

## 110 YEARS FROM THE BIRTH OF THE DISTINGUISHED BIOLOGIST PROF. ACAD. EMIL POP (1897 – 2007)

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**Abstract.** Short description of the life and work of the Professor Academician Emil Pop (13 April 1897 – 14 July 1974), distinguished botanist, founder of the Romanian Paleopalynology and of the Romanian schools of Fitofiziologie, Citofiziologie, Fitogeografie and Palinologie, a conservationist and a brilliant science historian from our country – at 110 years from his birth.

**Key words:** Emil Pop, life and work, 110 years from the birth

**Rezumat.** 110 ani de la nașterea eminentului biolog Prof. Acad. Emil Pop (1897 – 2007). Articolul conține o succintă prezentare a vieții și operei profesorului Emil Pop (13 aprilie 1897-14 iulie 1974), eminent botanist, fondator al paleopalinoologiei românești, creatorul școlilor românești de fitofiziologie, citofiziologie și palinologie, protagonist al ocrotirii naturii și strălucit istoric al științei - cu prilejul împlinirii a 110 ani de la naștere.

**Cuvinte cheie:** Emil Pop, viața și opera, 110 ani de la naștere

In 1997, the Romanian Academy paid homage in a festivity to the distinguished botanist Emil Pop, founder of the Romanian Paleopalynology and of the Romanian schools of Fitofiziologie, Citofiziologie, Fitogeografie and Palinologie, a conservationist and a brilliant science historian from our country. Since then a decade passed. Due to the importance of his academic, didactic and scientific work, we regard as welcome a short description of the life and achievements of the famous Romanian scientist.

Emil Pop was born at 13 April 1897 in Bucerdea Vinoasă from the Alba county. His father, Antoniu Pop and his mother, Lucreția, were peasants with progressive views, deeply involved into the village life and the scientist was proud of them. Between 1903 and 1907, he graduated the first four classes at the romano-catholic primary school of Hungarian language from Alba Iulia, then, between 1907 and 1912, he followed five classes at the romano-catholic high-school of Hungarian language from the same town. He followed the last three high-school classes at the famous Romanian orthodox “Andrei Șaguna” high-school from Brașov where he graduated in 1915. After three years of theological studies, he graduated in 1918 the “Andreian Seminary” from Sibiu, while after his marriage with the Natural Sciences Professor Florica Silvia Ioana Oană, in 1922, he was ordained a priest. However, destiny, but especially his obvious passion for the study of nature, stopped him from embracing a priestly career. This passion made him to enter in the next year, in 1919, the newly founded Science Faculty of the Upper Dacia University from Cluj. Noted by his professors for his interest in Botanic, the student Emil Pop was, between 1920 and 1922, a preparatory at the Botanic Institute for the course of Botanic Systematics for the pharmacy candidates. Also, in 1920, he began his collaboration with the Professor Alexandru Borza for the first “current botanic bibliography”, published in the Bulletin of the Cluj Botanical Garden – a collaboration which was to last until 1948.

In 1922, he graduated his bachelor degree with the speciality “Geography-Botanic”, being considered “*the first bachelor degree in Natural Sciences of the young Science Faculty from Cluj*” (Sidonia Puiu, 1999). The original thesis, for which he obtained his diploma of “*bachelor degree in Natural Sciences with distinction*”, elaborated under the supervision of the scientist Al. Borza, and named “Romanian peat-bogs from a botanical point-of-view”, already foretold the excellent specialist with essential contributions to the study of this type of ecosystem from Romania.

After his bachelor degree, at 1 October 1922, Emil Pop was appointed assistant at the Science Faculty from Cluj and a year later, assistant at the Botanic Cathedra from the Academy of Agronomic High Studies from the same town. Between, 1923 and 1925, the young Emil Pop travelled the entire country collecting a rich floristic and paleo-floristic material. In the 154 field trips (see S. Puiu, 1999) he investigated especially the marshes and the forests from Bucovina, Maramureș, Apuseni Mountains, Oltului Valley and Bucegi Mountains but without neglecting the surroundings of Cluj.

Starting from 1925, Emil Pop became one of the lecturers of the “Extensiunea universitară” Association which had proposed a cultural campaign through conferences and publications, and of the ASTRA who switched its centre from Sibiu to Cluj; two years later, in 1927, he was elected member of ASTRA, where, up to 1946, he will be a vice-secretary of the Natural Sciences section.

