

From the Zoological Museum, Copenhagen and the Danish Institute of Fisheries and Marine Research, Charlottenlund.

Ergebnisse der Forschungsreisen des FFS „Walther Herwig“ nach Südamerika

XIII. Notes on the Bathylaconidae (Pisces, Isospondyli) with a new species from the Atlantic Ocean

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with 7 figures and 9 tables

Received December 20, 1969

A. Introduction

In a recent paper (NIELSEN & LARSEN, 5) was published a synopsis of the Bathylaconidae, based on all available material, viz. 12 specimens, of which four were from the Atlantic Ocean. In January-February 1968 one of us (JGN) participated in the 23rd cruise of the German R/V “Walther Herwig”, fishing meso- and bathypelagically (BRUUN, 1) in the Atlantic Ocean from the Bay of Biscay to off Mar del Plata, Argentina. During this cruise eight additional specimens of *Bathylaco* were caught. Furthermore, the R/V “Discovery” in March 1968 caught a specimen off the Canary Islands.

Six of the nine specimens belong to *Bathylaco nigricans*, two specimens to a new species which is described below, and one is described as “*Bathylaco* specimen”. The gear used during the “Walther Herwig” expedition was a floating-trawl with a maximum opening of 26×30 meters. Normally, three hauls, the deepest of which was at 5–600 meters, were made at each station, but at eight stations a 2000 meters haul was made. In five of these deep hauls one or two specimens of *Bathylaco* were captured. Only one specimen was captured at a more shallow haul, viz. 560–580 meters.

The “Discovery” specimen was caught in a midwater trawl with an opening-closing device (CLARKE, 2).

B. Species

Three species are recognized, all belonging to the genus *Bathylaco*. Two of these are Atlantic; they are discussed in the following, while the third *B. macrophthalmus* Nielsen & Larsen, 1968, is only known from the type locality off California. The latter species is included in tables 1–8 and in the key, in order to facilitate the specific comparison.

Key to the species of *Bathylaco*:

- I. Number of gill rakers on first arch 21–22. Number of pectoral fin-rays 17–18. Black-pigmented intestine. No teeth in the lower jaw *B. kreffti* n. sp.
- II. Number of gill rakers on first arch 11–17. Number of pectoral fin-rays 4–11. Unpigmented intestine. Teeth in the lower jaw.
- A. Number of anal fin-rays 17. Base of dorsal fin 17.0% of SL *B. macrophthalmus* Nielsen & Larsen, 1968

B. Number of anal fin-rays 11–13. Base of dorsal fin 20.5–28.0% of SL . . . *B. nigricans*
 Goode & Bean, 1896

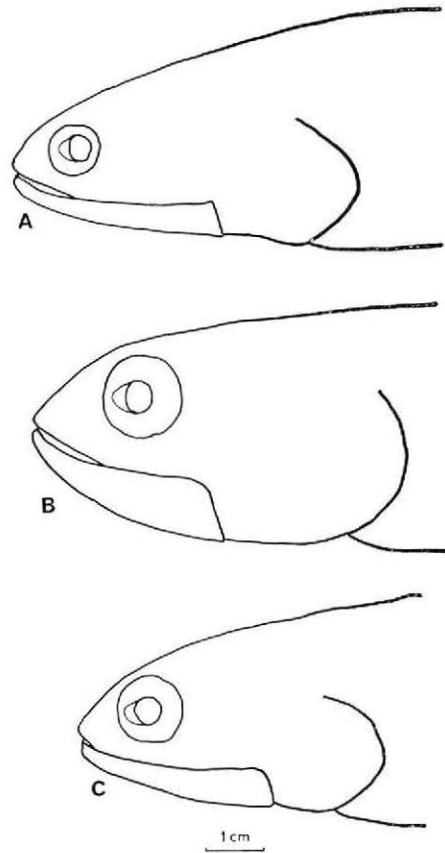


Fig. 1: Schematic drawings showing the shape of the lower jaw. The upper jaw is excluded. A) *B. nigricans* (SL 204 mm), B) *B. krefftii* (SL 212 mm), C) “*Bathylaco* specimen” (SL 252 mm)

Frequency distribution for some of the characters of *Bathylaco* spp.:

Table 1 Anal fin-rays

	11	12	13	14	15	16	17
<i>B. nigricans</i>	6	9	1	.	.	.	.
<i>B. macrophthalmus</i>	.	.	.	.	.	.	1
<i>B. krefftii</i>	.	.	.	2	.	.	.
<i>B. specimen</i>	.	1	.	.	.	.	.

