

STUDIES ON THE FAUNA OF CURAÇAO, ARUBA,
BONAIRE AND THE VENEZUELAN ISLANDS: No. 7.

FRESHWATER FISHES FROM THE LEEWARD GROUP,
VENEZUELA AND EASTERN COLOMBIA

by

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This paper contains the results of the study of the fish-collection, made by P. Wagenaar Hummelinck, on the islands of the Leeward Group and some parts of the adjacent South-American continent, in 1936-'37 and in 1930. The latter have already been studied by Miss M. Sanders (1936) and are only included for completeness' sake.

The material has been presented to the Zoological Museum of Amsterdam.

A description of the localities may be found in the 1st and the 4th paper of this series.

MICROCYPRIINI

CYPRINODONTIDAE

Rivulus cylindraceus Poey

Poey, 1861, p. 308 (Cuba); Regan, 1912, p. 495, p. 500; Sanders, 1936, p. 451 (Bonaire); Hummelinck, 1940, p. 114.

ROQUES, St. 42, Pozo de la Cabecera, 1 spec. BONAIRE, Pos Salinja Martinus, 1930, 1 sp.; Pos di Hoop, 1930, 3 sp.; St. 58a, Pos Francés, 2 spec.; Pos di Pepe, 1930, 7 sp.; Pos Jatoe Largoe, 1930, 3 sp.; Pos Guajaká, Lima, 1930, 2 sp.; St. 60a, Pos Lansberg, 6 sp.; St. 60, Pos Lansberg, 1 sp.

My specimens from Los Roques and Bonaire agree with those mentioned by Miss Sanders, but hers as well as mine have only 10 or 11 rays in the anal, whereas specimens from the type-locality Cuba have 13 rays in that fin, according to the description. I also find more scales in the lateral line, viz. 41-46. Miss Sanders, however, examined specimens from Cuba and says: "Unsere Exemplare stimmen damit gut überein." I therefore follow her, although I think it possible that the animals from Bonaire and Los Roques belong to a species not yet described.

Rivulus harti (Blgr.)

Regan, 1912, p. 501; Hummelinck, 1940, p. 114 (sub *hartii*). *Rivulus micropus* Günther, 1866, p. 327; Garman, 1895, p. 136. *Haplochilus harti* Boulenger, 1890, p. 190.

MARGARITA, St. 15, Manantial de Güiri, 3 spec.; St. 16, Manantial de las Aguas Saladas, 3 sp.; St. 17, Toma de Agua del Encañado, 4 sp.; St. 21, Toma de Agua de La Asunción, 6 sp.; St. 22, Río Asunción, 1 sp.; St. 23, Río Asunción, 4 sp.; St. 26, Toma de Agua del Valle, 3 sp.; St. 27, Casa de Agua del Valle, 15 sp.

Colour of largest specimen of St. 23, in life: Greyish and reddish violet, with longitudinal rows of brownish spots, each spot the size of a scale; back darker, brown; caudal dark, violet, its upper and lower edges white; upper edge of dorsal also lighter, its basal part with small brown spots, especially posteriorly; anal brownish; thorax white; no ocellus at base of caudal. Another specimen is lighter and there are light bands on the caudal. Two others have the caudal more brownish, feebly dotted at base, more violet distally, and without white edges. A dark ocellus superiorly at base of caudal.

Rachovia hummelincki n.sp. (Tab. Xb)

D. 11—12. A. 12—13. P. 14. V. 6. Ll. 30—32. Ltr. 10—11 (below origin of dorsal).

Head slightly depressed, body compressed, tail still more so. Height 3.6—3.9, 4.5—4.9 in length with caudal. Head 3.1—3.2, 3.9—4.1 in length with caudal. Head as deep as broad, its depth 1.4—1.5 in its length. Eye 4—4.5, 1.8—2.1 in flat interorbital space and about equal to snout. Mouth horizontal. Several rows of small pointed teeth in the jaws, and an outer series of distant, enlarged, pointed caninoids in the lower jaw; the tips of the teeth brown. Origin of dorsal twice as distant from eye as from base of caudal, above fifth anal ray. End of dorsal slightly behind that of anal. Dorsal rounded behind, the longest ray somewhat more than postorbital part of head. Anal as deep as dorsal, truncated behind. Pectorals equal to head without snout or somewhat shorter, reaching to base of ventrals or nearly so. Ventrals close together, reaching to or on anal. Caudal rounded. Colour of preserved specimens brownish, upper part of head and back darker. Scales of opercle each with a large white or bluish white spot. Some scales of preopercle with similar spots and similar, but much smaller spots, scattered on some of the scales of sides of body and tail. A dusky vertical band through eye and suborbital region, a less distinct one along hind-border of preopercle. Dorsal, and sometimes also anal and ventrals with rows of dusky spots. Caudal dusky, with vertical rows of dark spots, but the lower lobe of the fin pure white, sharply contrasting with the rest.

PARAGUANA, St. 106, Poza de San Antonio, E of Carirubana, 16.II.1937, 6 specimens, 49—58 mm.

