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DESCRIPTIONS OF NEW GENERA OF COTTOID  
FISHES RELATED TO ARTEDIUS

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The discovery of the new sculpins described in this paper again emphasizes the great richness of the fish fauna of the North Pacific.

These new genera are all related more or less closely to *Artedius*. In Jordan and Evermann's key<sup>1</sup> they would enter the sections *mm*, *kk* and *jj*. Some notes on related species, already described, are included.

New genera	New species
<i>Parastrolytes (notospilotus)</i>	<i>Parartedius hankinsoni</i>
<i>Parartedius (hankinsoni)</i>	<i>Allartedius corallinus</i>
<i>Allartedius (corallinus)</i>	<i>Ruscariops creaseri</i>
<i>Ruscariops (creaseri)</i>	
<i>Stelgistrops (beringianum)</i>	

Genus 1. ASTROLYTES Jordan and Starks

1. *Astrolytes fenestralis* Jordan and Gilbert

*Artedius notospilotus* Bean, Proc. U. S. Nat. Mus., 4, 1881, pp. 250, 271; *ibidem*, 4, 1881 (1882), p. 471. (Not of Girard.)

<sup>1</sup>Bull. U. S. Nat. Mus., 47, pt. 2, 1898, p. 1881.

*Astrolytes notospilotus* Jordan and Evermann, Bull. U. S. Nat. Mus., 47, pt. 4, 1900, fig. 689a (not of Girard).

*Artedius fenestralis* Jordan and Gilbert, Proc. U. S. Nat. Mus., 5, 1882 (1883), p. 577.

*Astrolytes fenestralis* Jordan and Starks, Proc. Calif. Acad. Sci., (2) 5, 1895, p. 807; Jordan and Gilbert, Fur Seals and Fur Seal Islands, pt. 3, 1899, p. 456; Gilbert and Thompson, Proc. U. S. Nat. Mus., 28, 1905, p. 977; Evermann and Goldsborough, Bull. U. S. Bur. Fish., 26, 1906 (1907), p. 298; Starks, Ann. Carn. Mus., 7, 1911, p. 188; Gilbert and Burke, Bull. U. S. Bur. Fish., 30, 1910 (1912), p. 36; Kincaid, An Annotated list of Puget Sound Fishes, 1919, p. 30; Bean and Weed, Trans. Roy. Soc. Canada, (3) 13, 1919 (1920), p. 73.

*Artedius asperulus* Starks, Proc. Calif. Acad. Sci., (2) 6, 1896, p. 553; Jordan and Evermann, Bull. U. S. Nat. Mus., 47, pt. 3, 1898, p. 1903.

This species ranges from Unalaska to San Francisco Bay, its range overlapping that of *Parastrolytes notospilotus* from Puget Sound southward.

## Genus 2. *Parastrolytes*, new genus

Type species: *Artedius notospilotus* Girard.

This genus is most closely related to *Astrolytes (fenestralis)* with which it has been more or less confused. It differs sharply in several respects, first pointed out by Jordan and Gilbert. The dorsal band of scales, as in *Artedius*, fails to meet its fellow posteriorly, not extending beyond the dorsal fin (in one specimen of many examined, a few scattering scales are developed behind the dorsal fin). The lower preopercular spines become excessively roughened and stellate with age, instead of remaining simple, and concealed beneath the skin. Excrescences of similar form appear on top of the head. The pore behind the fourth gill, developed in *Astrolytes*, is wanting.

Young specimens of *Parastrolytes* can most quickly be distinguished from *Astrolytes* by the number of pectoral rays, which are usually 16 instead of 15 in number.

(*Parastrolytes*: near *Astrolytes*.)

### 2. *Parastrolytes notospilotus* Girard

*Calycilepidotus lateralis* Ayres, Proc. Calif. Acad. Sci., 1, 1855, p. 77 (not of Girard).

*Artedius lateralis* Girard, U. S. Pac. R. R. Surv., 10 (Fishes) 1858, p. 71, pl. 22 b, figs. 5, 6 (specimen no. 366, collected by Ayres, and figure based on this specimen only); Bean and Weed, Trans. Roy. Soc. Canada, (3) 13, 1919 (1920), p. 72 (same specimen, and one from Santa Barbara).