Table 2 Rays in the right pectoral fin

	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<i>B. nigricans</i>	.	.	3	3	2	2	.	1	.	.	.	.	.	.	.
<i>B. macrophthalmus</i>	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>B. krefftii</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
<i>B. specimen</i>	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.

Table 3 Gill rakers on the anterior right arch

	11	12	13	14	15	16	17	18	19	20	21	22
<i>B. nigricans</i>	1	5	4	3	2	.	1	.	.	.	.	.
<i>B. macrophthalmus</i>	.	.	.	.	1	.	.	.	.	.	.	.
<i>B. krefftii</i>	.	.	.	.	.	.	.	.	.	.	1	1
<i>B. specimen</i>	.	1	.	.	.	.	.	.	.	.	.	.

Table 4 Basis of dorsal fin in % of standard length

	16	17	18	19	20	21	22	23	24	25	26	27	28
<i>B. nigricans</i>	.	.	.	.	.	2	3	3	2	.	1	.	3
<i>B. macrophthalmus</i>	.	1	.	.	.	.	.	.	.	.	.	.	.
<i>B. krefftii</i>	1	.	1	.	.	.	.	.	.	.	.	.	.
<i>B. specimen</i>	.	.	.	.	1	.	.	.	.	.	.	.	.

Table 5 Snout to caudal tip of stomach in % of standard length

	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	
<i>B. nigricans</i>	.	.	.	.	.	.	.	.	1	.	.	1	3	2	.	.	.	.	1	1	1	1
<i>B. macrophthalmus</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
<i>B. krefftii</i>	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>B. specimen</i>	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 6 Width of lower jaw in % of lower jaw length

	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<i>B. nigricans</i>	1	1	4	1	1	.	.	.	.	.	.	.	.	.
<i>B. macrophthalmus</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.
<i>B. krefftii</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	1
<i>B. specimen</i>	1	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 7 Posterior edge of pigmented eye to posterior edge of upper jaw in % of upper jaw length

	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
<i>B. nigricans</i>	.	.	.	.	.	.	.	.	.	.	2	4	3	1	.	1	1	1
<i>B. macro-</i> <i>phthalmus</i>	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>B. krefftii</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>B. specimen</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

1. *Bathylaco nigricans* Goode & Bean, 1896 (Fig. 2)

Material (6 specimens):

- 1 specimen (SL 276); "Walther Herwig" St. 7/III/68 (29°23'N, 18°10'W); c. 2000 meters. 22. Jan. 1968. Inst. f. Seefischerei, Hamburg, No. ISH 232/68.
- 1 specimen (SL 197); "Walther Herwig" St. 11/III/68 (16°08'N, 22°22'W); 560–580 meters. 29. Jan. 1968. Inst. f. Seefischerei, Hamburg, No. ISH 512/68.
- 1 specimen (SL 248); "Walther Herwig" St. 12/II/68 (12°07'N, 23°08'W); c. 2000 meters. 30. Jan. 1968. Inst. f. Seefischerei, Hamburg, No. ISH 597/68.
- 1 specimen (SL 114); "Walther Herwig" St. 16/I/68 (03°00'S, 26°16'W); c. 2000 meters. 3. Febr. 1968. Inst. f. Seefischerei, Hamburg, No. ISH 2099/68.
- 1 specimen (SL 70); "Walther Herwig" St. 17/I/68 (04°43'S, 26°39'W); c. 2000 meters. 4. Febr. 1968. Inst. f. Seefischerei, Hamburg, No. ISH 926/68.

1 specimen (SL 204); “Discovery” St. 6695 (27°46.7'N, 14°00'W); 800–900 meters, rectangular midwater trawl (8 sq.m.). 15. Mar. 1968. National Inst. of Oceanography, Wormley.

Condition: The three small specimens from the “Walther Herwig” are in a poor condition, and the two larger ones in a fairly good condition. The “Discovery” specimen is in excellent state with most of the squamation intact.

