

RADU CODREANU – IN MEMORIAM

ȘTEFAN NEGREA

Speleological Institute “Emile Racovitza”, Bucharest

On the occasion of one hundred years since the birth of Prof. Acad. Radu Codreanu (4/7 September 1904–11 March 1987), the personality, the university professor career and the scientific activity of the great Romanian biologist, member of the Romanian Committee of the History and the Philosophy of Science and Technique (CRIFST) and author of important works concerning the history of biology, are evoked.

BIOGRAPHICAL GUIDE MARKS

Radu Codreanu was born on September 4/7, 1904 at Tulcea, a picturesque town located at the feet of the Măcin Mountains, bathed at the north by the Danube, founded on the place where once stood the antique town of Aegysus. He was the first child of doctor Filip Codreanu and Alexandrina Alexandrescu, a teacher of mathematics. He spent his childhood in Tulcea and Bucharest in an environment favorable for the intellectual development, the family offering him the chance to meet highly cultivated people and men of letters among whom I.L. Caragiale, Paul Zarifopol, Constantin Dobrogeanu Gherea, dr. Nicolae Lupu and Aurel Vlaicu. Even from a young age, he showed a strong attraction for the scientific literature. He was passionate by the works of the entomologist J.H. Fabre, the botanist Gaston Bonnier, the great evolutionary zoologist Ernst Haeckel, the founder of ecology. The holidays spent on the Prahova Valley, together with the families of Dobrogeanu Gherea and Zarifopol, drew him closer to the world of plants and animals, so, as a pupil, he decided to become a naturalist. The high school, began at “Gheorghe Lazăr”, was finished at “Spiru Haret”. In 1921, on the recommendation of his professor of natural sciences, N. Moisescu, he was introduced to the field and laboratory biological practice by the university professor Andrei Popovici-Bâznoșanu. A year later, although a 7th grade pupil, he helped his professor to start the Zoological Station from Cumpătu (Sinaia).

During his student days at the Science Faculty in Bucharest (1923–1926) he had the chance to study with many brilliant professors: Ludovic Mrazec, Andrei Popovici-Bâznoșanu, Aurel Craifăleanu, Dimitrie Voinov, Emanoil Teodorescu, Sava Atanasiu and many others.

RADU CODREANU, THE PROFESSOR

Licentiated in 1926, he was appointed assistant at the Chair of Animal Morphology and Zoology at the Science Faculty in Bucharest, where he worked

until 1930, under the guidance of Professor Dimitrie Voinov. It was the period bound to be the beginning of the protistological studies. In January 1930, he was transferred to the Speleological Institute in Cluj, where he worked for nearly ten years, until 1940, under the direct guidance of the scientist Emil Racoviță, then, as an able collaborator, until 1945, when he definitively left Cluj. Radu Codreanu knew remarkable achievements in the laboratory of Maurice Caullery in Paris and in the laboratory of Louis Leger in Grenoble as a student of the “V. Adamachi” fund of the Romanian Academy. But his greatest achievement was the publication and the of his PhD thesis in 1939 at the Science Faculty in Paris.

The meeting and collaboration with Emil Racoviță, the founder of Biospeleology as a science concerned with the life from the subterranean environments and creator of an original evolutionary theory (close to neolamarkism), were to be beneficial for the young assistant, as hallmark of his development as a biologist with a wide horizon. Emil Racoviță had already published in 1926 his famous reception speech at the Romanian Academy, named “Speleology, a new science for the ancient subterranean secrets”, and, in 1929, the volume “Evolution and its problems”, being at the zenith of his scientific career, at the height of his glory. Thus, Radu Codreanu, his assistant, had from whom to learn, as he had the same penchant for general biology and the philosophy of zoology as his master. As a proof, in 1940, when Racoviță left the Chair of General Biology, this was entrusted to Radu Codreanu, the most able apprentice of the famed scientist. As a successor of Emil Racoviță, he worked first as a suppleant professor (1940–1942), then as a titular professor until 1945, when he was transferred to the recently established Chair of General Biology of the Science Faculty in Bucharest.

