Явление взаимоисключаемости разных генетических групп по-видимому вообще широко распространено среди высших ракообразных. Например, давно известны антагонистические взаимоотношения между *Astacus astacus* и *A. leptodactylus* (Шимкевич [15]; Бирштейн и Виноградов [3]; Цукерзис [14].

Конечно, это чрезвычайно интересное явление требует еще очень углубленного и всестороннего исследования. Для его более или менее полного объяснения надо будет провести ряд полевых и лабораторных эколого-физиологических экспериментальных наблюдений.

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Институт зоологии Академии наук Молдавской ССР, Кишинев, СССР

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ADDITIONAL SPECIES OF FISHES IN THE FAUNA OF PERU TRENCH. RESULTS OF THE 11TH CRUISE OF R/V "ANTON BRUUN", 1965

BY

RUDOLF F. MAYER and TEODOR T. NALBANT

In the present paper, five species of bathypelagic and abyssal fishes (*Torictus edentulus*, *Holtbyrnia banchoti*, *Lepophidium emelas*, *Bassogigas coheni* and *Caulophryne jordani*) are described, two of which are new ones.

The fishes forming the basis of the present paper were collected during the 11th cruise of R/V "Anton Bruun" (1965) and this represent our second contribution to this subject.

We are thanking Prof. R. Menzies, the head scientist of the expedition, and Dr. Mihai C. Băcescu, for their interest in collecting and preserving this material and for their generous help during the preparation of the manuscript.

Fam. **ALEPOCEPHALIDAE**

Torictus edentulus Alcock, 1892

Fig. 1 a and b

Material: one specimen 146.0 mm. in standard length, "Anton Bruun" 11th cruise, Peru Trench, October 1965. I.K.M.W.T., 500 m.

Gill cover flat, extended beyond the bases of pectorals, covering a large part of the fins. The insertion of first dorsal ray behind the origin of the anal fin. Maxillary with an expanded margin. The following

morphometric features are expressed in percents of the standard length: head 35.70; longitudinal diameter of eye 6.15; preorbital space 7.54; postorbital space 24.03; maxillary 11.63; greatest depth of body 21.30; predorsal space 64.25; preanal space 57.60.

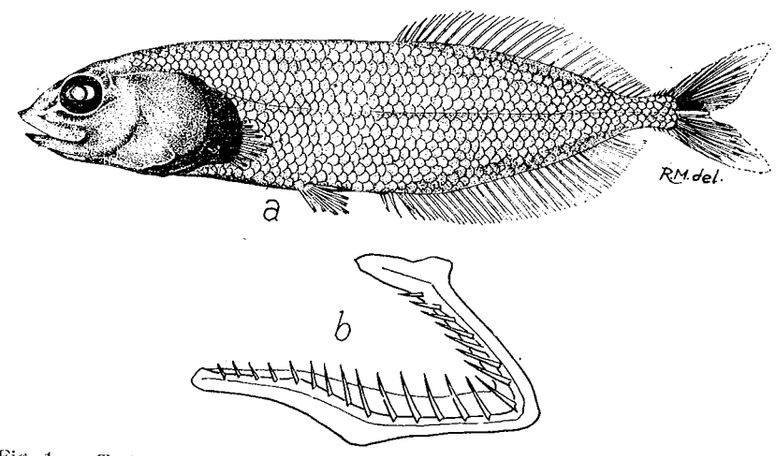

Fig. 1. — *Torictus edentulus* Alcock: a. Lateral view of the specimen; b. First left branchial arch.

Scales moderate in size, 59—60 in lateral line.

Dentition: maxillaries, vomer and palatines, toothless. Mandibula with rare, small, pointed teeth.

Fin rays formula: D 27, A 34, V 7—7, P 10—10, C n 9+8 n.

Colour: body brown. Head deep brown, beautiful irisations. Mouth cavity and branchial chamber dark brown to iridescent black.

All fins gray-brown.

Remarks: this species represents a new record for the fish fauna of the Peru-Chile Trench.

Fam. **SEARSIDAE**

Holtbyrnia bauchoti sp. nov.

Fig. 2 a—c

Holotype: Type fish "Gr. Antipa" Mus. collection Cat. No. 170, one specimen 35.4 mm. in standard length. "Anton Bruun" 11th cruise, Peru Trench, October 1965.

Diagnosis: a *Holtbyrnia* with advanced pectoral fins and a small preanal space. Operculum with a striated margin.

