

## WEBSITE OF THE CROATIAN ENTOMOLOGICAL SOCIETY (CES)

**BOGOMIR MILOSEVIC**

Hrvatsko entomolosko drustvo Zagreb, e-mail: [milosevic@agr.hr](mailto:milosevic@agr.hr)

[Abstract](#) | [Sazetak](#) | [Introduction](#) | [Methods](#)

[Results and discussion](#)

[Conclusion and outlook](#) | [References](#)

---

### **Abstract**

The origin, structure, editing and expenses have been presented. The contents consist of the following: (1) documents on the organisation and activities of the Society, (2) on entomology in Croatia (instructions for young people, entomofaunal lists, bibliographies and other, (3) links to the most important relevant sites on Internet in Croatia and in the world, and (4) abstracts in English. View is given of related sites from the area of entomology on Internet in the world and in Croatia. Problems encountered in the so far work under existing conditions have also been considered. Suggested are general criteria for designing form and contents of similar web sites of both scientific and professional NGO's from the area of biological and biotechnical sciences in the wider sense.

Keywords: Croatian Entomological Society, website, entomology, Croatia.

### **Sazetak**

Web site Hrvatskoga entomoloskog drustva (HED). Prikazani su postanak, ciljevi, struktura, uredivanje, troskovi. Cetiri su dijela sadrzaja: (1) dokumenti o organizaciji i radu udruge; (2) o entomologiji u Hrvatskoj ( upute za mlade, popisi entomofaune, bibliografija i dr.); (3) linkovi na vaznija relevantna mjesta na Internetu u Hrvatskoj i u svijetu i (4) sažete informacije na engleskom jeziku. Daje se osvrt na srodne site-ove iz podrucja entomologije na Internetu u svijetu i u Hrvatskoj. Razmatraju se problemi u dosadasnjem radu u datim uvjetima. Predloženi su opci kriteriji oblikovanja sadrzaja i izgleda slicnih dokumenata znanstvenih i

strukovnih nevladinih udruga iz podrucja bioloskih i biotehnickih znanosti u sirem smislu.

Kljucne rijeci: Hrvatsko entomolosko drustvo, website, entomologija, Hrvatska.

---

## INTRODUCTION

The Croatian Entomological Society (CES) is a non-governmental, not-for-profit, scientific, and professional association of citizens, founded in its present form in 1974 in Zagreb. Its members are engaged in Entomology (the science of insects and other related animal species) - either professionally, or as amateurs. The association's goals and objectives are to promote Entomology in all of its fields.

On initiative and with help of the Ministry of Science and Technology (MST) in 1996 we started the website with some basic information. In 1998, the University of Zagreb Faculty of Agronomy welcomed our website on its server. This enabled us to reorganize and considerably expand the part published in Croatian. CES' Steering Committee has assigned the Editorial Board (B. MILOSEVIC, B. HRASOVEC, B. GJURASIN).

Since the main purpose of the website is to be active in Croatian cyberspace, its contents are mainly presented in Croatian language. Only selected information about CES, and information about nature conservation is given in English. Also some Croatian documents contain introductory explanations in English.

As scientific and professional association CES wants to fill its given place in the Croatian Internet domain. Web pages are designed with the idea to help Croatian entomologists in their work, to promote Entomology within young population and to connect contents of other Croatian institutions involved in entomological activities as they build their own webpages. The structure and design of our webpages are developed in steps. It is worked out with efforts of entomologists only, without any financial support and therefore without help of professional webmasters.

After four years of activity we summarize experience and analyze status and relations in related fields of biological sciences. We suggest some general criteria for forming contents and appearance of similar web documents in the fields of biological and biotechnical sciences, in the wider sense.

---

## METHODS

We have used documentation at URL address: <http://www.agr.hr/hed/>, and have searched in the period of August 2000 the websites of relevant scientific and professional associations found on the list of the Ministry of Science and Technology, several governmental institutions and faculties, as well as web pages of institutions which employ entomologists.

We look for the presentation of relevant data and upgrading. Using web browser All the Web, All the Time™ (<http://www.usse.alltheweb.com/>) we checked the frequency of the term "entomologija" at Internet.

---

## RESULTS AND DISCUSSION

At present, CES website has **18** folders and subfolders and more than **180** text documents (files) with about 11.4 MB.

We can group contents in four groups according to their purpose.

**(A) Information.** Accessibility and transparency is an important characteristic of CES activities. Given are relevant data and full texts of: Constitution of CES, relevant registration numbers, names of board members, subscription forms etc. Recently we have started presenting minutes of the board meetings. We plan to present the list of all members, after the current revision is completed. Also there are occasional CES-news and instructions to authors for the Entomologia Croatica journal.

