

A SURVEY OF FISH ECTOPARASITES OFF THE
CALIFORNIA COAST FOR SCCWRP

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Student Project Report based on examination
of samples from SCCWRP-SAI-BLM Year II Benthic
Trawl surveys in the Southern California Bight
(Tanner Bank, San Miguel Island, Point Conception,
and Coal Oil Point). Dr. Alan J. Mearns,
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EATON'S
(CORPUSCULE)
BOND
USA
BOSTON 1903

A SURVEY OF FISH ECTOPARASITES OFF THE CALIFORNIA COAST
FOR SCCRWP

by

Jean Gustafson
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A SURVEY OF FISH ECTOPARASITES OFF CALIFORNIA COAST

The purpose of this study is to examine fish species collected by SCCRWP off the California coast and identify the ectoparasites present.

The collection made from the R/V Valero consisted of trawl subsamples from four stations(801 Coal Oil Point, 805 San Miguel Island, 817 Tanner Bank and 837 Point Conception). The fish were preserved in 10% phosphate buffered formalin and stored in containers identifying station and depth from which these fish were caught. All fish were measured for total length (to tip of caudal lobe) and identified to species.

The external body surfaces of the fish, including fins, as well as the inner surfaces of the operculum, nasal cavities and oral cavities were examined for ectoparasites. All ectoparasites (copepods, monogenetic trematodes) from the same host were stored in the same vial containing 70% ethyl alcohol and labelled with a sample number.

The data sheets include the date of collection, sample number, station number, host fish species, length of fish, and attachment site of parasite on fish for each fish specimen.

The copepods were cleared in lactic acid, measured and temporarily mounted in glycerine gel on slides. Dissections were done under a dissecting microscope. The monogenes

were stained with Gower's acetic carmine, dehydrated, cleared and then mounted in piccolyte on slides for examination under the compound microscope.

522
EATON'S
CORRUGABLE
BOND
USA
BENTON

25% COTTON FIBRE

Host-Parasite List

Sebastes saxicola

Brachiella robusta (copepod)
Microcotyl sebastis (monogene)

Sebastes diploproa

Brachiella robusta (copepod)
Naobranchia occidentalis (copepod)
Chondracanthus pinguis (copepod)
Clavella parva (copepod)
Microcotyl sebastis (monogene)
Megalocotyl trituba (monogene)

Sebastes rosenblatti

Lepeophtheirus sp. ~~2~~ (copepod)
Microcotyl sebastis (monogene)
Megalocotyl trituba (monogene)

Sebastes elongatus

larval copepods
Microcotyl sebastis (monogene)
Megalocotyl trituba (monogene)

Sebastes ensifer

Lepeophtheirus sp. ~~2~~ (copepod)
Microcotyl sebastis (monogene)

Sebastes jordani

Microcotyl sebastis (monogene)

Merluccius productus

Haemobaphes sp. (copepod)
Brachiella ~~1~~ Pacificus (copepod)
larval copepods
Anthocotyl americana (monogene)

Microstomus pacificus

Acanthochondria sp. ~~3~~ (copepod)

Porichthys notatus

Haemobaphes sp. (copepod)

Citharichthys sordidus

Phrixocephalus cincinnatus (copepod)

Naobranchia sp. ~~2~~ (copepod)

Pseudotagia sp. (monogene)

Lyopsetta exilis

CLEAN

Station: 801-40-1 Coal Oil Point

Date: March 9, 1977

Vessel: R/V ~~Velero~~

Collection: SCCRWP

39. Host: Citharichthys sordidus (Pacific sanddab)

Host length: 7.6 cm

Ectoparasite present and attachment site:

Phrioxcephalus cincinnatus
1 ovigerous female

Left eye

40. Host: Citharichthys sordidus

Host length: 9.8 cm

Ectoparasite present and attachment site:

Phrioxcephalus cincinnatus
1 nonovigerous female

Left eye

Pseudotagia sp. (1)

Gill filaments

41. Host: Citharichthys sordidus

Host length: 10.3 cm

Ectoparasite present and attachment site:

Phrioxcephalus cincinnatus
1 ovigerous female

Right eye

Pseudotagia sp. (1)

Gill filaments

42. Host: Citharichthys sordidus

Host length: 12.3 cm

Ectoparasite present and attachment site:

Phrioxcephalus cincinnatus
1 ovigerous female

Eye

43. Host: Citharichthys sordidus

Host length: 9.6 cm

Ectoparasite present and attachment site:

Phrioxcephalus cincinnatus
1 ovigerous female

Eye

Pseudotagia sp. (1)

Gill filaments

Station: 801-40-1

Coal Oil Point

Date: March 9, 1977

Vessel: R/V ~~Valero~~

Collection: SCCFWP

44. Host: Citharichthys sordidus

Host length: 10.5 cm

Ectoparasite present and attachment site:

Pseudotagia sp. (1)

Gill filaments

45. Host: Citharichthys sordidus

Host length: 7.6 cm

Ectoparasite present and attachment site:

Phrixocephalus cincinnatus

1 ovigerous female

Eye

46. Host: Citharichthys sordidus

Host length: 11.2 cm

Ectoparasite present and attachment site:

CLEAN

47. Host: Citharichthys sordidus

Host length: 9.6 cm

Ectoparasite present and attachment site:

Phrixocephalus cincinnatus

1 ovigerous female

Eye

48. Host: Citharichthys sordidus

Host length: 9.9 cm

Ectoparasite present and attachment site:

Pseudotagia sp. (2)

Gill filaments^s

49. Host: Citharichthys sordidus

Host length: 9.8 cm

Ectoparasite present and attachment site:

Pseudotagia sp. (3)

Gill filaments

Station: 801-40-1 Coal Oil Point

Date: March 9, 1977

Vessel: R/V Velero

Collection: SCCRP

50. Host: Citharichthys sordidus

Host length: 7.8 cm

Ectoparasite present and attachment site:

Pseudotagia sp. (3)

Gill filaments

29. Host: Citharichthys sordidus

Host length: 9.4 cm

Ectoparasite present and attachment site:

Phrioxcephalus cinnatus

1 ovigerous female

Eye

30. Host: Citharichthys sordidus

Host length: 11.0 cm

Ectoparasite present and attachment site:

Pseudotagia sp. (2)

Gill filaments

A. Host: Citharichthys sordidus

Host length: 10.1 cm

Ectoparasite present and attachment site:

CLEAN

B. Host: Citharichthys sordidus

Host length: 9.9 cm

Ectoparasite present and attachment site:

CLEAN

C. Host: Citharichthys sordidus

Host length: 9.3 cm

Ectoparasite present and attachment site:

CLEAN

D. Host: Citharichthys sordidus

Host length: 10.1 cm

Ectoparasite present and attachment site:

CLEAN

Station: 801-40-1 Coal Oil Point

Date: March 9, 1977

Vessel: R/V Valero

Collection: SCCFNP

E. Host: Citharichthys sordidus

Host length: 9.4 cm

Ectoparasite present and attachment site:

CLEAN

F. Host: Citharichthys sordidus

Host Length: 8.7 cm

Parasite present and attachment site:

CLEAN

G. Host: Citharichthys sordidus

Host length: 9.7 cm

Ectoparasite present and attachment site:

CLEAN

H. Host: Citharichthys sordidus

Host length: 9.8 cm

Ectoparasite present and attachment site:

CLEAN

I. Host: Citharichthys sordidus

Host length: 9.6 cm

Ectoparasite present and attachment site:

CLEAN

J. Host: Citharichthys sordidus

Host length: 10.1 cm

Ectoparasite present and attachment site:

CLEAN

K. Host: Citharichthys sordidus

Host length: 8.7 cm

Ectoparasite present and attachment site:

CLEAN

Station: 817-100-6 Tanner Bank
 Date: March 7-10, 1977
 Vessel: R/V Velero
 Collection: SCCRWP

