

Results of the research cruises of FRV *Walther Herwig* to South America. LXXVII*. History and *status quo* of the serial.

Stefan Koerber¹ & Matthias F.W. Stehmann²

¹ Independent researcher. Friesenstr. 11, 45476 Mülheim, Germany. pecescrilloos@koerber-germany.de

² ICHTHYS Labor, retired from ISH/ZMH. Hildesheimer Weg 13, 22459 Hamburg, Germany

Abstract

The serial 'Results of the research cruises of FRV *Walther Herwig* to South America' was published between 1967 and 2010. A recent comparison between the database of the collection of fishes housed at ZMH in Hamburg and the respective last faunal lists of marine fishes from Argentina and Uruguay revealed that the ZMH collection contains specimens which represent dozens of first records or at least first evidence-based records for the Exclusive Economic Zones of these countries and, in addition, for the Malvinas/Falkland Islands. To publish these records, the present contribution shall resurrect the serial and thus, continue with what used to be a story of success in the past.

Here, we present a complete list of titles published in the serial, together with information both on Dr. Gerhard Krefft, the initiator of the serial, and on the research vessel *Walther Herwig*.

Resumen

La serie 'Results of the research cruises of FRV *Walther Herwig* to South America' se publicó entre 1967 y 2010. Una comparación reciente entre la base de datos de la colección de peces del ZMH en Hamburgo y las respectivas listas faunísticas de peces marinos de Argentina y Uruguay reveló que la colección del ZMH contiene especímenes que representan docenas de primeros registros, o al menos primeros registros basados en evidencia, para las Zonas Económicas Exclusivas de estos países y, además, para las Islas Malvinas. Para publicar estos registros, la presente contribución resucitará la serie y, así, continuará con lo que fue una historia de éxito en el pasado.

Aquí presentamos una lista completa de los títulos publicados en la serie, junto con información sobre el Dr. Gerhard Krefft, su creador, y sobre el buque de investigación *Walther Herwig*.

Introduction

Scientific support for German coastal and marine fisheries began with the establishment of the *Commission for the Investigation of the German Seas* in 1870. However, after the first decade of its activity, no real improvements or successes could be demonstrated. This only changed in 1884 when Walther Herwig, an administrative lawyer with a talent for problem analysis and organization working for the Prussian administration, developed a special program to promote a strong and modern marine fishery and its needs. The practice-oriented scientific investigations for the benefit of the fishery were supplemented by the association's own research expeditions on chartered vessels. Due to the international nature of the issues and the vastness of the marine areas to be investigated, the exchange of ideas with other nations was a matter of course. These international experiences led Herwig to become one of the co-founders of the *International Council for the Exploration of the Sea* (ICES) in Copenhagen (1902) and its first president.

This basic research, now supported by the first German fisheries research vessel *Poseidon*, continued even after Herwig's retirement in 1907 until the outbreak of the First World War. After the war, international connections were severely damaged for several years, German fisheries research was no longer nearly as intensive and successful as before, and could not regain its former glory until the Nazi regime brought state organizations into line with the government in 1935. Detailed descriptions of these developments and the people associated with them can be found in Wegner (1995, 2010) and Stehmann (1997).

* As practiced by Krefft in IV. for I., II., and III., LXXVI. (see list below) is hereby retroactively assigned to be part of this serial.

Methods

Herein we have cited isolated pieces of information or, in some cases, used whole passages of text from the plenty publications available for each of the sections without referencing the original authors. Most of the information is available from several papers, in huge parts overlapping. Instead, we offer a special section of references for each of the subjects and additionally for the seven expeditions undertaken by the *Walther Herwig* to the southwest Atlantic Ocean.

abbreviations

BFAFi	Bundesforschungsanstalt für Fischerei
EEZ-AR	Exclusive Economic Zone of Argentina
EEZ-BR	Exclusive Economic Zone of Brazil
EEZ-UY	Exclusive Economic Zone of Uruguay
FCZ-FK	Fisheries Conservation Zone of the Malvinas/Falkland Islands
FRV	fishery research vessel
IBT	Institut für Biochemie und Technologie
ISH	Institut für Seefischerei
ZMH	Zoologisches Museum Hamburg

Gerhard Krefft – initiator of the serial

When in 1938 Gerhard Krefft started working at the *Institute of Sea Fisheries* in Hamburg he could certainly not imagine the important role he would take there and which adventures he would live during the rest of his professional life.

In fact, his career at the ISH got off to a somewhat rocky start, as he was called up for military service at the outbreak of World War II, after only one year at the ISH. After undergoing the entire war and briefly being a prisoner of war, he only returned to the ISH at the end of 1945. Especially during the first post-war years, feeding the population had to be given top priority, and consequently the ISH, originally founded to support the fishing industry, worked exclusively on precisely this.

After several years of routine fishery research, Krefft was appointed as a whaling observer, an opportunity that reawakened his spirit of adventure. From September 1951 to April 1952, he participated in a whaling cruise running from Rotterdam to the Pacific Ocean by way of the Caribbean Sea and Panama Canal. After this cruise, Krefft began to notice and document the rare species found in the landing of German fresh-fish trawlers which were steadily extending their field of operation in the North Atlantic. From 1953 onward, he regularly published annual reports on "Rare Fishes", as well as his "Ichthyological Contribution from the Institute of Sea Fisheries". It was from this time that the embryonic ISH reference fish collection, composed of a few, rare North Sea and North Atlantic species and a handful of exotics from the whaling cruise, began to grow. By the beginning of the 1960s, the ISH collection had reached a fair size and had a good representation of mainly demersal northern North Atlantic species. A clear distinction between ichthyology as basic science and fishery biology as a field of applied zoology did not exist at ISH during these early years.

Yet, the study of the systematics and zoogeography of chondrichthyans, one of Krefft's ichthyological preferences, dates back to this time.

The breakthrough for systematic ichthyology at ISH came in 1962, the date when the four institutes of the Federal Research Centre for Fisheries moved from temporary premises to the new headquarter building at the Palmalle in Hamburg-Altona. The Federal Ministry for Agriculture, Food, and Forestry directed that systematic ichthyology and the establishment of a scientific reference collection of marine fishes become an official policy for ISH. Krefft was asked to implement this directive. The decision had been taken in view of the commissioning of a stern-trawler fishery research vessel, the *Walther Herwig*, in 1963 and the planned initiation of exploratory cruises throughout the entire Atlantic Ocean. On this basis, and with the proven superiority for commercial gear also for ichthyological sampling in mind, Krefft developed the concept of sampling the continental slopes and oceanic midwater region with large commercial trawls and of fully documenting all the results, which would be linked to a totally representative collection.



Fig. 1. Gerhard Krefft in his office at the ISH before his retirement in March 1977.

This would be ecosystem research on a large scale, with revolutionary results for oceanic ichthyology. Furthermore it would only be attainable with the heavy involvement of the most competent German and foreign taxonomists. The midwater transect, conducted diagonally across the Atlantic from Europe to Argentina in 1966 to depths in excess of 2200 m, became the first test in practice of the new sampling concept. It was followed by a survey of the Argentinean shelf and slope using a commercial 140-foot bottom trawl to 1200 m. Both fully met all expectations - for not only did the catches quantitatively exceed those of more traditional scientific gears but they also produced a far better comprehension of the qualitative composition of the fish and invertebrate fauna. Consequently, enormously large samples were taken back to the ISH and ZMH collections. Further cruises across the Atlantic with the participation of international teams of fish and invertebrate taxonomists followed in 1968, 1971, and 1973. Within a few years the ISH collection was receiving international attention and recognition.

Krefft's dream had taken form. To disseminate this knowledge, in 1967 he initiated a new publication series under the title 'Results of the research cruises of FRV *Walther Herwig* to South America'.

***Walther Herwig* – vessels and expeditions to South America**

With the commissioning of the FRV *Anton Dohrn* in 1955, faunal surveys, for example in the waters of Greenland, Iceland, and the Iceland-Faroe Ridge, increasingly became part of the ISH's responsibilities. These voyages were extended to the Southern Hemisphere in 1963 when the *Walther Herwig* (fig. 2), the most modern and powerful German fishery research vessel to date, began operations for the ISH. In addition to expeditions to the coasts of South Africa, the southwest Atlantic became a focus of interest. The *Walther Herwig*-named vessels (*I* and *II*) undertook four expeditions to the coasts of Argentina and Uruguay, as well as later three cruises to the Atlantic sector of Antarctic waters (table 1).

During the first Antarctic voyage, the *Walther Herwig* was supported by the *Weser*, which mainly fished the area between South Georgia and the Antarctic Peninsula, but to a much lesser extent was also active around the Malvinas/Falkland Islands.

