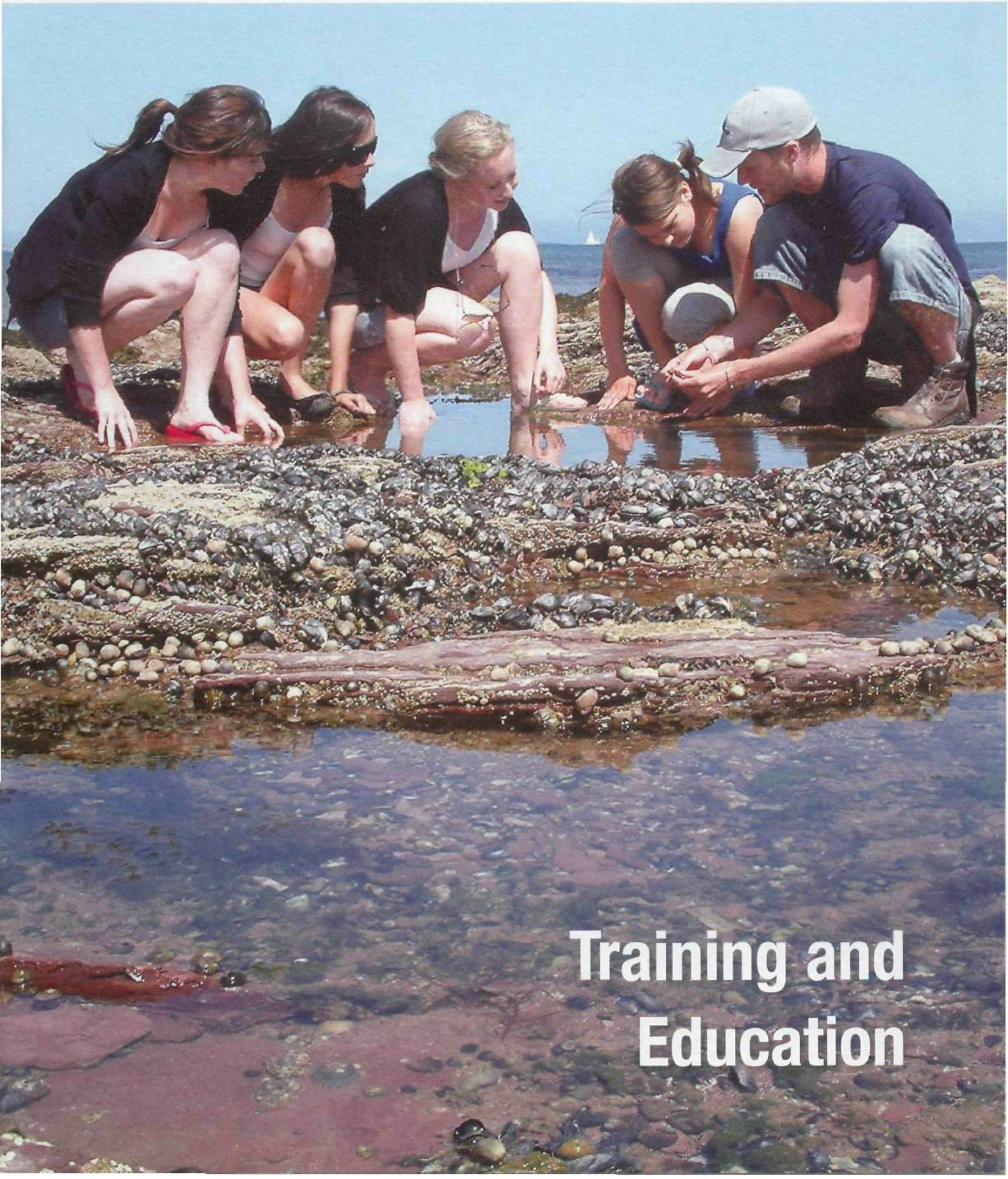




In Practice

Bulletin of the Institute of Ecology and Environmental Management



**Training and
Education**

The European Distributed Institute of Taxonomy - Training the Next Generation of Taxonomists

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Introduction

The European Distributed Institute of Taxonomy (EDIT) is the collective answer of 28 leading European, North American and Russian taxonomic institutions to a call from the European Commission to create a network of excellence in 'Taxonomy for Biodiversity and Ecosystem Research'. The EDIT consortium was officially established on 1 March 2006 with financial support from the European Union (EU) for the first five years, but aiming to be a permanent supranational network that will facilitate interaction, integration, collaboration and coordination of taxonomic research institutions in Europe and beyond.

The objectives of EDIT are:

1. to reduce the fragmentation of European taxonomic research;
2. to rebuild and strengthen European taxonomic expertise; and
3. to coordinate the European contributions to global taxonomic efforts, such as the Global Taxonomy Initiative.

Hence, the overarching goal of EDIT is to integrate Europe's taxonomic workforce in order to improve society's capacity to understand and protect biodiversity, so that mankind can benefit from it in a long-term, sustainable fashion.

An essential component in this ambitious endeavour is the development of a high quality, pan-European integrated taxonomic training programme.

Why Focus on Taxonomic Training?

European science is facing a continuing loss of taxonomic expertise because the positions of retiring professional taxonomists are often redirected to new researchers lacking sound taxonomic expertise, or, even worse, are simply cut for budgetary reasons. Consequently, taxonomic expertise in Europe is eroding at a fast pace, so that the transfer of taxonomic knowledge and skills to new generations is also steadily decreasing. Hence, in order to reverse these negative trends, it is imperative to establish high quality training that prepares students for future taxonomic careers.