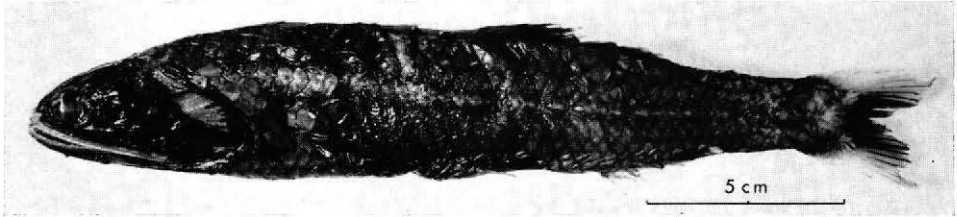


Fig. 2: *B. nigricans* Goode & Bean, 1896 (SL 204 mm). “Discovery” St. 6695

Description: Owing to the detailed description by NIELSEN & LARSEN (5) only a few characters are commented upon here. Tables 1–8 show some of the meristic and morphometric characters for each of the six specimens. The total variation (table 8) includes the specimens from the 1968-publication and shows an enormous variation, especially among the meristic characters. The morphometric characters of the two small, juvenile specimens are not included in the total variation. The 114 mm long specimen from “Walther Herwig” St. 16 is considered an adult specimen, owing to the rather well-developed gonads, although it is shorter than the juvenile Funchal specimen (SL 126 mm). Two often used characters, “Length of snout” and “Depth at anterior end of dorsal fin”, are not shown in table 8 since the state of preservation of most of the specimens does not allow accurate measurements particularly as regards these characters. Table 8, column 5, shows that six of the morphometric characters of the juvenile specimen fall outside the variation of the adult specimens (column 7). The diameter of the eye in the two small specimens (SL 70 and 114 mm) agrees well with the graph showing the allometric growth of the diameter of the pigmented eye (NIELSEN & LARSEN, 5, fig. 2).

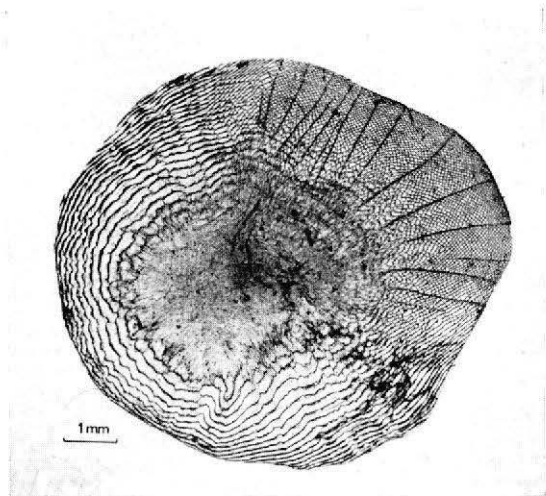


Fig. 3: Scale from area just behind pectoral fin. “Discovery” St. 6695

Table 8 Meristic and morphometric characters of the *Bathylaco* spp.

	<i>B. nigricans</i>						Total variation and average ¹⁾	<i>B. krefftii</i>		<i>B. macro-</i>	<i>Bathylaco</i>
	"W.H." St.7/68	"W.H." St.11/68	"W.H." St.12/68	"W.H." St.16/68	"W.H." St.17/68	"Dis- covery" St.66/95		"W.H." St.7/68 Paratype	"W.H." St.28/68 Holotype	Nielsen & Larsen, 1968	"W.H." St.16/68 specim.
Standard length	276	197	248	114	70	204		346	212	203	252
Sex	♂	♂	♀	♀	—	♂		♂	—	♂	♀
<u>Meristic characters</u>											
Dorsal fin	19	20	18	18	18	19	18(19.1)22	18	17	17	17
Anal fin	12	12	12	12	11	13	11(11.8)13	14	14	17	12
Ventral fins (r-1)	8-8	9-9	8-8	7-7	9-8	8-8	6(7.7)9	7-8	8-7	8-8	7-8
Pectoral fins (r-1)	6-7	-9	7-7	—	—	8-8	6(7.8)11	17-17	18-18	4-4	7-7
Gill rakers on {r	4+1+8	3+1+8	3+1+7	3+1+8	3+1+8	3+1+8	11(13.2)17	7+1+14	7+1+13	4+1+10	3+1+8
anterior arch {l	3+1+8	3+1+7	3+1+7	3+1+8	3+1+8	4+1+8	11(13.2)17	7+1+14	7+1+13	4+1+9	4+1+9
Branchiostegal rays (r-1)	9-9	9-9	7-8	8-8	—	8-9	7(9.2)10	7-7	7-7	9-9	7-7
Vertebrae (incl. urostyle) ²⁾	27+15	27+16	28+14	—+17	25+18	29+17	25(28)32+ 14(17.2)20 42(45.3)49	26+20	27+20	27+19	26+16
Pyloric caeca	7	11	7	6	9	8	6(8.7)12	9	10	8	5