The years passed and, despite his remarkable scientific activity, there was no appointment for him at the Science Faculty. This is why, in 1926, he passed his capacity exam for high-school teachers with the speciality Natural Sciences (main) and Geography (secondary). Taking the first place on the country, he was appointed secondary professor at the Boys High-School “Titu Maiorescu” from Aiud. But very soon, he was moved, by ministerial decision, at the Cluj University. Here, at 1 November 1926, he was appointed lecturer (firstly suplinitor, titular from 1930, then definitively from 1932) at the Botanical Institute of the Science Faculty – a place he held for 13 years, until 1939. During the first 8 years (1926 – 1936), he also was a professor in high-schools from Alba Iulia, Aiud and the Pedagogic Seminary from Cluj.

1928 is linked with two major events in the life of Emil Pop: the organization of the first Naturalists Congress from Romania (Cluj, 18 – 22 April), as a vice-secretary and editor of the papers of this congress (together with Al. Borza) and the defending of his Ph.D., under the supervision of the same professor. His thesis, named “Pollen analysis from peat-bogs in Eastern Carpathians (Dorna-Lucina)” was distinguished with “*magna cum laude*”, while Emil Racoviță proposed it “without any doubt” for the prize “Gheorghe Lazăr”, being “one of the best natural sciences papers, written after the war, in our country”.

In August 1930, Emil Pop travelled in Austria, Switzerland, France, Belgium and England, at Cambridge, where he presented at the V<sup>th</sup> International Botanical Congress the work “Post-glacial succession of the forests from Romania in comparison with those from Central and Northern Europe”. 1932 was an important year in Emil Pop’s career: he held the first course of Geobotanics from our country at the Science Faculty from Cluj; he was elected member of the International Association for the Study of the Quaternary, from Vienna; he defended his docency in botanical geography, named “Contributions to the history of the Quaternary vegetation from Transsylvania”. From this year up to his retirement (1967) he had an intense and rich didactic activity with many courses underlining his erudition and his passion for botanical disciplines: plant systematics, Romanian Quaternary flora and vegetation, Earth flora and vegetation, genetic and historical fitogeography, plant anatomy and fiziology, general botanic, botanic geography and many others.

In the same time, Emil Pop began studies on the Romanian flora, mainly studies of paleobotanics. With this goal, he made hundreds of field travels, collecting a rich material which he carefully studied and publishing numerous papers. Also, when he travelled in Europe at various congresses and symposiums in order to present his results, he went through the museum laboratories to study fossil plants coming from our country or from other parts of the continent. His last travel took place in 1972 in Germany, at Heidelberg and Tübingen, where he held a conference about the peat-bogs of Romania and established, with the help of Prof. B. Frenzel, the age of the peat-bogs from us by the C<sub>14</sub> method (details about Emil Pop’s researches in the “Cronology” made by S. Puiu, 1999, pp. 67-93).

Also from 1932, Emil Pop showed a special interest for the science history, being a member, right from its founding, of the “Romanian national group for the Science History”, made up by doctors, naturalists, physicians, etc., a group affiliated to the International Union of Science History from Paris. Beginning from this year and until his death, he was preoccupied by the problems of the history of biology. A proof of this, are the more than a hundred of studies concerning the life and the work of important naturalists or other aspects of the history of botanics and other biological disciplines. Worth remembering, in 1961, Emil Pop was elected correspondent member, and from 1963 a full member, of the “Académie Internationale d’Histoire des Sciences” (AIHS). In the next year, he was elected a member in the Romanian Committee for the Science History and Philosophy (CRIFS), Mihai Ralea being the president.

In 1939, Emil Pop was appointed titular professor at the Cathedra of Plant Physiology of the Science Faculty from Cluj. He opened his course with a memorable speech, “The old age and the death of plants”, published in 1940 – “a true pedagogic, scientific and original document, a synthesis subject of the biologic sciences for the philosophical meditation on life” (S. Puiu, 1999).

During the war (1940 – 1945), E. Pop followed the Science Faculty into the refuge at Timișoara, where he held his course and the function of vice-dean (1942-1944). In 1943 he was invited in Germany where he held a cycle of conferences at numerous universities and visited various institutes and laboratories from Berlin, Halle, Vienna and Graz and other towns. It was a good occasion to establish direct relationships and to work with specialists in plant physiology, fitocenology and palinology.