- 31..Host: Sebastes ensifer (Swordspine rockfish)
 Host length: 15.2 cm
 Ectoparasite present and attachment site:
 Microcotyl sebastis (10) Gill filaments
32. Host: Sebastes ensifer
 Host length: 18.4 cm
 Ectoparasite present and attachment site:
 Lepeophtheirus sp. ~~sp.~~ (~~Dojini in prep~~) Oral cavity
 1 ovigerous female roof epithelium
 Microcotyl sebastis (13) Gill filaments
33. Host: Sebastes ensifer
 Host length: 17.0 cm
 Ectoparasite present and attachment site:
 Lepeophtheirus sp. ~~sp.~~ Gill cavity
 1 ovigerous female
 Microcotyl sebastis (5) Gill filaments
34. Host: Sebastes ensifer
 Host length: 17.1 cm
 Ectoparasite present and attachment site:
 Lepeophtheirus sp. ~~sp.~~ Oral cavity
 2 ovigerous females
 Microcotyl sebastis (7) Gill filaments
35. Host: Sebastes ensifer
 Host length: 16.4 cm
 Ectoparasite present and attachment site:
 Microcotyl sebastis (8) Gill filaments

Station: 805-100-2

San Miguel Island

Date: March 19, 1977

Vessel: R/V ~~Velero~~

Collection: SCCRWP

61. Host: Sebastes diploproa (Splitnose rockfish)

Host length: 9.3 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (8) Gill filaments

62. Host: Sebastes diploproa

Host length: 8.8 cm

Ectoparasite present and attachment site:

Brachiella robusta Gill raker

1 ovigerous female

1 male(attached to female)

Microcotyl sebastis (1) Gill filaments

63. Host: Sebastes diploproa

Host length: 9.5 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (6) Gill filaments

64. Host: Sebastes diploproa

Host length: 6.4 cm

Ectoparasite present and attachment site:

Clavella parva Caudal fin

1 ovigerous female

Pelvic fin

2 nonovigerous females

1 male(attached to nonovigerous female)

65. Host: Sebastes diploproa

Host length: 7.3 cm

Ectoparasite present and attachment site:

Clavella parva Anal fin

1 ovigerous female

Pelvic fin

1 nonovigerous female

1 male(attached to nonovigerous female)

Microcotyl sebastis (2) Gill filaments

Station: 805-100-2 San Miguel Island

Date: March 19, 1977

Vessel: R/V ~~Velero~~

Collection: SCCFMP

66. Host: Sebastes diploproa
Host length: 8.0 cm
Ectoparasite present and attachment site:
Microcotyl sebastis (7) Gill filaments
67. Host: Sebastes diploproa
Host length: 8.8 cm
Ectoparasite present and attachment site:
Microcotyl sebastis (4) Gill filaments
68. Host: Sebastes diploproa
Host length: 7.7 cm
Ectoparasite present and attachment site:
Microcotyl sebastis (2) Gill filaments
69. Host: Sebastes diploproa
Host length: 8.7 cm
Ectoparasite present and attachment site:
Microcotyl sebastis (2) Gill filaments
70. Host: Sebastes diploproa
Host length: 7.2 cm
Ectoparasite present and attachment site:
Clavella parva Anal fin
1 nonovigerous female
Microcotyl sebastis (1) Gill filaments
71. Host: Sebastes diploproa
Host length: 7.1 cm
Ectoparasite present and attachment site:
Microcotyl sebastis (3) Gill filaments

Station: 805-100-2 San Miguel Island

Date: March 19, 1977

Vessel: R/V ~~Velero~~

Collection: SCCF~~WP~~

72. Host: Sebastes diploproa

Host length: 8.3 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (4)

Gill filaments

73. Host: Merluccius productus (Pacific hake)

Host length: 18.4 cm

Ectoparasite present and attachment site:

Haemobaphes sp. (no head)

Gill arch

1 ovigerous female

Brachiella ~~lageniformis~~ Pacifica

Gill raker

1 ovigerous female

1 male (loose, must have been attached
to female at one time)

74. Host: Sebastes saxicola (Striptail rockfish)

Host length: 14.9 cm

Ectoparasite present and attachment site:

Brachiella robusta

Gill raker

1 ovigerous female

75. Host: Sebastes saxicola

Host length: 13.0 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (2)