Table 8 continued

Morphometric characters
as % of standard length

Head	25.0	26.0	26.0	30.5	30.0	28.0	24.5(28.0)32.5	30.0	30.5	28.5	22.5
Upper jaw	17.0	18.5	18.0	22.5	23.5	19.0	17.0(19.5)22.5	16.5	16.0	18.5	15.0
Lower jaw	18.0	19.5	19.0	24.5	25.0	19.5	17.5(20.0)24.5	17.0	18.5	19.0	15.0
Horizontal diameter of pigmented eye	5.4	5.6	5.7	8.9	10.0	4.6	3.8(5.3)5.9 [8.9]	6.1	7.1	7.4	5.4
Bony interorbital width	5.4	5.1	4.0	5.0	3.6	3.9	3.3(4.7)6.4	7.2	5.9	4.4	4.0
Preventral	54	59	58	59	64	57	53(57)60	58	59	59	59
Preanal	71	72	76	73	76	71	71(73)76	75	73	73	71
Predorsal	58	60	60	59	60	56	53(57)60	63	64	61	56
Base of dorsal fin	23.0	28.0	22.5	22.0	23.5	25.5	20.5(23.5)28.0	18.0	16.0	17.0	19.5
Base of anal fin	12.0	11.5	10.0	10.5	10.5	12.0	9.4(11.5)12.0	12.0	10.5	14.5	12.0
Snout to caudal tip of stomach	52	—	57	51	50	52	47.0(53)59	40.0	39.0	51	44.0
Posterior edge of pigmented eye to posterior edge of upper jaw as % of upper jaw	57	56	57	58	43.0	61	56(58)63	47.5	—	46.0	47.5
Width of lower jaw ³⁾ as % of lower jaw	16.5	13.0	14.0	15.5	12.5	14.5	13.0(14.5)16.5	24.5	26.0	15.0	12.5

1) The specimens dealt with by NIELSEN & LARSEN (5) are also included in the “Total variation and average”. This gives a material of maximally 16 specimens for the meristic characters, while two juvenile specimens (Funchal No. 18 925 from the 1968-publication and “Walther Herwig” St. 17/68) are excluded from the morphometric characters, leaving 14 specimens. The average of the last character in table 8 is exceptional, since it is based on eight specimens only, while in most other cases the average is based on the maximum number of specimens.

2) Precaudal + caudal vertebrae. Column seven also gives the variation and average for the total number of vertebrae.

3) The width of the lower jaw is measured as the shortest distance from the angle of the mouth to the ventral edge of the lower jaw.

Dentition: Teeth are always present on the dentaries, the maxillaries and the palatines. Only two specimens have teeth on the premaxillaries and the vomer. The premaxillaries are absent in the remaining four specimens. Two specimens have a few teeth on the anteriormost part of the pterygoids. The number and shape of the teeth agree well with the earlier description.

Gill cavity: It appears from table 9 that the variation in number of gill rakers from the outer row is very great and also that there is on average one more raker on the second than on the first arch. The length of the raker in the angle between the epi- and ceratobranchiale varies considerably. The pseudobranch is provided with 9–11 filaments.

Table 9 Gill rakers

Gill arch	Right			Left			Length of angle-raker in % of SL		
1st	11	(13.2)	17	11	(13.2)	17	1.7	(3.0)	4.4
2nd	12	(14.1)	18	11	(14.3)	18	1.3	(1.9)	2.8
3rd	10	(12.6)	15	10	(12.3)	15	1.1	(1.5)	2.3
4th	9	(10.9)	13	9	(11.2)	13	0.5	(0.8)	1.3
5th	7	(8.4)	12	6	(8.8)	13	0.3	(0.5)	1.0

Vertebral column and caudal skeleton: There seems to be no difference either in the vertebral column or in the caudal skeleton compared to the earlier description. In two specimens (SL 197 and 204 mm) the vertebral centra are well ossified, while they are so poorly ossified in the remaining four specimens (SL 70–276 mm) that they do not appear on radiographs. Thus, the degree of ossification apparently is not solely dependent on the length of the specimen. In five specimens the otoliths cannot be seen on the radiographs, or they are maximally 1 mm in length, while the otoliths are 3 mm long in the "Discovery" specimen. GOSLINE (4) has mentioned certain osteological characters of *B. nigricans* in his discussion of the systematic position of the alepocephaloid fishes.