*Artedius notospilotus* Girard, Proc. Acad. Nat. Sci. Phila., 8, 1856, p. 134; Boston Journ. Nat. Hist., 6, 1857, p. 535, pl. 24, figs. 5 and 6; U. S. Pac. R. R. Surv., 6, pt. 4, 1857, p. 14; 10, pt. 4, 1858, p. 71; Gill, Proc. Acad. Nat. Sci. Phila., 1862, p. 279; Jordan and Gilbert, Proc. U. S. Nat. Mus., 3, 1880 (1881), p. 454; Jordan and Jouy, *ibidem*, 4, 1881, p. 6; Jordan and Gilbert, *ibidem*, p. 61; *ibidem*, 5, 1882, p. 577; Jordan, Rept. U. S. Comm. Fish., 1885, p. 898 (in part); Eigenmann and Eigenmann, Ann. N. Y. Acad. Sci., 6, 1892, p. 355.

*Icelinus notospilotus* Jordan and Gilbert, Bull. U. S. Nat. Mus., 16, 1883, p. 690.

*Astrolytes notospilotus* Jordan and Evermann, Bull. U. S. Nat. Mus., 47, pt. 2, 1898, p. 1899; *ibidem*, pt. 4, 1900, fig. 689 (but not figure 689a); Starks and Morris, Univ. Cal. Publ. Zool., 3, 1907, p. 219.

An effort has been made in preparing the synonymy given above to eliminate all references pertaining to *Astrolytes fenestralis*. The records of *notospilotus* from north of Puget Sound refer to *fenestralis*, as a re-examination of all the preserved material indicates. The two species are not, as has been supposed, representative forms, as both occur at Puget Sound (many of *fenestralis*, but only one specimen of *notospilotus*, the latter collected by Jordan, examined) and in San Francisco Bay (many of *notospilotus*, but only one of *fenestralis* examined, the latter collected off Alameda by the writer, November 3, 1922).

### Genus 3. *Parartedius*, new genus

Orthotype: *Parartedius hankinsoni*, new species.

This genus, which like most of its relatives, contains but one species, differs from *Artedius* in the following respects: preopercular spine multifid; scales of body obsolescent anteriorly; the oblique rows comprising not more than four scales; the band of scales irregularly decreasing in width posteriorly; interorbital space of moderate width; a single minute cirrus at end of maxillary; first three dorsal spines not abruptly

shorter than those following. From *Astrolytes* and *Parastrolytes* it differs especially in the reduced squamation, the scales being absent on the head as well as obsolescent along the band anteriorly.

(*Parartedius*: near *Artedius*.)

### 3. *Parartedius hankinsoni*, new species

Holotype: Cat. No. 55001, Museum of Zoology, University of Michigan, a specimen 74 mm. long to the end of the hypural; collected by the writer near the end of Point Loma, California, on the ocean side; in a large, rather deep tide-pool at the edge of a flat reef, during a very low tide; the pool partly open to the influx of waves, containing some eel-grass and algae, and with a rather sandy bottom (December 31, 1914).

This well marked species is perhaps the southern representative of *Artedius lateralis*, which is not known to occur south of Point Conception. In general appearance, particularly in coloration, it is very similar to that species, but technically differs widely in the characters outlined above, and in certain details of form and proportions.

Body rather robust anteriorly, the dorsal contour sloping in a slight arch from the moderate elevation along the front of the spinous dorsal to the slender caudal peduncle; the head less depressed and the snout blunter than in *Artedius lateralis*. Greatest depth of body, 4.0 in length without caudal; least depth of caudal peduncle, 5.2 in head to end of opercular membrane, a little less than half its length from end of anal base. Length of head, 2.7; width of head, about one-tenth greater than depth of body. Length of snout, 3.65 in head; length of orbit, 4.9; length of upper jaw, 2.05; greatest distance from orbit to end of preopercular spine, 3.0; from orbit to upper anterior angle of branchial aperture, 2.4; least sub-orbital width, 1.8 in orbit; least (bony) interorbital width, 3.3; interorbital rather broader and flatter than in *Artedius lateralis*, flattish between the raised rims.