Description: Body elongated, compressed, scaleless. Head relatively large, compressed. Eyes elliptical, well developed. Mouth cleft large,

upper jaw not exceeding the vertical from the middle of the eye. Premaxilla with two pairs of fang-like teeth. Maxillaries and dentaries with minute, pointed teeth disposed in one row. Vomerine teeth fang-like. Each palatine with one pair of pointed teeth, similar to vomerine teeth. Four to five lateral teeth on each side of the mandibula are present.

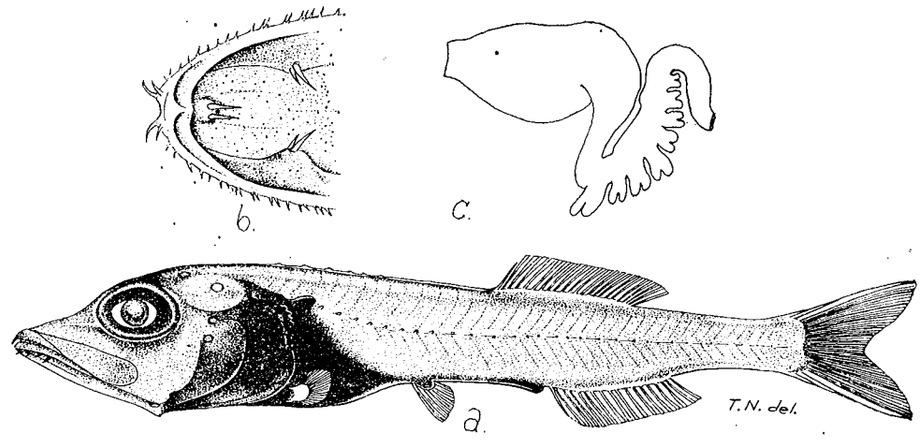

Fig. 2. — *Holtbyrnia bauchoti* sp. nov.: a. Lateral view of the holotype; b. Dentition on premaxilla, maxillaries, vomer and palatines; c. Stomach and the arrangement of the pyloric coeca.

Photophores. The terminology of luminous organs was used according to Parr [6, p. 10]. In this specimen only few photophores or groups of photophores may be discerned: Go, near the tip of mandibula, one median BRO, a transversal THO chevron-shaped, IVO chevron-shaped and two SAD. Other luminous organs are lacking.

The measurements, expressed in percentages, of *Holtbyrnia bauchoti* are given in table 1 together with the values of two specimens of *Holtbyrnia* (s. str.) *melanocephala* Vaillant captured in the same station and the values given by Parr [6, p. 78] for the holotype of *Holtbyrnia (Krefftia) macrops* Maul and *Holtbyrnia* (s. str.) *melanocephala* [7, p. 65] and by Bussing [1, p. 192] for both *macrops* and *melanocephala*. Remarkable differences between *bauchoti* and *macrops* may be observed in the greatest depth of body, preanal and predorsal spaces (compare the values).

The number of fin rays is difficult to count. The dorsal fin contains about 21 rays and the anal fin about 18.

The insertion of the ventrals is equidistant between pectorals and anal root. Anal first ray placed under the 9th dorsal ray.

Caudal well forked. Lateral line complete and distinct, underlined in its first half by small tubes. Shoulder organ well developed.

Stomach syphonal. First part of intestine with eight deeply branched coeca.

Colour: generally intense brown with beautiful iridescence, head and abdomen deep violet-brown and peritoneum jet black.

Table 1

Comparison between body proportions in some *Holtbyrnia* species

	bauchoti	*macrops*		*melanocephala*		
	holotype	Parr, 1960 holotype	Bussing, 1965	Parr, 1960	Bussing, 1965	Our specimens
h.l.	36.70	35.50	36.00	36.00	36.40–38.20	40.05–40.30
e.d.	11.32	12.00	11.80	–	10.80–12.70	12.75–13.50
pr.s.	8.46	7.90	10.90	8.80	9.10–10.40	9.60–10.62
pt.s.	16.41	–	–	–	–	16.70–19.10
h.	14.70	19.20	19.20	–	18.60–20.40	17.30–19.17
pd.s.	62.10	65.20	62.30	65.50	61.30–63.40	62.50–63.90
pa.s.	67.80	73.50	72.00	74.70	69.40–71.80	67.50–76.50
pr.s.	47.90	58.90	57.80	61.30	56.20–60.30	55.80–58.30

h.l. = head length
e.d. = eye diameter
pr.s. = preorbital space
pt.s. = postorbital space
h. = greatest depth
pd.s. = predorsal space
pa.s. = preanal space
pr.s. = preventral space

Remarks : this new species could be referred to the subgenus *Krefftia* due to its moderate head and relatively short snout.