Table 1. Cruises of the *Walther Herwig* to the Southwest Atlantic Ocean and the Atlantic sector of the Antarctic. Station numbers are limited to those located within EEZ-AR, EEZ-UY, or FCZ-FK, not including Brazilian or international waters.

cruise	leg	dates	expedition/transect	stations off AR, UY, and FK
<i>Walther Herwig I</i>				
15	1	07.May. - 30.May.1966	1. Fisheries in the Southwest Atlantic Bay of Biskay to Mar del Plata	196/66 - 197/66
	2	04.Jun. - 03.Aug.1966	shelf and slope off Argentina	198/66 - 455/66
23	1	14.Jan. - 16.Feb.1968	2. Fisheries in the Southwest Atlantic Bay of Biskay to Mar del Plata	30/68
	2	21.Feb. - 16.Mar.1968	South Atlantic off Uruguay and Brazil	31/68 - 134/68
36	1-I	31.Dec.1970 - 25.Jan.1971	3. Fisheries in the Southwest Atlantic shelf and slope off Argentina	117/70 - 229/71
	1-II	02.Feb. - 26.Feb.1971	shelf and slope off Argentina	232/71 - 345/71
	2-I	05.Mar. - 22.Apr.1971	Mar del Plata to Cape Town	348/71
<i>Walther Herwig II</i>				
20 (65)	1	18.Nov.1975 - 10.Jan.1976	1. Antarctic Expedition 1975/1976 35°S to Port Stanley and South Georgia	15-.I/75 - 99-II/76
	2	20.Jan. - 12.Mar.1976	Drake Pass., Weddell Sea, Bransfield Strait	122/76
	3	18.Mar. - 20.May.1976	Montevideo, South Georgia to Cape Town	300/76
30 (75)	1	31.Oct. - 20.Dec.1977	2. Antarctic Expedition 1977/1978 Atlantic sector of Antarctic Ocean	thUY/77 - 26/77
	2	28.Dec.1977 - 17.Feb.1978	Atlantic sector of Antarctic Ocean	264/78
	3	23.Feb. - 10.Apr.1978	Atlantic sector of Antarctic Ocean	477/78
31 (76)	1	07.May. - 27.Jun.1978	4. Fisheries in the Southwest Atlantic Mar del Plata to Burdwood Bank	503/78 - 698/78
	2	15.Jul. - 17.Sep.1978	Mar del Plata to Ushuaia and back	700/78 - 920/78
	3	26.Sep. - 21.Nov.1978	Rio de la Plata to Burdwood Bank	922/78 - 1128/78
44 (89)	1	20.Jan. - 04.Mar.1981	3. Antarctic Expedition 1981 central Scotia Sea	-
	2	08.Mar. - 26.Mar.1981	Bellingshausen Sea to South Georgia	-

Although the voyages were primarily dedicated to exploring new fishing grounds and testing and developing new fishing techniques, in addition to fish, invertebrates as mollusks, plankton, etc. were also scientifically studied. In addition to the ISH staff, taxonomists from various countries were present on board during all voyages, including those from the South American countries bordering the sampled areas.

However, the results published by Argentine authors following the expeditions were almost exclusively limited to species of interest to fisheries. This is not surprising, given that the respective cooperation agreements were concluded with local fisheries institutes, not with museums, universities, or other taxonomically active institutions. With his important work on the systematics of Zoarcidae, Átila Gosztonyi was, unfortunately, the only South American ichthyologist to show taxonomic interest in the collected specimens. The collections made by the *Walther Herwig* in the Exclusive Economic Zones of Argentina, Uruguay and the Malvinas/Falkland Islands in the subsequently published descriptions included type specimens of 29 new species and numerous first records (table 2).



fig. 2 *Walther Herwig I*. (photo: R. Huxmann, 1972)



fig. 3 *Walther Herwig II*. (photo: H. Wulf, 1988)

After only a decade in service with the BFAFi, the *Walther Herwig I* was decommissioned as a global research vessel, converted and modernized, and then took over other tasks under her new name *Anton Dohrn II*.

The new FRV *Walther Herwig II* (fig. 3), which was launched in 1973, offered even better technical capabilities and hence opened up a wider range of research possibilities than its predecessor. Commercial midwater gear could now be towed to more than 3000 m, whereas depths of 2200 m were attainable with benthic hauls. Surveys were focused on the North Atlantic deep-water fauna (1973-1985). In the Atlantic sector of the Southern Ocean (1975-85) and in the Southwestern Atlantic shelf and slope off Argentina (1978). It was, indeed, fitting that Krefft's last voyage as head of the ISH-Ichthyology Group was to Antarctic waters, when he sailed in the austral summer of 1975/76 as chief scientist on board FRV *Walther Herwig* on the first leg of the first fishery expedition to Antarctica by the Federal Republic of Germany.

The longest research cruises ever undertaken by a *Walther Herwig* in the Southwest Atlantic were numbered 30 and 31. These were the second Antarctic expedition and a subsequent survey on the Argentine shelf and slope in 1977-78. The *Walther Herwig* was away from Bremerhaven, her home port, for a total of 14 months.



figs. 4,5 *Walther Herwig III*, commissioned in 1993, and an animated picture of *Walther Herwig IV*, currently under construction by Fassmer shipyard and scheduled to be delivered in October 2027. Both images taken from www.thuenen.de.

Table 2. Contributions to the knowledge of national ichthyofaunae resulting from the collections made by the *Walther Herwig* in the Southwest Atlantic Ocean, indicating the respective station numbers. HT, holotype; PT, paratypes; fr, first record.

species	EEZ-AR	EEZ-UY	FCZ-FK
<i>Myxine fernholmi</i> Wisner & McMillan, 1995	PT 266/71		HT 638/78
<i>Myxine dorsum</i> Wisner & McMillan, 1995	HT 235/71		
<i>Nemamyxine krefftii</i> McMillan & Wisner, 1982		HT 244/66	
<i>Etmopterus gracilispinis</i> Krefft, 1968		PT 197/66	
<i>Etmopterus pusillus</i> (Lowe, 1839)		fr 231/66	
<i>Amblyraja freirichsi</i> (Krefft, 1968)		HT 413/66	
		PT 412/66 413/66 426/66	
<i>Dipturus trachyderma</i> (Krefft & Stehmann, 1975)			HT 296/71
<i>Bathyrāja papilionifera</i> Stehmann, 1985	HT 693/78		
	PT 693/78 694/78		
<i>Bathyrāja schroederi</i> (Krefft, 1968)		HT 413/66	
		PT 412/66 413/66 426/66	
<i>Psammobatis glansdissimilis</i> McEachran, 1983	PT 131/71	HT 38/66	
		PT 442/66 38/68	
<i>Psammobatis lentiginosa</i> McEachran, 1983	PT 372/66 386/66	PT 447/66	
<i>Psammobatis parvacauda</i> McEachran, 1983			HT 326/66
<i>Avocettina acuticeps</i> (Regan, 1916)		fr 197/66 30/68	
<i>Avocettina paucipora</i> Nielsen & Smith, 1978		PT 30/68	
<i>Labichthys yanoi</i> (Mead & Rubinoff, 1966)	fr 348/71		
<i>Maurolicus stehmanni</i> Parin & Kobylansky, 1993	HT 204/66	PT 208/66 417/66	
	PT 204/66		
<i>Ichthyococcus australis</i> Mukhacheva, 1980		fr 197/66	
<i>Woodsia meyerwaardeni</i> Krefft, 1973	PT 146/71 239/71 348/71		
<i>Astronesthes boulengeri</i> Gilchrist, 1902		fr 197/66	
<i>Benthalbella elongata</i> (Norman, 1937)		fr 30/68	
<i>Luciosudis normani</i> Fraser-Brunner, 1931	fr 348/71	fr 30/68	
<i>Scopelosaurus hamiltoni</i> (Waite, 1916)	fr 272/66		
<i>Arctozenus risso</i> (Bonaparte, 1840)	fr 255/66 271/66 348/71 504/78 517/78	fr 230/66 thUY/77	fr 551/78 552/78 575/78
<i>Macroparalepis affinis</i> Ege, 1933	fr 348/71	fr 197/66	
<i>Magnisudis prionosa</i> Rofen, 1963	fr 269/66	fr 197/66	fr Weser11/75 Weser9/76
<i>Gymnoscopelus fraseri</i> (Fraser-Brunner, 1931)	fr 348/71		fr 219/71 227/71 228/71 637/78
<i>Gymnoscopelus hintonoides</i> Hulley, 1981	fr 340/71 348/71		
<i>Gymnoscopelus microlampas</i> Hulley, 1981	fr 348/71		fr 195/71 241/71
<i>Lampanyctus festivus</i> Tåning, 1932		fr 197/66 30/68	
<i>Lampanyctus intricarius</i> Tåning, 1928	fr 271/66 144/71 thAR/77	fr 30/68	
<i>Lampanyctus lepidolichnus</i> Becker, 1967		fr 197/66	
<i>Lampanyctus macdonaldi</i> (Goode & Bean, 1896)	fr 239/71 240/71 348/71		fr 219/71 227/71 228/71
<i>Lampanyctus nobilis</i> Tåning, 1928		fr 197/66	
<i>Lampanyctus pusillus</i> (Johnson, 1890)		fr 197/66	
<i>Lampanyctus wisneri</i> (Zahuranec, 2000)	fr 348/71		
<i>Diaphus anderseni</i> Tåning, 1932		fr 197/66	
<i>Diaphus effulgens</i> (Goode & Bean, 1896)		fr 30/68	
<i>Diaphus perspicillatus</i> (Ogilby, 1898)		fr 197/66	
<i>Diaphus subtilis</i> Nafpaktitis, 1978		fr 30/68	
<i>Diaphus vanhoeffeni</i> (Brauer, 1906)		fr 424/66	
<i>Krefftichthys anderssoni</i> (Lönnberg, 1905)			fr 195/71
<i>Metelectrona ventralis</i> (Bekker, 1963)		fr 197/66 707/78	
<i>Protomyctophum andriashevi</i> Becker, 1963	fr 232/71 348/71		
<i>Protomyctophum choriodon</i> Hulley, 1981		HT 417/66	fr 251/71 295/71
		PT 417/66	
<i>Protomyctophum gemmatum</i> Hulley, 1981	fr 348/71		
<i>Protomyctophum luciferum</i> Hulley, 1981	fr 238/71 339/71 348/71 318/81	fr 197/66	fr 874/78
<i>Symbolophorus boops</i> (Richardson, 1845)			fr 295/71
<i>Polymixia carmenae</i> Caixeta, Oliveira & Melo, 2024		fr 208/66	
<i>Guttigadus kongi</i> (Markle & Meléndez, 1988)	fr 268/66 676/78		
<i>Guttigadus latifrons</i> (Holt & Byrne, 1908)	fr 676/78		
<i>Notophycis marginata</i> (Günther, 1878)		fr 245/66	
<i>Macrourus carinatus</i> (Günther, 1878)		fr 237/66	fr 336/66
<i>Sio nordenskjoeldii</i> (Lönnberg, 1905)		fr 197/66 30/68	
<i>Echiodon cryomargarites</i> Markle et al., 1983	PT 268/66	PT 428/66	PT 241/71
<i>Macrorhamphosus gracilis</i> (Lowe, 1839)		fr 230/66	

