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This is the third edition of the Frontiers awards, with 3.2 million prize money distributed across eight categories

## BBVA Foundation Frontiers of Knowledge Award for Edward O. Wilson, known as the father of Biodiversity

- Wilson is the mind behind other contributions like sociobiology or the unity of knowledge – consilience – which weds together the diverse branches of sciences, humanities and the arts, and the author of a body of synthesizing works that have earned him two Pulitzer Prizes
- “Edward O. Wilson is one of the most influential thinkers of our time, an exceptional biologist and a world-class natural historian. There are few biologists working today who have not been influenced in some way by his work and writings”, in the words of the jury’s citation
- The BBVA Foundation Frontiers of Knowledge Awards, established in 2008, recognize world-class research and artistic creation. Their eight categories reflect the main scientific, technological, social and economic challenges of the present day.

**February 8, 2011.-** The BBVA Foundation Frontiers of Knowledge Award in the Ecology and Conservation Biology category goes in this third edition to naturalist Edward O. Wilson, “one of the most influential thinkers of our time, an exceptional biologist and a world-class natural historian”, in the words of the prize jury. Wilson “coined and popularized the term ‘biodiversity’, which is the label for global conservation issues and efforts across the globe, and has contributed much to making our society aware of its value”.

The jury points out that Wilson’s seminal contributions started from something as concrete as the study of ants: “His career in science has expanded on his life-long

fascination with the biology of ants to permeate all of ecology and conservation biology".

### **'Lord of the Ants'**

A sobriquet often pinned on Edward O. Wilson (Alabama, 1929), Emeritus Professor at Harvard University (United States), is 'Lord of the Ants'. His passion for these insects, dating from his earliest childhood, has led him to fundamental contributions not only in biology but also in the social sciences. Hence Wilson – commonly referred to as a naturalist and humanist – is the founder of sociobiology, the discipline inquiring into the biological bases of human conduct, and has won the Pulitzer Prize on two occasions: in 1979 for *On Human Nature* and in 1991 for *The Ants*.

As an entomologist, he was the first to describe the social behavior of ants and other social insects. He also succeeded in deciphering the 'chemical language' they use to communicate and plan their routes, and in demonstrating the action of pheromones.

This work was also at the root of his island biogeography theory, developed in the mid 1960s with Robert MacArthur and now considered a fundamental tool for the design of conservation strategies. This theory recognizes that simply setting aside a parcel of the right habitat is not enough to ensure that a species will survive, an insight that has led to "improved design of nature reserves to minimize extinctions", the citation continues.

Regarding his many contributions outside the strictly biological arena, the jury remarks that his writings "have linked human culture to evolutionary ecology". His books *Sociobiology* and *Consilience* "provided a firm basis for the new discipline of evolutionary psychology that is currently revolutionizing fields as disparate as anthropology, linguistics and history".

The concept of consilience rests on the idea that the sciences, humanities and arts are not isolated branches of knowledge, but together convey, in Wilson's own words, the message that "the world is orderly and can be explained by a small number of natural laws".

"His impact has been truly extraordinary in creating and inspiring new areas of ecology and conservation biology, and indeed of science in general and its popularization", in the jury's opinion. "There are few biologists working today who have not been influenced in some way by his work and writings."

### **"A culminating award"**

"This, for me, is a culminating award", said Wilson on the phone yesterday on being informed of the jury's verdict. "It is a very substantial prize in view of the stature of the jury and its world-wide reach. But also because it recognizes the advancement of knowledge in the broadest sense. We are now in an age where the greatest need is for synthesis, the ability to take all the discoveries made in science to create a more unified body of knowledge. That seems to me to be what the BBVA Foundation is recognizing".

At the age of 81, Wilson has lost none of his fascination for ants and observes them wherever he goes: "I will certainly enjoy looking out for them when I come to Madrid for the award ceremony", he muses. And he stresses how much we humans have to learn from them. "They have the most complex social systems of any creatures in earth, apart from humans. People often ask me how I can connect ants to people, and I point out that the study of ants has had a huge influence on the study of human behavior".

