maxillary length <i>Spot size</i>	2+	2-	3		

med spots      small spots      one undeveloped pelvic fin.



- largest fish - henshawi-like very large spots on even over body  
(Yellowstone? - post. rakers present by feeble) -

Smallest 4 (fine-spotted S.R. type)

other 4 intermediate - pleuriticus-like

scales -  $\downarrow$  fin - not Y.?

Feet  $\uparrow$  ~~not~~ yellowish Chatchung + pleuriticus Daniels has

Note: 2 types of spotting: - large:  $3/9$  spec., mid:  $4/9$ , small:  $2/9$

Scales	$\overline{189.0}$	$S_x = 4.64$	(183-196)
	$\overline{42.11}$	$S_x = 2.93$	(38-45)
CAECA	$\overline{29.89}$	$S_x = 2.15$	(27-33)
Gill Rakers	$\overline{19.78}$	$S_x = 0.67$	(19-21)
Basibranchial (all with)	$\overline{11.11}$	$S_x = 5.46$	(4-23)



CHARACTER ANALYSES SHEET-COLORADO STATE UNIVERSITY TAXONOMY

SPECIES Oic. pleuriticus? LAB \_\_\_\_\_ LOCALITY Fish Cr Sublette Co.  
 COLLECTION # WFG-94 R 115T30529  
 COLLECTED BY Remick DATE 8/4/94  
 MEASUREMENTS BY \_\_\_\_\_ DATE \_\_\_\_\_

SPECIMEN # (REFERENCE #)	1	2	3	4	5	6
Total L..	250 mm	211 mm	216 mm	202 mm	201	183
Fork L.						
Body L.						
Head L.						
Orbit L. <u>Post GR</u>	5 (med)	1 med	1	4 wk	4 wk	1 wk
Upper jaw L.						
Dors. Orig. to Snt. tip						
Dorsal fin basal L.						
Dorsal fin depressed L.						
Adip. fin depressed L.						
Caudal peduncle D.						
Caudal peduncle L.						
Vertebrae						
1st Arch gillrakers (up)	8	7	7	7	8	7
(lower)	12	13	14	12	11	12
(total)	20	20	21	19	19	19
Branchiostegal rays right						
(left)						
Dorsal rays						
Anal rays						
Pectoral fin rays						
Scales in lateral line						
Scales above lateral line	43	45	43	39	44	38
Scales 2 rows above lat.	186	196	192	188	192	183
Pelvic fin rays	9/8	9/9	9/9	9/9	9/8	9/9
Pyloric caeca	32	27	29	32	28	31
Dentition	10	6	12	10	4	10
Spotting	1-	1+	1+	1	1	1
Spots on head	2 (siox)	0	0	0	0	0
Maxillary length <u>spot size</u>	3+	2+	2	3	2	2

1 = small } Spot size index  
 2 = med }  
 3 = big }  
 Bis spots!  
 Small spots = S.R.C.T?  
 Med-small spots  
 medium spots