

Aus dem Institut für Seefischerei der Bundesforschungsanstalt für Fischerei, Hamburg

Results of the research cruises of FRV "Walther Herwig" to South America. LIV.

Herl,

New records of extremely rare Paralepidids from the South Atlantic (Osteichthyes, Myctophiformes, Alepisauroidi).*)

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With 2 figures and 1 table

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Kurzfassung

Ergebnisse der Forschungsreisen des FFS „Walther Herwig“ nach Südamerika. LIV. Neue Nachweise zweier sehr seltener Paralepididen-Arten aus dem Südatlantik (Osteichthyes, Myctophiformes, Alepisauroidi).

Als Ergänzungsprogramm zur Antarktisexpedition 1975/76 wurde mit dem FFS „Walther Herwig“ eine Untersuchung der pelagischen Fische des Südatlantik durchgeführt. Dabei wurden je ein Exemplar zweier Paralepididen-Arten gefangen, die bis dahin nur von ihren Holotypen bekannt waren: *Macroparalepis longilateralis* Post, 1973, und *Dolichosudis fuliginosa* Post, 1969. Die Untersuchung der beiden Tiere ergab weitere Detailkenntnisse zur inneren und äußeren Morphologie der Arten.

Abstract

During the trawling program of FRV „Walther Herwig“ to and from the Antarctic Sea, two specimens of paralepidids were collected, which until recently had been known from holotypes only:

Macroparalepis longilateralis Post, 1973 and *Dolichosudis fuliginosa* Post, 1969, respectively.

Additional data for external and internal morphological characters of these extremely rare fishes are given.

A. Introduction

Dolichosudis fuliginosa Post, 1969 and *Macroparalepis longilateralis* Post, 1973 have been known previously from types only, taken by FRV "Walther Herwig" during Atlantic transects in 1968 and 1971, respectively. In January 1976 the Russian trawler RV "Fiolent" caught a second specimen of *D. fuliginosa* (PARIN ET AL., 1978: 174). The Antarctic-Expedition of "Walther Herwig" in 1975/76 was started and finished by a fish-collecting program of midwater trawling, during which one specimen of each species mentioned above was caught.

*) Deutsche Antarktis-Expedition 1975/76, mit finanzieller Unterstützung der Bundesministerien für Ernährung, Landwirtschaft und Forsten sowie für Forschung und Technologie.

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B. Material

1. *Macroparalepis longilateralis*: WH-stat. 2/76; 18. 11. 1975; 36° 19' S, 49° 35' W to 36° 20' S, 49° 36' W; 800 m; 1600-mesh midwater trawl; coll. no. ISH 21/76.
2. *Dolichosudis fuliginosa*: WH-stat. 108-1/76; 9. 1. 1976; 36° 24.8' S, 40° 00' W to 36° 23.5' S, 40° 00' W; 650 to 700 m; 1600-mesh midwater trawl; coll. no. ISH 666/76.

Both specimens are in good condition.

C. Results

Morphometric and meristic data of both specimens are given in tab. 1.

Table 1: Morphometric and meristic data. (SL in mm; proportions in % of SL)

	<i>Dolichosudis fuliginosa</i>		<i>Macroparalepis longipinnis</i>	
	ISH 666/76	holotype ISH 2007/68	holotype ISH 21/76	holotype ISH 924/71
standard length	335.0	460.0	413.0	313.5
head length	19.5	19.1	19.5	17.6
upper jaw	9.8	9.5	9.7	8.2
snout length	10.5	10.6	9.3	7.6
tip of snout to first nasal opening	8.8	9.4	6.5	5.0
orbital width	2.5	3.5	4.0	3.9
interorbital width	2.0	2.2	2.0	2.0
tip of snout to pectoral fin	21.6	20.5	—	18.3
tip of snout to pelvic fin	55.5	55.2	51.5	50.2
tip of snout to anal fin	77.3	77.5	79.5	80.2
tip of snout to dorsal fin	64.9	64.1	63.0	65.1
tip of snout to anal pore	59.9	59.4	58.5	58.0
maximal body height	6.5	7.9	6.0	6.5
minimal body height	1.8	2.3	2.0	2.4
length of anal fin base	17.3	19.5	14.4	14.6
length of dorsal fin base	—	—	4.3	—
dorsal-fin rays	10	10	12	12
anal-fin rays	37	37	30	30
pectoral-fin rays	12/12	12/12	12/12	12/12
pelvic-fin rays	9/9	9/9	9/9	9/9
lateral-line scales	88/88	86/89	135/138	144/143
prehaemal no of vertebrae	44	44	54	54
total no of vertebrae	101	101	99	102
gill rakers in first gill arch	11+1+42	10+1+42	5+1+26	11+1+16

1. *Macroparalepis longilateralis*

- a) Morphometrics: The new specimen is 413 mm in standard length, so it is at about $\frac{1}{3}$ longer than the holotype. Most morphological data are in agreement with the type, but there are some differences in detail. Head length and some visceral lengths are relatively longer in the longer specimen. This is in disagreement with growth tendencies of other *Macroparalepis* species (Post, 1973).