Table 2. ...continued

species	EEZ-AR	EEZ-UY	FCZ-FK
<i>Pseudoicichthys australis</i> (Haedrich, 1966)		fr 244/66	
<i>Kali indica</i> Lloyd, 1909		fr 30/68	
<i>Aphanopus mikhailini</i> Parin, 1983		fr 30/68	
<i>Lepidopus altifrons</i> Parin & Collette, 1993		PT 208/66	
<i>Nototheniops nudifrons</i> (Lönnberg, 1905)	fr Ushuaia		PT 17/75
<i>Patagonotothen krefftii</i> Balushkin & Stehmann, 1993			PT 873/78
<i>Careproctus aculeolatus</i> Andriashev, 1991	HT 804/78		
<i>Paraliparis aspersus</i> Andriashev, 1992	PT 903/78		
<i>Volodichthys herwigi</i> (Andriashev, 1991)	HT 329/71		
<i>Lycenchelys bachmanni</i> Gosztanyi, 1977	HT 331/71		fr 815/78 823/78 871/78
<i>Lycodapus antarcticus</i> Tomo, 1982	fr 239/71		
<i>Lycodon malvinensis</i> Gosztanyi, 1981			HT 219/71
<i>Notolycodes schmidtii</i> Gosztanyi, 1977	PT 391/66	HT 237/66	PT 219/71 229/71
<i>Piedrabuenia ringueleti</i> Gosztanyi, 1977	PT 197/71		
<i>Plesienchelys stehmanni</i> (Gosztanyi, 1977)	fr 719/78 928/78		HT 294/71
<i>Epigonus robustus</i> (Barnard, 1927)	fr 121/70 340/71 348/71	fr 237/66 244/66 412/66	
<i>Howella sherborni</i> (Norman, 1930)		fr 197/66 30/68	
<i>Himantolophus appeli</i> (Clarke, 1878)		fr 30/68	
<i>Ceratiias tentaculatus</i> (Norman, 1930)	fr 239/71 348/71		fr 219/71 227/71 242/71

There's life in the old dog yet. Resurrection from the ashes after 15 years.

Investigations of largely unknown fish faunas off Argentina, Uruguay, and finally in Antarctic waters were almost impossible without the collaboration of qualified fish taxonomists. Thus, at the direction of the responsible ministry, a working group on ichthyology was established at the ISH in the early 1960s, and at the same time, the establishment and scientific processing of a reference collection of Atlantic fishes was initiated as its primary task.

After four expeditions to the southwest Atlantic, the ZMH, where the ISH collection was transferred to in 1993, very probably still hosts the most complete and largest collection of Argentine and Uruguayan marine fishes. Thanks to Krefft's forward-looking approach, this collection can serve as a resource for diverse research approaches for many generations of ichthyologists to come.

A comparison of the existing collection data at the ZMH with the latest faunal lists of Argentina (Mabragaña & Cousseau 2021), Uruguay (Nion 2016), and the Malvinas/Falkland Islands (in preparation) already reveals a wealth of previously unpublished information for these three national waters (table 3). Due to a lack of data accuracy, Brazil, South Georgia & South Sandwich Islands, and the neighboring international waters could not yet be included in this analysis.

Table 3. An educated guess based on our current knowledge: collection data and potential novelties from the territorial zones in the Southwestern Atlantic collected by the *Walther Herwig* and today available at the ZMH collection.

	#1 species in ZMH	#2 #1 in number of collection lots	#3 #1+2 from WH stations	#4 lots with type specimen in #2	#5 potential first records in #1	#6 potential first evidences in #1
EEZ-AR	207	797	291	19	16	20
EEZ-UY	229	329	54	21	38	47
FCZ-FK	88	249	86	10	17	15
totals	-	1.375	431	50	71	83

These figures are based on the species names currently assigned to the lots in the collection database, most specimens having been determined some 50 years ago by the ichthyology staff of ISH.

If the quantities of potential novelties shown in columns 5 and 6 of table 3. are realistic or not, can only be known after redetermining thousands of specimens from hundreds of lots. Either way, the results to be

expected will require dozens of publications and thus, it is certainly justified to reactivate Krefft's serial – starting with the present paper.

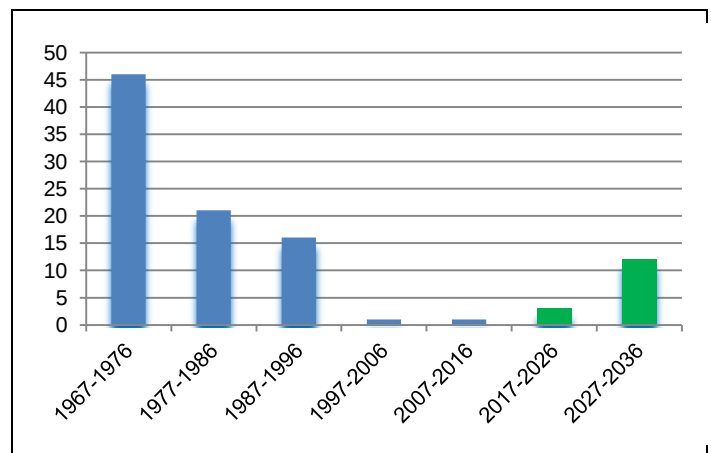
The rapid decrease of papers published in this serial after Krefft's death in 1993 (fig. 6), shows very clearly that Krefft was personally both, the driver and the motivator, for 'his baby'. After Krefft's death the second author of the present contribution (MS) took the responsibility to keep track of the consecutive numbering and indicated to the authors of new publications the respective next available number to be used for a subsequent paper.

Although between 1967 and 2010 a total of 75 contributions has been published in the serial, a complete list of the included titles has never been made available. It could never have been published due to a computer crash and the loss of all data more than 20 years ago, during the dawn of digitalization in Germany's public administration, when at ISH a mechanical hard disk broke without having a backup available.

We take the opportunity to present below the complete list of all titles published so far in the serial 'Results of the research cruises of FRV *Walther Herwig* to South America'. In a further step all these publications shall soon be made available as pdf-files in a new section '*Walther Herwig* library' on www.pecescrilloos.de, where also all future contributions will be added.

fig. 6

Resurrection from the ashes:
Number of works published in the series 'Results of the research cruises of FRV *Walther Herwig* to South America' per decade since 1967 (blue) and the potential future additions based on the novelties shown in columns #5 and #6 of table 3 (green).



List of contributions published in the serial

Krefft, G. (1967):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

I*. *Paraholtbyrnia cyanocephala* gen. nov., spec. nov. (Pisces, Salmoniformes, Alepocephaloidei), ein neuer Searside aus dem tropischen Atlantik.

Archiv für Fischereiwissenschaft 18 (1): 1-11

(*retroactively assigned to be a publication in this series by Krefft in IV.)

Paraholtbyrnia Krefft, 1967

- o synonym of *Holtbyrnia* Parr, 1937
- o Alepocephaloformes: Platytroctidae

Paraholtbyrnia cyanocephala Krefft, 1967

- o valid as *Holtbyrnia cyanocephala* (Krefft, 1967)
- o holotype: ZMH 25191, ex ISH 194-1966
- o paratypes: ZMH 25192 (4), ex ISH 294-1966
ZMH 25193 (1), ex ISH 441-1966
ZMH 25194 (2), ex ISH 494-1966
ZMH 25325 (3), ex ISH 332-1966

Krefft, G. (1968):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

II*. Neue und erstmalig nachgewiesene Knorpelfische aus dem Archibenthal des Südwestatlantiks, einschließlich einer Diskussion einiger *Etmopterus*-Arten südlicher Meere.

Archiv für Fischereiwissenschaft 19 (1): 1-42

(*retroactively assigned to be a publication in this series by Krefft in IV.)

Etmopterus gracilispinis Krefft, 1968

- o valid as *Etmopterus gracilispinis* Krefft, 1968
- o Squaliformes: Etmopteridae

- o holotype: ZMH 24989, ex ISH 1051-1966
- o paratypes: ZMH 24990 (1), ex ISH 1061-1966
ZMH 24991 (5), ex ISH 1573-1966
ZMH 24992 (1), ex ISH 935-1966

Post, A. (1968):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.
III*. Die Paralepididae (Pisces) der 15. Forschungsfahrt des FFS *Walther Herwig*.
Zoologischer Anzeiger 180 (1/2): 139-146
(*retroactively assigned to be a publication in this series by Krefft in IV.)

Krefft, G. (1968):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.
IV. *Luciosudis* Fraser-Brunner, 1931, ein valides Genus der Familie Scopelosauridae (Osteichthyes, Alepisauroidi).
Archiv für Fischereiwissenschaft 19 (2/3): 95-102

Post, A. (1968):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.
V. *Notolepis rissoi* (Bonaparte, 1841) (Osteichthyes, Iniomi, Paralepididae).
Archiv für Fischereiwissenschaft 19 (2/3): 103-113

Krefft, G. (1969):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.
VI. Fische der Familie Centrolophidae (Perciformes, Stromateoidei).
Archiv für Fischereiwissenschaft 20 (1): 1-9

Post, A. (1969):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.
VII. *Pontosudis quadrimaculata* spec. nov. (Osteichthyes, Iniomi, Paralepididae).
Archiv für Fischereiwissenschaft 20 (1): 10-14

- Pontosudis quadrimaculata* Post, 1969
- o valid as *Uncisudis quadrimaculata* (Post, 1969)
 - o Aulopiformes: Paralepididae
 - o holotype: ZMH 25218, ex ISH 698-1968
 - o paratype: ZMH 25219 (1), ex ISH 698-1968

Post, A. (1969):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.
VIII. *Dolichosudis fuliginosa* gen. nov. spec. nov. (Osteichthyes, Iniomi, Paralepididae).
Archiv für Fischereiwissenschaft 20 (1): 15-21

- Dolichosudis fuliginosa* Post, 1969
- o valid as *Dolichosudis fuliginosa* Post, 1969
 - o Aulopiformes: Paralepididae
 - o holotype: ZMH 24974, ex ISH 2007-1968

Krefft, G. (1970):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.
IX. Zur Systematik und Verbreitung der Gattung *Lampadena* Goode & Bean, 1896 (Osteichthyes, Myctophoidi; Myctophidae) im Atlantischen Ozean, mit Beschreibung einer neuen Art.
Berichte der Deutschen Wissenschaftlichen Kommission für Meeresforschung 21 (1-4): 271-289

- Lampadena pontifex* Krefft, 1970
- o valid as *Lampadena pontifex* Krefft, 1970
 - o Myctophiformes: Myctophidae: Lampanyctinae
 - o holotype: ZMH 25102, ex ISH 662-1964
 - o paratypes: ZMH 25099 (1), ex ISH 536-1968
ZMH 25100 (1), ex ISH 616-1964
ZMH 25101 (1), ex ISH 636-1964
ZMH 25103 (2), ex ISH 662-1964

Goodyear, R.H. & R.H. Gibbs (1970):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.
X. Systematics and zoogeography of stomiatoid fishes of the *Astronesthes cyaneus* species group (family Astronesthidae), with descriptions of three new species.