At the inauguration of the new chair, professor Radu Codreanu defined the domain of General biology as “the historical and causal research of the organized forms”, emphasizing the validity of the automovable material principle in the determination of the evolution process. He confronted evolutionism with the results of genetics and experimental morphogenesis. After four years, in 1949, Radu Codreanu approached the Zoology of the Invertebrates, where he worked uninterruptedly until 1974 at his retirement. This move from one discipline to another was the result of the accusations of “cosmopolitanism, weismano-mendelomorganiscism and other conceptions regarded then as reactionary” (Codreanu, 1998a). Teaching a course with less ideological tangencies, he was more protected from attacks in press and different meetings, but not completely, as he had oriented his course as a “synthesis of the animal evolution”, intending to gather “all the descriptive or experimental data of the science of Biology”. Also in 1949, Radu Codreanu began, together with Mihai Băcescu, to elaborate the general classification of the animal kingdom for the volume “Guide” (“*Îndrumător*”) for

the series of volumes “The Fauna of Romania” (the volume in which he treated the worms appeared in 1951).

In 1950, following my passion for the Sciences of Nature, I became a student of the Faculty of Biology of the University of Bucharest, I had the happy occasion to have Radu Codreanu as my professor at the discipline of Zoology of the Invertebrates. At the age of 47, he was at the peak of his professional maturity, a master of his discipline and his biological conceptions (Negrea, 1994). He was already famed among the students. With nostalgia, I remember the “Dimitrie Voinov” amphitheater, full as always, including the gallery, with the 120 students of the first year, all punctual, as they were eager not to lose a word from the speeches of the Master. It was one of the rare courses with no absentees. We did not have printed textbooks (no discipline had at that time!) so we listened to the professor displaying his erudition, saw him filling the four big blackboards with colored drawings that had to be copied in our notebooks. He spoke and he drew, he drew and he explained. I still keep the notebooks, in all 365 pages richly illustrated. There is no page without a habitus of an animal, detached pieces or sections. I skimmed through them recently, my mind on the Professor. Their contents seemed to me like gold: such a volume of finely selected zoological information (even today I cannot find obsolete data therein); such a concern for order, systematization in the schemes of this avalanche of information; such an attention for a correct expression in short and clear phrases ...

Only one thing always pressed professor Codreanu: time! There were too few hours in the analytic curriculum for the Zoology of the Invertebrates which needed to be seriously taught as a fundamental discipline for the Faculty of Biology. As he was not a professor to sacrifice his discipline, he solved the problem of time by ignoring it! This is the reason why he meticulously, even with pedantry, taught us his course beginning with the Protozoa and finishing with the Tunicata, but omitting the insects. In order to avoid being accused of not conforming with time, he appealed to his colleague, professor Constantin Bogoescu, and our goodwill to listen to his lectures in supplementary hours. He had a special zeal, even pleasure I might say, for teaching the cycle of lectures concerning the Protozoa and worms – the groups in which he excelled as a specialist. Nobody came to his exams unless they were seriously prepared. But a student gone through the whole course could be sure his exam would pass smoothly. The exam consisted in drawing on the blackboard or on a paper the schemes required by the subject with their explanation. If one got confounded here and there, it was no problem. The professor would help make as good as new one’s explanation. He appreciated very much one’s real knowledge and judgment, that one did not rely solely on memory, repeating the notes like a parrot.

RADU CODREANU AND BIOSPELEOLOGY

By leaving Cluj and the entourage of Emil Racoviță in 1945, Professor Radu Codreanu did not abandon his preoccupations concerning the study of life in the subterranean aquatic environments. In 1948, investigating together with Mihai Băcescu and Traian Orghidan, the Cazane section of the Danube Gorges, he discovered at the river bottom, at maximum depth, Ponto-Caspian relicts – among them a new genus of tricladids. At his encouragement, in the years 1946–1962, a team made up of Constantin Motaș, Traian Orghidan and Jana Tanasachi, applying the Karaman-Chappuis method consisting in drillings in the alluvial deposits from the shores of mountain waters, discovered a surprising diversity of Hydracarina. The studies made on the materials collected from drillings and wells led to the description of new taxa of watermites, crustaceans and other invertebrates, to the classification of the terms used in phreatobiology (C. Motaș) and to the description of a new biotope, the hyporheic (T. Orghidan).