Preopercular spine very distinctive: bifid as in *A. lateralis*, but each branch wider and flatter and again divided; the

upper branch widely forked on one side, tricuspid at tip on the other side; the lower branch on each side trifid, the three divisions subparallel and little projecting distally. Lower three preopercular spines blunt and inconspicuous, not at all serrate; all spines covered with skin. Nasal spines sharp, but not conspicuous. Jaws and teeth as in *A. lateralis*. Anterior nostril with a slightly raised rim and a short pointed posterior flap; posterior nostril opening in a fleshy tube about half as high as pupil. A single very small blackish cirrus developed near the upper posterior angle of the maxillary; no supraorbital cirri; a row of four cirri extending from near edge of orbit to side of occiput, and three smaller ones, one above and behind the last, one below the second and another below the third cirrus of the main series; no trace of the mediodorsal row of cirri developed in *A. lateralis*. Upper preopercular cirrus weak, the lower two absent. Top and sides of head with many well-spaced pores.

A cirrus (on a few pores paired) at each of the first 17 of the 37 pores of the lateral line; the cirri enlarged in the light areas just behind the first and just before the second main dark bar of the body. No trace of scales on the head or caudal peduncle, nor below lateral line. Lateral line plates imbedded, obsolescent posteriorly. Lateral band of scales more poorly developed than in related species, the series being composed of separated, oblique rows of one to four scales, extending from the eighth dorsal spine to the twelfth or thirteenth soft dorsal ray, with a separated patch of five scales below the middle of the spinous dorsal on the right side only; scale rows 18 on the left, about 22 on the right side. Scale borders free, spinulose.

Fin rays: dorsal, IX, 15; anal, 12; pectorals, 15-15; pelvics, each, I, 3; all as usual in *A. lateralis*. Dorsal fins barely connected at base; the first two spines not nearly so much shorter than the third than in *A. lateralis* (see following table), the third in turn slightly shorter than the fourth and fifth spines; the fifth and highest spine contained 3.6 times in the head.

Table showing the height in millimeters of each dorsal spine in a specimen each of *P. hankinsoni* and *A. lateralis*

	Dorsal spines								
	I	II	III	IV	V	VI	VII	VIII	IX
<i>Parartedius hankinsoni</i> .....	5.7	6.3	6.7	7.4	7.7	7.6	7.1	6.3	4.4
<i>Artedius lateralis</i> .....	5.3	5.4	7.3	7.7	7.7	7.6	7.1	5.6	3.8

Highest ray of the second dorsal contained 2.6 times in head; highest ray of anal, 3.05 times; pectoral extending to above second anal ray, 1.4 in head; pelvic fin extending half the distance to the second anal ray, 2.5 in head.

Ground color rich brown, becoming blackish on the main cross bars, and mottled, reticulated and somewhat rosy between them (presumably becoming lavender in specimens living among coralline algae); lower edge of tail yellowish; sides of belly orange, brighter than usual in *A. lateralis*; lower surface of belly pale; throat and lower lip with conspicuous punctulations surrounding pale roundish areas; head brownish, with about twenty short radiating bars around the eye, some of the lower ones consolidated to form dark streaks, the most conspicuous extending from the eye to the preopercular spine, and from the eye downward just behind the maxillary. Fins largely reddish, the dorsals with darker (dusky red) markings, chiefly on the membranes; the first dorsal with a blackish distal blotch between the first and second spines; the caudal with rather fine, the anal with coarse markings on the rays; two dark spots on the caudal base, respectively above and below the characteristic pale spot at the end of the lateral line; anal pale, especially anteriorly; pelvic unpigmented; pectorals with blotches on the rays forming vertical bars, about six in number and doubled, conspicuous only along middle of fin; lower edge of pectoral pale, a large brown blotch over the base of the fin.

The color pattern of the body is almost exactly like that of *Artedius lateralis*. The first and most conspicuous light-margined dark bar extends downward and forward, from below the fifth to eighth dorsal spine, to the axil of the pectoral

fin; the second bar is inconspicuous, and extends downward and forward between the first and the prominent third bar, which terminates above between the third to the fifth ray of the second dorsal; further bars are represented by mottlings and by the half ring which surrounds the semicircular light area below the end of the dorsal fin. Below the lateral line the body is marked with roundish light spots, of which the largest are cut in half by, and emerge into, the clear color of the under surface of the tail, exactly as in *A. lateralis*.

(*Hankinsoni*: named for Professor T. L. Hankinson, ichthyologist.)

#### Genus 4. ARTEDIUS Girard

##### 4. *Artedius lateralis* Girard

*Scorpaenichthys lateralis* Girard, Proc. Acad. Nat. Sci. Phila., 7, 1854, p. 145.

