

## A WANDERING ECOLOGIST THROUGH THE WORLD BY DRAGOȘ NECULCE (REVIEW)

CORNEANU C. Gabriel, CORNEANU Mihaela

**Abstract.** An excellent travel book, edited by a reputed Romanian biologist, although unfortunately less known by the present generation, Dragoș Neculce, has been recently published (*A Wandering Ecologist through the World*, Florești, Cluj-Napoca, Limes Publishing House, 2013, 230 pp + 212 colour photos). Native of Cluj and formed at the Cluj University school, the colleague Dragoș Neculce was the initiator of two Romanian expeditions in Africa in the seventh decade of the last century: The First Romanian Trans-Africa Expedition (November 1970 – April 1971) and the Expedition of the *Grigore Antipa* Museum from Bucharest in Tanzania, an expedition to the Coral Reef (December 1973 – January 1974). Passionate about knowledge but having a limited possibility to explore other biocoenoses, he immigrated to Canada. His activity in the Université de Quebec à Montréal is quasi-unknown in Romania, his country of origin. After he retired, he returned to the original idea he had in his youth that of studying the biodiversity of the tropical rain forest from Central America. Thus, he engaged in short expeditions to the Antilles (Martinique, Dominica, Guadeloupe), Costa Rica, Guatemala, Nicaragua, a.o., with his family. The vast knowledge that he accumulated during his activity allowed him to present competent information about the explored places, ecosystems and their biodiversity, flora and fauna. Thus, his narrations have an inestimable value. He possesses a hereditary gift (being the direct descendant of the great chronicler Ion Neculce) to dynamically present the events and situations that he witnessed. Being convinced of the necessity of passing on his accumulated experience and knowledge, this first volume will be followed by other books in which different aspects of biodiversity and nature conservation will be presented.

**Keywords:** First Trans-Africa Romanian Expedition, Expedition to Coral Reef Tanzania, Expeditions to Tropical Rain Forest.

**Rezumat. Ecolog rătăcitor prin lume, Dragoș Neculce (Recenzie).** Recent a apărut o excelentă carte de călătorii, editată de un reputat biolog român, din nefericire puțin cunoscut de actuala generație, Dragoș Neculce (*Ecolog rătăcitor prin lume*, Edit. Limes, Florești, Cluj-Napoca, 2013, 230 pp. + 212 foto color). Originar din Cluj și format în mediul universitar clujean, colegul Dragoș Neculce a fost inițiatorul a două expediții Române care au avut loc în Africa, în deceniul șapte din secolul trecut: Prima Expediție Română Trans-Africană (Noiembrie 1970 – Aprilie 1971) și Expediția Muzeului *Grigore Antipa* din București în Tanzania, o expediție în Reciful de Corali (Decembrie 1973 – Ianuarie 1974). Pasionat de cunoaștere și având limitată posibilitatea de deplasare pentru a cunoaște alte biocenoze, a emigrat în Canada. Activitatea desfășurată la Université de Quebec à Montréal, a fost cvasi-necunoscută în România, țara sa natală. După pensionare, a revenit la ideile sale din tinerețe, studiul pădurii umede tropicale din America Centrală. În acest scop, a efectuat împreună cu familia sa, scurte expediții în Insulele Antile (Martinique, Dominica, Guadelupe), Costa Rica, Guatemala, Nicaragua, ș.a. Vastele cunoștințe acumulate în activitate, i-au permis să prezinte informații competente despre locurile explorate, ecosistemele și diversitatea lor, flora și fauna lor. Astfel prezentările sale au o valoare inestimabilă. Beneficiază de un dar ereditar (este descendentul direct al marelui cronicar Ion Neculce), de a prezenta în dinamică evenimentele și situațiile la care a fost martor. Fiind convins de necesitatea de a lăsa posterității experiența și cunoștințele acumulate, acest prim volum va fi urmat de altele, în care vor fi prezentate diferite aspecte privind biodiversitatea și conservarea naturii.

**Cuvinte cheie:** Expediția Română Trans-Africană, expediția în Reciful de corali Tanzania, expediții în pădurea umedă tropicală.