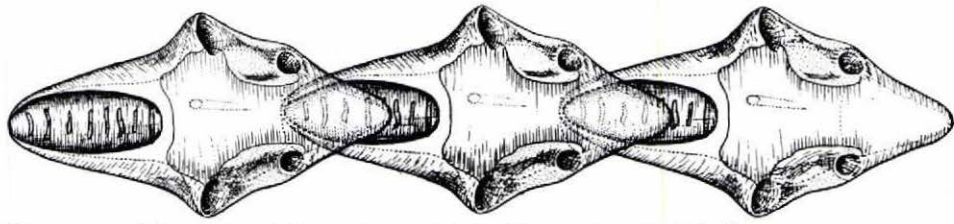


Fig. 1: Lateral-line scales of *M. longilateralis*; left side, anterior to pelvic fins.

- b) Meristics: Caudal vertebrae and lateral-line scales fewer than in holotype. High variations of segmental counts are not uncommon within the genus and must be expected for this species.
- c) Colour: Denser than in holotype. Dorsal colour-band narrow, formed by multiple minute melanophores, well separate from lateral line. Head and lateral line covered with larger pigment cells, scattering out from the lateral line behind middle of abdomen and joining ventral colour-band at pelvic fins; becoming gradually denser caudally.
- d) Branchiospines: Within the genus *Macroparalepis* the process of gill-teeth development goes through a phase of construction and another phase of destruction. At the beginning and the end of this process there are no teeth on gill arches (Post, 1973). The specimen at hand just arrived at the highest stage of development. All gill teeth are in contact with their bony bases, no further ossification and no resorption can be observed.
- e) Lateral line: (fig. 1) Formed by elongate, rhomboid, bony elements, each forming one segment of a lateral canal; posterior part of scale roofing anterior part of next following scale; two dorso-ventral pairs of tubes leading into the lateral canal, each penetrating the skin-layers upon the scales by a pore; areas surrounding pores and walls of tubes cartilaginous; anterior part of median blade with transverse folds, representing a generic feature.
- f) Abdominal cavity: 39% of SL; peritoneum black; stomach a straight, blind sac, black with white posterior tip; no pyloric caeca; intestine pale, transparent, running straight to vent without bends; liver small, hardly reaching beyond pectoral girdle; gonads hermaphroditic, well developed, gametes beyond meiosis; ovaries ventral to testes; left ovary slightly longer than right one; stomach filled with fragments of unidentifiable fish.
- g) Distribution: Both records from temperate areas of the South Atlantic Ocean; mesopelagic, in 700 to 800 m depth.

2. *Dolichosudis fuliginosa*

- a) Morphometrics: Considerably smaller than holotype, but except for eye-diameter and anal-fin base, morphometric features in good agreement with holotype.
- b) Meristics: Identical to holotype, except for lateral-line counts, which are symmetrical in the specimen but unsymmetrical in type specimen.
- c) Colour: Dark brown to black, slightly different from holotype; deeply black dorsally, becoming lighter to brown on sides of body; lateral line black, contrasting to brown background; fins, including adipose fins, greyish, lighter than body; white spot at posterior base of dorsal adipose fin.

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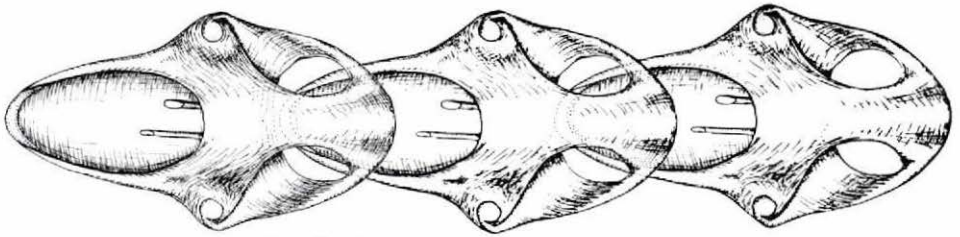


Fig. 2: Lateral-line scales of *D. fuliginosa*; left side, anterior to pelvic fins

- d) Branchiospines: Multiple gill teeth on bony bases; 54 bases on first gill arch of left gill chamber; 31 of them bearing 3, 13 bearing 4, one bearing 5 and one bearing 8 gill-teeth; some teeth not yet in full contact with bony bases, indicating constructing phase of development.
- e) Teeth: As described for holotype, but there is one additional series of 10 retrorse fixed teeth on pterygoid bone, posterior to palatine teeth.
- f) Lateral line: (fig. 2) Formed by oval bony elements, each forming one segment of lateral canal; posterior part roofing anterior part of next following scale; one dorso-ventral pair of tubes leading into the lateral canal, having external contact by skin-pores; posterior to pores there are open areas, covered by skin externally; three large and several small (2 to 6) pores penetrate the skin covering this area.
- g) Abdominal cavity: 40% of SL; peritoneum black; stomach grey, forming a straight blind sac; no pyloric caeca; intestine white, running straight to vent without bends, covered laterally by two strips of adipose-tissue; gonads white, hermaphroditic, juvenile, ovaries and testes recognizable macroscopically; liver small, damaged; stomach empty.
- h) Distribution: three records of this species, all from the South Atlantic Ocean; two "Walther Herwig" records from near the South American continent, off Brazil and off Argentina, respectively, the third one from the Gulf of Guinea (PARIN ET AL., 1978); meso- to bathypelagic in 650 to 1450 m depth.

D. Acknowledgement

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