

**BORNH****Bulletin of  
Regional  
Natural History****Formerly Bollettino della Società dei Naturalisti in Napoli**

## **The online environmental library of the Province of Cremona**

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author declares that he has  
no conflict of interest.**Financial Disclosure****Statement:** The Author  
declares that no specific  
funding was received for this  
work.**Accepted:** 09 Jun 2022This work is licensed under a [Creative Commons  
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### **Abstract**

This short communication briefly describes the online library provided by the Environment and Territory Department of the Province of Cremona administration and the library database that was produced as part of this work. The publications in the library are freely available and primarily concern the ecology and environment of the River Po basin. The database includes a fully searchable list of the publications titles and topic labels meant to help its consultation by the general public; moreover, it is open access and can be downloaded through the Zenodo multi-disciplinary open repository.

**Keywords:** Province of Cremona, online library, environment, ecology

### **Riassunto**

Questa breve comunicazione descrive sinteticamente la biblioteca online fornita dall'Assessorato all'Ambiente e Territorio dell'amministrazione della Provincia di Cremona e la banca dati bibliotecaria che è stata realizzata nell'ambito di questo lavoro. Le pubblicazioni della Biblioteca sono liberamente consultabili e riguardano principalmente l'ecologia e l'ambiente del bacino del fiume Po. Il database include un elenco completamente ricercabile dei titoli delle pubblicazioni e delle etichette degli argomenti intesi a

facilitarne la consultazione da parte del pubblico in generale; inoltre, è ad accesso aperto e può essere scaricato tramite il repository aperto multidisciplinare Zenodo.

**Parole chiave:** Provincia di Cremona, biblioteca online, ambiente, ecologia

### How to cite

Enrico Cameron (2022). The online environmental library of the Province of Cremona. Bulletin of Regional Natural History (BORNH), Bollettino della Società dei Naturalisti in Napoli. Vol.2, n. 1, pp. 76- 80 ISSN: 2724-4393.

## 1. The online environmental library

The province of Cremona lies in Northern Italy, along the left bank of the River Po floodplain. Over the last thirty-five years the Environment and Territory Department (ETD) of the province administration has produced a wealth of scientific and educational publications concerning the environment, ecology, geography, history and landscape of the province, of the Po basin at large and of other areas as well. The publications are freely available as PDF files through the library website (see the References section) and belong to five series:

1. *Pianura: scienze e storia dell'ambiente Padano* [Pianura: science and history of the Padanian area]. Published since 1987, Pianura is primarily concerned with various aspects of the Po basin of interest to the natural sciences. Most articles in Pianura have a short or extended English abstract, but keywords are not provided.
2. *Monografie di Pianura* [Pianura monographic issues]. Each monograph focuses on a specific topic (vegetation, fauna, flora, pedology, palaeontology, ethnobiology etc.) and on a particular

area of the province of Cremona or on a wider region.

3. *Il territorio come ecomuseo* [The territory as an ecomuseum]. The publications in this series analyse selected features of the natural and anthropic landscape of the province.
4. *Quaderni del Centro di Documentazione Ambientale* [Monographs of the Environmental Documentation Centre]. These monographs aim to disseminate information about nature and the environment in the province of Cremona. The Environmental Documentation Centre also published other monographic volumes with aims and contents similar to those of the *Quaderni* series. These monographs can be found in the *Quaderni* section of the ETD website, but from a bibliographical viewpoint they do not belong to the same series and are therefore identified by a different publication code (see below).
5. *Atlante toponomastico della provincia di Cremona* [Toponymic atlas of the province of Cremona]. Each publication in this series provides an explanation, a list and a map of the toponyms (fields, irrigation canals, roads, hamlets etc.) of a province's municipality.

## 2. The library database

A database of the afore listed publications, previously not available, was produced as part of this work with the advice of some expert naturalists, includes a fully searchable list of the titles of the 504 contributions appeared so far in Pianura and will be updated as new publications are added to the ETD library. The database, in the CSV format, is available open access under the CC-BY 4.0 licence through the Zenodo multi-disciplinary open repository (see the References section) using a Digital Object Identifier (DOI) that represents all versions of the database and will always resolve to the last one (see again the References section).

The database fields are as below.