Our new species differs essentially from *H. macrops* Maul, *H. schnakenbecki* Krefft and *H. problematica* Parr by the absence of the following groups of photophores : JO, IPO, SVO, PAO and ICO, and particularly by its advanced ventral fins.

This new species is dedicated to Dr. Marie-Louise Bauchot in appreciation of her work on fishes and for her kind help given to us in different ways.

Fam. **OPHIDIIDAE**

Lepophidium emelas (Gilbert, 1890)

Fig. 3

Material : four specimens 121.0—140.0 mm. in standard length, "Anton Bruun" 11th cruise, Peru Trench, October 1965. No other data.

New record for this area.

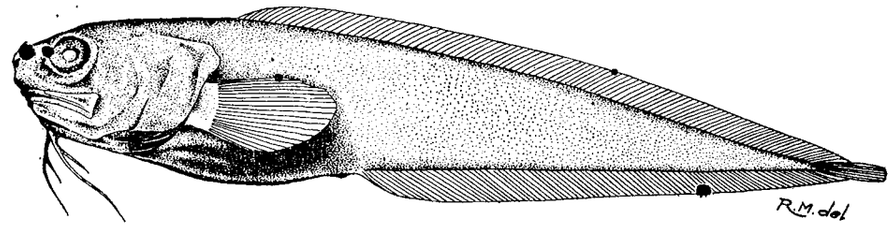

Fig. 3. — *Lepophidium emelas* Gilbert : Lateral view of the specimen.

Fam. **BROTULIDAE**

Bassogigas coheni sp. nov.

Fig. 4 a—d

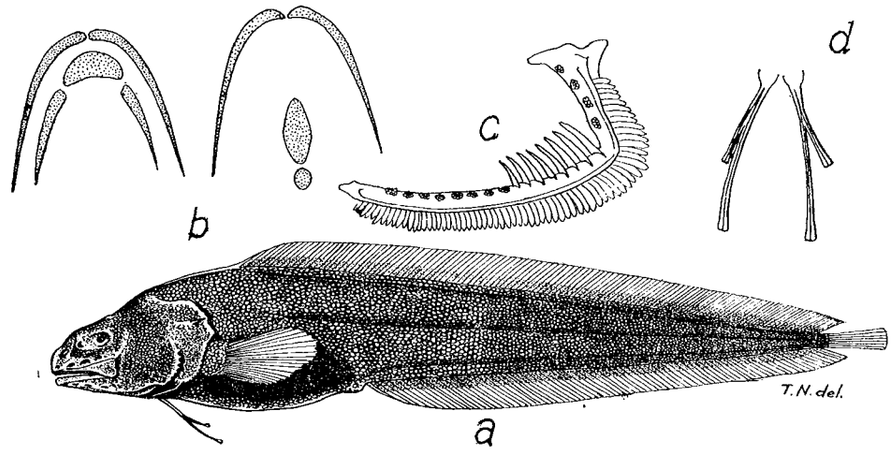

Fig. 4. — *Bassogigas coheni* sp. nov.; a. Lateral view of the holotype; b. Dentition on maxillaries, vomer, palatines, dentaries and basibranchials; c. First left branchial arch; d. The ventral fin rays.

Holotype : Collection "Gr. Antipa" Mus. Cat. No. 191, one specimen 110.0 mm. standard length, "Anton Bruun" Exped. Sta. 161, Peru Trench 08°23'S — 80°25'W, depth 2945—2966 m., beam trawl, October 31, 1965. The single specimen known.

Diagnose : A *Bassogigas* with serrated preoperculum and operculum and with outer ventral ray smaller than the inner one.

The body is rather elongate and compressed, tapering gently to the caudal fin. Head robust. Eyes relatively small, covered by skin. Preoperculum and operculum slightly denticulated on their vertical edge, but not with small spines as in *Neobythites*.

Opercular spine robust. A conspicuous carina between interorbital space and the first ray of the dorsal fin. Gill rakers on the first left branchial arch : 4 small tubercles + 8 spines + 8 small tubercles (total 20).

Minute teeth on premaxillaries and palatines. Vomerine teeth arranged on a half-moon-shaped plate. Two patches of bassibranchial are present at the base of the tongue. Small papillae covers the entire mouth cavity and the tongue. Snout rounded, mouth terminal.

Posterior margin of maxillary ends slightly beyond the vertical of the posterior rim of the orbit.