Archiv für Fischereiwissenschaft 20 (2/3): 107-131

- Astronesthes lamellosus* Goodyear & Gibbs, 1970
- o valid as *Astronesthes lamellosa* Goodyear & Gibbs, 1970
 - o Stomiiformes: Stomiidae: Astronesthinae
 - o no type specimens deposited at ISH/ZMH
- Astronesthes macropogon* Goodyear & Gibbs, 1970
- o valid as *Astronesthes macropogon* Goodyear & Gibbs, 1970
 - o Stomiiformes: Stomiidae: Astronesthinae
 - o holotype: ZMH 24905, ex ISH 201-1966
 - o paratypes: ZMH 24902 (1), ex ISH 1801-1968
ZMH 24903 (2), ex ISH 1892-1968
ZMH 24904 (1), ex ISH 1997-1968
ZMH 24906 (4), ex ISH 2015-1968
ZMH 24907 (5), ex ISH 301-1966
ZMH 24908 (1), ex ISH 412-1968
ZMH 24909 (4), ex ISH 469-1966
ZMH 24910 (1), ex ISH 609-1968
ZMH 24911 (2), ex ISH 781-1966
- Astronesthes micropogon* Goodyear & Gibbs, 1970
- o valid as *Astronesthes micropogon* Goodyear & Gibbs, 1970
 - o Stomiiformes: Stomiidae: Astronesthinae
 - o paratypes: ZMH 24912 (1), ex ISH 1015-1968
ZMH 24913 (3), ex ISH 300-1966
ZMH 24914 (2), ex ISH 374-1968
ZMH 24915 (2), ex ISH 413-1968
ZMH 24916 (1), ex ISH 452-1966
ZMH 24917 (1), ex ISH 513-1966
ZMH 24918 (1), ex ISH 771-1968

Castle, P.H.J. (1970):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XI. The Leptocephali.

Archiv für Fischereiwissenschaft 21 (1): 1-21

Krefft, G. (1970):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XII. *Barbantus elongatus* spec. nov. (Pisces, Alepocephaloidei), ein weiterer neuer Searside aus dem tropischen Atlantik.

Archiv für Fischereiwissenschaft 21 (1): 22-27

- Barbantus elongatus* Krefft, 1970
- o valid as *Barbantus elongatus* Krefft, 1970
 - o Alepocephaliformes: Platyroctidae
 - o holotype: ZMH 24928, ex ISH 874-1968
 - o paratypes: ZMH 24927 (1), ex ISH 126-1967

Nielsen, J.G. & V. Larsen (1970):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

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

Archiv für Fischereiwissenschaft 21 (1): 28-39

- Bathylaco krefftii* Nielsen & Larsen, 1970
- o valid as *Herwigia krefftii* (Nielsen & Larsen, 1970)
 - o Alepocephaliformes: Alepocephalidae
 - o holotype: ZMH 24929, ex ISH 1540-1968
 - o paratypes: ZMH 24930 (1), ex ISH 231-1968

Post, A. (1970):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XIV. *Macroparalepis* (Osteichthyes, Iniomi, Paralepididae).

Archiv für Fischereiwissenschaft 21 (3): 165-204

Post, A. (1970):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XV. *Stemonosudis siliquiventer* spec. nov. (Osteichthyes, Iniomi, Paralepididae).

Archiv für Fischereiwissenschaft 21 (3): 205-212

- Stemonosudis siliquiventer* Post, 1970
- o valid as *Stemonosudis siliquiventer* Post, 1970

- o Aulopiformes: Paralepididae
- o holotype: ZMH 25301, ex ISH 893-1968
- o paratypes: ZMH 25300 (1), ex ISH 824-1968

Nielsen, J.G. (1971):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XVI. Redescription of the genus *Selachophidium* (Pisces, Brotulidae) with two new species.

Archiv für Fischereiwissenschaft 22 (1): 17-33

Selachophidium americanum Nielsen, 1971

- o valid as *Monomitopus americanus* (Nielsen, 1971)
- o Ophidiiformes: Ophidiidae: Neobythitinae
- o holotype: ZMH 25298, ex ISH 1803-1968
- o paratypes: ZMH 25299 (5), ex ISH 1803-1968

Selachophidium vitiazi Nielsen, 1971

- o valid as *Monomitopus vitiazi* (Nielsen, 1971)
- o Ophidiiformes: Ophidiidae: Neobythitinae
- o no type specimens deposited at ISH/ZMH

Stehmann, M. (1971):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XVII. *Raja (Raja) herwigi* Krefft, 1965; ergänzende Untersuchungen zum subgenerischen Status der Art.

Archiv für Fischereiwissenschaft 22 (2): 85-97

Krefft, G. (1971):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XVIII. *Pseudoscopelus scutatus* spec. nov. (Pisces, Perciformes, Trachinoidei, Chiasmodontidae), ein neuer Kreuzzahnbarsch aus dem tropischen Atlantik.

Archiv für Fischereiwissenschaft 22 (3): 165-174

Pseudoscopelus scutatus Krefft, 1971

- o valid as *Pseudoscopelus scutatus* Krefft, 1971
- o Scombriformes: Scombroidei: Chiasmodontidae
- o holotype: ZMH 25241, ex ISH 567-1966
- o paratypes: ZMH 25235 (2), ex ISH 1042-1968
- o ZMH 25236 (1), ex ISH 1293-1968
- o ZMH 25237 (1), ex ISH 1712-1966
- o ZMH 25238 (1), ex ISH 242-1968
- o ZMH 25239 (1), ex ISH 2471-1971
- o ZMH 25240 (1), ex ISH 454-1968
- o ZMH 25242 (2), ex ISH 567-1966
- o ZMH 25243 (4), ex ISH 647-1966
- o ZMH 25244 (2), ex ISH 687-1966
- o ZMH 25245 (1), ex ISH 734-1966
- o ZMH 25400 (1), ex ISH 861-1966

Pietsch, T.W. (1972):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XIX. Systematics and distribution of ceratioid fishes of the genus *Dolopichthys* (family Oneirodidae), with the description of a new species.

Archiv für Fischereiwissenschaft 23 (1): 1-28

Dolopichthys dinema Pietsch, 1972

- o valid as *Dolopichthys dinema* Pietsch, 1972
- o Lophiiformes: Ceratioidei: Oneirodidae
- o no type specimens deposited at ISH/ZMH

Nielsen, J.G. (1972):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XX. Additional notes on Atlantic Bathylaconidae (Pisces, Isospondyli) with a new genus.

Archiv für Fischereiwissenschaft 23 (1): 29-36

Herwigia Nielsen, 1972

- o valid as *Herwigia* Nielsen, 1972
- o Alepocephaliformes: Alepocephalidae

Johnson, R.K. (1972):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXI. A new species of *Scopelarchoides* (Myctophiformes, Scopelarchidae) from the South Atlantic Ocean.

Archiv für Fischereiwissenschaft 23 (1): 37-42

Scopelarchoides krefftii Johnson, 1972

- o valid as *Scopelarchoides krefftii* Johnson, 1972
- o Aulopiformes: Scopelarchidae
- o holotype: ZMH 25273, ex ISH 1561-1968
- o paratypes: ZMH 25272 (1), ex ISH 1012-1971
ZMH 25274 (1), ex ISH 630-1971
ZMH 25275 (6), ex ISH 649-1971
ZMH 25276 (1), ex ISH 666-1971

Post, A. (1972):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXII. *Pontosudis*, ein Synonym von *Uncisudis*.

Archiv für Fischereiwissenschaft 23 (1): 43-46

Haedrich, R.L. (1972):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXIII. Fishes of the Family Nomeidae (Perciformes, Stromateoidei).

Archiv für Fischereiwissenschaft 23 (2): 73-88

Post, A. (1972):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXIV. Die Chromosomenzahlen einiger atlantischer Myctophidenarten (Osteichthyes, Myctophoidi, Myctophidae).

Archiv für Fischereiwissenschaft 23 (2): 89-93

Krefft, G. & N.V. Parin (1972):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXV. *Diplophos rebainsi* n. sp. (Osteichthyes, Stomiatoidei, Gonostomatidae), a new gonostomatid fish from southern seas.

Archiv für Fischereiwissenschaft 23 (2): 94-100

Diplophos rebainsi Krefft & Parin, 1972

- o valid as *Diplophos rebainsi* Krefft & Parin, 1972
- o Stomiiformes: Gonostomatidae
- o paratypes: ZMH 24962 (2), ex ISH 1018-1971
ZMH 24963 (1), ex ISH 1038-1971
ZMH 24964 (1), ex ISH 1072-1971
ZMH 24965 (4), ex ISH 1102-1971
ZMH 24966 (2), ex ISH 1122-1971
ZMH 24967 (2), ex ISH 1163-1971

Stehmann, M.F.W. & W. Lenz (1973):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXVI. Systematik und Verbreitung der Artengruppe - *Seriolella punctata* (Schneider, 1801), *S. porosa* Guichenot, 1848, *S. dobula* (Günther, 1869) - sowie taxonomische Bemerkungen zu *Hyperoglyphe* Günther, 1859 und *Schedophilus* Cocco, 1839 (Osteichthyes, Stromateoidei, Centrolophidae).