*Artedius lateralis* Girard, *ibidem*, p. 366; 8, 1856, p. 134; U. S. Pac. R. R. Surv., 6, pt. 4, 1857, p. 14 (not the plate); 10, pt. 4, 1858, p. 70 (not pl. 22a, fig. 5, 6); Günther, Cat. Fishes Brit. Mus., 2, 1860, p. 174; Jordan and Gilbert, Proc. U. S. Nat. Mus. 3, 1880 (1881), p. 454; Jordan and Jouy, *ibidem*, 4, 1881, p. 6; Jordan and Gilbert, *ibidem*, p. 61; 5, 1882 (1883), p. 577; Jordan, Rept. U. S. Comm. Fish., 1885, p. 898; Eigenmann and Eigenmann, Ann. N. Y. Acad. Sci., 6, 1892, p. 355; Jordan and Starks, Proc. Cal. Acad. Sci., (2) 5, 1895, p. 807; Jordan and Evermann, Rept. U. S. Comm. Fish., 1895 (1896), p. 437; Bull. U. S. Nat. Mus., 47, pt. 2, 1898, p. 1902; pt. 3, 1898, p. 2862; Greeley, Bull. U. S. Fish Comm., 1899, p. 19; Osgood, N. Am. Fauna, 21, 1910, p. 20; Starks, Ann. Carn. Mus., 7, 1911, p. 190; Halkett, Check List Fishes Canada, 1913, p. 99; Kincaid, Annotated List Puget Sound Fishes, 1919, p. 30; Bean and Weed, Trans. Roy. Soc. Canada (3) 13, 1919 (1920), p. 72 (exclusive of California specimens referred to).

*Icelinus lateralis* Jordan and Gilbert, Bull. U. S. Nat. Mus., 16, 1883, p. 689.

This pretty little cottoid ranges from British Columbia southward to Point Conception, California. The northernmost record of the species<sup>1</sup> refers to a very different form, *Stelgistrops beringiana* Gilbert and Burke (which see).

<sup>1</sup> Bean and Bean, Proc. U. S. Nat. Mus., 19, 1896, p. 242.

Genus 5. *Allartedius*, new genus

Type species: *Allartedius corallinus*, new species.

The type and only known species of this new genus differs widely from *Artedius lateralis* in appearance, and is distinguished by several trenchant structural characters. The dentition is quite distinctive, the teeth being larger than in *Artedius*; those of the inner row on the mandible, vomer and palatines, and those near the symphysis of the premaxillaries, are developed as small canines. The scales are about twice as numerous in each row of the dorsal band and the lateral line plates are better developed, and serrulate on the posterior edge.

(*Allartedius*: another *Artedius*.)

5. *Allartedius corallinus*, new species

Holotype (and only known specimen): 63 mm. long to caudal fin, collected by Carl L. Hubbs in a deep, low pool on Point Lobos, Monterey County, California, January 14, 1923.

Body depressed anteriorly and rather slender, the contour both before and behind the eye markedly less sloping than in *Artedius lateralis*; back scarcely elevated. Snout sharper and mouth higher anteriorly than in related species. Greatest depth of body, 5.0 in length to caudal; least depth of caudal peduncle 5.5 in head to end of opercular membrane, a little less than half its length from end of anal base. Length of head, 2.5; width of head about one-fourth greater than depth of body. Length of snout, 3.7 in head; length of orbit, 4.4; length of upper jaw, 2.05; distance from orbit to end of preopercular spine, 3.05; least suborbital width, 2.7 in orbit, narrower than in related species; least (bony) interorbital, 4.7, somewhat narrower than in *Artedius*, slightly concave.

Preopercular spine rather stronger than in *Artedius lateralis*; each branch curved upward, sharply pointed and strictly entire; the three lower spines blunt and inconspicuous; all spines well covered by skin. Nasal spines sharp, but small and recumbent in groove at side of premaxillary processes. Teeth larger than in related species, those in the inner row of



the mandible, vomer and palatines developed as small canines, as also those in premaxillary anteriorly. Anterior nostril with a raised rim, produced posteriorly as a singly or doubly pointed flap; posterior nostril opening through a tube constricted distally. A pair of well developed cirri near end of maxillary; occipital cirri fewer than in *Artedius lateralis*, only five in number on each side of head behind orbit; the first, fourth and fifth of each side forming a longitudinal, the others a transverse, series. Three cirri along preopercular margin. Top and sides of head with many well-scattered pores.