Gill filaments

76. Host: Sebastes saxicola

Host length: 13.4 cm

Ectoparasite present and attachment site:

Brachiella robusta

Oral cavity

1 ovigerous female

Station: 805-100-2

San Miguel Island

Date: March 19, 1977

Vessel: R/V ~~Velero~~

Collection: SCCRWP

77. Host: Sebastes saxicola

Host length: 13.5 cm

Ectoparasite present and attachment site:

Brachiella robusta

Gill raker

1 ovigerous female

Microcotyl sebastis

Gill filaments

78. Host: Sebastes jordani (Shortbelly rockfish)

Host length: 20.0 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (32)

Gill filaments

79. Host: Sebastes jordani

Host length: 20.6 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (5)

Gill filaments

80. Host: Sebastes jordani

Host length: 20.8 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (14)

Gill filaments

81. Host: Sebastes jordani

Host length: 19.0 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (51)

Gill filaments

A. Host: Sebastes diploproa

Host length: 5.0 cm

Ectoparasite present and attachment site:

CLEAN

Station: 805-100-2 San Miguel Island

Date: March 19, 1977

Vessel: R/V ~~Velero~~

Collection: SCCRWP

B. Host: Merluccius productus

Host length: 18.5 cm

Ectoparasite present and attachment site:

CLEAN

C. Host: Microstomus pacificus (Dover sole)

Host length: 27.0 cm (no tail)

Ectoparasite present and attachment site:

CLEAN

D. Host: Microstomus pacificus

Host length: 12.0 cm

Ectoparasite present and attachment site:

CLEAN

Station: 837-40-1 Point Conception

Date: March 20, 1977

Vessel: R/V ~~Velero~~

Collection: SCCFNP

22. Host: Citharichthys sordidus

Host length: 13.3 cm

Ectoparasite present and attachment site:

Naobranchia sp. \pm

Gill filaments

2 ovigerous females

1 nonovigerous female

2 males (attached to 2 ovigerous females)

Pseudotagia sp. (1)

Gill filaments

23. Host: Citharichthys sordidus

Host length: 16.5 cm

Ectoparasite present and attachment site:

Naobranchia sp. \pm

Gill filaments

2 ovigerous females

2 males (attached to 2 ovigerous females)

Pseudotagia sp. (1)

Gill filaments

24. Host: Citharichthys sordidus

Host length: 10.7 cm

Ectoparasite present and attachment site:

Pseudotagia sp. (1)

Gill filaments

25. Host: Citharichthys sordidus

Host length: 9.9 cm

Ectoparasite present and attachment site:

Pseudotagia sp. (1)

Gill filaments

26. Host: Citharichthys sordidus

Host length: 9.2 cm

Ectoparasite present and attachment site:

Pseudotagia sp. (1)

Gill filaments

Station: 837-40-1 Point Conception

Date: March 20, 1977

Vessel: R/V Valero

Collection: SCCFWP

27. Host: Citharichthys sordidus

Host length: 10.1 cm

Ectoparasite present and attachment site:

Phrioxcephalus cinnatus
1 ovigerous female

Eye

Pseudotagia sp. (1)

Gill filaments

28. Host: Citharichthys sordidus

Host length: 13.1 cm

Ectoparasite present and attachment site:

Phrioxcephalus cinnatus
1 ovigerous female

Eye

Pseudotagia sp. (6)

Gill filaments

A. Host: Citharichthys sordidus

Host length: 11.5 cm

Ectoparasite present and attachment site:

CLEAN

B. Host: Citharichthys sordidus

Host length: 11.1 cm

Ectoparasite present and attachment site:

CLEAN

C. Host: Citharichthys sordidus

Host length: 7.9 cm

Ectoparasite present and attachment site:

CLEAN

Station: 837-75-1 Point Conception

Date: March 20, 1977

Vessel: R/V Velerio

Collection: SCCFWP

36. Host: Porichthys notatus (Plainfin midshipman)

Host length: 27.5 cm

Ectoparasite present and attachment site:

Haemobaphes sp. (no head)
1 ovigerous female

Gill arch

37. Host: Porichthys notatus

Host length: 26.2 cm

Ectoparasite present and attachment site:

Haemobaphes sp.
1 ovigerous female

Gill arch

A. Host: Porichthys notatus

Host length: 22.9 cm

Ectoparasite present and attachment site:

CLEAN

Station: 837-100-1 Point Conception

Date: March 20, 1977

Vessel: R/V Velero

Collection: SCCRNP

51. Host: Sebastes saxicola
 Host length: 13.6 cm
 Ectoparasite present and attachment site:
Microcotyl sebastis (6) Gill filaments
52. Host: Sebastes saxicola
 Host length: 12.9 cm
 Ectoparasite present and attachment site:
Microcotyl sebastis (3) Gill filaments
53. Host: Sebastes saxicola
 Host length: 12.3 cm
 Ectoparasite present and attachment site:
Brachiella robusta Gill filaments
 1 ovigerous female
54. Host: Sebastes saxicola
 Host length: 13.8 cm
 Ectoparasite present and attachment site:
Brachiella robusta Oral cavity
 1 nonovigerous female near tongue
Microcotyl sebastis (1) Gill filaments
55. Host: Sebastes saxicola
 Host length: 12.5 cm
 Ectoparasite present and attachment site:
Microcotyl sebastis (2) Gill filaments

Station: 837-100-1

Point Conception

Date: March 20, 1977

Vessel: R/V ~~Velero~~

Collection: SCCRWP

56. Host: Sebastes saxicola

Host length: 13.5 cm

Ectoparasite present and attachment site:

Brachiella robusta

1 ovigerous female

1 male (attached to female)

Oral cavity

roof epithelium

57. Host: Sebastes saxicola

Host length: 12.4 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (5)

Gill filaments

58. Host: Sebastes saxicola

Host length: 12.9 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (9)

Gill filaments

59. Host: Sebastes saxicola

Host length: 12.6 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (6)

Gill filaments

60. Host: Sebastes saxicola

Host length: 12.6 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (3)

Gill filaments

Station: 837-100-1 Point Conception

Date: March 20, 1977

Vessel: R/V ~~V~~Clero

Collection: SCCRP

A. Host: Sebastes saxicola

Host length: 14.7 cm

Ectoparasite present and attachment site:

CLEAN

B. Host: Sebastes saxicola

Host length: 13.4 cm

Ectoparasite present and attachment site:

CLEAN

Station: 837-120-1

Point Conception

Date: March 20, 1977

Vessel: R/V ~~Ve~~lero

Collection: SCCRP

1. Host: Merluccius productus

Host length: 22 cm

Ectoparasite present and attachment site:

Haemobaphes sp.

Gill arch

1 ovigerous female

Brachiella ~~lageniformis~~ pacifica

Gill raker

4 ovigerous females

3 nonovigerous females

Anthocotyl americana (1)

Gill filaments

2. Host: Merluccius productus

Host length: 25.5 cm

Ectoparasite present and attachment site:

CLEAN

3. Host: Merluccius productus

Host length: 27.5 cm

Ectoparasite present and attachment site:

Brachiella ~~lageniformis~~ pacifica

Gill raker

1 ovigerous female

3 larval copepods

Anthocotyl americana (1)

Gill filaments

4. Host: Sebastes diploproa

Host length: 12.5 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (2)

Gill filaments

5. Host: Sebastes diploproa

Host length: 12.0 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (9)

Gill filaments

Station: 837-120-1 Point Conception
 Date: March 20, 1977
 Vessel: R/V ~~Velero~~
 Collection: SCCRNP

6. Host: Sebastes diploproa

Host length: 6.5 cm

Ectoparasite present and attachment site:

Clavella parva

1 ovigerous female

1 immature female

Anal fin

Pelvic fin

7. Host: Sebastes diploproa

Host length: 12.5 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (1)

Gill filaments

8. Host: Sebastes diploproa

Host length: 11.6 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (3)

Gill filaments

9. Host: Sebastes diploproa

Host length: 13.7 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (9)

Gill filaments

10. Host: Sebastes diploproa

Host length: 12.5 cm

Ectoparasite present and attachment site:

Brachiella robusta

1 ovigerous female

Oral cavity

Microcotyl sebastis (2)

Gill filaments

11. Host: Sebastes diploproa

Host length: 14.0 cm

Ectoparasite present and attachment site:

Brachiella robusta

2 ovigerous females

Gill raker

Station: 837-120-1 Point Conception

Date: March 20, 1977

Vessel: R/V Valero

Collection: SCCRP

12. Host: Sebastes diploproa
 Host length: 10.0 cm
 Ectoparasite present and attachment site:
 Microcotyl sebastis (5) Gill filaments
13. Host: Sebastes diploproa
 Host length: 11.5 cm
 Ectoparasite present and attachment site:
 Brachiella robusta Gill raker
 1 ovigerous female
 Microcotyl sebastis (3) Gill filaments
14. Host: Sebastes diploproa
 Host length: 11.9 cm
 Ectoparasite present and attachment site:
 Microcotyl sebastis (10) Gill filaments
15. Host: Sebastes diploproa
 Host length: 10.0 cm
 Ectoparasite present and attachment site:
 Microcotyl sebastis (10) Gill filaments
16. Host: Sebastes diploproa
 Host length: 9.0 cm
 Ectoparasite present and attachment site:
 Microcotyl sebastis (1) Gill filaments
17. Host: Sebastes diploproa
 Host length: 6.8 cm
 Ectoparasite present and attachment site:
 Microcotyl sebastis (1) Gill filaments
- A. Host: Sebastes diploproa
 Host length: 7.5 cm
 Ectoparasite present and attachment site:
 CLEAN

Station: 81733

Tanner Bank

Date: July 7, 1977

Vessel: R/V Valero

Collection: SCCRP

82. Host: Sebastes rosenblatti (Greenblotched rockfish)

Host length: 29.3 cm

Ectoparasite present and attachment site:

Lepeophtheirus sp. ~~♂~~
1 ovigerous femaleOral cavity
roof epitheliumMicrocotyl sebastis (4)

Gill filaments

Megalocotyl trituba (1)

Gill filaments

83. Host: Sebastes elongatus (Greenstriped rockfish)

84. Host length: 29.7 cm

Ectoparasite present and attachment site:

larval copepod

Gill filaments

Microcotyl sebastis (4)

Gill filaments

Megalocotyl trituba (5)

Gill filaments

85. Host: Sebastes elongatus

Host length: 26.5 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (4)

Gill filaments

Megalocotyl trituba (18)

Gill filaments

86. Host: Sebastes diploproa

Host length: 14.4 cm

Ectoparasite present and attachment site:

Brachiella robusta
2 ovigerous females

Gill raker

Naobranchia occidentalis
1 nonovigerous female

Gill filaments

Microcotyl sebastis (4)

Gill filaments

Station: 81733 Tanner Bank
 Date: July 7, 1977
 Vessel: R/V ~~V~~elero
 Collection: SCCRP

87. Host: Sebastes diploproa
 Host length: 14.1 cm
 Ectoparasite present and attachment site:
 Microcotyl sebastis (3) Gill filaments
 Megalocotyl trituba (1) Gill filaments
88. Host: Sebastes diploproa
 Host length: 13.1 cm
 Ectoparasite present and attachment site:
 Brachiella robusta Gill raker
 3 ovigerous females
 Microcotyl sebastis (1) Gill filaments
89. Host: Sebastes diploproa
 Host length: 13.6 cm
 Ectoparasite present and attachment site:
 Brachiella robusta Gill raker
 3 ovigerous females
 Naobranchia occidentalis Gill filaments
 1 nonovigerous female
 Chondracanthus pinguis Gill filaments
 1 nonovigerous female
 Microcotyl sebastis (6) Gill filaments
 Megalocotyl trituba (1) Gill filaments
90. Host: Sebastes diploproa
 Host length: 12.7 cm
 Ectoparasite present and attachment site:
 Naobranchia occidentalis Gill filaments
 4 ovigerous females
 1 male (attached to female)
 2 larval copepods
 Microcotyl sebastis (5) Gill filaments