Archiv für Fischereiwissenschaft 23 (3): 179-201

Post, A. (1973):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXVII. *Macroparalepis* Ege, 1933 (Osteichthyes, Myctophoidi, Paralepididae). Revision der Gattung und Beschreibung zweier neuer Arten.

Archiv für Fischereiwissenschaft 23 (3): 202-242

Macroparalepis longilateralis Post, 1973

- o valid as *Macroparalepis longilateralis* Post, 1973
- o Aulopiformes: Paralepididae
- o holotype: ZMH 25131, ex ISH 924-1971

Macroparalepis macrogeneion Post, 1973

- o valid as *Macroparalepis macrogeneion* Post, 1973
- o Aulopiformes: Paralepididae
- o holotype: ZMH 25135, ex ISH 896-1971
- o paratypes: ZMH 25132 (3), ex ISH 1489-1971
ZMH 25133 (1), ex ISH 494-1971
ZMH 25134 (4), ex ISH 653-1971
ZMH 25136 (2), ex ISH 896-1971

Krefft, G. (1973):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXVIII. *Woodsia meyerwaardeni* spec. nov., ein neuer Gonostomatide aus dem Südatlantik.

Archiv für Fischereiwissenschaft 24 (1-3): 129-139

Woodsia meyerwaardeni Krefft, 1973

- o valid as *Woodsia meyerwaardeni* Krefft, 1973
- o Stomiiformes: Stomiidae: Stomiinae
- o holotype: ZMH 25310, ex ISH 1125-1971
- o paratypes: ZMH 25307 (15), ex ISH 1020-1971
ZMH 25308 (2), ex ISH 1073-1971
ZMH 25309 (8), ex ISH 1125-1971
ZMH 25311 (3), ex ISH 1165-1971
ZMH 25312 (1), ex ISH 197-1971
ZMH 25313 (1), ex ISH 340-1971
ZMH 25314 (1), ex ISH 360-1971
ZMH 25315 (10), ex ISH 405-1971
ZMH 25316 (1), ex ISH 616-1971
ZMH 25317 (4), ex ISH 661-1971
ZMH 25318 (11), ex ISH 836-1971
ZMH 25319 (6), ex ISH 907-1971

Riemann-Zürneck, K. (1973):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXIX. Actiniaria des Südwestatlantik. I. Hormathiidae.

Helgoländer wissenschaftliche Meeresuntersuchungen 25: 273-325

Johnson, R.K. & D.M. Cohen (1974):

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

XXX. Revision of the chiasmodontid fish genera *Dysalotus* and *Kali*, with descriptions of two new species.

Archiv für Fischereiwissenschaft 25 (1/2): 13-46

Dysalotus oligoscolus Johnson & Cohen, 1974

- o valid as *Dysalotus oligoscolus* Johnson & Cohen, 1974
- o Scombriformes: Scombroidei: Chiasmodontidae
- o paratypes: ZMH 24975 (1), ex ISH 1459/1971
ZMH 24976 (2), ex ISH 2132-1968 [not 917/1968]
ZMH 24977 (2), ex ISH 878/1971
ZMH 24978 (1), ex ISH 960/1971

Kali parri Johnson & Cohen, 1974

- o valid as *Kali parri* Johnson & Cohen, 1974
- o Scombriformes: Scombroidei: Chiasmodontidae
- o holotype: ZMH 25095, ex ISH 2123/1971
- o paratypes: ZMH 25096 (1), ex ISH 2123/1971
ZMH 25097 (1), ex ISH 2181/1971
ZMH 25098 (1), ex ISH 919/1968

Oelschläger, H.A. (1974):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXXI. Das Jugendstadium von *Lampris guttatus* (Brünnich, 1788) (Osteichthyes, Allotriognathi), ein Beitrag zur Kenntnis seiner Entwicklung.

Archiv für Fischereiwissenschaft 25 (suppl. 1): 3-19

Bückmann, A. (1974):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXXII. Die Appendicularienfänge der *Walther Herwig* auf dem Patagonischen Schelf im September 1971.

Archiv für Fischereiwissenschaft 25 (suppl. 1): 21-32

Krefft, G. & M.F.W. Stehmann (1974):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXXIII. *Raja (Rajella) sadowskii* spec. nov. (Chondrichthyes, Batoidei, Rajidae), ein weiterer neuer Roche vom südwestatlantischen Kontinentalabhang.

Archiv für Fischereiwissenschaft 25 (suppl. 1): 33-50

Raja sadowskii Krefft & Stehmann, 1974

- o valid as *Rajella sadowskii* (Krefft & Stehmann, 1974)
- o Rajiformes: Rajidae
- o holotype: ZMH 25262, ex ISH 1807-1968
- o paratypes: ZMH 25263 (1), ex ISH 1936-1968
ZMH 25264 (5), ex ISH 1973-1968

ZMH 25265 (1), ex ISH 2004-1968

Post, A. (1974):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXXIV. Die Chromosomen von drei Arten aus der Familie Gonostomatidae (Osteichthyes, Stomiatoidei).

Archiv für Fischereiwissenschaft 25 (suppl. 1): 51-55

Krefft, G. (1974):

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

XXXV. Investigations on midwater fish in the Atlantic Ocean.

Berichte der deutschen wissenschaftlichen Kommission für Meeresforschung 23: 226-254

Krefft, G. & M.F.W. Stehmann (1975):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXXVI. Zwei weitere neue Rochenarten aus dem Südwestatlantik: *Raja (Dipturus) leptocauda* und *Raja (Dipturus) trachyderma* spec. nov. (Chondrichthyes, Batoidei, Rajidae).

Archiv für Fischereiwissenschaft 26 (3): 77-97

Raja (Dipturus) leptocauda Krefft & Stehmann, 1975

o valid as *Dipturus leptocauda* (Krefft & Stehmann, 1975)

o Rajiformes: Rajidae

o holotype: ZMH 25254, ex ISH 1913-1968

Raja (Dipturus) trachyderma Krefft & Stehmann, 1975

o valid as *Dipturus trachyderma* (Krefft & Stehmann, 1975)

o Rajiformes: Rajidae

o holotype: ZMH 25402, ex ISH 130-1971

Lenz, W. (1975):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XXXVII. Untersuchungen zur inneren hydrographischen Struktur des südlichen und mittleren Atlantiks (0-2000 m Tiefe) mit zoogeographischen Anmerkungen.

Berichte der deutschen wissenschaftlichen Kommission für Meeresforschung 24 (1): 1-22

Bertelsen, E. & T.W. Pietsch (1975):

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

XXXVIII. Osteology and relationships of the ceratioid anglerfish genus *Spiniphyrne* (family Oneirodidae).

Archiv für Fischereiwissenschaft 26 (1): 1-11

Mayer, G.F. (1975):

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

XXXIX. The Epigonine fauna of the South Atlantic, with a key to the genera and a redescription of *Rosenblattia robusta* Mead and De Falla.

Archiv für Fischereiwissenschaft 26 (1): 13-28

Riemann-Zürneck, K. (1975):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XL. Actiniaria des Südwestatlantik. II. Sagartiidae und Metridiidae.

Helgoländer wissenschaftliche Meeresuntersuchungen 27 (1): 70-93

Krefft, G. (1976):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XLI. Fische der Ordnung Beryciformes aus dem Südwestatlantik.

Archiv für Fischereiwissenschaft 26 (2/3): 65-86

Post, A. (1976):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XLII. *Diretmus* Johnson 1863 (Beryciformes, Berycoidei, Diretmidae). 2. Morphologie, Entwicklung, Verbreitung.

Archiv für Fischereiwissenschaft 26 (2/3): 87-114

John, H.C. (1976):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XLIII. Larvalformen atlantischer Exocoetiden.

Archiv für Fischereiwissenschaft 26 (2/3): 115-135

Riemann-Zürneck, K. (1975):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XLIV. Actiniaria des Südwestatlantik III. *Calliactis androgyna* sp. n. (Hormathiidae).

Veröffentlichungen des Institutes für Meeresforschung Bremerhaven 15: 387-395

John, H.C. (1977):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XLV. Die Häufigkeit des Ichthyoplanktons an der Oberfläche des mittleren und südlichen Atlantischen Ozeans.

Meeresforschung - Reports on Marine Research 25 (1/2): 23-36

Post, A. (1976):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

XLVI. *Diretmus* Johnson, 1863 (Beryciformes, Berycoidei, Diretmidae). 3. Morphologie und Histologie eines subopercularen Drüsenkomplexes.

Archiv für Fischereiwissenschaft 27 (2) : 89-96

Bertelsen, E. & T.W. Pietsch (1977):

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

XLVII. Ceratioid anglerfishes of the family Oneirodidae collected by the FRV *Walther Herwig*.

Archiv für Fischereiwissenschaft 27 (3): 171-189

Gosztonyi, A.E. (1977):

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

XLVIII. Revision of the South American Zoarcidae (Osteichthyes, Blennioidei) with the description of three new genera and five new species.