This species differs from the type-species *Rachovia brevis* in having more rays in the dorsal, less in the anal, and in the coloration.

Austrofundulus transilis Myers

Myers, 1932, p. 160.

GOAJIRA, St. 113, Pozo del Arroyo de Apará, El Cardón, 17 spec., 39—60 mm.

Cyprinodon dearborni Meek

Meek, 1909, p. 208 (Curaçao); Sanders, 1936, p. 449 (Bonaire); Hummelinck, 1940, p. 114.

BONAIRE, St. 58, Pos Francés, 4 females; St. 58a, Pos Francés, 5 spec.; St. 60a, Pos Lansberg, 55 sp.; Pos Lansberg, 1930, 5 sp.—Saltwater: Salinja Plenchi, 26. III. 1937, 1 sp.; Oranje Pan, 1930, 6 sp.; Pekelmeer, 1930, 7 sp.; Goto, 1930, 42 sp.; Tanki di Salinja Slagbaai, 1930, 20 sp.; Salinja Slagbaai, 1930, 24 sp.; Salinja Bartool, 1930, 8 sp.—Seawater: Cay, 1930, 9 sp. KLEIN BONAIRE, saltwater: Salinja Klein Bonaire, 1930, 1 sp. CURAÇAO, seawater: Zákuito, 31. X. 1936, 1 fem. GOAJIRA, St. 114, Laguna del Pájaro, 2 fem.

The specimen from Curaçao only shows a black ocellus on the anal, the others only one on the dorsal. I refer all the specimens to *C. dearborni*, although the bars on the sides are much more vivid than described by Meek. Possibly this species is only a variety of *C. variegatus*, but I lack material to decide this question.

POECILIIDAE

Mollienesia vandepolli (van Lidth de Jeude)

Hummelinck, 1940, p. 114 (sub *Mollienisia*). *Poecilia vandepolli* van Lidth de Jeude, 1887, p. 137. *Girardinus vandepolli*, Meek, 1909, p. 209. *Mollienisia sphenops vandepolli*, Hubbs, 1926, p. 71; Sanders, 1936, p. 450.

BONAIRE, saltwater: Tanki di Salinja Slagbaai, 1930, 110 spec.; Salinja Slagbaai, 1930, 17 sp.; Salinja Slagbaai, 1932, 6 sp.—Seawater: Cay, 1930, 1 sp. CURAÇAO, seawater: Zákuito, 1930, 31 sp. ARUBA, St. 93a, Bron di Fontein, 105 sp.; St. 101, Tanki Rooi Canashito, 11 sp. juv.; St. 103, Bron di Rooi Bringamosa, 4 males, 14 females; Rooi San Fuego, 19. XII. 1936 (mesohaline), 1 fem.; St. 104Ba, Bron di Rooi Prins, 49 sp.

Lebistes reticulatus (Peters)

Regan, 1913, p. 1008; Hummelinck, 1940, p. 114. *Poecilia reticulata* Peters, 1859, p. 412. *Lebistes poecilioides* Filippi, 1861, p. 69.

MARGARITA, St. 17, Toma de Agua del Encañado, 7 males, 25 females; St. 19, Toma de Agua de Tacarigua, 3 m., 1 fem., 3 juv.; St. 20, Aljibe del Rio de la Fuente, 2 fem., some juv.; St. 22, Rio Asunción, 14 m., 21 fem., 2 juv.; St. 23, Rio Asunción, 12 m., 25 fem., 2 juv.; Porlamar, Tanque del Hotel Central, 25. V. 1936, 4 juv.; id., 17. VII. 1936, 1 m.; id., 4. VIII. 1936, 1 fem.

Poecilia vivipara Bl. Schn.

Bloch Schneider, 1801, p. 452; Regan, 1913, p. 1005.

PARAGUANA, St. 108, Estanque de Moruy, 7 males, 23 females; St. 109, Estanque de Santa Fé, ? many young spec.; St. 110, Estanque de Santa Ana, 6 fem., number of juv. GOAJIRA, St. 115, Rio Calanca, San Antonio, 6 fem.

PERCOMORPHI

MUGILIDAE

Agonostoma monticola (Bancroft)

Günther, 1861, p. 464; Jordan et Evermann, 1896, p. 819; Hummelinck, 1940, p. 114. *Mugil monticola* Bancroft, 1836, p. 367.

CURAÇAO, St. 83, Pos Ariba, Dokterstun, 1 spec., H. B. C. Schotborgh coll.

Myxus calancae n.sp. (Tab. Xa)

D¹. IV. D². 9—10. A. II. 10—11. P. 2. 15. V. 1. 5. Ll. 43—44. Ltr. 12—13 (between D². and A.).

