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CHRONICLE

Professor Krzysztof Jażdżewski - 40 years of scientific activity

A nice celebration was held at the University of Łódź on September 29, 2000 in honour of Prof. dr hab. Krzysztof Jażdżewski, a prominent Łódź zoologist and hydrobiologist. Prof. Jażdżewski has for many years been the Head of the University's Department of Invertebrate Zoology and Hydrobiology; since 1983 he serves as Head of the University's Department of Polar Biology and Oceanobiology; and was a Vice-Rector of the University from 1990–1996. Nearly half of Prof. Jażdżewski's scientific work has been devoted to Antarctic research.

Forty years have just elapsed since Prof. Jażdżewski's first official publication, which concerned the morphology of lake minnow (*Phoxinus percnurus*), a fish of the carp family rarely encountered in Polish waters. Since that time Prof. Jażdżewski has become a world-renowned scientist primarily for his pioneering research in the field of knowledge of the Crustacea, which has focused especially on amphipods, one of the richest crustaceans group in terms of species diversity. His 40-year research career has spawned more than 140 publications, the majority of which have been devoted to the Amphipoda. More than one-half of Prof. Jażdżewski's publications have been original scientific articles and monographs, while the remainder of his work includes reviews, popular science articles, encyclopedic entries, *etc.*

A significant part of Prof. Jażdżewski's scientific work has been devoted to the crustaceans of the Bay of Puck in Poland, which he began as a multi-aspect approach in 1958. The crowning achievement of this research effort was Prof. Jażdżewski's 1967 doctoral thesis *The Malacostraca of the Bay of Puck*, which formed the basis for a series of publications which included: an interesting discussion concerning the position of systematic status of six related taxa of *Jaera* group which constituted a group of species *in statu nascendi*; works concerning fenology and breeding biology of six gammarid species, as well as the biology of two species of hermaphroditic malacostracans common to the Baltic Sea. Two additional large works by Prof. Jażdżewski appeared in 1970 and 1971. The first discussed the life cycles of 28 species of crustaceans, and the second presented a detailed study on the ecology and biogeography of the Malacostraca of the Bay of Puck. Throughout the 70's and 80's additional works were published concerning the gammarids and corophiids of the Polish Baltic coastal zone.

One of the most significant currents running through Prof. Jażdżewski's work is Antarctic research. More than one-third of his professional publications concern the biology and ecology of the Southern Ocean. Professor began this chapter in his scientific career in 1973, when he participated in the Third Polish Biological Expedition in the Antarctic. This expedition focused on research into the bottom fauna of the Alašejew Gulf, located at the Enderby Coast in East Antarctica. During this expedition Prof. Jażdżewski gathered his initial material concerning the Antarctic zoobenthos, which marked the beginning of more than a quarter century of investigation of Antarctic invertebrates by Prof. Jażdżewski and his research assistants.

In 1975/76 Prof. Jażdżewski broadened his Antarctic research by participating in the First Polish Antarctic Marine Expedition aboard the r/v *Profesor Siedlecki*. A 25th volume of *Polish Archiv of Hydrobiology* that appeared in 1978 was based on the data and research accumulated from this expedition. Prof. Jażdżewski's contribution to this effort concentrated on the population structure of krill in West Antarctic. At the same time a detailed characteristics of Antarctic Euphausiacea was elaborated, and the results were extended by a work on the respiration physiology of some Antarctic amphipods.

Prof. Jażdżewski's participation in the FIBEX expedition within the international program BIOMASS in February and March of 1981 is a fruitful continuation of his research into Antarctic zooplankton. One of the aims of the expedition was to explore the resources of krill, fish and squids in Antarctic waters and the possibility of industrial fishing. Among the scientific achievements which resulted from the expedition was the collective publication in the third volume of *Polish Polar Research* (1982) concerning the larval stages of krill, as well as a detailed report on the zooplankton groups found in Drake Passage and Bransfield Strait. The works of FIBEX expedition were especially acclaimed and a special edition publication devoted to the BIOMASS program was issued in Cambridge in 1985 featuring the results of the Polish scientific research. The elaboration of a collection of pelagic amphipods of the family Hyperiidae gathered during the three Polish expeditions constitutes an another accent in the planktonic current of Prof. Jażdżewski's Antarctic research.

Prof. Jażdżewski is the creator of the Łódź School of Polar Biology. The team of scientists which he assembled beginning in the latter half of the 1970's (phot. 1) was deemed to warrant the creation of a Laboratory of Polar Biology at the University of Łódź in 1983. The acclaimed work of this Laboratory led to its transformation into the Department of Polar Biology and Oceanobiology in 1995. The eight-person team of polar research specialists assembled by Prof. Jażdżewski have published more than 100 articles to date, which constitutes about 10% of all papers published by Polish scientists concerning the biology of the Antarctic region in the last quarter century.