**(B)** In the second group are specific **projects**, which depend on symbolic financial help from MST for CES activities, and therefore are mainly result of voluntary contributions of association members. ([MILOSEVIC, 1999](#)). **Three projects are active:**

- > **Materials for the Entomological Bibliography of Croatia. The Project was started in 1997 and results are already available on the web pages. Pages are occasionally upgraded.**
- > **Inventory - review of entomofauna in Croatia, with references and checklists. Here literature data about insect species relevant for Croatia are compiled.**
- > **Scientific journal Entomologia Croatica, started in 1995. On website are contents of Vol. 1 - 4, and abstracts. Some full texts are posted about the late Editor-in-Chief academician Zdravko Lorkovic. Vol.1 is available in PDF format.**

**(C) Young entomologists** – there are more documents: how to start, why to study entomology, taxonomic literature, textbooks in

Croatian, etc. Several thematic documents are in preparation (Paleoentomology, Forensic entomology, Entomological biometeorology, etc.).

**(D)** There is a page with relevant **links** on Internet with more than **150** addresses.

We have studied the problem of users. In an earlier work ([MILOSEVIC, 1996](#)) we pointed to the big differences in needs of end users within the similar field of biodiversity. Our potential users could be pupils, students, biologists, agronomists, foresters, medical and veterinary doctors, collectors, amateur and professional entomologists, as well as any other citizen.

From about **120 CES members**, more than **40** have an e-mail address. Due to well-known poor equipment of faculties and schools, relatively large number of most important potential users (pupils, students and teachers) still do not have the possibility to access Internet. We have tried to inform users about the website in journals Entomologia Croatica ([MILOSEVIC, 1999](#)) and Priroda ([MILOSEVIC, 2000](#)) as well as with leaflets – which give some important responses. However, numbers of visits to the pages we can't interpret here. There were several requests from abroad about further contacts. The site address could be found at several international entomological Internet resources. Unfortunately Croatian websites in the field of biology do not have a link to the CES website, except on the Croatian Speleological Server and of course MST and Faculty of Agronomy Zagreb.

We are take care not to overlap in contents with other websites, but up to now there have been little danger of that. Namely on other websites in Croatia there is no or a very few information and educational contents about Entomology.

Among **23** institutions which employ professional entomologists, only **10** have a website. ([http://www.agr.hr/hed/hrv/ento/ento\\_hr.htm](http://www.agr.hr/hed/hrv/ento/ento_hr.htm))

Natural History museums (departments) in Osijek and Varazdin, and Technical Museum in Zagreb give general information about activity and collections at the Museum Documentation Center Zagreb server. Croatian Natural History Museum Zagreb (HPMZ) has more broad information dated from 1995, but most documents have not been updated since then or are not finished. There is no museum with faunistic and taxonomic information for scientists (for example about collections, species, types, etc). Even from 1974 ([VARGA et.al, 1975](#)) software for managing museums collections were available, but have never been used. Obviously it has appeared to early for our situation. Today, when there are modern specimen and species oriented databases (e.g. [SPECIFY PROJECT, 2000](#)) there are still no decisions about their use even when it is available for free. Therefore data about Croatian entomofauna are not available from databases and consequently on Internet. There is the **CROFlora** ([NIKOLIC et al., 2000](#)) which is searchable through web and which contains data about Flora. Their authors suggest that it could be used for fauna as well, but one should see if this is the optimal solution.

Ministry of Science and Technology RH (MST) has a list of **134** scientific and professional associations, **45** of which could be interesting for entomologists. **Only 19**

**have web pages.** (August 2000). Most of them (**10**) have documents both in Croatian and English, **4** only in English and **5** only in Croatian. Their contents are different, only one association has a member list. Updating: **10** websites recorded changes in 2000, but there are some without date at all or without changes since 1998.

There are numerous pages at Internet in English on which the word **entomology** is mentioned (or **insects**), and much less in French, Italian, German or other languages. Simple search (August, 2000 - All the Web, All the Time™) for the keyword "**entomology**" gives **126960** documents, and for the keyword "**entomologija**" only **126** documents.

Interesting is the contribution of certain domains. In the sample of the first 129 out of 126960 documents we got the following results: **edu** (88); **org** (13); **au** (10); **com** (4); **net** (2); **ca** (2), **cz** (2), **jp** (2); **br** (1), **no** (1), **hu** (1), **dk** (1), **nz** (1) and **us** (1). Most of them are from universities, English-speaking countries, namely USA.