Viscera: The oesophagus and stomach are thick-walled and black. The pyloric caeca, which vary in number from 6 to 11, never reach the posterior tip of the stomach. They are yellow like the small liver. The intestine is thin-walled and semi-transparent without any pigmentation.

Gonads: As mentioned by NIELSEN & LARSEN (5), the testes are divided into several lobes. Among the three present males one has 17, another 32 lobes while in the third male the testes are so molested that the lobes cannot be counted. The number of testicular lobes agrees well with the two groups into which the five males from the 1968-publication can be divided, 14–18 and c. 35 lobes. The small female contains eggs with a maximum diameter of 0.2 mm and the long female has eggs c. 1 mm in diameter. It is not possible to identify the sex of the 70 mm long specimen.

Biology: Only little can be added to the notes in the 1968-publication. Besides remains of unidentifiable invertebrates, two fishes were found among the stomach contents from the 248 mm long specimen: *Malacosteus niger* Ayres, 1848 and *Glossanodon* sp. (Argentinidae). The reason why only 12 specimens of *Bathylaco* were known prior to the "Walther Herwig" expedition is undoubtedly that these fishes are very fast swimmers. This is supported by the fact that at the eight stations where the "Walther Herwig" used the exceptionally large floating-trawl at depths down to 2000 meters, seven

specimens of *Bathylaco* were caught; (it happened twice that two specimens were taken in one haul).

Distribution: Fig. 4 shows the localities of all known specimens of *Bathylaco* which indicates a worldwide distribution in the tropical and subtropical areas. The chapter on the biology shows that *B. nigricans* has a meso- and bathypelagic occurrence.

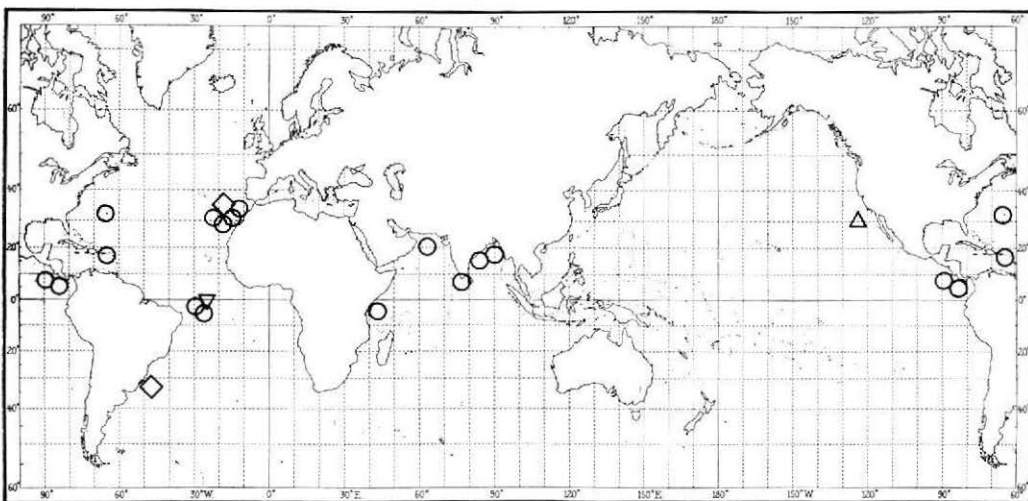


Fig. 4: Known records of *Bathylaco* spp. ○ *B. nigricans*, △ *B. macrophthalmus*, ◇ *B. kreffti*, ▽ "*Bathylaco* specimen"

2. *Bathylaco kreffti* n. sp. (Fig. 5)

Material (2 specimens):

Holotype (SL 212 mm); "Walther Herwig" St. 28/II/68 (34°01'S, 47°39'W); c. 2000 meters. 15. Febr. 1968. Inst. f. Seefischerei, Hamburg, No. ISH 1540/68.

Paratype (SL 346 mm); "Walther Herwig" St. 7/III/68 (29°23'N, 18°10'W); c. 2000 meters. 22. Jan. 1968. Inst. f. Seefischerei, Hamburg, No. ISH 231/68.