Since the very beginning of the establishment of the Polish Antarctic Station *H. Arctowski* of Polish Academy of Sciences an important current of research has been the wide-ranging studies of the zoobenthos of Admiralty Bay, a sea region (phot. 2) which has been the subject of Polish scientific interest for over a quarter of a century. These studies occupy a prominent place in Prof. Jażdżewski's work. The first significant and oft-cited scientific publication concerning the abundance and biomass of invertebrates in the Admiralty Bay shallower sublittoral was published by Prof. Jażdżewski and his associates in 1986. That same year a group of Polish and French scientists cooperated in creating a list of 226 species of zoobenthos found in the region.

Prof. Jażdżewski has paid special attention in his research to amphipods, which occupy a significant place in the study of polar zoobenthos. In two publications he presents the diversity of amphipods from the upper and middle sublittoral of Admiralty Bay. This list presents more than 100 species of benthic Amphipoda. Two other works make a significant contribution to the recognition of various detailed elements of the trophic web of the Antarctic ecosystem. One concerns the role of Amphipoda in the diets of the three most common in the West Antarctic penguin species from the genus *Pygoscelis*. The other explains the feeding behaviour of Antarctic tern and the significant share of necrophagous crustaceans in the bird's diet.

Antarctica is not the only distant and exotic region of scientific interest of Prof. Jażdżewski. He also took part in an expedition to the Caribbean Sea in 1978 and in a Polish Arctic Expedition in 1997 (phot. 3, 4). On each occasion he was able to engage in his passion for free diving, an activity which enables him to combine pleasure and scientific purposes. He first began his underwater observations in Antarctica in 1981. In 1988 and 1994 he has collected rich materials of bottom fauna which constituted the basis for a series of works concerning several orders of Crustacea of the Peracarida group. As a result of his research into the two opposite polar regions, he was able to compare the amphipod crustaceans fauna located in two distant polar fiords, the Hornsund in the Arctic and Admiralty Bay in Antarctica, which he published in a joint work with J.M. Węsławski and C. De Broyer (phot. 4).

Prof. Jażdżewski has also made significant contributions in the field of taxonomy, especially in the case of European freshwater and Antarctic crustaceans. This taxonomical thread, which he began with a publication in 1962 concerning the isopod *Sphaeroma hookeri*, has been continually elaborated and expanded even until the present. The most prominent examples of his work in the field of crustacean taxonomy would be: his description of the new species *Gammarus varsoviensis*; his explanation of the taxonomical status and description of the species *Gammarus leopoliensis*; his comparative analysis of the two corophiid species, *Corophium curvispinum* and *Corophium sovinskyi* as well as his two works devoted to the Antarctic representatives of the Synopiidae family, *Tiron antarcticus* and *Cardenio paurodactylus*.

One of the most fascinating questions is how the process of forming and transforming fauna in Holocene takes place. In this connection, the causes explaining the expansion and migration of species, both natural and human-induced, have long interested Prof. Jażdżewski. In addition, Prof. Jażdżewski has conducted observations and analyses involving the accidental and intentional introductions and expansion of species. His extensive study on the expansion of gammarids brought about by human factors in European waters was presented in 1977 at the IV International Colloquium on Amphipods, and this widely cited paper was later published in 1980. His observations on the introduction and invasion of American, Balkan, and Ponto-Caspian species in the waters of Northern, Western, and Central Europe are contained in one of his most fascinating works. Following this study, Prof. Jażdżewski conducted extensive research into the invasion of Ponto-Caspian crustaceans in Polish waters and their further migration into Europe. His conclusions, offered at the IV International Congress of Carcinology in Amsterdam in 1998 under the banner of "The Biodiversity Crisis and Crustacea", were published in the year 2000. In addition to the biogeographical works and studies of Prof. Jażdżewski referred to above, he continues to explore the issue of unfavorable changes in local fauna, which lead to the reduction and sometimes disappearance of particular species.