Returning from the refuge, in 1945, the Cluj University and its professors had difficult times: drought, famine, social upheavals. In 1946, Emil Pop declined the position of plant physiology professor at the Science Faculty from Bucharest, being totally linked to the Cluj Faculty. In 1947, he was strongly affected by the death in poverty and depression of the scientist Emil Racoviță, his scientific and spiritual model. The next year, came with the education reform and his appointment as a director of the Botanical Garden from Cluj. But the hardest blow came in 1950, when his course of Plant Physiology was criticised by Al. Bogdan and Andrei Roth from the “Marxism cathedra” of the University in front of the didactic and technical staff. He was especially accused of lacking the knowledge of the “Marxist science”, not using the soviet bibliography but using excessively the western one and a low politic and ideological level.

An important moment in his scientific career was his election, in 1955, as a full member of the Academy of P.R. of Romania; 8 years later, in 1963, he was elected president of the Biological Sciences Section – a function he held up to his death. With this occasion, he held a memorable “reception speech”, named “History of the Romanian forests” written both with scientific objectivity, erudition and love for nature and country. Worth remembering, also as a member of the Academy, he was the active president of the Natural Monuments Board. Also within the Academy, Emil Pop led the Centre for Biological Research from Cluj, transformed by him in the Institute of Biology from Cluj by uniting some research collectives which worked separately; this is the reason why he can be regarded as the founder of this institute. In 1964, he was awarded with the title of “Emeritus Scientist” and in 1966 with “Scientific Merit class. I”. In 1973, he was elected honorary member of the Hungarian Science Academy.

The last two decades of his life (1954 – 1974) were the richest ones from a scientific point of view. In this period, Emil Pop had elaborated synthesis papers. Thus, in 1957 and 1964, he published volume I and in 1960, volume II, of the “Plant Physiology” written together with N. Sălăgeanu, Șt. Péterfi and H. Chirilei. Among his scientific synthesis papers, we note: “Botanical studies in our pet-bogs” (1954) – a work of great theoretical and practical

importance; "Peat-bogs from Romania"(1960) – valuable monograph, the first of its kind in our country; the chapter "Vegetation" from "Geographic Monograph of P.R. of Romania", volume I (1960); "Natural Monuments from Romania", edited together with N. Sălăgeanu (1965); "History of the sciences from Romania – Biology", volume edited with R. Codreanu, published posthumously (1975). Each of his syntheses represents fundamental works for the main research directions he followed, working with passion until the end of his life.

The manifold activities of Emil Pop in the biological sciences domain, resulting in original papers with a great value, made him famous both in our country and abroad. A proof lies in his election in various academic societies, among which we note: International Union for the Science History (UIHS), Finnish Society for Zoology-Botany (Helsinki), Unional Botanical Society (Sankt Petersburg), International Society for Quaternary Studies, "Leopoldina" Naturalists Academy (Halle), International Society for Peat-Bogs Studies and others. This universal recognition is due to his works in the field of palinology (he is regarded as the founder of the Romanian palinology), fitogeography, cito- and fitofiziologie, in the field of science history and nature conservation. We should add at all these his incontestable merit for the founding of the Institute of Biology from Cluj and master in the fields of citofiziologie, fitofiziologie, fitogeography and palinology.

The human Emil Pop was at the height of his scientific and didactic work. His native qualities and his moral principles learned in the high-school and the seminary made him appreciated and admired by colleagues and friends and loved like a father by his scientific pupils. His humaneness, his encyclopaedic culture, was doubled by his scientific carefulness and exigency in research and by a distinguished and complete professor of the Cluj University. All these qualities, and many others, were publicly emphasized at the celebration of his 60 years (13 April 1958). Here are just a few of them: "At the cathedra of plant fiziologie he proved to be not only a worthy follower of his predecessors, Teodorescu and Grințescu, but also a creator of new ways in the Romanian science, such as the peat-bogs studies..." (Iuliu Prodan). "The gentle, luminous face, always ready to help with a kind advice, endorsed by a keen observation and endowed with a generous and infectious humour, makes the Professor Emil Pop the most pleasant and complete interlocutor. You feel a real pleasure under the spell of his personality and his charming words. His love for the sustained and minutely work in laboratory and in the field, serves superior scientific goals, ensuring the solid base for the achievements built with the tenacity of every-day work of our erudite Professor and Academician..." (Eugen Stoicovici). "The abnegation with which he knew how to inspire his disciples with love for the research of truth, made us to always know him as a representative of firm ethical attitudes. He gave himself so much for some of us, that our gratitude could never be expressed by the sonority of words" (N. Boșcaiu). "When I bring to the scientist our homage and gratitude for the scientific works of his life, with the same high esteem and warm affection, I also think at the upright, kind and helping friend on which you can always count" (V. L. Bologa). "Now on the doorway of autumn, I wish many years and works to my friend Emil Pop, the distinguished naturalist and eminent stylist." (Lucian Blaga). "Since I had the chance to know each other and befriend you, I always found you reading and looking into the microscope, on herbariums or travelling the country to investigate its flora. As one who closely watched your brilliant career, I can only wish you, even now when old age knocks at the door, two things: may God gives you good health to finish successfully your researches, your treatises, and especially your syntheses; while the years to come may not diminish your health and soul harmony, so we can enjoy for a long time your wonderful humour which unwrinkled our brows so many times" (Ion Mușlea). "I admire at my colleague, Academician Emil Pop, the erudition, the talent of a beautiful speech, the cult for our scientific predecessors, the patriotism and the noble passion with which he works to preserve the beauties and the natural monuments" (Gh. Ionescu-Șișești).

