

**Collections of Salmonids from British
Columbia, 1968-1980, Examined for
the Protozoan *Myxosoma Cerebralis*
(Myxozoa, Myxosporea)**

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COLLECTIONS OF SALMONIDS FROM BRITISH COLUMBIA, 1968-1980, EXAMINED
FOR THE PROTOZOAN MYXOSOMA CEREBRALIS (MYXOZOA, MYXOSPOREA)

by

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ABSTRACT

Margolis, L., T. E. McDonald, and G. E. Hoskins. 1981. Collections of salmonids from British Columbia, 1968-1980, examined for the protozoan Myxosoma cerebralis (Myxozoa, Myxosporea). Can. Data Rep. Fish. Aquat. Sci. 264: 8p.

This report covers the data on samples of wild and cultured Pacific salmon, trout, and charr collected in British Columbia from 1968 through 1980 that were examined for the presence of Myxosoma cerebralis (Myxozoa, Myxosporea). None of the fish were infected with this organism. The information listed includes fish species, locality and date of collection, number of fish in each sample, age or life history stage of the fish, and method of examination.

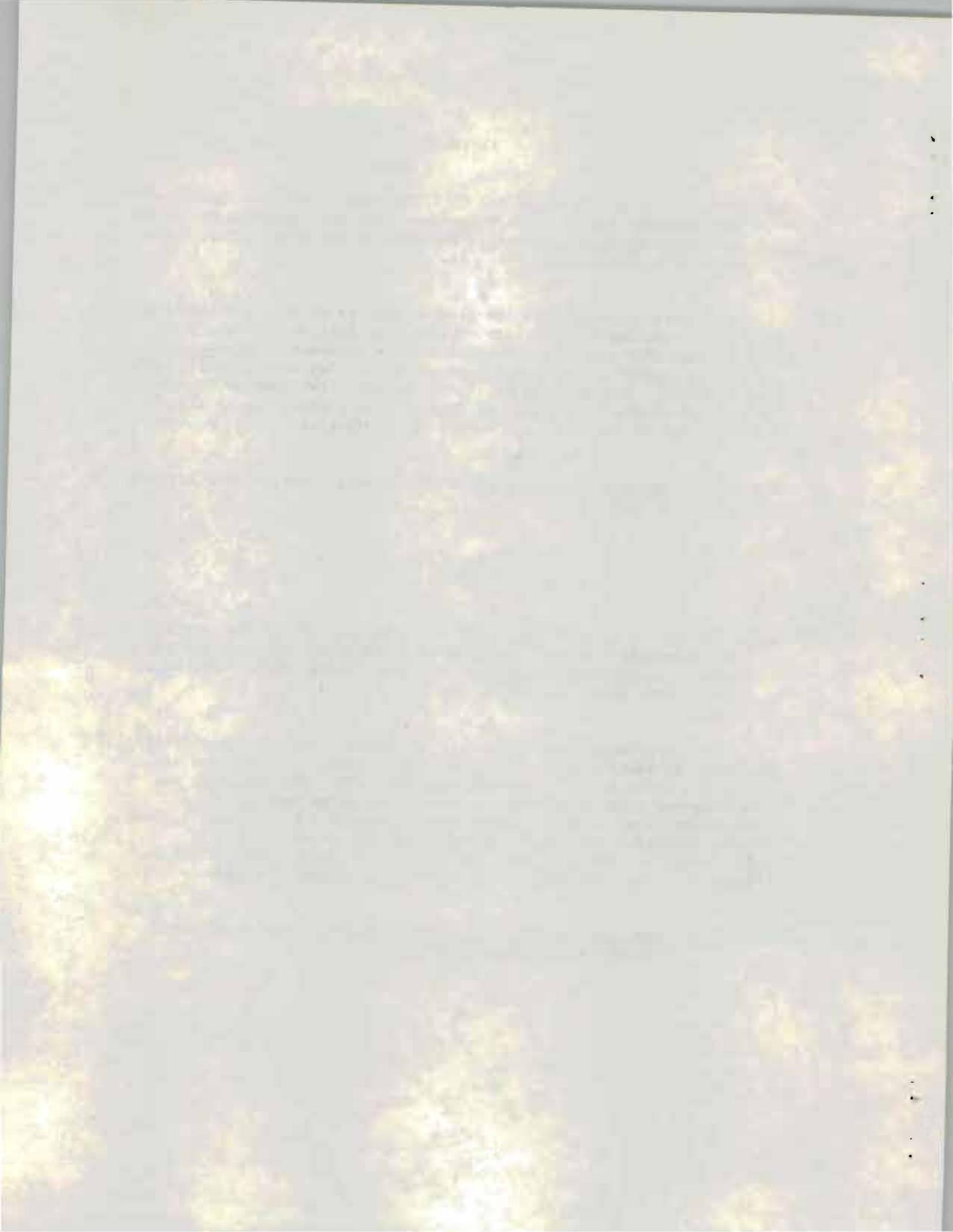
Key words: Myxosoma cerebralis, Pacific salmon, trout, charr, British Columbia