Lateral line with 35 pores; most of the anterior 16 with a cirrus, of which those on the light areas behind the first dark cross bar and before and behind the second bar, are markedly enlarged, and flap-like; an isolated cirrus on second from last light area.

No trace of scales on head, at base of dorsal rays, on the caudal peduncle nor below lateral line. Lateral line plates better developed than in *Artedius*, the posterior edge free, bilobed and serrulate. Scales confined to dorsal band, much smaller than in *Artedius lateralis*, in about 49 rows; as many as 17 in a row; the scales with free, spinose borders; scales tending to coalesce ventrally in each row; band extending only to base of last dorsal ray, thus not nearly to end of last membrane.

Fin rays: dorsal, IX, 15; anal, 12 (counting each last soft ray as double); pectorals, each 15; pelvics I, 3; all as usual in *Artedius lateralis*. Dorsal fins barely connected at base; the first two spines subequal and abruptly shorter than the third; third to fifth spines equal, each 3.1 in head; highest ray of second dorsal 2.4 in head; of anal, 3.25; pectoral extending to above fourth anal ray, 1.2 in head; pelvic extending not quite half-way to origin of anal, 2.8 in head; all fins except pelvic larger than in related species.

Color pattern much bolder and the life colors much brighter than in any stage but the very young of *Artedius lateralis*.

Upper part of head indistinctly mottled; a large triangular area below eye dark, somewhat broken by paler vermiculations, and bordered by light bars extending out radially from eye; mandibular region dusky, with roundish pale areas. First cross bar extending downward and forward from middle of dorsal base to pectoral fin; second bar extending downward from just behind front of second dorsal fin, well toward anus, with an anterior tongue above lateral line; the three following bars confluent ventrally, on upper sides of body, to enclose semicircular light areas, the last located about end of dorsal fin. A bright spot at base of caudal, surrounded by a U-shaped dark area open posteriorly. Other pattern markings as indicated in the following description of life colors.

Light areas of head and body bright pink, verging in places toward gold or lavender, the general effect being like that of the coralline algae in which the fish was found living; the pink color becoming dusky on top of head, and replaced by olive brown on head below eye and suborbital stay, and on tail between lateral line and band of scales. Dark bars blackish, bordered with pale greenish. Light semicircles bordering on lateral line above bluish gray, centered with pink anteriorly, with yellow posteriorly, and all narrowly margined with black. A somewhat interrupted streak of golden red just below lateral line. A row of large, roundish, gray spots below this band; the spots surrounded by black or red and centered with yellowish. Spots forming a similar row below this abruptly cut across the middle by the translucent color about the anal fin, into which they grade. Belly colorless for the greater part, becoming silvery before pelvic fins and pale yellowish dorsally; this yellowish color cut by an irregular blackish bar behind middle of pectoral fin. Chin and lower jaw brownish, profusely spotted with pale yellow. Spinous dorsal with four irregular oblique reddish lines, becoming blackish over body bars; a black blotch at anterior tip of fin bordered below with bright red. Soft dorsal colored like spinous dorsal, but without ocellus. Anal rays barred with

pale yellow and dark brown. Caudal with irregular reddish bars. Pelvics pale. Pectoral with a median basal black red-bordered blotch; rest of fin gray dorsally with groups of blackish dots on the rays, reddish medially, with darker cross bars, and yellowish along ventral border.

(*Corallinus*: in reference to the probable relationship in habitat and color to the coralline algae.)

#### Genus 6. ORTHONOPIAS Starks and Mann

Head short, subquadrate, compressed; snout short, its profile steep; mouth small in both sexes; preopercular spine bifid or trifid. Top and sides of head covered with fine scales; a small scale at base of each soft dorsal ray (as in *Axyrias*); dorsal band wide, extending beyond dorsal fin; the individual scales rather large, with an extensive spiny border; lateral line plates with a free spiny border both above and behind. Anus advanced in position, especially in the male (about midway between base of pelvic and anal fins in female; much nearer pelvic fin in male). Pelvic rays greatly thickened and blackened in the male. No penis.

#### 6. *Orthonopias triacis* Starks and Mann

*Orthonopias triacis* Starks and Mann, Univ. Calif. Publ. Zool., 8, 1911, p. 11, fig. 1; Gilbert, Proc. U. S. Nat. Mus., 47, 1914, p. 137, pl. 11, fig. 2; Bean and Weed, Trans. Roy. Soc. Canada, (3) 13, 1919 (1920), p. 72.