Wilson sees some cause for optimism in that "the idea of biodiversity is now everywhere", but calls for more effective action to conserve it. "I have to say that the public and politicians are insufficiently aware of the importance of biodiversity". He insists, for instance, that "we have only described about 10% of the world's insects" and that filling these huge gaps in our knowledge of the organisms that share our planet is vital to our own development.

### **The boy who loved bugs**

"Most children go through a phase of being fascinated by bugs; I guess I never outgrew mine," writes Wilson in *Naturalist*. And indeed his entomological passion came to him at an early age. At nine, he undertook his first expeditions at the Rock Creek Park in Washington, DC, and at thirteen, in Alabama, he discovered his first colony of fire ants. At the age of eighteen, intent on becoming an entomologist, he began by collecting flies, but the shortage of insect pins caused by World War II convinced him to switch to ants, which could be stored in vials. After taking a biology degree at the University of Alabama, he obtained his doctorate from Harvard, to which he remains associated to this day. Indeed beneath his office in Harvard's Museum of Comparative Zoology lies the world's largest ant collection, comprising almost one million specimens of 5,000 varieties.

Besides his Pulitzer winning publications, his best known books are his autobiography *Naturalist*, and the titles *Sociobiology*, *The Diversity of Life*, *Consilience: The Unity of Knowledge* and *The Future of Life*.

The jury chair, Daniel Pauly, unveiled the name of the new laureate at an announcement event in the Marqués de Salamanca Palace, the Madrid headquarters of the BBVA Foundation, where he was accompanied by the Foundation's Director, Rafael Pardo, and Juan José Damborenea, Assistant Vice-President of Scientific and Technical Areas at the Spanish National Research Council (CSIC).

Edward O. Wilson's name was put forward for the award by herpetologist James Hanken, Director of the Museum of Comparative Zoology at Harvard University (United States).

### **International jury**

The jury in this category was chaired by **Daniel Pauly**, a Professor of Fisheries at the University of British Columbia Fisheries Centre (Canada), with **Paul Brakefield**, Professor of Zoology at the University of Cambridge (United Kingdom) and Director of the University Museum of Zoology acting as secretary. Remaining members

were **Wilhelm Boland**, Managing Director of the Max Planck Institute for Chemical Ecology (Jena, Germany); **Joanna Burger**, Distinguished Professor of Biology at Rutgers University (New Jersey, United States); **Gary K. Meffe**, Consulting Editor of the journal *Conservation Biology* (the most influential publication in its field, which he edited from 1997 to 2009) and Adjunct Professor in the Department of Wildlife Ecology and Conservation of the University of Florida (United States), and **Daniel Simberloff**, Gore Hunger Professor of Environmental Science at the University of Tennessee (Knoxville, United States) where also heads the Institute for Biological Invasions. The award in the 2009 edition in this category went to Peter B. Reich for turning the global metabolic ecology of plants into a discipline. The 2008 award was shared by Thomas E. Lovejoy (United States) and William F. Laurance (United States) for expanding our understanding of how changes in land use impact on biodiversity and ecosystem processes.

The BBVA Foundation Frontiers of Knowledge Awards honor world-class research and artistic creation across eight prize categories. Their uniqueness lies in their close alignment with the scientific, technological, social and economic challenges of the present century. Each category carries a cash prize of 400,000 euros.

#### UPCOMING AWARD ANNOUNCEMENTS

CATEGORY	DATE
Contemporary Music	Tuesday, February 15, 2011
Economics, Finance and Management	Wednesday, February 16, 2011

The BBVA Foundation supports knowledge generation, scientific research and the promotion of culture, relaying the results of its work to society at large. This effort materializes in research projects; human capital investment; and specialization courses, grants and awards. Among the BBVA Foundation's preferred areas of activity are basic sciences, biomedicine, ecology and conservation biology, the social sciences and literary and musical creation.

A video recording of the new laureate's first impressions on receiving news of the award is available from the Atlas FTP with the following coordinates:

Server: **213.0.38.61**  
 Username: **agenciaatlas1**  
 Password: **amapola**

The name of the video is:  
 Premio Fronteras Ecología

## Fundación **BBVA**

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