RÉSUMÉ

Margolis, L., T. E. McDonald, and G. E. Hoskins. 1981. Collections of salmonids from British Columbia, 1968-1980, examined for the protozoan Myxosoma cerebralis (Myxozoa, Myxosporea). Can. Data Rep. Fish. Aquat. Sci. 264: 8p.

Le présent rapport fournit des données sur des échantillons de saumon du Pacifique, de truite et d'omble chevalier sauvages et d'élevage, prélevés en Colombie-Britannique entre 1968 et 1980, aux fins d'examen pour la mise en évidence de Mixosoma cerebralis (myxobactéries et myxosporidies). Aucun poisson n'était atteint. Les données énumérées comprennent l'espèce, l'endroit et la date du prélèvement, le nombre de poissons dans chaque échantillon, l'âge ou l'étape du cycle biologique du poisson et la méthode d'examen.

Mots clés: Myxosoma cerebralis, saumon du Pacifique, truite, omble chevalier, Colombie-Britannique.



INTRODUCTION

From 1968 to 1980 more than 5,000 British Columbia salmonids, including both wild and cultured specimens, were examined for Myxosoma cerebralis (Hofer, 1903) Kudo, 1933, in an attempt to confirm reports of the occurrence of this organism in the Pacific region of Canada. No infected specimens were found. The results and their significance are discussed in Margolis et al. (1981).

In the present report detailed data on the samples examined are presented in Table 1. In this table the method of examination of each sample is identified by a letter code as follows:

A - Direct maceration technique in a mortar as described by Hoffman et al. (1968), but using only 1-2 mL of water as a diluent. A few fish were examined by crushing the skull in a small amount of water between two large glass slides instead of with a mortar and pestle.

B - Spore-concentrating technique outlined in Gillespie et al. (1974).

C - Pepsin-hydrochloric acid digest technique for spore concentration as outlined in Anonymous (1977).

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Table 1. Samples of salmonids from British Columbia (1968-1980) examined for Myxosoma cerebralis.Wild Fish

Species	Locality	Date	No. examined	Age (yr) or life history stage	Method of examination	Case no. ¹
<u>Salmo clarki</u>	<u>Bella Coola River System</u>					
Richardson	Salloomt River	6-V-1970	50	1-2	B	-
(Cutthroat trout)	Atnarko River	28-IV-1976	45	fingerling and yearling	C	76058
	<u>Vancouver Island Streams</u>					
	Chef Creek	27-V-1968	27	1-4	A	-
	Chef Creek	16-VII-1968	37	0-3	A	-
	Keogh River	3-X-1975	14	fingerling	C	75680
	Sandhill Creek	12-VII-1978	7	1-3	C	78198
<u>Salmo gairdneri</u>	<u>Bella Coola River System</u>					
Richardson	Atnarko River	28-V-1976	10	yearling	C	76059
(Rainbow or steelhead trout)	<u>Fraser River System</u>					
	Knouff Lake	30-VI-1971	4	ripe adult	B	71106
	Pennask Lake	8-VII-1976	30	ripe adult	C	76122
	<u>Okanagan River System</u>					
	Kalamalka Lake	1-X-1979	3	spawned adult	C	79290
	<u>Vancouver Island Streams</u>					
	Keogh River	3-X-1975	1	unrecorded	C	75880
<u>Salmo trutta</u>	<u>Vancouver Island Streams</u>					
Linnaeus	Cowichan Lake + River	18-XII-1979	7	spawned adult	C	79390
(Brown trout)	Cowichan Lake + River	20-XII-1979	9	spawned adult	C	79392

Table 1 (cont'd)

Wild Fish (cont'd)