Filtering for **different languages**, we have obtained the following results:

French	"entomologie"; iso-8859-2	3137 documents
Italian	"entomologia"; iso-8859-2	2144 documents
German	"Entomologie"; iso-8859-2	1523 documents
Russian	"Insecta"; iso-8859-2	158 documents

However these are just preliminary data. More realistic view on the relations in the cyberspace occupation could probably be obtained by using additional browsers and important languages (Japanese, Chinese, Spanish, Portuguese, etc).

By analyzing **126** documents, which respond to the keyword "**entomologija**", we have obtained the following data versus domains:

**hr** (57), **yu** (29), **li** (16) = Lithuania!; **sl** (11); **mk**(6); **fr** (3); **nl** (2); **de** (1); **pl** (1).

For some of the findings it is at the moment difficult to find explanations. Domain "**fr**" includes institutions from Bosnia and Herzegovina. Among **57 (45%)** documents in Croatian domain, **29 documents are from CES-a (23% from 126)**. Listed in subfolders: Bibliographies: **11**; journal Entomologia Croatica: **5**, Young entomologists: **5**. Since most of CES documents give links to other contents of the website, we could be satisfied with the recognition.

Among other **28** documents with the keyword "**entomologija**" owners are journals Priroda(5), Sumarski list (2) and Acta Botanica (1). Also MST has 4 and HPMZ 2 documents.

---

## CONCLUSION AND OUTLOOK

Since planning and starting in 1996, the website of the Croatian Entomological Society has evolved through different phases under given circumstances. It has been developed with voluntary work and minimal funding. The first positive results are visible through the increase of interest for the site. Further progress will depend on continuation of the support from the Faculty of Agronomy in Zagreb and increasing number of collaborators. Qualitative progress, applying new technological solutions, (e.g. Animation) is possible only with sufficient financial support for hardware and software, using help from professional webmasters.

There are many additional possibilities using powerful multimedia to improve Entomology in Croatia, in different areas (science, education, nature and biodiversity protection, plant protection in agriculture and forestry, medical and veterinary parasitology etc.). Of course this is not only a field of activity for the CES, but also for other educational, governmental and research institutions. We could list only some aspects: keys for identification, data sheets, glossaries and dictionaries, public warnings (alert services), education over Internet, project bulletins, discussion lists, scientific databases, etc.

**As most important and general principles for the websites of scientific and professional associations and institutions in biological domains we suggest:**

- > **upgrading, dating of documents, which is a rule in scientific publications, and marking the date of change;**
- > **name of author or webmaster and e-mail address;**
- > **indicating a group of users to whom document is intended;**
- > **giving priority to quality of contents;**
- > **view (colors, animations, frames, number of pictures in a document, speed of downloading) should not influence perception of contents.**

---

## REFERENCES

**HRVATSKO ENTOMOLOSKO DRUSTVO ZAGREB.** Entomologija u Hrvatskoj - Adresar - Institucije i entomolozi:

[http://www.agr.hr/hed/hrv/ento/ento\\_hr.htm](http://www.agr.hr/hed/hrv/ento/ento_hr.htm) <v.2.0 - 14/06/2000>

**MILOSEVIC, B.**, 1996. Biodiversity Information Systems Planning, Amsterdam; <http://www.hinet.hr/bmilose1/bmdissemin.htm> <01/07/2000>.

**MILOSEVIC, B.**, 1999. Hrvatsko entomolosko drustvo na Internetu. The Croatian Entomological Society on Internet. Entomologia Croatica 4, 1998(1 - 2): 95 - 96.

**MILOSEVIC, B.**, 2000. Entomologija na Internetu. Priroda 90(873)4: 14.

**MINISTARSTVO ZNANOSTI I TEHNOLOGIJE RH**, 2000. Informacije. Hrvatske znanstvene i strukovne udruge:

<http://www.mzt.hr/mzt/hrv/informacije/udruge/udruge.htm> <2000-07-05>

**SPECIFY PROJECT**, 2000. Specify Biological Collections Management. Natural History Museum and Biodiversity Research Center. University of Kansas, Lawrence, Kansas, U.S.A.

<http://usobi.org/specify/> <21 June, 2000>

**NIKOLIC, T.**, 2000. Baza podataka Flora Croatica:

<http://hirc.botanic.hr/croflora/> <17/08/2000>

**VARGA, M., MACASOVIC, P., MILOSEVIC, B.**, 1975. Selgem - sistem za obradu podataka u muzejskim zbirkama. Informatica 75 - Bled, oktober 1975. L. 7.106, 2 pp.

Zagreb, August 28, 2000

---

About author: <http://www.hinet.hr/bmilose1/>