Prof. Jażdżewski is the author and/or co-author of several large works which constitute synthetical presentations concerning Polish Malacostraca. Descriptions, their characteristics, accompanied by rich illustrations, charts, and catalogues, constitute a superb compendium of the existing state of knowledge concerning Polish freshwater and Baltic Crustacea. They are also a reflection of Prof. Jażdżewski's continuing fascination with the biological diversity, which is one of the most important feature in natural life. The first such synthetical presentation was his habilitation thesis in 1975 – an exhaustive monograph concerning Polish freshwater and Baltic gammarids. His second such work was first presented in summary form at the First European Carcinological Conference in 1992, and later released as a complete version in the form of a Catalogue of Polish Fauna, elaborated in cooperation with A. Konopacka. In addition, Prof. Jażdżewski's work with C. De Broyer of the Royal Institute of Natural Sciences in Brussels resulted in the publication of a catalogue listing 808 species and subspecies of pelagic and benthic amphipods of the Antarctic.

The wide range of Prof. Jażdżewski's scientific interests are reflected in and complemented by his co-authorship of several works concerning the physiology and biochemistry of crustaceans. His description of the Tertiary gammarid found in Baltic amber, from the collection of the Earth Museum of the Polish Academy of Sciences, testifies to his interest in paleobiology as well.

Prof. Jażdżewski's wide-ranging scientific interests and achievements in fields ranging from zoology, ocean biology, and polar biology to animal classification, zoo-geography and the ecology of water invertebrates are faithfully reflected in the lectures and seminars he conducts, both at the University of Łódź as well as at academic centers throughout Europe, Africa, and North and South America. Prof. Jażdżewski has also served as mentor for 80 master's thesis and 7 doctoral works. Four of his pupils have been awarded the high degree of doctor habilitated, three of whom did their thesis works in the field of Antarctic biology.

In addition to all his scientific and didactic endeavours associated with his University position, Prof. Jażdżewski is highly engaged in efforts to promote the popularization of his field of interests. He has written numerous encyclopedic entries concerning crustaceans. He is an ardent promotor and propagator, both at home and abroad, of Polish efforts and achievements in the Antarctic, and avails himself of every opportunity to acquaint the public with the significance of the Polish Antarctic Station *H. Arctowski*. His work entitled *Antarctic Zoobentos* published in the 47th volume of *Kosmos* is an example of a work aimed at the general reader to describe the achievements and significance of biological and ecological studies of the bottom fauna of the Southern Ocean. Prof. Jażdżewski is also a forceful and respected voice in academic circles. His clear explication of academic and research priorities can be found for example in a 1997 article in *Academic Forum* magazine.

In addition to his University duties, Prof. Jażdżewski is actively engaged in numerous scientific and science - related organizations. He serves as vice-chairman of two committees in the Polish Academy of Sciences: Committee of Zoology, the Committee on Polar Research, and is the member of the Committee on Oceanic Research. He is a member of six scientific councils. Since 1996 he has been attending the international meetings of SCAR (Scientific Committee for Antarctic Research) as a Polish deputy delegate, and since 1997 serves as the Polish delegate on the European Scientific Diving Committee. Prof. Jażdżewski is also the editor-in-chief of the Polish Polar Research, scientific journal published in English. For nine years, 1980-1989, he was an editor of the University of Łódź series Folia limnologica. He also serves in the editorial committees of a number of series, including: Fauna słodkowodna Polski (Polish freshwater fauna); Monografie Fauny Polski (Monographs of Polish Fauna); Przegląd Zoologiczny (Zoological Review); and Oceanologia. Last but not least, he is a member of numerous professional scientific societies, both in Poland and abroad, including among others the Łódź and Warsaw Scientific Societies, the Biological Society of Washington and The Crustacean Society.

Prof. Jażdżewski is not only well-known among his scientific colleagues throughout the world, but highly respected as well. He was entrusted with the organization of two international conferences, the V and VIII International Colloquia on Amphipods, in 1981 and 1994 respectively.

On the occasion of the 40th anniversary of his scientific career I am sure I speak on behalf of Prof. Jażdżewski's colleagues in Poland and throughout the world in expressing our gratitude and admiration and wishing him every continued success.

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Jacek SICIŃSKI Łódź

Explanations to photographs

Phot. 1. The beginning of Łódź University polar team. The meeting in Gdynia Harbour, 1978. They are (left to right) Jacek Siciński, Wojciech Kittel, Krzysztof Jażdżewski and Piotr Presler. (photo J. Siciński)

Phot. 2. Krzysztof Jażdżewski on the background of the Ezcurra Inlet (Admiralty Bay, King George Island, Antarctica). (photo C. De Broyer)

Phot. 3. Jan Marcin Węsławski, Krzysztof Jażdżewski and Claude De Broyer (left to right) on the board of r/v Oceania. Spitsbergen, Kongsfjorden, 1997.

Phot. 4. Krzysztof Jażdżewski on the board of r/v Oceania. Spitsbergen, 1997. (photo C. De Broyer)