Species	Locality	Date	No. examined	Age (yr) or life history stage	Method of examination	Case no. ¹
<u>Salvelinus fontinalis</u> (Mitchill) (Brook trout)	<u>Fraser River System</u> Aylmer Lake	20-X-1976	30	prespawning adult	C	76217
<u>Salvelinus malma</u> (Walbaum) (Dolly Varden charr)	<u>Bella Coola River System</u>					
	Bella Coola River	- 1969	30	1+	A and B	-
	Bella Coola River	18-20-IX-1969	52	1+	B	-
	Bella Coola River	6-V-1970	2	1+ and 2+	B	-
	Atnarko River	22-IV-1971	1	2+	B	-
	Atnarko River	28-IV-1976	26	yearling	C	76060
	Fish Creek	25-IV-1971	7	1+ and 2+	B	-
	High Creek	6-V-1970	3	3+ and 4+	B	-
	Klonick Creek	6-V-1970	3	1+ and 2+	B	-
	Klonick Creek	20-IV-1971	5	1+ and 2+	B	-
	Meecham Slough	23-IV-1971	2	1+ and 2+	B	-
	Neclectsconnay River	24-IV-1971	13	1+ and 2+	B	-
	Noosgulch River	18-IV-1971	4	1+ and 2+	B	-
	Nusatsum Creek	18-IV-1971	100	1+ and 2+	B	-
	Salloomt River	6-V-1970	7	1+ and 3+	B	-
	Snootly Creek	19-IV-1971	3	1+ and 2+	B	-
	Steeproof Creek	6-V-1970	9	4 to 6	B	-
	Steeproof Creek	20-IV-1971	1	1+	B	-
	Talchako River	21,22-IV-1971	21	1+ and 2+	B	-
	Thorsen Creek	16-IV-1971	7	1+ and 2+	B	-
	<u>Vancouver Island Streams</u>					
	Keogh River	3-X-1975	4	fingerling	C	75580

Table 1 (cont'd)

Wild Fish (cont'd)

Species	Locality	Date	No. examined	Age (yr) or life history stage	Method of examination	Case no. ¹
<u>Oncorhynchus gorbuscha</u> (Walbaum) (Pink salmon)	<u>Bella Coola River System</u> Atnarko River	12-IX-1975	100	spawned adult	C	75162
	<u>Vancouver Island Streams</u> Keogh River	3-X-1975	1	ripe adult	C	75480
	Quinsam River	19-IX-1977	8	ripe adult	C	77251
<u>Oncorhynchus keta</u> (Walbaum) (Chum salmon)	<u>Vancouver Island Streams</u> Keogh River	3-X-1975	1	ripe adult	C	75380
	Big Qualicum River	25-XI-1980	9	ripe adult	C	80378
<u>Oncorhynchus kisutch</u> (Walbaum) (Coho salmon)	<u>Bella Coola River System</u> Klonick Creek	6-V-1970	23	smolt	B	-
	Salloomt River	6-V-1970	25	smolt	B	-
	Steeproof Creek	6-V-1970	25	smolt	B	-
	Thorsen Creek	6-V-1970	24	smolt	B	-
	Atnarko River	29-IV-1976	48	smolt	C	76057
	<u>Vancouver Island Streams</u> Keogh River	3-X-1975	17	fingerling	C	75180
	Keogh River	3-X-1975	13	jack ²	C	75280
	<u>Oncorhynchus nerka</u> (Walbaum) (Sockeye salmon and kokanee)	<u>Yukon Territory</u> Klukshu River ³	7-11-VI-1969	50	smolt	A
<u>Fraser River System</u> Canim Lake	1-IX-1972	23	prespawning adult	C	72154	
<u>Kootenay River System</u> Meadow Creek	14-IX-1977	32	spawned adult	C	77245	

Table 1 (cont'd)

Cultured Fish

Species	Locality	Date	No. examined	Age (yr) or life history stage	Method of examination	Case no. ¹
<u>Salmo gairdneri</u> (Richardson) (Rainbow or steelhead trout)	<u>Vancouver Area</u>					
	Capilano Hatchery	IX-1974	4	unrecorded	B	74065
	<u>Fraser Valley Area</u>					
	Abbotsford Trout Hatchery	6-I-1977	30	ripe adult	C	77002
	Private Fish Farm	IV-1971	160	fingerling	B	-
	Private Fish Farm	IV-1972	390	fingerling	B	-
	Private Fish Farm	Spring 1973	150	yearling	B	-
	Private Fish Farm	2-III-1975	150	yearling	C	75022
	Private Fish Farm	23-III-1976	10	prespawning adult	C	76043
	Private Fish Farm	20-IV-1977	32	ripe adult	C	770561
	Private Fish Farm	20-IV-1977	5	ripe adult	C	770562
	Private Fish Farm	20-IV-1977	10	prespawning adult	C	770565
	Private Fish Farm	20-IV-1977	20	fingerling	C	770566
	Private Fish Farm	18-V-1977	88	fingerling	C	77096
	Private Fish Farm	21-VI-1977	26	prespawning adult	C	77151
	Private Fish Farm	11-I-1978	30	yearling	C	78004
	Private Fish Farm	1-II-1978	175	yearling	C	78021
	Private Fish Farm	24-VII-1979	34	yearling	C	79232
	Private Fish Farm	14-XI-1979	10	ripe adult	C	793671
	Private Fish Farm	14-XI-1979	10	fingerling	C	793672
	Private Fish Farm	14-XI-1979	20	yearling	C	793673
	Private Fish Farm	14-XI-1979	10	fingerling	C	79368
	Private Fish Farm	28-XI-1979	30	prespawning adult	C	79375
Private Fish Farm	11-III-1980	64	yearling	C	80068	
Private Fish Farm	17-VI-1980	40	yearling	C	80176	