Elongate, compressed. Height 4—4.5, 5.1—5.5 in length with caudal. Head 3.4—3.7, 4.3—4.5 in length with caudal. Eye 3.2—3.7 in head, about equal to snout and somewhat less than convex interorbital space. The adipose eye-lid is feebly developed; anteriorly it is broader than posteriorly, but by far not reaching pupil. Mouth oblique. Maxillary reaching to below front border of eye, slipping almost completely below preorbital when the mouth is closed. Upper lip with a single row of slender and rather long, hooked, flexible teeth. Lower jaw angular, with a symphyseal knob, included, without teeth. Anterior nostril round, with a low tube, posterior nostril an oblique slit. Preorbital finely serrated posteriorly and inferiorly. Cheeks and opercle scaly. 21 scales before dorsal. Origin of dorsal midway between point of snout and base of caudal; the first spine longest, equal to eye and snout together. Origin of second dorsal above third anal ray, slightly nearer origin of first dorsal than to base of caudal. First and second dorsal rays not forked, the second ray longest of all, slightly less than first spine of first dorsal. First anal spine about one fourth of second, which is about two thirds of first anal ray. This ray not forked. The second ray is longest and equal to first spine of first dorsal. Some elongate scales along base of first dorsal. Second dorsal and anal with a basal scaly sheath, consisting of one row of scales, excepting the anterior part of the anal sheath which consists of two rows. Caudal forked, the bases of the rays covered with scales. Pectorals rounded, half diameter of eye longer than postorbital part of head, scarcely reaching to below origin of first dorsal when the fin is depressed. Ventrals slightly shorter than pectorals, their spines as long as second spine of first dorsal. A well developed elongate scale at axils of pectoral and of ventral. Upper side of head and back brown, rest of head and body silvery. Fins hyaline, dorsal spines and rays, caudal rays and base of pectoral with minute black dots (melanophores).

GOAJIRA, St. 115, Lower course of the Río Calancale, naar San Antonio, 17.I.1937, 6 specimens, 55—58 mm.

This species is nearest to *Myxus splendens* Mohr, 1927, p. 188, but it is distinguished by its tubiform anterior nostril, and by the longer second anal spine. A tubular nostril is present in *M. tincoides* Mohr, 1927, p. 186, but in this species the origin of the first dorsal is nearer to the caudal base than to the point of the snout.

GOBIOIDEA

ELEOTRIDAE

Eleotris pisonis (Gm.)

Jordan et Evermann, 1898, p. 2200; Sanders, 1936, p. 452; Hummelinck, 1940, p. 114. *Gobius pisonis* Gmelin, 1788, p. 1206.

BONAIRE, St. 51a, Tanki Kerkhof, III. 1939, 10 spec., Jet Hellmund don.; St. 57a, Pos Caranja, 2 spec.; St. 57b, Pos Caranja, 3 spec.; Pos Caranja, 1930, 1 spec.; St. 56, Grot Watapana, observed; Pos Caranja Grandi, 1930, obs.; Pos di Booi, 1930, obs.

Dormitator maculatus (Bloch)

Jordan et Evermann, 1898, p. 2196; Regan, 1906—1908, p. 8. *Sciaena maculata* Bloch, 1792, p. 44. *Eleotris maculata* Günther, 1861, p. 112.

VENEZUELAN CONTINENT, St. 1, Río Chuspa, 1 spec. juv. 30 mm. CURAÇAO, seawater: Rockpool of the Rifwater, X. 1936, 1 sp., fr. Rigobert coll. GOAJIRA, Laguna de la Rita, Río Hacha (6200 mg Cl/l), 18.I.1937, ? some very small specimens.

The specimen from Curaçao was kept during several weeks in a freshwater aquarium. Mr. Hummelinck describes its colour, when alive, as follows: Back greenish brown; belly golden yellow, mixed with green; sides silvery grey with a blue hue and with blackish spots on the scales; sides of tail lighter, more silvery; base of caudal yellowish. Two distinct large dull black blotches on the median line before the first dorsal; a blotch above the origin of the pectoral, conspicuously golden and blue, mixed with black. Upper part of head as back, but somewhat lighter; opercular region and base of pectoral brownish grey and yellowish green, with small brown spots forming stripes round the eye; below the eye more greyish with a distinct brown stripe downwards. Iris coppery red. Caudal hyaline, the rays greyish brown and dusky; dorsal as caudal, but with distinct dull black spots; anal brownish hyaline, with greyish white spots; lower edge milky white; base of anal anteriorly slightly greyish blue; pectorals and ventrals hyaline. — At night the fish is light brownish, the blotches before the dorsal only present, but these too can disappear; stripes on head remain distinct; all fins hyaline, with dull greyish spots on dorsal and anal.

Alexurus armiger Jord.

Jordan, 1895, p. 511 (La Paz, Lower California); Jordan et Evermann, 1898, p. 2203.

ARUBA, 1937, exact locality unknown, possibly from saltwater, 1 spec. 94 mm., fraters don.

This specimen differs from the type in having one ray less in the dorsal and in the anal.

GOBIIDAE

Awaous banana (C. V.)

Hummelinck, 1940, p. 114. *Gobius banana* Cuvier et Valenciennes, 1837, p. 103. *Awaous mexicanus* Jordan et Evermann, 1898, p. 2237. *Chomophorus banana*, Regan, 1906—1908, p. 11.

CURAÇAO, St. 83, Pos Ariba, Dokterstuin, 4 spec., H. B. C. Schotborgh coll.; St. 82, Pos Europa, Dokterstuin, observed.

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