Dragoș Neculce, a Romanian biologist, specialist in ecology, tropical rain forest biodiversity, graduated from the Biology Faculty, *Babeș-Bolyai* University of Cluj-Napoca. He has been interested in the surrounding world since childhood, and he tried to know it by using experiments specific to his ontogenetic development. His passion for knowledge is a hereditary feature, because Dragoș Neculce is the direct descendant of the great chronicler Ion Neculce (1672-1745), a spatharius, a hetman and a magistrate. The genetic background favourable for exploratory activity determined his passion for the study of the surrounding world, that began with chemistry experiments and continued with his passion for the study of some groups of living beings (insects, the possibility of dinosaur existence in some environments in which they could have survived) and the approach of some topics of analysis and research of some exotic environments (the Amazonian tropical forest, the Sahel and desertification processes in Africa, a/o). The favourable scientific environment was represented by the Cluj University in the mid-20<sup>th</sup> century. Dragoș Neculce benefited from the advantage of having some great Romanian scientists as mentors and professors, who inspired him with passion for investigation and discovery. These great scientists belonged to the Cluj University (university professors Vasile Gh. Radu, Eugen Pora, Emil Pop, Victor Pop, dr. Carol Wittenberger), as well as to others university centres from Romania: Acad. dr. Ludovic Rudescu-Rodewald (the Romanian Academy of Bucharest), Prof. Nicolae Botnariuc (University of Bucharest), dr. Ion E. Fuhn (the Biology Institute of the Romanian Academy), specialists from Prof. Ioan Borcea Research Station, Agigea, of the A. I. Cuza University of Iași, a/o.

The family life full of financial restrictions determined him to be attentive and receptive so as to benefit from the material possibilities offered by the society of his time and to appeal to scientific celebrities, economic units (agreement with ARO factory from Câmpulung Muscel), as well as to decision makers of the late seventh decade of the last century (support of the *Babeș-Bolyai* University of Cluj leadership, represented by two rectors, Acad. prof. dr. Constantin Daicoviciu, followed by prof. Ștefan Pascu), a/o, to obtain funding and material and moral help from the sources existing then in Romania.

In Romania, after graduation, Dragoş Neculce worked as a researcher in *Arcaia* Station of the *Babeş-Bolyai* University of Cluj, then at the Biology Institute of the Romanian Academy of Bucharest. In this period (1970-1974) he organized two temerarious scientific expeditions (the Trans-Africa Expedition and the Expedition to the Coral Reef in Tanzania).

Passionate about knowledge but having limited possibilities to travel and explore exotic biocoenoses, he immigrated to Canada. There he worked at the Quebec University in Montreal and acted as a research director in three scientific societies.

After retiring, he returned to his ideas of youth, to study biodiversity of the equatorial regions. He engaged with his family in short expeditions in the Caribbean area of Central America: Antilles, Guatemala, Nicaragua. The vast knowledge accumulated during all his activity allows him to present competent information about explored places, their ecosystems and biodiversity, their flora and fauna. Thus, his writings have an inestimable value.

At present, he began to capitalize on the accumulated experience in the research activity throughout his life. An excellent travel book has been recently published: Dragoş Neculce, **A Wandering Ecologist through the World**, Floreşti (Cluj-Napoca), Limes Publishing House, 2013, 230 pp + 212 colour photos. ISBN: 978-973-726-794-8.

This book is structured in two distinct parts: (a) expeditions in Africa, with teams of specialists from Romania: the First Romanian Trans-Africa Expedition (1970-1971) and the Expedition of the *Grigore Antipa* Museum from Bucharest in Tanzania, an expedition to the Coral Reef (1973-1974), and (b) expeditions in countries of Central America, mainly in the equatorial rain forest (expeditions in Antilles, Costa Rica, with his family, as a Canadian citizen).

