
Fish A

Fish C - 24" male Sept 87

All spots smaller than pupil

on this one

Fish C.

Heads on spawning males are very black, especially when viewed from below

Fish B.:

20" male, typical spawning coloration

Sept '86. A couple of spots on

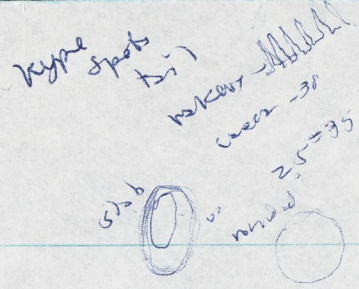
this fish were as large as the

pupil

100%

310-4c.
100%

Fish B - mounted
Head is freeze dried - type is life sized. Basibranchials in fish B & C profuse & well developed - easily seen in mounted specimens - type was originally jet black, not coloured as shown



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Dear Dr. Behnke

A population of "Arctic Char" in Chester lake, an alpine pond west of Calgary, has both fascinated and puzzled me since I discovered them in about 1980. I've been accumulating bits & pieces of information on these fish, ~~and~~ most of which suggests that these charare really northern Dolly Vardens, although a fish that I caught two years ago had a very high caecal count (38). I'm therefore sending you everything I've got on these fish, including some photos, in the hope that you can identify them.

In 1973, 3000 eggs were gathered from 2 wild females and fertilized by 2 males. No data on size

of 4 adults, but one man who was there remembers that these char were anadromous, and present in large schools composed of individuals in the 6-8 lb. average range. Point of origin was Firth R., Yukon, a north flowing stream originating in the British mts., and entering the Beaufort at Herschel Is. Some experiments were conducted at U. of Calg., and remainder of eggs were turned over to Fish + Wildlife Division hatchery where eggs were reared to yearlings.

1600 10-13 cm fish stocked in chester lake in Aug, '74. Lake barren except for population of longnosed dace. Initial char growth phenominal, many 6-8 lb. fish by 1980. One fish of 7 lb. 8 oz, caught in 1980, held a world record for

fly caught "Arctic char" for a few years.

Mature males have severe kypes and squarish tails. Most spots are smaller than pupil, the odd one is as large. Caudal pendunele much deeper than in Sunapee trout, the only other "A. char form" I've handled.

I counted 24 L.S. gill rakers on the largest fish pictured, and 38 caecae on the same fish. Local fisheries biologist had some gill raker counts from a sampling done in 1981. They are recorded as follows:

Fish #	1	2	3	4	5
upper arch	8 10	9 10	11 10	11 11	9
lower arch	12 12	13 12	12 12	11 12	13

No indication of left or right side is given, and fish # 5 seems to be one side only

Some changes may be necessary concerning management of our local high mountain lakes. Most of these lakes are unsuitable for Salmo reproduction to occur, so mediocre fisheries have been maintained by stocking westslope cutthroat.

A recent outbreak of I.P.N. at the province's main trout rearing facility has threatened the cutthroat program, so it is possible that the char in Chester lake may be of some use in stocking some of these high, cold lakes where these fish seem to be able to both thrive and reproduce, even in the face of intense angling pressure. Chester lake is small (about 5 acres) accessible and is mobbed by fishermen, yet the char persist.

Spawning begins the last week in Aug., continues to mid Sept. I discovered the spawning site in '87, and in both '87 + '88 about 8 spawners from 1 - 6 lbs were present. Spawning occurs in the lake, just off a steep shoreline in about 12 feet of water, over loose scree 2 - 4 inches in diameter. The intense orange colouration of most spawning A-char does not appear in these fish.

Interestingly, I found spawning Sunapees on a virtually identical site in Sawtooth lake on Oct. 6 that same year.

Your insight on the identity of these fish would be most appreciated. An inherent problem exists in obtaining samples of these fish due to the tiny population. Fish + Wildlife didn't preserve any

specimens from either of two samplings taken in the past (1981, 1983).

Thanks very much for your time.

Regards

Kyle McNeilly

Chester L., Alberts,
introduced AK Dolly Vanden
(northern subsp.)

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Spawning site located about
125 ft out from these cliffs
On a scree shoal,
12 - 20 ft. depth

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MAY 11/89

Dear Dr Behnke:

Thanks very much for positively identifying the char in Chester lake. Coincidentally, on the same day I turned over your findings to a friend at Fish & Wildlife, official word was received that Alberta had inherited two barren alpine lakes during a boundary revision of Banff National Park. The lower lake is very similar to Chester lk, containing scree shoal areas and having a stable water level, and appears to be a prime candidate for a Dolly Varden introduction.

I'm afraid I don't have much on the Sunapees at Sawtooth, other than two days worth of angler type info.

The spawning site I found is about halfway down the west shoreline of Sawtooth. There are three

distinct sets of cliffs on this shoreline and the spawning was taking place on a shoal in front of the most central set. I've indicated the spot on the photo.

Spawning seemed to be well underway (Oct 6) as there was a lot of surface activity over this site, and a couple of large sunapees (18 or 19 inches) were floating listlessly at the surface

The fish were just out of fly rod range, so I returned the next day with a dingy and had little difficulty catching 5 trout: 2 sunapees (pictured) 2 Brook trout (much shorter but chunkier) and a fish which appeared to be either a hybrid or an immature Sunapee. This fish was about 10" long, was a uniform muddy green color, and had pale pink

spots with very faint blue halos, no dorsal vermiculations, and not a trace of red, orange or yellow anywhere on the body. Tail nearly square.

Once I got out in the dinghy, about a dozen very visible redds became apparent. Each redd was occupied by one or two fish, with the largest fish occupying redds with the best deepwater access, on the lake side of the shoal. One exceptional fish appeared to be about 22" long, but most were 14-18". I didn't observe any actual spawning activity, the fish just seemed to occupy the redds. Weather was dead calm, sunny, visibility excellent. Redds very localized, all located on a 50 ft. section of this shoal.

I walked around the entire lake once

and rowed twice across half of it, but didn't see any other signs of spawning, except at the outlet area, where there were a few vacant redds in shallower water. There is a tiny pond just below the outlet where there were some 6-7" fish actively spawning, and although I suspect they were brook trout, I couldn't catch one.

Surface temp at Sawtooth was 52°F, redds were from 12-20 ft deep and the only persistent surface activity at the lake was over this site. Two sunapees pictured are 15, 16" inches fork length. I had them mounted and the taxidermist was supposed to save me the internals, but forgot, so I don't know exactly

what stage of spawning they were at. Male appeared senescent. The mounted female has 7 visible basibranchials, males mouth isn't open far enough to see.

Shortly after I returned from this trip I sent much of this info and some photos to Idaho fish & game, but they seemed intent on trying to convince me that I had caught "hybrids" or brook trout. One biologist described Sunapees as being "silvery in color, with a lack of spots", apparently not recognizing spawning coloration.

I wonder how much is really known about this population?

Sincerely

Kyle McNeilly

Sawtooth L.
Sunapee golden

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Sawtooth 2.
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