Publication code: this has the form P (Pianura), MP (Monografie di Pianura), TE (Il territorio come ecomuseo), QCDA (Quaderni del Centro di Documentazione Ambientale), EDCM (monographs of the Environmental Documentation Centre not belonging to the Quaderni series) and AT (Atlante Toponomastico) followed by a number (in roman digits for the EDCM monographs).

Publication series (in Italian), publication title in Italian, publication title in English, publication type (magazine or monograph), ISSN number (if assigned), issue number, issue year.

Contribution type (article, report or short note, monograph, proceedings paper, etc.), title in Italian (supplied *when not available*) and title in English (supplied *when not available*).

Topic, Subtopic 1, Subtopic 2: these are very broad labels indicating the main topic of each contribution (e.g. ecology, biology,

botany, etc.) and, when appropriate, one or two subtopics (e.g. birds, mammals, plants etc.). These labels are meant solely to help the consultation of the database by the general public, consistently with the openness of the ETD digital library.

Pages, Author 1, ..., Author 16. The authors (e.g. Smith J) as listed in each contribution so as to allow searches by author and order.

Link to the file of each issue on the ETD digital library website, Notes.

At present the ETD library comprises 567 contributions (Tab. 1) by nearly 600 authors, covering a wide variety of topics and subtopics (Tab. 2).

**Table 1:** Type and number of contributions

<b>Articles</b>	243
<b>Proceedings papers</b>	158
<b>Report or short notes</b>	79
<b>Monographs</b>	63
<b>Proceedings abstracts</b>	14
<b>Proceedings reports</b>	3
<b>Appendixes</b>	2
<b>Reviews</b>	1
<b>Errata</b>	1
<b>Other</b>	3

**Table 2:** Topics, subtopics (if assigned) and number of contributions.

<b>Ecology</b>	<b>417</b>	<b>Palaeontology</b>	<b>21</b>	<b>Environment</b>	<b>3</b>
Amphibians	92	Fossils	17	Ecology	1
Birds	88	Human fossils	2	Pedology	1
Plants	84	Fossils collections	2	History	1
Invertebrates	59	<b>Geography</b>	<b>19</b>	<b>Archaeology</b>	<b>3</b>
Reptiles	32	History	13	Archaeological sites	1
Mammals	13	Toponymy	6	<b>Pedology</b>	<b>3</b>
Surface and underground water	10	<b>Zoology</b>	<b>16</b>	Paleosols	2
Fishes	8	Zoological collections	9	Soils	1
Education	6	Biographical information	3	<b>Hydrology</b>	<b>2</b>
Agriculture	4	Birds	2	Surface and underground water	1
Environment	3	Paleontological collections	1	Geomorphology	1
Parasites	2	Dialects	1	<b>Agriculture</b>	<b>2</b>
Algae	1	<b>Toponymy</b>	<b>15</b>	Landscape	1
History	1	<b>Botany</b>	<b>14</b>	History	1
Book review	1	Biographical information	5	<b>Climatology and weather</b>	<b>1</b>
Biology	1	Botanical collections	4	<b>Geology</b>	<b>1</b>
Lichens	1	History	2	<b>Other</b>	<b>7</b>
Landscape	1	Other	2		
Fungi	1	Dialects	1		
<b>Biology</b>	<b>31</b>	<b>Ethology</b>	<b>4</b>		
Amphibians	17	Amphibians	3		
Reptiles	5	Reptiles	1		
Invertebrates	4	<b>History</b>	<b>4</b>		
Biographical information	1	Biographical information	1		
Mycology	1	Surface and underground water	1		
Art	1	<b>Geomorphology</b>	<b>4</b>		
Fungi	1	Ancient landforms	3		
Birds	1				

Tab. 2 lists only Subtopic 1 subjects, which were assigned to most contributions.

Subtopic 2 subjects were assigned to about 20 percent of the items and, in addition to

some of those in Tab. 2, include conservation, energy, etymology, herpetological collections, hydraulics, paleoenvironments, technology, tourism and vegetation.

### **3. Conclusions**

A corpus of publications such as that considered in this communication (largely the result of dedicated volunteer work) is a precious source of knowledge about a territory, provides potential information for further scientific studies and it is definitely worth maintaining and expanding even in an era of tight competition for research funding and pressure to publish on international journals. The ETD library database will hopefully contribute in this direction.

### **Acknowledgments**

The author is indebted with Alberto Selvaggi, Francesca Mogavero, Giovanni d'Auria, Fabio Penati and Paolo Schirolli for the precious suggestions and advices.

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