Archiv für Fischereiwissenschaft 27 (3): 191-249

Aiakas Gosztonyi, 1977

- o valid as *Aiakas* Gosztonyi, 1977
- o Perciformes: Zoarcoidei: Zoarcidae: Lycodinae

Aiakas kreffti Gosztonyi, 1977

- o valid as *Aiakas kreffti* Gosztonyi 1977
- o holotype: ZMH 24866, ex ISH 385-1971

Lycenchelys bachmanni Gosztonyi, 1977

- o valid as *Lycenchelys bachmanni* Gosztonyi, 1977
- o Perciformes: Zoarcoidei: Zoarcidae: Lycodinae
- o holotype: ZMH 25115, ex ISH 306-1971

Notolycodes Gosztonyi, 1977

- o valid as *Notolycodes* Gosztonyi, 1977
- o Perciformes: Zoarcoidei: Zoarcidae: Lycodinae

Notolycodes schmidtii Gosztonyi, 1977

- o valid as *Notolycodes schmidtii* Gosztonyi, 1977
- o holotype: ZMH 25179, ex ISH 1134-1966
- o paratypes: ZMH 25180 (1), ex ISH 1515-1966
ZMH 25181 (2), ex ISH 1586-1966
ZMH 25182 (1), ex ISH 1977-1968

Ophthalmolycus stehmanni Gosztonyi, 1977

- o valid as *Plesienchelys stehmanni* (Gosztonyi, 1977)
- o Perciformes: Zoarcoidei: Zoarcidae: Lycodinae
- o holotype: ZMH 25190, ex ISH 317-1971

Piedrabuenia Gosztonyi, 1977

- o valid as *Piedrabuenia* Gosztonyi 1977
- o Perciformes: Zoarcoidei: Zoarcidae: Lycodinae

Piedrabuenia ringueleti Gosztonyi, 1977

- o valid as *Piedrabuenia ringueleti* Gosztonyi, 1977
- o holotype: ZMH 25198, ex ISH 279-1971
- o paratypes: ZMH 25199 (1), ex ISH 369-1971

Post, A. & T. Hecht (1977):

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

XLIX. The otoliths of *Diretmus* Johnson, 1863 (Osteichthyes, Beryciformes, Diretmidae).

Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut 74: 165-170

Castle, P.H.J. (1978):

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

L. A new genus and species of bobtail eel (Anguilliformes, Cyemidae) from the South Atlantic.

Archiv für Fischereiwissenschaft 28 (2/3): 69-76

Neocyema Castle, 1978

- o valid as *Neocyema* Castle, 1978
- o Anguilliformes: Anguilloidei: Nemichthyidae

Neocyema erythrosoma Castle, 1978

- o valid as *Neocyema erythrosoma* Castle, 1978
- o holotype: ZMH 25162, ex ISH 1194-1971
- o paratypes: ZMH 25163 (1), ex ISH 956-1971

Diehl, M. (1977):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

LI. Ascidien des argentinischen Schelfs aus den Grundtrawl-Fängen des FFS *Walther Herwig* auf seiner dritten Südamerika-Expedition.

Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut 74: 139-153

Riemann-Zürneck, K. (1978):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

LII. Actiniaria des Südwestatlantik. IV. *Actinostola crassicornis* (Hertwig, 1882) mit einer Diskussion verwandter Arten.

Veröffentlichungen des Institutes für Meeresforschung Bremerhaven 17: 65-85

Krefft, G. (1980):

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

LIII. Sharks from the pelagic trawl catches obtained during Atlantic transects, including some specimens from other cruises.

Archiv für Fischereiwissenschaft 30 (1): 1-16

Post, A. (1980):

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

LIV. New records of extremely rare paralepidids from the South Atlantic (Osteichthyes, Myctophiformes, Alepisauridae).

Archiv für Fischereiwissenschaft 30 (2/3): 121-124

Kapp, H. (1980):

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

LV. Chaetognatha from the Patagonian Shelf in February 1971.

Archiv für Fischereiwissenschaft 30 (2/3): 125-135

McEachran, J.D. & L.J.V. Compagno (1980):

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

LVI. A new species of skate from the southwestern Atlantic, *Gurgesiella dorsalifera* sp. nov. (Chondrichyes, Rajoidei).

Archiv für Fischereiwissenschaft 31 (1): 1-14

Gurgesiella dorsalifera McEachran & Compagno, 1980

- o valid as *Gurgesiella dorsalifera* McEachran & Compagno, 1980
- o Rajiformes: Gurgesiellidae
- o holotype: ZMH 25046, ex ISH 1948-1968
- o paratypes: ZMH 25043 (2), ex ISH 1797-1968
ZMH 25044 (2), ex ISH 1931-1968
ZMH 25045 (2), ex ISH 1943-1968

Riemann-Zürneck, K. (1980):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

LVII. Actiniaria des Südwestatlantik. V. *Bolocera*, *Isotealia*, *Isosicyonis* (Actiniidae).

Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut 77: 19-33

Hulley, P. A. (1981):

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

LVIII. Family Myctophidae (Osteichthyes, Myctophiformes).

Archiv für Fischereiwissenschaft 31 (suppl. 1): 1-303

- Gymnoscopelus hintonoides* Hulley, 1981
- o valid as *Gymnoscopelus hintonoides* Hulley, 1981
 - o Myctophiformes: Myctophidae: Gymnoscopelinae
 - o holotype: ZMH 25047, ex ISH 843-1976
 - o paratypes: ZMH 25048 (5), ex ISH 843-1976
- Gymnoscopelus microlampas* Hulley, 1981
- o valid as *Gymnoscopelus microlampas* Hulley, 1981
 - o Myctophiformes: Myctophidae: Gymnoscopelinae
 - o holotype: ZMH 25049, ex ISH 551-1976
 - o paratypes: ZMH 25050 (2), ex ISH 551-1976
- Lampanyctus vadulus* Hulley, 1981
- o valid as *Lampanyctus vadulus* Hulley, 1981
 - o Myctophiformes: Myctophidae: Lampanyctinae
 - o holotype: ZMH 25104, ex ISH 596-1966
 - o paratypes: ZMH 25105 (4), ex ISH 596-1966
- Metelectrona herwigi* Hulley, 1981
- o valid as *Metelectrona herwigi* Hulley, 1981
 - o Myctophiformes: Myctophidae: Myctophinae
 - o holotype: ZMH 25141, ex ISH 1008-1971
 - o paratypes: ZMH 25140 (1), ex ISH 1007-1971
ZMH 25396 (5), ex ISH 1008-1971
- Protomyctophum choriodon* Hulley, 1981
- o valid as *Protomyctophum choriodon* Hulley, 1981
 - o Myctophiformes: Myctophidae: Myctophinae
 - o holotype: ZMH 25221, ex ISH 1541-1966
 - o paratypes: ZMH 25222 (6), ex ISH 1541-1966
- Protomyctophum gemmatum* Hulley, 1981
- o valid as *Protomyctophum gemmatum* Hulley, 1981
 - o Myctophiformes: Myctophidae: Myctophinae
 - o holotype: ZMH 25223, ex ISH 734-1971
 - o paratypes: ZMH 25408 (4), ex ISH 734-1971
- Protomyctophum luciferum* Hulley, 1981
- o valid as *Protomyctophum luciferum* Hulley, 1981
 - o Myctophiformes: Myctophidae: Myctophinae
 - o holotype: ZMH 25224, ex ISH 1564-1968
 - o paratypes: ZMH 25225 (9), ex ISH 1564-1968
- Symbolophorus kreffti* Hulley, 1981
- o valid as *Symbolophorus kreffti* Hulley, 1981
 - o Myctophiformes: Myctophidae: Myctophinae
 - o holotype: ZMH 25302, ex ISH 920-1974
 - o paratypes: ZMH 25303 (14), ex ISH 920-1974

Gosztonyi, A.E. (1981):

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

LIX. *Lycodon malvinensis* n. sp. (Pisces, Blennioidei), another new zoarcid fish from the western South Atlantic Ocean.

Archiv für Fischereiwissenschaft 31 (3): 151-159

- Lycodon malvinensis* Gosztonyi, 1981
- o valid as *Lycodon malvinensis* Gosztonyi, 1981
 - o Perciformes: Zoarcoidei: Zoarcidae: Lycodinae
 - o holotype: ZMH 25129, ex ISH 200-1971
 - o paratypes: ZMH 25128 (1), ex ISH 200-1971
ZMH 25130 (1), ex ISH 374-1971

McMillan, C.B. & R.L. Wisner (1982):

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

LX. *Nemamyxine kreffti*, a new species of hagfish from off Argentina.

Archiv für Fischereiwissenschaft 32 (1-3): 33-38

- Nemamyxine kreffti* McMillan & Wisner, 1982
- o valid as *Nemamyxine kreffti* McMillan & Wisner, 1982
 - o Myxiniformes: Myxinidae: Myxininae
 - o holotype: ZMH 25161, ex ISH 1144-1966
 - o remarks: type locality corrected from 'Argentina' to 'Uruguay' by Koerber (2024)

McEachran, J.D. (1983):

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

LXI. Revision of the South American skate genus *Psammobatis* Günther, 1870 (Elasmobranchii: Rajiformes, Rajidae).

Archiv für Fischereiwissenschaft 34 (1): 23-80

- Psammobatis lentiginosa* McEachran, 1983
- o valid as *Psammobatis lentiginosa* McEachran, 1983
 - o Rajiformes: Arhynchobatidae
 - o paratypes: ZMH 25230 (1), ex ISH 1034-1966
ZMH 25231 (1), ex ISH 1501-1966
ZMH 25232 (1), ex ISH 1622-1966
ZMH 25233 (1), ex ISH 1676-1966

Hartmann-Schröder, G. (1983):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

LXII. Die Polychaeten der 15., 36. und 76. Reise von FFS *Walther Herwig* zum patagonischen Schelf (Südwest-Atlantik).

Senckenbergiana Maritima 15: 251-277

Bertelsen, E. & T. Pietsch (1984):

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

LXIII. A resurrection of the ceratioid anglerfish *Ceratias tentaculatus* (Norman, 1930) with notes on the occurrence of the species of *Ceratias* in the Atlantic Ocean (Pisces: Lophiiformes).

Archiv für Fischereiwissenschaft 35 (1/2): 43-51

Stehmann, M.F.W. (1985):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

LXIV. *Bathyraja papilionifera* sp. n. (Pisces, Batoidea, Rajidae), eine weitere neue Rochenart aus dem Südwestatlantik vom nordargentinischen Kontinentalabhang.

Archiv für Fischereiwissenschaft 36 (1/2): 195-211

- Bathyraja papilionifera* Stehmann, 1985
- o valid as *Bathyraja papilionifera* Stehmann, 1985
 - o Rajiformes: Arhynchobatidae
 - o holotype: ZMH 24935, ex ISH 297-1978
 - o paratypes: ZMH 24936 (1), ex ISH 297-1978
ZMH 24937 (1), ex ISH 300-1978

Waloszek, D. & C. Waloszek (1986):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

LXV. Vorkommen, Reproduktion, Wachstum und mögliche Nutzbarkeit von *Chlamys patagonica* (King & Broderip, 1832) (Bivalvia, Pectinidae) auf dem Schelf vor Argentinien.