And now, in the end, what else can we add? Only that I had the happy chance to know personally the professor Emil Pop in two occasions – enough to realize how true are the above mentioned remarks. The first time was in 1959, when I, together with my colleague Lazăr Botoșăneanu, asked him to make a short travel to the spring complex with relict fauna from Corbii Ciungi, which we had just discovered, in order to collect pollen samples from the peat deposit. The eminent specialist came immediately, studied the eutrophic peat and sent us the results we used in our monograph about the biology of the springs and the phreatic waters from the Romanian Plain (C. Motaș, L. Botoșăneanu, Șt. Negrea, 1962). The second and last time, we met him in 1967, at the Academy, when we asked him, as president of the Section of Biological Sciences, to intercede beside the Academy Publishing House which asked me to reduce by half a synthesis regarding the parietal biocoenosis of the caves from the Banatului Mountains. After I told him that I published something in a Polish journal, he advised me to send my paper there, as the Academy Publishing House always proposes text reductions without verifying if the text really contains surplus pages.

At 70 years, on 7 April 1967, Emil Pop was once more celebrated in the Romanian Academy aula. From the speech he held with this occasion, I quote this fragment: "What would I do if I'd start again, but with the experience and state of mind I have now? [...]. I'm afraid I would deny none of my directions [...]. If I would start again, I would like to use the same paths toward the seducing unknown to be at 70 years what I am now". Who would have guessed that the dynamic professor, who had just held at 25<sup>th</sup> May 1967 this final course of his didactic career with the subject "*Evolution of the biological sciences and especially the molecular biology*", had only 7 years to live? Barely retired at 1 October 1967 at age limit and appointed consultant professor without a salary, he already felt the effects of the bureaucracy: for two months he did not receive neither salary nor pension for the reason his pension was...to high (see S. Puiu, 1999, p.89). In 1969 began the process of reorganization of the research institutions by merging and transfer from the Academy to the ministers. Emil Pop's raport showing that a transfer of the research institutes of the Academy to the ministers would be to destroy them, was not headed. His proposal from 26 January 1970, regarding the founding

of an Academic Institute of Science History, with his own journal, monograph and syntheses, was not approved also. In 1973, although aware of his physical decline, he continued to lead an active life, organizing a CRIFST symposium and participating at a Palinology Symposium. In 1974, reaching 77 years, he noted the ever present tiredness at the desk, his correspondence remained un-opened and his thoughts were clouded by the fate of the Academy, lacking its research institutes, its commissions and committees. At 1 July 1974, he wrote the foreword at the last volume of the S. R. of Romania Flora, underlining this is the first Flora finished in Europe; that it was started by Tr. Săvulescu, coordinated by E. I. Nyárády and finished by him. At 7 July, he made the last travel in the Apuseni Mountains, noted in his field notebook. A week later, at 14 July 1974, at 9 AM., Emil Pop was knocked down on his desk by a brain vascular accident. At 19 December 1974, he was followed in the world beyond by Florica Pop, the one who was in their harmonious life “the hope of hopes” (S. Puiu, 1999, p.96).

I am ending the short presentation of the life and work of Emil Pop, emphasizing that posterity remembered him as an important, authentic scientist among the gallery of great biologists given by Romania to the entire world.

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