Only two specimens of this species have been recorded: the type, from Cortez Banks, off San Diego, California, and another, figured by Gilbert, from Monterey Bay, dredged at a depth of a few fathoms. We have at hand four additional specimens, obtained on the rocky reefs of Monterey County, California (at Pacific Grove and at Point Lobos).

Dorsal rays, IX, 15 to 17; anal, 11 or 12; pectorals, each 14; pelvics, I, 3. First two dorsal spines abruptly shorter than the third.

Color pattern as illustrated and described. Color in life bright and pretty. Ground color bluish gray above the

lateral line, crossed by four reddish black blotches, which are more or less broken up centrally by small spots of the ground color; ground color becoming definitely differentiated downward toward lateral line into bluish spots and reddish reticulations. Both trunk and tail below lateral line profusely marked with gray, silver-centered spots of varying size; the ground color here dusky reddish ventrally, becoming black for the most part toward lateral line, and yellowish toward and on belly. Lateral line with much red along its course, but with a silvery spot at end. Upper surfaces of head chiefly reddish anteriorly, largely bluish gray behind eye; lower surfaces of head, including gill-membranes and a triangular area backward to pelvic fins, a deep bright red, broken by bluish spots and blotches. A large black blotch on spinous dorsal anteriorly, bordered below with bright red, and behind with a paler red, which is suffused over the whole of fin; this color broken by horizontal dashes of bluish gray. Soft dorsal reddish, with squarish reticulations of bluish gray. Caudal irregularly barred with reddish. Anal dusky, with reddish black spots on membranes at extreme base. Pelvics grayish black. Pectorals reddish black at base; rest of fin coarsely and irregularly barred with reddish. Cirri yellowish on both body and head.

#### Genus 7. *Ruscariops*, new genus

Type: *Ruscariops creaseri*, new species.

This genus is very similar to *Ruscarius*, differing chiefly in having the preopercular spine simple, the supraorbital cirri united into a fringed flap, and naked areas about the base of the first dorsal and of the tail above the lateral line. It is well separated from other genera related to *Artedius*, as the generic features indicated in the description of the type and only species will show.

(*Ruscariops*: like *Ruscarius*.)

#### 7. *Ruscariops creaseri*, new species

Holotype: a fine male specimen 57 mm. long to caudal fin, collected in a very low rock pool at Bird Rock, San Diego

County, California, on May 2, 1923. Six paratypes 41 to 55 mm. long were taken with the type; a half-grown specimen was taken October 5, 1922, and a fine male May 3, 1923, in low pools on White Point, Los Angeles County; still another paratype was obtained January 14, 1923, in a very low pool on Point Lobos, Monterey County, California. All ten specimens were obtained by means of poison.

Body depressed anteriorly, the head especially broad and heavy; nasal spines and orbit entering the rather strongly curved anterior profile; ventral contour little curved. Snout pointed; mouth low. Greatest depth of body 4.0 (3.9 to 4.4) in length to caudal; least depth of caudal peduncle 5.3 (4.6 to 5.5) in head to end of opercular membrane, less than half its length from end of anal base. Length of head 2.6 (2.45 to 2.7); width of head a little greater than depth. Length of snout 4.0 (3.9 to 4.3) in head; eye rather large, the length of orbit 3.8 (to 4.0) in head; length of upper jaw 2.0 (to 2.25); distance from orbit to end of preopercular spine 3.7 (3.1 to 3.8); least suborbital width 2.5 (2.4 to 2.6) in orbit, bony interorbital width 4.0 (3.4 to 4.0), the interorbital broadly (to narrowly) U-shaped in cross section.

Upper preopercular spine of moderate strength, sharp, curved upward; other three spines progressively reduced downward, the second broadly triangular, the lowest a slight knob. Nasal spines well developed. Teeth small, in bands, as usually, on jaws, vomer and palatines. Anterior nostril with a long slightly fimbriated flap on posterior margin; posterior with the rims scarcely elevated. A pair of cirri near end of maxillary, another behind each nasal spine; a group of 4 (1 to 5) cirri on front of upper orbital rim; a large, multifid, posterior, supraorbital flap, preceded by a single cirrus and followed by a loose cluster; a transverse row of occipital cirri; a cluster on each side of nape and on opercular flap; a few others scattered about cheek, and located beside upper two preopercular spines.