This new species is named after Dr. GERHARD KREFFT, Institut für Seefischerei, Hamburg.

Diagnosis and relationships: As seen from the key (p. 28) and tables 1–8, *B. kreffti* differs from the two other species of *Bathylaco* in a number of characters. (In the following comparison *B. kreffti* is mentioned first). Number of pectoral fin-rays 17–18 vs. 4–11, number of gill rakers on the anterior arch 21–22 vs. 11–17, width of lower jaw in percentage of lower jaw-length 24.5–26.0 vs. 13.0–16.5, the colour of the intestine black vs. unpigmented and teeth in lower jaw absent vs. present. A comparison of the characters in the three species indicates that *B. macrophthalmus* and *B. nigricans* are more closely related to each other than to *B. kreffti*.

Condition of the material: In both specimens the skin and fin-rays are much damaged and almost all scales are lost. The lower jaws are broken, and both premaxillaries and maxillaries are lost in the holotype, while in the paratype one premaxillary and one maxillary remain. The head of the paratype is almost torn off the body.

Description of holotype: The meristic and morphometric characters are mentioned in table 8. The body is subcylindrical anteriorly, being more compressed towards the caudal fin. The dorsal fin is placed far back, with the first ray immediately behind a vertical line through the base of the ventral fins, and the last ray opposite to the midpoint of the anal fin. The caudal fin is provided with 10+9 principal rays and although the rays are broken, the shape indicates a forked caudal fin. The ventral fins are placed just behind the midpoint of the fish and the low inserted pectoral fins close behind the posteriormost edge of the operculum. The head is scaleless and dominated by the large eyes and the broad lower jaw (fig. 5). The eyes are provided with a distinct rostral aperture, and the eye-diameter is longer than the snout length. There is a comma-shaped lid fold both in front of and behind the eyes. The nasal organ is well developed and placed closer to the eye than to the tip of the snout. The branchiostegal rays are damaged, but at least the upper two are broadened like those in the previously described species. The lower jaw is triangular (fig. 1B) and about four times as broad as the upper jaw measured behind the eye. So little remains of the skin on the head that nothing definite can be said about the sensory papillae or the lateral line system.



Fig. 5: Holotype of *B. krefftii* n. sp. (SL 212 mm). „Walther Herwig” St. 28/II/68

Dentition: All dentigerous bones have the teeth placed uniserially. The teeth on the palatines and on the vomer form a continuous horseshoe-like band. There are neither teeth on the pterygoids nor on the dentaries. All teeth are depressible, and curved fangs. The pharyngeal tooth-plates are similar in shape to those of *B. nigricans* with three upper and two lower plates, but the plates are smaller, and the teeth are almost inconspicuous.

Gill cavity: The gill rakers are long and dentigerous. There is a gradual transition between the long and the short ones. The number of rakers in the outer row of the anterior arch is 21, seven of which are placed on the epibranchiale, one in the angle between the epi- and ceratobranchiale, ten on the latter bone, and three rakers on the hypobranchiale. The inner row of rakers is not developed on the anterior arch, the second has two knob-like rakers, and the following arches have about the same number of rakers in the outer and inner rows, but the rakers in the inner row are generally the shorter. Below is given a survey of the number of rakers in the outer row from both sides of the holotype and paratype (if the latter differs from the holotype the number is given in brackets):

1st gill arch with 7	+ 1 + 13 (14)
2nd gill arch with 7 (8)	+ 1 + 15 (17)
3rd gill arch with 7	+ 1 + 14 (16)
4th gill arch with 4	+ 1 + 10 (11)
5th gill arch with	1 + 8 (11)

There are 2–4 more rakers on the second than on the first gill arch. The gill filaments are narrow, of a simple composition, and shorter than the corresponding rakers. It was not possible to count the pseudobranchial filaments.

Vertebral column and caudal skeleton: The data are based on radiographs. Reference is made to the description of *B. nigricans* (NIELSEN & LARSEN, 5, p. 228), as there are only minor differences between the two species. – There are 27 precaudal and 20 caudal vertebrae. The ossification is more advanced than in the other species. Epipleural ribs are developed on all precaudal vertebrae except the two posteriormost ones, while epineural ribs are found on all precaudal vertebrae. Ribs are not observed on the caudal vertebrae. All other characters agree with *B. nigricans* and *macrophthalmus*.