Table 1 (cont'd)

Cultured Fish (cont'd)

Species	Locality	Date	No. examined	Age (yr) or life history stage	Method of examination	Case no. ¹
<u>Salmo gairdneri</u> (Richardson) (Rainbow or steelhead trout) (cont'd)	<u>Kamloops Area</u>					
	Private Fish Farm	13-V-1975	150	fingerling	C	75070
	Private Fish Farm	13-V-1975	27	adult	C	75070
	<u>Okanagan Valley Area</u>					
	Summerland Trout Hatchery	VI-1971	150	fingerling	B	-
	Summerland Trout Hatchery	IV to V-1972	450	fingerling	B	-
	Summerland Trout Hatchery	- 1973	450	fingerling	B	-
	Summerland Trout Hatchery	VIII-1974	450	fingerling	C	-
	Summerland Trout Hatchery	12-V-1975	278	fingerling	C	75061
	Summerland Trout Hatchery	11-II-1976	40	fingerling	C	76021
	Summerland Trout Hatchery	24-V-1977	26	ripe adult	C	77100
	Summerland Trout Hatchery	24-V-1977	8	ripe adult	C	77101
	Summerland Trout Hatchery	24-V-1977	28	ripe adult	C	77102
	Summerland Trout Hatchery	3-IX-1980	15	yearling	C	80293
	<u>Kootenay Area</u>					
	Kootenay Trout Hatchery	2-IX-1971	20	unrecorded	B	71117
	Kootenay Trout Hatchery	13-IX-1977	40	yearling	C	77238
	Kootenay Trout Hatchery	13-IX-1977	10	prespawning adult	C	77239
	<u>Salvelinus fontinalis</u> (Mitchill) (Brook trout)	<u>Okanagan Valley Area</u>				
		Summerland Trout Hatchery	12-V-1975	155	fingerling	C
<u>Oncorhynchus keta</u> (Walbaum) (Chum salmon)	<u>Vancouver Island Area</u>					
	Private Fish Farm	29-V-1972	7	fingerling and yearling	B	72137

Table 1 (cont'd)

Cultured Fish (cont'd)

Species	Locality	Date	No. examined	Age (yr) or life history stage	Method of examination	Case no. ¹
<u>Oncorhynchus kisutch</u> (Walbaum) (Coho salmon)	<u>Vancouver Island Area</u> Private Fish Farm	1-VI-1972	7	fingerling and yearling	B	72137
	Private Fish Farm	17-XI-1976	158	immature adult	C	76242
	Private Fish Farm	1-II-1979	36	immature adult	C	790111
	Private Fish Farm	1-II-1979	24	yearling	C	790112
	Private Fish Farm	30-XII-1979	120	immature adult	C	79393
	Private Fish Farm	23-X-1980	60	2	C	80349
	Quinsam Hatchery	16-II-1977	50	fingerling	C	77015
	Quinsam Hatchery	31-V-1977	3	fry	C	77110
	<u>Vancouver Area</u> Capilano Hatchery	21-VIII-1975	77	fingerling	C	75150
	Capilano Hatchery	10-XI-1976	75	ripe adult	C	76237
<u>Oncorhynchus nerka</u> (Walbaum) (Sockeye salmon)	<u>Vancouver Island Area</u> Rosewall Creek Hatchery	9-V-1973	21	presmolt	B	73194
<u>Oncorhynchus tshawytscha</u> (Walbaum) (Chinook salmon)	<u>Vancouver Island Area</u> Private Fish Farm	1-II-1979	2	yearling	C	79012
	Robertson Creek Hatchery	4-IX-1974	25	smolt	B	74064
	<u>Vancouver Area</u> Capilano Hatchery	21-VIII-1975	36	smolt	C	75350

Table 1 (cont'd)

¹Since 1975 all samples examined have been entered in a computerized fish health data bank at the Pacific Biological Station (Hoskins et al. 1979). Occasional samples from earlier years also have been entered in the data bank. The numbers in this column refer to the computerized case history number.

²Precocious males, maturing in their second rather than third year of life.

³North of the British Columbia border.