Lateral line with 33 (31 to 34) pores, of which the anterior are each generally provided with from one to five cirri. Back

covered with scales between dorsal fins and lateral line, exclusive of an area about base of spinous dorsal, which is naked except for a few scattered spines, and of a scaleless strip on the tail just above the lateral line; upper base of caudal and entire body below lateral line scaleless. A small scale at base of each soft dorsal ray. Scales of main band or area as many as 15 in an oblique row; the individual scales scarcely imbricate, with a rounded and spiny free border. Lateral line plates rather strong, each with an arch of spines behind. Occipital and postorbital regions with scattered suberect spinose scales; opercle and cheeks downward to suborbital stay more densely covered with similar scales; a few small spine-like scales along upper margin of orbit, and a narrow band of spines below orbit. Border of cornea papillate.

Fin rays: Dorsal X, 12 (11 to 13); anal, 9 (constant), the last soft ray counted as double; pectorals, each 16 (rarely 17); pelvics, I, 3; branched caudal rays, 9 (rarely 10). Dorsal fins barely connected at base. Dorsal spines each with a cirrus at tip; the fin almost flat-topped in the male, the margin being slightly concave anteriorly, convex posteriorly, the first spine being longer than the second or third and little shorter than the fifth and longest spine, which is contained 3.0 (2.8 to 3.3) times in head (spinous dorsal lower and more evenly rounded in young and in females); second dorsal relatively high and rounded, 2.2 (2.1 to 2.35) in head; anal shorter and lower, its height 3.0 (2.6 to 3.2) in head; length of caudal, 1.75 (1.7 to 1.85); pectoral reaching to opposite fifth anal ray, 1.25 (1.15 to 1.35) in head; pelvic fin extending nearly to anus, 2.3 (2.1 to 2.5) in head.

Life colors of adult male: head, body and fins everywhere suffused with dusky. Back with a series of five short squarish bars of blackish brown to blackish red, not nearly extended to lateral line anteriorly, and not confluent posteriorly to enclose light areas; bars sometimes indistinct; ground color between bars olive to bluish gray, reticulated with dusky pinkish or olive brown. Sides olive or reddish brown, becoming

flushed with pink over abdomen, and interrupted by numerous irregular vertical streaks of bluish gray, which break up into spots posteriorly (more extensively in some specimens than in others); these spots always small, and not abruptly truncated ventrally as in *Artedius*. Throat dusky bluish or dark olive. Sides of head olive, marked with dark brown or blackish red; a dark bar extending downward and backward from eye the most conspicuous marking. Supraorbital flap black, becoming paler toward tip. Spinous dorsal with oblique bands alternately orange and red, the fin broadly and definitely bordered with dusky blue, with the extreme border yellowish posteriorly. Second dorsal with bluish gray and reddish reticulations tending to form oblique rows; caudal with traces of similar markings, but becoming nearly uniformly dusky ventrally. Pelvic and anal fins blackish.

The female is everywhere less dusky than the male, but in other respects is similarly colored. Throat pale bluish; dorsals merely with oblique bands made up of red spots on the rays and black spots on the membranes, the black predominating on the spinous dorsal, the red on the soft fin; the caudal strongly, the pectoral moderately and the anal faintly, spotted along the rays with red marks, poorly aligned into bars; anal and pelvics pale.

(*Creaseri*: named for Dr. Charles William Creaser, a student of fishes.)

#### Genus 8. *Stelgistrops*, new genus

Type: *Stelgistrum beringianum* Gilbert and Burke.

The type species differs "from *Stelgistrum stejnegeri* in having the snout, cheeks and opercles naked instead of densely covered with minute scales, and in having the large plates of the dorsal band terminating at the end of the dorsal fin instead of reaching to or nearly to base of caudal; the smaller plates of the band terminate just before end of dorsal." The genus *Stelgistrops* will take this diagnosis.

8. *Stelgistrops beringiana* Gilbert and Burke

*Artedius lateralis* Bean and Bean, Proc. U. S. Nat. Mus., 19, 1896, p. 242 (not of Girard).

*Stelgistrum beringianum* Gilbert and Burke, Bull. U. S. Bur. Fish., 30, 1910 (1912), p. 52, fig. 9.

Bean and Bean recorded a sculpin from the stomach of a cod taken at Bering Island as *Artedius lateralis*, but the specimen on re-examination has proved referable to the very different species later described from the same island by Gilbert and Burke.