Colour: The fragments of skin left on the head and body are darkbrown to black. All fin-rays are brown pigmented with a faint bluish tinge. The iris is black, and the lens yellowish.

Viscera: The thick-walled oesophagus and stomach are equal in diameter, and the inner side is provided with longitudinally running folds. The blind end of the stomach is rather short, rounded and contains numerous villi. The ten pyloric caeca are well-developed, the longest ones reaching the posterior tip of the stomach. The anterior part of the rather muscular intestine is coiled, while the posterior part forms a straight tube. The colour of the stomach is black, the intestine is darkbrown pigmented, and the pyloric caeca are unpigmented (fig. 6). The yellow liver is divided into two lobes, the left being twice as large as the right one.

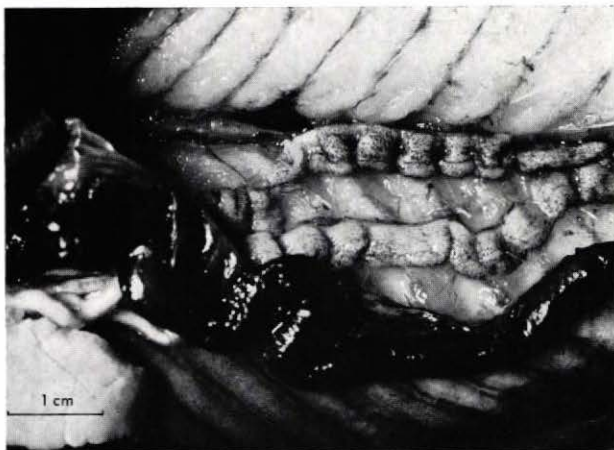


Fig. 6: Testes, intestine and liver from paratype of *B. krefftii*

Gonads: The gonads forming two thin, transparent bands are barely visible. A histological examination of part of one of the gonads showed large undifferentiated cells, so it was not possible to identify the sex of this juvenile specimen.

Description of paratype: Only characters which differ from those of the holotype are mentioned below. – The meristic and morphometric characters are shown in tables 1–8. The premaxillaries and the maxillaries are lost in the holotype, but an examination of the paratype shows that both bones are well-developed. The maxillary is a thin, flat and curved bone starting anteriorly at the level of the nasal organ and ending at some distance behind the eye. The posteriormost third is partly covered by a drop-shaped

supramaxillary. The premaxillary forms the anterior part of the upper jaw. The maxillary and the premaxillary are provided with a single row of depressible, curved fangs, approximately twice as long as the teeth on the vomer and palatines. – The right pseudobranch has 15 filaments, while the left one is damaged. – The longest pyloric caecum ends posteriorly to the tip of the stomach. The gonads are well-developed. Fig. 6 gives an impression of the coiled testes. In contrast to *B. nigricans* the testes are not divided into lobes, but are arranged in c. 40 coils. Eight μ sections of the testes showed the presence of numerous spermatids, relatively few younger stages and no spermatozoa.

Biology and reproduction: The two specimens were caught in a large floating-trawl which was hauled from a depth of c. 2000 meters to the surface. The paratype was caught together with a specimen of *B. nigricans*. The stomach of the paratype was empty, while that of the holotype contained a 6 mm long ostracod (*Gigantocypris* sp.) and several unidentifiable remains of other crustaceans. The gonads of the holotype (SL 212 mm) are so poorly developed that the sex cannot be identified. This is rather interesting, since females and males of *B. nigricans* are clearly distinguishable even at a standard length of 114 and 197 mm, respectively (cf. table 8). For further information of the biology, see under *B. nigricans* (p. 34).

Distribution: The holotype is known from off Uruguay, and the paratype from the Canary Islands (Fig. 4). Like the other species *B. krefftii* seems to be meso- and bathypelagic.

3. *Bathylaco* specimen (Fig. 7)

Material (1 specimen):

SL 252 mm; "Walther Herwig" St. 16/68 (03°00'S, 26°16'W); c. 2000 meters. 3. Febr. 1968. Inst. f. Seefischerei, Hamburg, No. ISH 2104/68.