In the period between 1957 and 1958, Radu Codreanu, together with Valeria Firă and Ștefan Negrea, studied the subterranean fauna from the pipes of potable water from Bucharest and the surroundings, emphasizing the presence of numerous stygophilic and stygobitic species. Later on, in the years 1959–1962, the professor studied the tricladids we collected along with Lazăr Botoșăneanu from the springs and the phreatic waters of the central part of the Romanian Plain. Further on, the entire material of tricladids collected by the researchers of the “Emil Racoviță” Speleological Institute from caves, phreatic waters and springs from all over our country, was entrusted for study only to him. There were also fieldtrips in which he insisted to participate and to collect material, such as in the case of some springs and caves from the Banat Mountains.

Professor Radu Codreanu collaborated with our Institute all the time, beginning in 1956, when, nine years after the death of Emil Racoviță, it was reorganized with the central part in Bucharest and a branch in Cluj by the efforts of C. Motaș, T. Orghidan and Margareta Dumitrescu. And he collaborated not only in words but in deeds. Thus, as a member in the Editorial Committee of our journal “Travaux de l’Institut de Spéologie Emile Racovitza”, he was an active part in the meetings and contributed with solid papers (such as those regarding Emil Racoviță and René Jeannel) or with reviews.

Also, he was present with his works in all the sessions of our Institute and in any other activity. One of the most important actions in which he took an active part, was the organization, at a national level, of the centenary of Emil Racoviță’s birth with participants from abroad (1968). Among others, I remember how much we struggled (I was the secretary of the Organizing Committee) until we had had, in due time, the commemorative medal at the State Mint. I do remember how we welcomed, together with C. Motaș, the director of the Institute, the guests from

abroad, among them renowned scientists like Paul Brien (member of the Royal Academy from Belgium), Bernard Rensch (professor emeritus from Westphalia), Max Vachon (president of the Zoological Society from France), Bernard Gèze (president of the International Association for Speleology) and many others. I do remember the strong impression made by the novel speech of professor Codreanu, named “*Universality of Emil Racoviță’s work*”. I also remember the success of the documentary concerning Racoviță presented on this occasion by the stage director Pompiliu Gâlmeanu from the “Al. Sahia” studio on the basis of a screenplay thought and written by the Professor. Also on the occasion of the centenary of Racoviță, Radu Codreanu went, together with Traian Orghidan, to the “Arago” Laboratory of marine researches in Banyuls-sur-Mer, France, where Emil Racoviță had worked as a director for 20 years. The aim of this visit? To unveil a statue of the Romanian scientist, masterwork of the known sculptor Gheorghe Anghel – on which occasion he delivered a memorable speech in the language of Voltaire.

Another important event for us, the followers of Emil Racoviță, was the celebration of the semicentenary of the Speleological Institute in 1971. Inside the same organizing committee, the activity of professor Codreanu was again very substantial: minting a commemorative medal, receiving important guests from abroad, speech about the history of the Speleological Institute, presentation of a screenplay for a documentary, etc.

Despite all his merits as a professor emeritus, as a correspondent member of the Romanian Academy (since 1963), then as a full member (since 1974), as a scientist known abroad, author of more than 250 valuable papers, among which those concerning the endemic tricladids and marine parasitic crustaceans, those concerning the general phylogeny and the parasitic protozoans and their ultrastructure (the last in collaboration with his wife, Dr. Doina Codreanu Bălcescu) – so, despite all his merits remembered or not here, this renowned scientist and highly cultivated man was of a rare modesty and he acted as such. One example. In 1979, a short time after my book *Prin peșterile lumii* (Through the Caves of the World) appeared in the bookshops, I received a phone call from the Professor. Congratulating me for the publication of my book, he told me that by all means he wanted this book in his library with the author’s dedication. I could not believe it! I thanked him for his appreciation and assured him he would have the book on our first meeting as he was among my top priorities for the book distribution. “Oh, no, replied the Professor. I will come to the Speleological Institute with the volume already bought so you will write the dedication. If I wish to have it, I will buy it, not you. What will become of the authors if they should buy as many volumes as there are desirers? They will close down, the shop!” This is a lesson in modesty. This is why we, biospeleologists, think of him as one of ours, of the Institute that bears the name of his Master in biology, Emil Racoviță. And among all my colleagues, I was collaborating with him as a member in the

Editorial Committee of the series “*Fauna R. S. România*” (since 1983) and as a secretary of the Romanian Committee of the International Union of Biological Sciences (IUBS), the president being the Professor himself.