**The First Romanian Trans-Africa Expedition** organized by young biologists from the Cluj University, Dragoş Neculce and Nicolae Coman, was led by Professor Nicolae Botnariuc (55 year old), University of Bucharest. This was the second Romanian scientific expedition, after the one organized in the 1969 by a group of four Romanian speleologists (L. Botoşăneanu, V. Decu, St. Negrea and Gh. Racoviţă), who explored caves in Cuba for more than three months (March 14 – June 17, 1969). The expedition, with a team of eight members, out of which four biologists (Botnariuc Nicolae, Neculce Dragoş, Coman Nicolae and Cimpoeru Valeriu), had three Romanian cars (one ARO of 4WD type car and two *Tudor Vladimirescu* utilitarian cars). The route of the expedition of about 13,000 km across Africa started on December 9, 1970 in Dakar (Senegal) on the Atlantic Ocean coast and ended on April 2, 1971 in Mombasa (Kenya) on the Indian Ocean coast (personal communication from Professor Nicolae Coman, August 2014). On this route, they crossed various landforms: dry savannah, desert with sand dunes and rainforests, and 12 countries: Senegal, Mali, Upper Volta (Burkina Faso), Niger, Nigeria, Cameroon, Chad, Central Africa, Zaire, Rwanda, Uganda and Kenya.

The expedition was an opportunity of presenting the quality of off-road vehicles manufactured in Romania. A rich scientific material – botanical as well as zoological – was collected for museums, research units and higher education institutions of Romania (*Grigore Antipa* Museum of Natural History of Bucharest, University of Bucharest, Botanical Garden of Bucharest, University of Cluj, Botanical Garden and Zoological Museum of Cluj).

The author presents brief information on the history, topography, flora and fauna of the countries they crossed, while the text offers extensive information of general knowledge, as well. The presentation of different events that challenged the temerity of the expeditionary group provides succulent information that makes an enjoyable story despite extensive scientific data about plants, animals, plant and animal associations, accompanied by high-quality colour photos.

In the centre of the African continent, from Lake Chad, they harvested the famous blue-green algae (Cyanophyceae) *Spirulina platensis*, about 3 billion year old, very resistant to stress factors, used as food, a source of bioactive substances, as well as in biotechnology. Once in the heart of Africa, the author presents a wealth of information about the Great African Rift, the great lakes in the area (Albert, Edward, Kivu, Tanganyika Lakes), the volcano park (Nyiragongo, with lava in its crater, a/o), various environmental problems due to the presence of shallow oil reserves, a/o. Forests with high-quality wood, specific vegetation and many animals, some living fossils (*Protopterus aetiopicus* fish) or evolutionary dead ends (*Okapia johnstoni*, a/o), organisms with specific characters (electric catfish, *Malapterus electricus*), recently discovered species (sambaza fish, *Limnothrissa* sp. sardines) are presented. Particular examples of interspecific relationships and factors that influence them are also presented. The author offers information on the desertification of the Sahel, climate changes and global concerns to stop the negative effects due to climate changes, the effects of urbanization, too. Among measures taken against desertification, the impressive one is the development of a belt of forest plantations about 7,000 km long and 15 km wide, stretching from Dakar (Senegal) to Djibouti on the Red Sea.

**Expedition of the Gr. Antipa Museum in Tanzania (Expedition to the Coral Reef; December 1973 - January 1974)** had four members: dr. Mihai Băcescu (oceanologist), Director of *Gr. Antipa* Museum, Bucharest; dr. Geza Müller (marine biologist), Romanian Marine Research Institute, Constanta; dr. Theodor Nalbant (ichthyologist), Romanian Marine Research Institute, Constanta; Dragoş Neculce (biologist), *Babeş-Bolyai* University of Cluj. The expedition was organized by the same relentless Dragoş Neculce and it continued or rather ended (with other members) the Romanian Trans-Africa Expedition, which included Tanzania in its initial plan, but had to give up this final goal, forced by the international situation. The smooth running of the expedition was due to the support received from the Romanian Embassy in Tanzania, Dar-es-Salam University, Dr. Kai Curry-Lindahl (College of African Wildlife, Nairobi, Kenya). In this expedition, research was focused on the study of coastal and island reefs and terrestrial ecosystems (mangrove study). The extraordinary capacity of regeneration of holothurians (*Holothuria scabra*, sea cucumber), which after evisceration restore all organs, including the nervous and reproductive systems, is also

described. Biological material collected and processed in this expedition led to the enrichment of collections of exhibits from the *Grigore Antipa* Museum of Natural History, Bucharest, of the collection of IRCM Constanta, and it was also the source for the publication of numerous scientific papers.

