

***Pikaia* (<http://www.pikaia.eu>): A New Way to Inform on Evolution in Italy**

**Paolo Coccia · Mauro Mandrioli · Chiara Ceci ·
Telmo Pievani**

Published online: 13 September 2008
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Abstract Since 2005 the website *Pikaia* (<http://www.pikaia.eu>) is active in Italy keeping Italian readers informed about everything new happening in the fields of evolution in Italy and abroad and suggesting news, papers, books, websites, congresses and seminars.

Keywords Evolution · *Pikaia* · Italy

Evolution Acceptance in Italy

According to the last international survey about the public acceptance of evolution (Miller et al. 2006), more than 60% of Italian citizens think that the theory of evolution is correct and verified. This result could sound good if compared to USA, where less than 40% of the citizens accept the theory of evolution, but is below the expected

standard for a theory that is confirmed well beyond the shadow of a doubt. For instance, the Italian acceptance of evolution is lower than that observed in north Europe, where it is over than 80% in some countries (such as Iceland, Denmark, and Sweden).

In recent years, an increasing number of amateurish books and papers has been published in Italy against the Darwinian theory, according to a spread of criticisms against evolution, frequently related to the politicization of religious values.

The concern about this phenomenon is hampered in Italy, since in 2004 the Darwinian theory was astonishingly deleted from the curricula of the school courses in sciences, leading to a public remonstrance that resulted in a partial (and actually inadequate) reintroduction of Darwin in the outlines (Pievani 2007).

At the same time, a similar trend has been observed in other European countries prompting the Committee on Culture, Science and Education of the Parliamentary Assembly of the Council of Europe to adopt in October 2007 a resolution (Resolution 1580, Parliamentary Assembly of Council of Europe 2007) about the dangers of creationism in education. In particular, as reported in the resolution, in Europe “we are witnessing a growth of modes of thought which, the better to impose religious dogma, are attacking the very core of the knowledge that we have patiently built up on nature, evolution, our origins and our place in the universe.”

In view of this nonscientific criticism against the theory of evolution, the availability of resources for improving public understanding of evolution and teaching at school is extremely important, and considering that three of the four Italian members of the European Committee on Culture, Science and Education voted against this resolution, this could be particularly true for Italy.

P. Coccia · C. Ceci
Italian Association of “Documentalisti Industria Farmaceutica”,
Milan, Italy

M. Mandrioli
Department Animal Biology,
University of Modena and Reggio Emilia,
Modena, Italy

C. Ceci · T. Pievani
Department of Human Sciences for Education,
University of Milan Bicocca,
Milan, Italy

M. Mandrioli (✉)
Dipartimento di Biologia Animale,
Università di Modena e Reggio Emilia,
Via Campi 213/d,
41100 Modena, Italy
e-mail: mandrioli.mauro@unimo.it

In this context, the website *Pikaia* (<http://www.pikaia.eu>) has been active in Italy since 2005, with the main aim of keeping Italian readers informed about everything regarding evolutionary biology happening in Italy and abroad.

Pikaia: Origins and Structure of the Website

The website *Pikaia* (ISSN 1827-8647) takes its name from *Pikaia gracilens*, an extinct animal found near Mount Pika in the Burgess Shale of the British Columbia, which

represents the earliest known ancestor of all chordates, as reported by Stephen J. Gould in 1989 in his book *Wonderful Life: The Burgess Shale and the Nature of History*. The choice of this name is a way to pay homage to our earliest ancestor and, at the same time, to Stephen J. Gould, whose works greatly improved our comprehension of evolution.

Pikaia, which takes its origin from a pre-existing blog (<http://darwinitalia.blogspot.com>) through the collaboration between Telmo Pievani and Paolo Coccia, currently publishes the latest news on evolution on a daily basis in order to

Fig. 1 *Pikaia* consists in a central portion containing a section reporting the latest news about papers, events, and books and a foreground section specifically presenting highly interesting essays or commentary. On the *left*, a list of links allows readers to easily find programs of the Italian Darwin Day, seminars and congresses on

evolutionary biology, and different links to book reviews, essays, multimedia files, and interviews. On the *right*, readers can find the old published news subdivided in different categories (i.e., anthropology, zoology, evo-devo, evolutionary medicine, history of evolution) and easy access to the Stephen J. Gould section

fill the gap existing in the Italian mass media, where no journals or websites are specifically devoted to natural history. Moreover, *Pikaia* keeps informed and updated the readers (mainly teachers, students, and academic personnel) interested in evolutionary subjects by presenting the most interesting books, papers, and events on evolution ranging from molecular evolution to ethology, including not only human but also plant and animal evolution.

In order to properly address the different research fields that are part of evolutionary biology, the editorial staff consists of academic scientists (whose expertise ranges from genetics and anthropology to science history and philosophy), museum experts, and specialists in science communication who work for Italian journals and who can assure both quality and readability. Moreover, the *Pikaia* editorial staff also includes schoolteachers who may evaluate the quality of the resources suggested for school together with developing new resources for school pupils.

Pikaia also publishes short essays and commentary on specific topics related to evolution that can be written by members of the editorial staff or by invited scientists. *Pikaia* continuously suggests new websites, links, and journals or teaching proposals with particular interest for those that are freely available for readers.

At present, *Pikaia* is collaborating with different Italian Institutions involved in science education (such as museums, i.e., the Natural History Museum of Milan, and scientific associations, i.e., the Italian Society of Evolutionary Biology, <http://www.sibe-iseb.it>) in order to support the materials available in the web with lectures and projects that take place during different national events of communication of science (such as the Genoa Science Festival and the Darwin Day in Milan).

In the last years, *Pikaia* strongly increased its own visitors now consisting of about 15,000 unique ID contacts a month, and it has been recently updated in order to improve readability and to make *Pikaia* a more user-friendly tool for recovering information and news on evolution and natural sciences.

Pikaia readers may submit comments or questions by e-mail contacting the editor-in-chief, who may reply directly or redirect the message to a member of the editorial staff whose expertise may address the reader's questions.

Pikaia (Fig. 1) can be a friendly read for web users since it consists in a central section reporting the latest news on papers, events, and books and in two link sections that allow readers to find the old news subdivided in different categories (i.e., anthropology, zoology, evo-devo, evolu-

tionary medicine, history of evolution) and to easily find the last cited events (i.e., Darwin Day programs, conferences, seminars) and books.

A section has been permanently dedicated to Stephen J. Gould, where users can find, browse, and read news about the last papers published about Gould's work as a scientist and science writer and download the most complete and updated Italian bibliography on his publications (books, articles, comments, editorial, etc.).

Pikaia, which is freely available for readers, is currently sustained by grants from Universities (University of Milan Bicocca and University of Modena and Reggio Emilia) and by a special program for the diffusion of scientific knowledge promoted by the Italian Ministry of University.

Future Developments

New *Pikaia* sections will be available in the near future with particular attention to multimedia that will allow users to follow events in streaming (as recently done for the Darwin Day 2008 in Milan) or as podcast files. In particular, *Pikaia* will host a new section containing audio files about new papers or books of particular interest for evolutionary biology, museum exhibitions, lectures, and seminars about evolution, and the development of an audio introductory guide for beginners about evolution will start in the near future.

Shortly, *Pikaia* readers will have the possibility of activating an RSS feeder in order to be informed about *Pikaia* updating.

Finally, *Pikaia* will start collaboration with other websites, such as Videoscienza (<http://www.videoscienza.it>), which publish videos or other multimedia files that may represent a precious resource for evolutionary biologist and students.

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