RADU CODREANU AND THE HISTORY OF SCIENCE

Such an erudite spirit studying the lives and works of the predecessors could not but contribute himself to the writing of a history of the Romanian Biology. In his quality as a titular member of the Romanian Committee for the History and the Philosophy of Sciences (CRIFS), he took the responsibility of writing, together with Emil Pop, the volume “*Biology*” for the series “*History of Sciences in Romania*” edited by Ștefan-Marius Milcu. The book, published in 1975, represents the first documented history of the Romanian Biology, written in an academic style. He was the most entitled to write this history as he had displayed in those years an intense activity in the domain of Science History, publishing studies on Dimitrie Voinov, Ion Ciurca, Eugen Botezat, Leon Cosmovici, Alexandru Vitzu and others. Also, as original contributions to the Science History, should be regarded his *Însemnări autobiografice*, published posthumously in the volume *Studii de Istoria Științei* (Codreanu, 1997a). In the same volume was also published an ample study named *Organizație și evoluție în lumea vie: către o teorie integrală a evoluției biologice* (Codreanu, 1997b). Reading this study, you can not but admire the originality and depth of his biological conceptions, still up-to-date even today.

On 11 March 1987, the professor emeritus, erudite biologist, academician Radu Codreanu entered himself, definitively, in the History of Science where he occupies a very important place. Although I was very close to him for nearly 40 years, it was very hard for me to evoke his memory. Why so? Because he was a complex person and scientific personality, difficult to evoke at the high level he deserves. He was such a strong personality, in his presence I felt overwhelmed by his encyclopedic erudition, emanating from all he said, by his natural way of speaking in simple, clear phrases, with a kind voice, pleasantly rolling his words, wise and warm like an older brother, like a parent. I was so enchanted by his succulent words, I would have listened for ever, as he was always good natured, ready for a never-ending spiritual and scientific conversation. Always young of heart, despite the growing number of years, I never thought he could die. That is why I was amazed, surprised and profoundly affected when my professor passed into the world of shadows. Although the first days of March had passed, winter still haunted Bucharest, when I was confined to a hospital bed because of a femoral fracture (I fell on ice): my wife entered the room gloomily, not knowing how to tell me the incredible news. My soul is still saddened as I could not attend the funeral of the famous scientist and to be beside the mournful family accompanying him on his last journey.

What can I say at the end? By his whole activity spreading over half a century, Radu Codreanu raised his own monument in posterity. He is and will always remain one of the first-class stars of the Romanian and universal Biology, beside his Master, Emil Racoviță, and beside Grigore Antipa, Ion Borcea, Constantin Motaș and Mihai Băcescu, if I am to mention only the great departed ones from his domain of activity.

REFERENCES

- Codreanu R., *Însemnări autobiografice*. In: Al. Marinescu and Lia Maria Dulgheru (ed.): *Studii de istoria științei*. Ed. Muzeul Județean de Istorie și Arheologie Ploiești, 1998a.
- Codreanu R., *Organizație și evoluție în lumea vie. Către o teorie integrală a evoluției biologice*. In: Al. Marinescu and Lia Maria Dulgheru (ed.): *Studii de istoria științei*. Ed. Muzeul Județean de Istorie și Arheologie Ploiești, 1998b.
- Negrea, Șt., “*Acad. Radu Codreanu (1904–1987)*”, Comunicări și referate ale Muzeului de Științele naturii, Jud. Prahova, vol. IX (135–137), 1994.
- Pop, E., Codreanu, R., (ed.), *Biologia*. In: Șt.-M. Milcu *et al.* (ed.): *Istoria Științelor în România*, serie editată de CRIFS – Academia R. S. România, Editura Academiei, București, 1975.