The section "Expeditions carried out on the American continent" includes three expeditions.

**The Antilles (Martinique, Dominica, Guadeloupe)**, December 1992 - January 1993. The three islands that were visited have a volcanic origin and were formed about 20 - 30 million years ago. They belong to the Lesser Antilles. Although they show some ecological and biogeographical features relatively common, there are some differences between them, Guadeloupe having a more "quiet" geological history. Information on the history of the islands, their fauna, flora, crops and improvements carried out (remodelling hilly soils and effects of this action, a/o) is provided, the authorities' concern for the protection of nature being underlined. Thus, to protect the turtles' movement in the coastal area of the Martinique Island (turtles orient by the moon and natural light), local laws forbid the projection of lights to the sea at night. Dominica Island, located at the boundary between two tectonic plates, is considered one of the wildest islands of the Antilles, with an almost unexplored forest, terrestrial forces represented by geysers, springs, thermal lakes, and the natural thermochemical pollution changes the colour of some soils (colours from greenish grey to orange). The specific dominant plants on Dominica Island are the bromeliads. The Boiling Lake is located on this island, one of the few lakes in the world to "boil", situated near Roseau, the capital of the island. On this island with an area of 754 square kilometres, there are numerous rivers, seven volcanoes, waterfalls and mountain lakes. The tropical rain forest characteristic of the island is a mesophilic mangrove forest.

**Wandering through Costa Rica (Central America)**. After having reached the retirement age, the author settled with his family in Costa Rica, also called the "Switzerland of America", the country that disbanded its armed forces in 1949, with the oldest democratic tradition throughout Latin America. The state is characterized by a traditional policy of biodiversity development, while national parks cover 25.6% of the country area, with 50 different microclimates: there are phenomena of volcanism (six active volcanoes and 61 dormant volcanoes), 1100 km of Pacific coast and 250 km of Caribbean coast, an extremely high number of biocoenoses and diverse ecosystems. On relatively short distances (the territory is about 4.6 times smaller than Romania's) there is a shift from coral reefs, mangrove swamps, high neotropical forests to alpine climate. In this biological "Eden", the author founded the company Bio-Manzanillo DSJ (s.a.), located in the gulf of Nicoya. The author presents characteristic aspects of the flora and fauna from this country, the evolution of concerns for biodiversity conservation and protection of nature, interesting interspecific relationships (ants that build mushroom farms to ensure food for descendants, a/o), information about some famous national parks (Corcovado National Park, Palo Verde National Park, Wilson Botanical Garden, Monteverde forest, a/o).

In the last section, **Central American experiences**, some events whose heroes were the author and his friends are presented: scorpion bites (*Centuroides schmidtii*), a meeting with the ant lion larva (*Myrmeleon* sp.), the presence of bull sharks (*Carcharhinus leucas*) with tolerance to salinity found in Nicaragua (Cocibolca or Granada) Lake in Nicaragua, the largest freshwater volcanic lake in the world where there are two active volcanoes and the Ometepe Island, the largest island in the world in a freshwater lake. Analyzing the rich species diversity in ecosystems crossed by the Great African Rift and ecosystems in Nicaragua, the author specifies that in the latter case there is a fault, the Nicaraguan fault (much smaller than that found in Africa), situated between the Gulf of Fonseca and the south of Lake Nicaragua, covering Managua and Nicaragua Lakes, volcanoes and volcanic lakes, a/o.

This volume as a whole, besides being an excellent travel book to exotic lands, is a rich source of information about the history, geography, terrestrial or aquatic ecosystems, human populations of these regions of our planet.

**Corneanu C. Gabriel**

Craiova University, A. I. Cuza 13, 200585-Craiova, Romania.  
E-mail: gabicorneanu@yahoo.com

**Corneanu Mihaela**

USAMVB-Timișoara University, 119 Calea Aradului, Timișoara, Romania.  
E-mail: micorneanu@yahoo.com

Received: March 31, 2014

Accepted: June 28, 2014



Dragoș Neculce in Nicoya (Costa Rica, January 2014).



Dragoș Neculce with an Coati (near Arenal Volcano, December 2013).



Dragoș Neculce feeding a Capucin Monkey (Playa Dona Ana, March 2014).