This specimen, the meristic and morphometric characters of which are shown in tables 1–8, is distinct from the other *Bathylaco* spp. by the differences in a large number of characters. The morphometric characters of the "*Bathylaco* specimen" fall outside the total variation of *B. nigricans* in seven of 13 cases (cf. table 8), and also two of the meristic characters are diverging. Compared to *B. krefftii* ten of the morphometric and

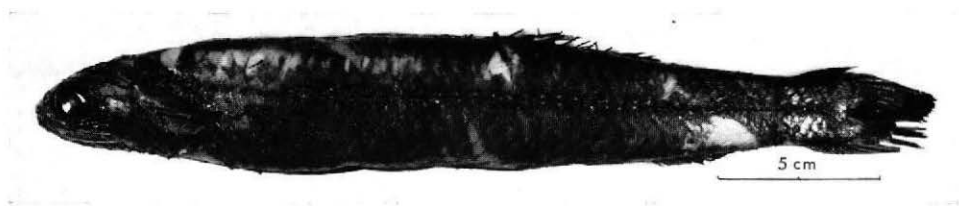


Fig. 7: "*Bathylaco* specimen" (SL 252 mm). "Walther Herwig" St. 16/68

five of the meristic characters differ, but this high number of differences is undoubtedly due the fact that only two specimens of *B. krefftii* are known. This scarcity of specimens also explains the numerous differences between *B. macrophthalmus* and the "*Bathylaco* specimen".

The reason why a new species is not established is, i. a., that apparently there is not a single character by which the “*Bathylaco specimen*” differs from all three species of *Bathylaco* and also that only a single specimen is known. Table 8 shows that the “*Bathylaco specimen*” is more closely related to *B. nigricans* and *macrophthalmus* than to *B. kreffti* as only one character “Distance from posterior edge of eye to posterior edge of upper jaw” is more in accordance with the latter than with the two former species. Fig. 1 gives an idea of the difference in the lower jaw-length between the “*Bathylaco specimen*” and *B. nigricans* and *B. kreffti*. The dentition and the colour of the intestine correspond to *B. nigricans* and *B. macrophthalmus*.

C. Summary

During the 23rd cruise of the “Walther Herwig” in the Atlantic Ocean eight specimens of *Bathylaco* were caught at meso- and bathypelagic depths. Also a specimen from a “Discovery” cruise off northwest Africa is included. This paper can be considered an additional note to the synopsis of the Bathylaconidae (NIELSEN & LARSEN, 5). Six specimens are referred to the widely distributed species *B. nigricans* the meristic characters of which show an enormous variation. Two specimens form the basis of a description of a new species, *B. kreffti*, which i. a. differs from the other *Bathylaco spp.* by having edentate and broader lower jaws, more pectoral fin-rays and gill rakers, and a black pigmented intestine. A single specimen is described as “*Bathylaco specimen*”. It is most closely related to *B. nigricans*, but differs from this species in a few meristic and more than half of the morphometric characters.

D. Zusammenfassung

Auf der 23. Reise des FFS „Walther Herwig“ in den Atlantik wurden acht Exemplare der Gattung *Bathylaco* in meso- und bathypelagischen Tiefen gefangen. Ein im Verlauf einer „Discovery“-Reise vor Nordwestafrika erbeutetes Exemplar wird mit behandelt. Diese Arbeit kann als eine Ergänzung zu der Synopsis der Bathylaconidae (NIELSEN & LARSEN, 5) angesehen werden. Sechs Exemplare werden zu der weit verbreiteten Art *B. nigricans* gestellt, deren meristische Merkmale eine enorme Variation zeigen. Zwei Exemplare bilden die Grundlage für die Beschreibung einer neuen Art, *B. kreffti*, die sich unter anderem von den übrigen *Bathylaco*-Arten durch den Besitz zahnloser und breiterer Unterkiefer, eine höhere Zahl von Pectoralstrahlen und Branchiospinen sowie durch die schwarze Pigmentierung des Darmes unterscheidet. Ein einzelnes Exemplar wird als „*Bathylaco specimen*“ beschrieben. Es ist mit *B. nigricans* sehr nahe verwandt, unterscheidet sich jedoch von dieser Art in ein paar meristischen und in mehr als der Hälfte der morphometrischen Merkmale.

E. Acknowledgments

We are indebted to G. KREFFT, Institut für Seefischerei, Hamburg, and to J. BADCOCK, National Institute of Oceanography, Wormley, for allowing us to borrow the “Walther Herwig” and the “Discovery” material, respectively, to O. MUNK for sectioning the gonads, to G. BROVAD for taking the photographs and to AGNETE VOLSØE for correcting the English manuscript.

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