Unfortunately, current European taxonomic training programmes are highly fragmented across countries, and across educational structures within countries. Moreover, taxonomic training opportunities are extremely heterogeneous in scope, purpose, intensity, financial support, and educational level; the training may be formal involving undergraduate or

postgraduate university courses, or take the form of modules in a wider package of courses, short courses, in-house seminars, field courses, 'on the job' training, etc.

Despite the disparate and very local character of European taxonomic training opportunities, there is common ground between institutions, suggesting that a more coherent shared framework for high quality expert taxonomic training can be established. This integrated framework should involve a wide range of partners, starting with EDIT members, but also mobilising taxonomic institutions, universities, research centres and international organisations outside the EDIT Consortium.

The integration of EDIT's education and training opportunities into the wider international context provides a crucial contribution to the Global Taxonomy Initiative's capacity building activities, since many countries worldwide are also in desperate need of taxonomists.

Set Up of the Distributed European School of Taxonomy

EDIT and other partner institutions are establishing a European state-of-the art school of taxonomy: the Distributed European School of Taxonomy (DEST). The aim of DEST is to develop a joint taxonomic training programme provided by leading expert taxonomists in the participating institutions. The programme is intended to be offered to European and non-European trainees.

During the first phase of the set up of DEST, the existing taxonomic training resources in Europe were surveyed. This revealed the strengths and weaknesses of those resources and highlighted the challenges that they have to face to meet the taxonomic standards and needs in the 21st century. This



Picture 1. Summer School 2008 - Collecting animal sound recordings is increasingly recognised as a valuable and non-invasive tool for taxonomy, biodiversity research and nature conservation

Photo: M de Biaggi

exercise provided a baseline to define the objectives and ambitions of DEST.

More information is available at:
<http://www.e-taxonomy.eu/files/C8.1.2.pdf>
<http://www.e-taxonomy.eu/trainingresources/>

DEST comprises the following components:

- Expert-in-Training programme (operational)
- Summer School (operational)
- Modern Taxonomy course programme (under development)

Expert-in-Training Programme

The main objective of the Expert-in-Training programme is to provide young graduate students and early career researchers with an opportunity to acquire, and to strengthen, taxonomic research skills through 'on the job' training. To this end, the trainee joins a project team where they are coached by an expert (mentor), and shown 'how to do the job' in a particular, specialised taxonomic discipline. Other objectives of the programme are to encourage mobility, to promote integration by establishing new contacts with other researchers, and to contribute to capacity building in the trainee's institution. Currently, EDIT provides about 10 individual Expert-in-Training grants per year. These grants cover travel, subsistence and bench fees.

The Expert-in-Training programme was launched in June 2008. In the first call, 21 taxonomic placements were offered by EDIT institutions for trainees from other EDIT institutions. To improve the impact and visibility of European taxonomic training resources, institutions outside EDIT were involved in the second call (2009). Thus the number of placement offers increased to 31, while grants were offered to trainees from EDIT partner institutions or from other European universities/research institutes.

For more information see: <http://www.e-taxonomy.eu/node/60>

Summer Schools

The purpose of the Summer School is to train students in 'best field practices' for basic taxonomic research, biodiversity



Picture 2. Summer School 2009 – Sample collection in the field

Photo: A Kroupa

studies, and conservation biology. Summer Schools focus on practical taxonomic experience, combined with theoretical lectures, to provide an in depth understanding of the current state of taxonomic research, biodiversity sampling methods and their broad applicability to other scientific disciplines and areas of social relevance.

The Summer School is open to students who have recently finished their Masters or who are in an early stage of their PhD research in a biological discipline. Student and teacher participation is financially supported by EDIT.

The first Summer School, Modern Taxonomy and Field Work, was held in 2008 (31 August - 14 September), jointly with EDIT's ongoing All Taxa Biodiversity Inventory and Monitoring (ATBI+M) initiative in the French/Italian Alpine nature reserves of Mercantour and Alpi Marittime. ATBI+M activities are part of a global research effort to document spatio-temporal dynamics of biodiversity in conservation priority areas. The Summer School brought together students and training providers from all over Europe - 21 professional taxonomists from seven European countries gave lectures to and supervised field work for 20 students of 16 nationalities from 13 European countries.

The setting for the second Summer School in 2009, From field to Web - studying biodiversity with the taxonomist's toolbox, was the biodiversity-rich region of the Muránska Planina National Park, Slovakia (19 July - 1 August).

The Summer School provides a unique chance for students to meet professional taxonomists and experience firsthand the challenges and rewards of field work in an inspiring setting.

For more information see: <http://www.atbi.eu/summerschool>

Modern Taxonomy Course Programme

Teaching and training in taxonomy in universities and institutions is provided by a diverse set of approaches, for example, by offering courses in pure and applied taxonomy at various levels, for various durations and with or without formal qualification. There are, however, few dedicated training courses that provide future professionals with fundamental expert knowledge on basic taxonomy.

The training curriculum will target topics such as: nomenclature; identification tools and methods; describing species; phylogeny and evolutionary biology; data analysis and management; collection conservation; and relevance of taxonomy to other disciplines and to society in general.

The Modern Taxonomy course programme is being developed in a modular manner so that courses can be offered at several institutions. In this way the courses will give the best quality that partners can offer from their available staff, experiences and equipment. Each partner institution will contribute a different number of subjects depending on the match between the curriculum topics and the existing expertise of the institution. The trainee will attend the course subjects in two ways: 'face to face' at the institutions and, where appropriate, by means of e-learning.

One of the challenges will be to integrate the course programme into current university curricula. The courses will be offered as a new study programme that preferably should be included in existing teaching programmes at universities, thus emphasising the fundamental importance of taxonomy in the professional formation of future biologists. Moreover, it paves the way for motivating or preparing students for an eventual future taxonomic dissertation or career in taxonomy.

For more information on EDIT please visit: www.e-taxonomy.eu

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