Archiv für Fischereiwissenschaft 37 (1/2): 69-99

Riemann-Zürneck, K. (1986):

Ergebnisse der Forschungsreisen des FFS *Walther Herwig* nach Südamerika.

LXVI. Zur Biogeographie des Südwestatlantik mit besonderer Berücksichtigung der Seeanemonen (Coelenterata: Actiniaria).

Helgoländer Meeresuntersuchungen 40: 91-149

Post, A. (1987):

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

LXVII. Revision of the subfamily Paralepidinae (Pisces, Aulopiformes, Alepisauridae, Paralepididae). I. Taxonomy, morphology and geographical distribution.

Archiv für Fischereiwissenschaft 38 (1/2): 75-131

Stehmann, M.F.W. & G. Krefft (1988):

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

LXVIII. Complimentary redescription of the dalatiine shark *Euprotomicroides zantedeschia* Hulley & Penrith, 1966 (Chondrichthys, Squalidae), based on a second record from the western South Atlantic.

Archiv für Fischereiwissenschaft 39 (1): 1-30

Parin, N.V. & B.B. Collette (1993):

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

LXIX. *Lepidopus altifrons*, a new species of cutlassfish (Pisces, Scombroidei, Trichiuridae) from the western Atlantic Ocean.

Archiv für Fischereiwissenschaft 41 (3): 187-195

Lepidopus altifrons Parin & Collette, 1993

- o valid as *Lepidopus altifrons* Parin & Collette, 1993
- o Scombriformes :Trichiuridae: Lepidopodinae
- o paratypes: ZMH 25106 (1), ex ISH 1015-1966
ZMH 25107 (4), ex ISH 1733-1968
ZMH 25108 (4), ex ISH 1882-1968
ZMH 25109 (2), ex ISH 1925-1968
ZMH 25110 (2), ex ISH 1947-1968
ZMH 25111 (1), ex ISH 2022-1968
ZMH 25112 (2), ex ISH 30-1970

Mandrytsa, S.A. (1993):

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

LXX. New records of two rare scorpionfishes, *Idiastion kyphos* Eschmeyer, 1965 and *Phenacoscorpius nebris* Eschmeyer, 1965 (Pisces, Scorpaenidae), from off South Brazil.

Archiv für Fischereiwissenschaft 41 (3): 197-201

Stehmann, M.F.W. & A.V. Balushkin (1993):

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

LXXI. A first record of the Antarctic fish *Lindbergichthys nudifrons* (Lönnberg, 1905) from the Beagle Canal, Tierra del Fuego (Pisces, Perciformes, Nototheniidae).

Archiv für Fischereiwissenschaft 41 (3): 203-210

Balushkin, A.V. & M.F.W. Stehmann (1993):

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

LXXII. *Patagonotothen krefftii* sp. n., a new Patagonian notothen from Burdwood Bank, western South Atlantic (Pisces, Perciformes, Nototheniidae).

Archiv für Fischereiwissenschaft 41 (3): 211-221

Patagonotothen krefftii Balushkin & Stehmann, 1993

- o valid as *Patagonotothen krefftii* Balushkin & Stehmann, 1993
- o Perciformes: Notothenioidei: Nototheniidae: Nototheniinae
- o paratypes: ZMH 25195 (9), ex ISH 263-1976

Stehmann, M.F.W. & G. Schulze (1996):

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

LXXIII. Fourth record of *Bathyraja papilionifera* Stehmann, 1985 from the continental slope off northern Argentina (Pisces, Rajiformes, Rajidae).

Archive of Fishery and Marine Research 44 (3): 267-278

Rincón, G., M.F.W. Stehmann & C.M. Vooren (2001):

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

LXXIV. *Benthobatis krefftii* n.sp. (Chondrichthyes, Torpediniformes, Narcinidae), a new deep-water electric ray from off South Brazil and the third species of the genus.

Archive of Fishery and Marine Research 49 (1): 45-60

Benthobatis krefftii Rincón, Stehmann & Vooren, 2001

- o valid as *Benthobatis krefftii* Rincón, Stehmann & Vooren, 2001
- o Torpediniformes: Narcinidae
- o paratypes: ZMH 8866 (5)
ZMH 8867 (1)
ZMH 24941 (2), ex ISH 1989-1968

Stein, M. (2010):

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

LXXV. Trans-Atlantic oceanographic measurements during South America expeditions 1966-1976 of the Institute of Sea Fisheries, Hamburg, Germany.

In: Wegner, G. & V. Siegel (eds.): 100 years of research at the Institute of Sea Fisheries and its precursors in Hamburg, Germany. Journal of Applied Ichthyology (special issue): 32-40

Koerber, S. (2024):

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

LXXVI*. Lanternfishes (Myctophidae) collected by the German research vessel *Walther Herwig* in the Exclusive Economic Zones of Argentina and Uruguay.

Ichthyological Contributions of PecesCriollos 85: 1-51

(* herein retroactively assigned to be a publication in this serial)

Acknowledgments

We are especially thankful to Alexander 'Butch' Hulley from South Africa, Átila Gosztonyi from Argentina, and Jørgen Nielsen from Denmark, all of them former participants in cruises of the *Walther Herwig* to the Southwestern Atlantic Ocean, who acted as reviewers and improved the manuscript with their comments significantly.

For making literature available to us thanks are due to Stefan Keune, interlibrary loan service of the public library at Oberhausen, and www.Digishelf.de, where on behalf of the German Maritime Museum the journal 'Archiv für Fischereiwissenschaft' is available as digital files.

References – general

- Koerber, S. (2024): Comments on the type localities of some marine fishes in the southwestern Atlantic Ocean. *Historia Natural* 13 (3): 25-34
- Lutz, V., et 66 al. (2003): Perspectives of marine biodiversity studies in Argentina. *Gayana* 67 (2): 371-382
- Mabragaña, E. & M.B. Cousseau (2021): Peces marinos. 49-134. In: Bauni, V., C. Bertonatti & A. Giacchino (eds.): *Inventario biológico argentino - vertebrados*. Buenos Aires: Fundación de Historia Natural Félix de Azara
- Miloslavich, P., E. Klein, J.M. Díaz, C.E. Hernández, G. Bigatti, L. Campos, F. Artigas, J. Castillo, P.E. Penchaszadeh, P.E. Neill, A. Carranza, M.V. Retana, J.M. Díaz de Astarloa, M. Lewis, P. Yorio, M.L. Piriz, D. Rodríguez, Y. Yoneshigue-Valentin, L. Gamboa & A. Martín (2011): Marine biodiversity in the Atlantic and Pacific Coasts of South America: knowledge and gaps. *PLoS ONE* 6 (1): e14631
- Mombeck, F. (1973): Wirtschaftlichere Befischung des Patagonienhechtes wünschenswert? Informationen für die Fischwirtschaft 20 (2): 33-39
- Nion, H., C. Rios & P. Meneses (2016): *Peces del Uruguay: Lista sistemática y nombres comunes*. 2nd edition. Montevideo: DINARA

References by subject (within each section in chronological order)

References – Gerhard Krefft and 'his' Institut für Seefischerei in Hamburg

- Krefft, G. (1972): FFS *Walther Herwig* entdeckte zahlreiche neue Fische. Informationen für die Fischwirtschaft 19 (1): 3-4
- Krefft, G. (1978): Fischtypen in der Sammlung des Institutes für Seefischerei, Hamburg. Mitteilungen aus dem Institut für Seefischerei Hamburg 25: 1-20
- Krefft, G. (1987): Types specimens of fishes in the collection of the Institut für Seefischerei, Hamburg. Part II. Mitteilungen aus dem Institut für Seefischerei 42: 69-89
- Stehmann, M. (1993): Dr. Gerhard Krefft zum 80. Geburtstag am 30. März 1992. Archiv für Fischereiwissenschaft 41 (3): 167-168
- Sahrhage, D. (1985): Institut für Seefischerei - 75 Jahre Fischereiforschung. Archiv für Fischereiwissenschaft 36 (1/2): 3-25
- Sahrhage, D. (1986): Zum Schutz der lebenden Meeresschätze der Antarktis. Informationen für die Fischwirtschaft 33 (4): 165-167
- Post, A. & M. Stehmann (1992): Arbeitsgebiete Ichthyologie und Fische Sammlung am Institut für Seefischerei werden Ende 1992 aufgegeben. Informationen für die Fischwirtschaft 39 (4): 157
- Stehmann, M. & A. Hulley (1994): Gerhard Krefft, 30.March.1912 - 20.March.1993. *Copeia* 1994 (2): 558-564
- Wegner, G. (1995): 125 Jahre Deutsche Fischereiforschung. Informationen für die Fischwirtschaft 42 (3): 128-133
- Stehmann, M.F.W. (1997): Gerhard Krefft (1912-1993) and post-World War II collection building in ichthyology at the Institut für Seefischerei, Hamburg: A melding of applied and basic research. 121-132. In: Pietsch, T.W. & W.D. Anderson (eds.): *Collection Building in Ichthyology and Herpetology*. American Society of Ichthyologists and Herpetologists. Allen Press, Lawrence, USA
- Wegner, G. (2010): A research unit grows into an Institute – 100 years of fisheries research in Hamburg. *Journal of Applied Ichthyology* 26 (suppl. 1): 3-13

References – *Walther Herwig*, her history and auxiliary vessels

- Schärfe, J. (1963): Das neue deutsche Fischereiforschungsschiff *Walther Herwig*. Informationen für die Fischwirtschaft 10 (2): 43-47
- Anonymus (1963): Forschungsschiff *Walther Herwig*. *Schiff und Hafen* 15 (6): 564
- Rogalla, E.H. (1965): A new German fisheries research vessel. *The International Hydrographic Review* 42 (2): 13-19
- McRae, E.D. (1967): The West German research vessel *Walther Herwig*. United States Department of the Interior, Fish and Wildlife Service, Bureau of Commercial Fisheries. Circular 266: 1-23
- BFAFi (1972): Unser neues Fischereiforschungsschiff *Walther Herwig* in Dienst gestellt. Informationen für die Fischwirtschaft 19 (6): 199-202