Fin rays formula : D 129, A 99, V 2, P 27, C 4 + 5 (total 9).

Caudal fin possibly free, not included by dorsal and anal ones.

The following morphometric values are expressed in percentages of the standard length : head 21.30 ; eye 3.63 ; preorbital space (length of snout) 4.56 ; length of maxilla 9.10 ; postorbital space 12.70 ; interorbital space 5.46 ; greatest depth of body 16.40 ; least depth of body 1.45 ; predorsal space 24.60 ; preanal space 41.04.

Colour : generally gray-violet. Sides of head grayish-brown. A narrow postopercular blackish area. The abdomen is bluish-gray.

The mouth cavity, the gill chamber and the peritoneus are deep brown pigmented. All fins are pale.

Remarks : the present species described in a previous paper as *Bassogigas* sp. [3] appears to be distinct from all species of *Bassogigas* due to its great number of dorsal and pectoral rays, serrated preopercular and opercular and especially to its outer ventral rays smaller than the inner ones.

However, among the other species of this genus, *B. digitatus* Garman may be considered as the closest relative to our specimen due to its general appearance and to its great number of dorsal rays. The variation of the dorsal rays, according to Garman's [2] meristic data, ranges from 105 to 121. For comparison between *Bassogigas coheni* and other species of this genus see Nybelin [5] and Nielsen [4].

This species is named *coheni* in appreciation of all the aid given to us by Dr. Daniel M. Cohen, Smithsonian Institution, Washington, D.C.

Fam. **CAULOPHRYNIDAE**

Caulophryne jordani Goode & Bean, 1896

Fig. 5 a and b

Material : one female specimen 169.0 mm. standard length, "Anton Bruun" 11th cruise, Peru Trench, October 1965.

D 1 + 15, A 15, V absent, P 18, C II 4 II. Ilicium with a bulb at its tip and numerous small and long filaments (Fig. 5 b).

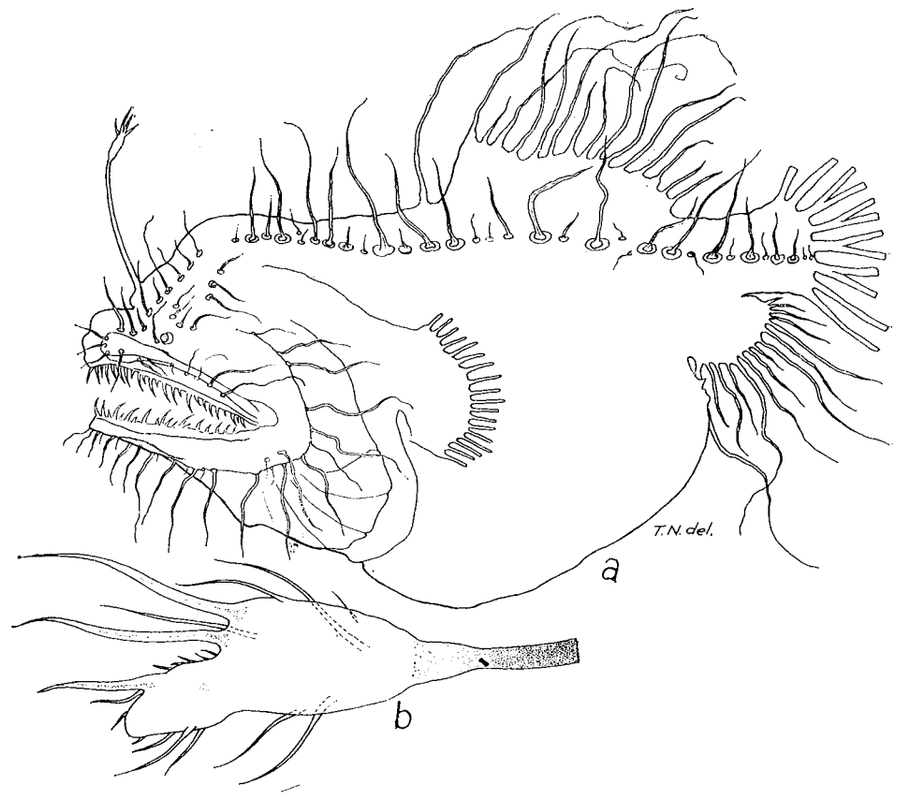

Fig. 5. — *Caulophryne jordani* Goode & Bean, 1896 ; a. Lateral view of the specimen ; b. The tip of the ilicium.

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