Station: 81733

Tanner Bank

Date: July 7, 1977

Vessel : R/V ~~Valero~~

Collection: SCCRP

91. Host: Sebastes diploproa

Host length: 11.6 cm

Ectoparasite present and attachment site:

<u>Naobranchia occidentalis</u>	Gill filaments
2 ovigerous females	
1 nonovigerous female	
2 males (attached to 2 ovigerous females)	
<u>Brachiella robusta</u>	Gill raker
1 nonovigerous female	
1 male (attached to female)	
<u>Microcotyl sebastis</u> (6)	Gill filaments

Station: 80534 San Miguel Island

Date: July 27, 1977

Vessel: R/V ~~Venero~~

Collection: SCCRP

92. Host: Microstomus pacificus

Host length: 24.7 cm

Ectoparasite present and attachment site:

Acanthochondria sp. ~~B (Bajini in prep)~~ Oral cavity
3 ovigerous females roof epithelium

93. Host: Merluccius productus

Host length: 24.0 cm

Ectoparasite present and attachment site:

Haemobaphes sp. (no head) Gill arch
1 ovigerous female

A. Host: Microstomus pacificus

Host length: 22.7 cm

Ectoparasite present and attachment site:

CLEAN

Station: 80143

Coal Oil Point

Date: July 27, 1977

Vessel: R/V ~~V~~elero

Collection: SCCRP

110. Host: Sebastes diploproa

Host length: 10.6 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (14)

Gill filaments

111. Host: Sebastes diploproa

Host length: 10.8 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (2)

Gill filaments

112. Host: Sebastes diploproa

Host length: 10.5 cm

Ectoparasite present and attachment site:

Brachiella robusta

Gill raker

1 nonovigerous female

Microcotyl sebastis (8)

Gill filaments

113. Host: Sebastes diploproa

Host length: 10.9 cm

Ectoparasite present and attachment site:

Naobranchia occidentalis

Gill filaments

1 nonovigerous female

1 male (attached to female)

Microcotyl sebastis (36)

Gill filaments

114. Host: Sebastes diploproa

Host length: 10.0 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (4)

Gill filaments

Station: 80143 Coal Oil Point
Date: July 27, 1977
Vessel: R/V ~~V~~elero
Collection: SCCRNP

115. Host: Sebastes diploproa
Host length: 9.2 cm
Ectoparasite present and attachment site:
Microcotyl sebastis (7) Gill filaments
116. Host: Sebastes diploproa
Host length: 10.0 cm
Ectoparasite present and attachment site:
CLEAN
117. Host: Sebastes diploproa
Host length: 9.0 cm
Ectoparasite present and attachment site:
Microcotyl sebastis (18) Gill filaments
118. Host: Sebastes diploproa
Host length: 9.0 cm
Ectoparasite present and attachment site:
Microcotyl sebastis (19) Gill filaments
119. Host: Sebastes diploproa (probable host)
Host length: unknown
Ectoparasite present and attachment site:
Clavella parva (loose in jar)
1 ovigerous female
120. Host: Sebastes diploproa
Host length: 7.0 cm
Ectoparasite present and attachment site:
Clavella parva Caudal fin
1 ovigerous female
Microcotyl sebastis (7) Gill filaments

Station: 80143 Coal Oil Point
 Date: July 27, 1977
 Vessel: R/V Valero
 Collection: SCCFWP

121. Host: Sebastes diploproa

Host length: 7.6 cm

Ectoparasite present and attachment site:

Clavella parva

Anal fin

1 ovigerous female

Microcotyl sebastis (2)

Gill filaments

122. Host: Sebastes diploproa

Host length: 7.0 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (21)

Gill filaments

A. Host: Sebastes diploproa

Host length: 7.6 cm

6.4 cm

7.2 cm

6.7 cm

6.2 cm

6.6 cm

7.5 cm

Ectoparasite present and attachment site:

CLEAN

B. Host: Lyopsetta exilis (Slender sole)

Host length: 14.3 cm

13.2 cm

Ectoparasite present and attachment site:

CLEAN

Station: 80144 Coal Oil Point

Date: July 27, 1977

Vessel: R/V Valero

Collection: SCCRP

94. Host: Sebastes diploproa

Host length: 7.6 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (16)

Gill filaments

95. Host: Sebastes diploproa

Host length: 8.0 cm

Ectoparasite present and attachment site:

Clavella parva
2 ovigerous females

Dorsal fin
Caudal fin

Microcotyl sebastis (30)

Gill filaments

A. Host: Microstomus pacificus

Host length: 18.1 cm

Ectoparasite present and attachment site:

CLEAN

322
GATON'S
(CORPASALES)
BOND
USA
SAKSHI
25% COTTON FIBRE

Station: 80536 San Miguel Island

Date: July 28, 1977

Vessel: R/V Valero

Collection: SCCFNP

123. Host: Microstomus pacificus

Host length: 25.7 cm

Ectoparasite present and attachment site:

Acanthochondria sp. ~~2~~

1 ovigerous female

1 male (attached to female)

Oral cavity
roof epithelium

124. Host: Microstomus pacificus

Host length: 30.3 cm

Ectoparasite present and attachment site:

CLEAN

125. Host: Sebastes saxicola

Host length: 12.3 cm

Ectoparasite present and attachment site:

Brachiella robusta

1 ovigerous female

1 male (attached to female)

Gill raker

Microcotyl sebastis (5)

Gill filaments

126. Host: Microstomus pacificus

Host length: 26.2 cm

Ectoparasite present and attachment site:

CLEAN

127. Host: Sebastes saxicola

Host length: 12.0 cm

Ectoparasite present and attachment site:

Brachiella robusta

1 ovigerous female

1 nonovigerous female

2 males (attached to each female)

Gill raker

Oral cavity

Microcotyl sebastis (6)

Gill filaments

Station: 80536 San Miguel Island

Date: July 28, 1977

Vessel: R/V Velero

Collection: Sscrwp

128. Host: Sebastes saxicola

Host length: 12.1 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (4)

Gill filaments

129. Host: Sebastes saxicola

Host length: 13.6 cm

Ectoparasite present and attachment site:

Brachiella robusta

Gill raker

1 ovigerous female

Oral cavity

1 nonovigerous female

1 male (attached to ovigerous female)

Microcotyl sebastis (1)

Gill filaments

130. Host: Sebastes saxicola

Host length: 11.6 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (1)

Gill filaments

131. Host: Sebastes saxicola

Host length: 12.7 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (3)

Gill filaments

132. Host: Sebastes saxicola

Host length: 10.5 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (3)

Gill filaments

Station: 80536 San Miguel Island

Date: July 28, 1977

Vessel: R/V Valero

Collection: SCCFNP

133. Host: Sebastes saxicola

Host length: unknown

Ectoparasite present and attachment site:

Microcotyl sebastis (8)

Gill filaments

134. Host: Sebastes saxicola

Host length: 11.4 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (5)

Gill filaments

135. Host: Sebastes saxicola

Host length: 12.6 cm

Ectoparasite present and attachment site:

Brachiella robusta

1 nonovigerous female

Gill raker

136. Host: Sebastes saxicola

Host length: 11.7 cm

Ectoparasite present and attachment site:

Brachiella robusta

2 nonovigerous females

1 male (attached to a female)

Gill raker

Microcotyl sebastis (1)

Gill filaments

137. Host: Sebastes saxicola

Host length: 12.3 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (3)

Gill filaments

Station: 80536

Date: July 28, 1977

Vessel: R/V ~~Velero~~

Collection: SCCRWP

138. Host: Sebastes saxicola

Host length: 12.6 cm

Ectoparasite present and attachment site:

Brachiella robusta

Gill raker

2 ovigerous female

2 males (attached to each female)

Microcotyl sebastis (2)

Gill filaments

139. Host: Sebastes saxicola

Host length: 11.4 cm

Ectoparasite present and attachment site:

Microcotyl sebastis (2)

Gill filaments

A. Host: Microstomus pacificus

Host length: 6.5 cm

27.2 cm

Ectoparasite present and attachment site:

CLEAN