- Johannsen, K. (1973): Das neue Fischereiforschungsschiff *Walther Herwig*. Schiff und Hafen 25 (2): 127-138
- Kroog, C. (1980): Deutsche Antarktisforschung - Forschungsschiffe *Meteor* und *Walther Herwig* setzen lange Tradition fort. Der Seewart 41 (6): 314-321
- Sahrhage, D. (1986): Fischereiforschungsschiff *Anton Dohrn* außer Dienst. Informationen für die Fischwirtschaft 33 (3): 99-101
- Post, A. (1987): Pelagic transects of FRVs *Walther Herwig* and *Anton Dohrn* in the Atlantic Ocean 1966 to 1986 - station lists and technical data.
- Post, A. (1989): Die 100. Forschungsreise des FFS *Walther Herwig*. Informationen für die Fischwirtschaft 36 (3): 95-96
- Lange, K. (1994): Fischereiforschungsschiff *Walther Herwig III*. Informationen für die Fischwirtschaft 41 (1): 45-46
- Wegner, G. (2000): Deutsche Forschungsschiffe und ihre Namen. Teil 1. Eine Liste deutscher Forschungsschiffe seit 1862. Deutsches Schifffahrtsarchiv 23: 217-250
- Wegner, G. (2001): Deutsche Forschungsschiffe und ihre Namen. Teil 2. Anmerkungen zu den Namen und ihren Hintergründen. Deutsches Schifffahrtsarchiv 24: 215-252

References – *Walther Herwig I*, cruise 15, fishery research 1966

- ISH (1966): FFS *Walther Herwig* im Südatlantik. Forschungsfahrt zum südamerikanischen Schelfgebiet von Südbrasilien bis Kap Hoorn. Informationen für die Fischwirtschaft 13 (5): 146-148

References – *Walther Herwig I*, cruise 23, fishery research 1968

- ISH (1968): Zweite Südamerika-Expedition des fischereitechnischen Forschungsschiffes *Walther Herwig*. Informationen für die Fischwirtschaft 15 (2): 47

References – *Walther Herwig I*, cruise 36, fishery research 1970/71

- BFAFi (1971): *Walther Herwig* auf der Reise nach Südamerika. Informationen für die Fischwirtschaft 18 (1): 3-4
- Schmidt, U. (1971): Südamerikareise des FFS *Walther Herwig*. 1. Bericht über den Untersuchungsabschnitt Patagonienschelf. Informationen für die Fischwirtschaft 18 (2): 45-46

References – *Walther Herwig II*, cruise 20 (65), Antarctic Expedition 1975/1976

- BFAFi (1976a): Erster Abschnitt der Antarktis-Expedition beendet. Informationen für die Fischwirtschaft 23 (1): 3
- BFAFi (1976b): Erste Informationen über den II. Abschnitt der Antarktisreise. Informationen für die Fischwirtschaft 23 (2): 35-36
- BFAFi (1976c): Erste deutsche Krill-Expedition in die Antarktis beendet. Informationen für die Fischwirtschaft 23 (3): 67-68
- Roschke, N. (1976): Chemische Analysen von Krill- und Fischprodukten der deutschen Antarktis-Expedition 1975/76: Methoden und erste Ergebnisse. Informationen für die Fischwirtschaft 23 (4/5): 136-139
- Kock, K.H. (1976): Untersuchungen über mögliche Nutzfischbestände im atlantischen Sektor der Antarktis: *Dissostichus eleginoides* und *D. mawsoni*. Informationen für die Fischwirtschaft 23 (6): 160-165
- Papajewski, H. & W. Schreiber (1977): Maschinelle Verarbeitung antarktischer Fische. Informationen für die Fischwirtschaft 24 (3/4): 114-117
- Schreiber, W., H. Papajewski & O. Christians (1977): Fleischqualität und Genusswert antarktischer Fische. Informationen für die Fischwirtschaft 24 (3/4): 117-120
- Roschke, N. (1977): Haltbarkeit von antarktischen Fischen und Krillprodukten. Informationen für die Fischwirtschaft 24 (3/4): 121-123
- Sahrhage, D., W. Schreiber, R. Steinberg & G. Hempel (1978): Antarktis-Expedition 1975/76 der Bundesrepublik Deutschland. Archiv für Fischereiwissenschaft 29 (suppl. 1): 1-96

References – *Walther Herwig II*, cruise 30 (75), Antarctic Expedition 1977/1978

- BFAFi (1977a): Antarktis-Expedition 1977/78 in Vorbereitung. Informationen für die Fischwirtschaft 24 (5): 143-144
- BFAFi (1977b): Antarktis-Expedition 1977/78 hat begonnen. Informationen für die Fischwirtschaft 24 (6): 195
- Steinberg, R. (1978): Erster Abschnitt der Antarktisexpedition 1977/78 beendet. Informationen für die Fischwirtschaft 25 (1): 3-4
- Hempel, G. & G. Freytag (1978): Zweiter Abschnitt der Antarktis-Expedition 1977/78 beendet. Informationen für die Fischwirtschaft 25 (2): 39-40
- Sahrhage, D. (1978): Antarktis-Expedition 1977/78 beendet. Informationen für die Fischwirtschaft 25 (3/4): 79-80
- Cornus, H.P. & M. Stein (1979): Antarctic expedition of the Federal Republic of Germany 1977/78. Oceanographic data report, Part 1. Mitteilungen des Instituts für Seefischerei Hamburg 27: I-XLIII, 1-381
- Hempel, G., D. Sahrhage, W. Schreiber & R. Steinberg (1979): Antarktis-Expedition 1977/78 der Bundesrepublik Deutschland. Archiv für Fischereiwissenschaft 30 (suppl. 1): 1-119
- Nast, F. (1979): Krillfänge im atlantischen Sektor der Antarktis im Südsommer 1977/78. Informationen für die Fischwirtschaft 26 (2): 51-56

References – Walther Herwig II, cruise 31 (76), fishery research 1978

- Sahrhage, D. (1978): Deutsch-argentinische Zusammenarbeit in der Fischereiforschung. Informationen für die Fischwirtschaft 25 (3/4): 80-81
- Wagner, G. (1978): Deutsch-argentinische Zusammenarbeit mit FFS *Walther Herwig* in der Fischereiforschung. Informationen für die Fischwirtschaft 25 (5): 127-129
- Messtorff, J. & K.H. Kock (1978): Deutsch-argentinische Zusammenarbeit in der Fischereiforschung mit FFS *Walther Herwig* erfolgreich fortgesetzt. Informationen für die Fischwirtschaft 25 (6): 175-180
- Ehrich, S. & F. Mombeck (1979): Fischereiforschung mit FFS *Walther Herwig* vor Argentinien beendet. Informationen für die Fischwirtschaft 26 (1): 16-19
- Dahm, E. (1979): Forschungsjahr vor Argentinien beendet. Informationen für die Fischwirtschaft 26 (3/4): 111-112
- Ehrich, S. (1979): Sitzung einer gemischten deutsch-argentinischen Arbeitsgruppe in Hamburg. Informationen für die Fischwirtschaft 26 (6): 178
- Ciechomsky, J.D. & M.D. Ehrlich, C.A. Lasta & R.P. Sanchez (1979): Campanas realizados por el buque de investigacion *Walther Herwig* en el Mar Argentino, desde Mayo hasta Noviembre de 1978. Organizacion y resena de datos básicos obtenidos. Contribución del Instituto Nacional de Investigación y Desarrollo Pesquero 374
- IBT (1980): Forschungseinsatz von FMS *Marburg* vor Argentinien im Februar 1979. Informationen für die Fischwirtschaft 27 (1): 38-41
- Angelescu, V. (1981): Campafias de investigación pesquera realizadas en el Mar Argentino por los B/I *Shinkai Maru* y *Walther Herwig* y el B/P *Marburg*. años 1978 y 1979. Resultados de la Parte Argentina. Contribuciones del Instituto Nacional de Investigación y Desarrollo Pesquero, Mar del Plata 383: 1-339

References – Walther Herwig II, cruise 44 (89), Antarctic Expedition 1981

- BFAFi (1980): Antarktis-Expedition 1981 mit FFS *Walther Herwig*. Informationen für die Fischwirtschaft 27 (6): 227-229
- Hempel, G. (1981): Deutsche Meeresforschung in der Antarktis im Südsommer 1980/81. Polarforschung 51 (2): 227-237
- Stein, M. (1981a): Dritte Antarktis-Expedition mit FFS *Walther Herwig*. Mitteilungen der Deutschen Gesellschaft für Meeresforschung 1981 (2): 4-6
- Stein, M. (1981b): 1. Fahrtabschnitt der Antarktis-Expedition 1981 mit FFS *Walther Herwig* beendet. Informationen für die Fischwirtschaft 28 (2) : 43-45
- Kock, K.H. (1981): 2. Fahrtabschnitt der Antarktis-Expedition 1981 mit FFS *Walther Herwig* beendet. Informationen für die Fischwirtschaft 28 (3): 91-92
- Tiews, K. & D. Sahrhage (1982): Antarktis-Expedition 1981 der Bundesrepublik Deutschland mit FFS *Walther Herwig*. Archiv für Fischereiwissenschaft 33 (suppl. 1): 1-176

Koerber, S. & M.F.W. Stehmann (2025):

Results of the research cruises of FRV *Walther Herwig* to South America. LXXVII. History and *status quo* of the serial.

Ichthyological Contributions of PecesCriollos 91: 1-21

available as pdf-file at www.pecescrilloos.de since 05.Sep.2025

Ichthyological Contributions of PecesCriollos is being archived for permanent record by the [German National Library](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63864-p0011-9).

authors' IDs & affiliations

Koerber     | Stehmann    

support & grant

Since 2003 PecesCriollos is a long-term project supported by the [German Ichthyological Society](https://www.gfi.de/) (Gfi). This project, including the ICP journal, would not have been possible without Gfi's granting.

