Cephalopods constitute a clade which encompasses a set of animals that are easily recognized by anatomical or behaviour features: e.g., they are marine molluscs but most of them swim, they have a highly differentiated brachial crown which encircles the mouth, they do not have highly differentiated larval stages, some possess a sophisticated buoyancy apparatus or, within protostomians, they have a unique nervous system that allow some of them to acquire high cognitive abilities. They are known from the Cambrian and display a complex and lively evolutionary history. Their size varies from millimetres to meters; all of them are carnivores, with active predatory to passive styles of feeding and their habitats range from the coast to the deep sea.

Cephalopods specialists are as diverse as their favourite biological model! They work all around the world (Figs. 1 and 2) and explore various aspects of these animals. The aim of the International Symposium “Cephalopods – Present and Past” (ISCPP) is to address these approaches, methods and results to get a better knowledge of cephalopods whether they are alive or fossilised. The 8th edition of the symposium was held in Dijon at the University of Burgundy (France) from August 30 to September 3, 2010, following the successful symposium in Sapporo (Japan, September 2007). Height scientific sessions for talks were organized during 3 days, allowing nearly 70 oral communications. A short but challenging session was explicitly focusing on nautilus as an endangered species. The poster session gathered 50 contributions. Three keynote lectures completed this exciting overview of present and past cephalopods. Dr. Frédéric Marin (CNRS Dijon, France) made an up-to-date review of the molluscan shell, mainly focusing on biomineralisation aspects; Dr. Neil Landman (AMNH New York, USA) addressed the mode of life and habitat of Scaphites, a Cretaceous ammonoid; and Dr. Viacheslav Bizikov explored in details the evolution of the shell in Coleoidea. Following the 8ISCPP, two fieldtrips were organized: 1 day in Burgundy devoted to Jurassic outcrops and to a visit at the Museum of Semur-en-Auxois, and 4 days in Lyon and the Digne-les-Bains area (Jurassic and Cretaceous outcrops). At the end of the symposium, delegates choose Zurich (Switzerland) for the next ISCPP that will be organized by our colleague Christian Klug and his collaborators.

The 8ISCPP was also a time to honour four eminent cephalopod specialists who spent most of their academic lives in France: Sigurd von Boletzky (Banyuls-sur-Mer), Raymond Enay (Lyon), and Didier

Fig. 1. 8th International Symposium “Cephalopods – Present and Past” demographics.
Marchand and Jacques Thierry, both in Dijon. We were honoured by their presence and active participation in the debates throughout the symposium.

The present proceedings volume proposes 16 papers presenting an up-to-date review of “Cephalopods – Present and Past” recent advances (see Table 1 for the history of ISCPP proceedings).

Fitting the symposium spirit, Fuchs (2012) as well as Doguzhaeva and Mutvei (2012) offer amazing examples that support renewed study of anatomy by comparing extinct and extant cephalopod species. It appears that reappraising characters with this approach is successful to discuss assumptions about primary homologies. A second step would be to reconstruct phylogenies, a theme developed by Evans and King (2012) and Koštář (2012) on early Paleozoic cephalopods (Endocerida) and Cretaceous Belemnites, respectively. Both based their phylogenetic hypotheses on detailed anatomical studies coupled with stratigraphic occurrences of taxa.

The use of morphological characters for phylogenetic reconstruction applied to ammonoids is explored by Yacobucci (2012) in a cladistic context and provides convincing arguments in favour of pursuing the cladistic experience (for a review of phylogenetic usages among cephalopod scholars, see Neige et al., 2007). One interesting conclusion is that studies with relatively few characters could produce high quality trees. Results obtained by Klofak and Landman (2012) on embryonic shell features of Devonian Tornoceratid ammonoids suggest that such characters, yet underused, could be relevant for phylogenetic analyses. Following a very different approach based on non-destructive image processing (see Kruta et al., 2011 for an up-to-date use of such approach), Klug and Jerjen (2012) show that well-preserved fossils could enhance our knowledge of the biology of extinct cephalopods with exciting and astonishing perspectives. All these studies confirm that extinct and even extant cephalopods’ anatomies and phylogenies are constantly increasing.

Comparatively, we have to admit that deciphering fossil cephalopod ecology, life trait history and their position in past ecosystems remain a vast undertaking, although seminal works have proposed interesting research tracks (see the review of

**Table 1**

<table>
<thead>
<tr>
<th>Number</th>
<th>Year and locality of symposium</th>
<th>Editors and publication year of the proceedings</th>
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</thead>
<tbody>
<tr>
<td>2ISCPP</td>
<td>1985, Tübingen, Germany</td>
<td>Wiedmann and Kullmann, 1988</td>
</tr>
<tr>
<td>3ISCPP</td>
<td>1990, Lyon, France</td>
<td>Elmi et al., 1993</td>
</tr>
<tr>
<td>4ISCPP</td>
<td>1996, Grenada, Spain</td>
<td>Olóriz and Rodriguez-Tovar, 1999</td>
</tr>
<tr>
<td>5ISCPP</td>
<td>1999, Vienna, Austria</td>
<td>Summesberger et al., 2002</td>
</tr>
<tr>
<td>6ISCPP</td>
<td>2004, Fayetteville, USA</td>
<td>Landman et al., 2007</td>
</tr>
<tr>
<td>7ISCPP</td>
<td>2007, Sapporo, Japan</td>
<td>Tanabe et al., 2010</td>
</tr>
<tr>
<td>8ISCPP</td>
<td>2010, Dijon, France</td>
<td>Neige and Rouget, 2012</td>
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</table>
Westermann, K., 1996). An original approach using taphonomic information is proposed by Stephen et al. (2012) to infer the reproductive strategy of some Cretaceous ammonoids. Wani et al. (2012) expose some intriguing predatory features of Carboniferous ammonoids and nautiloids, questioning the role of cephalopods in ancient marine ecosystems. Thanks to their large body of knowledge about scaphitid ammonites, Landman et al. (2012) lead to a comprehensive and synthetic overview of the lifestyle and behaviour of this fascinating group.

Aside from exploring the biological aspects of present and past cephalopods, six papers of the present proceedings underlined that this clade still remains a key group to study paleogeography. Histon (2012) presents new paleogeographical hypotheses based on Silurian Discocerida, Mariotti et al. (2012) and Sandoval et al. (2012) provide new data for the Jurassic, and Zakharov et al. (2012) collect unexpected data from the Cretaceous of the Magellan Seamounts. Finally, Korn et al. (2012) investigate paleobiogeographical relationships of some Carboniferous ammonoids using quantitative methods.

Switching from strictly academic researches and perspectives to a wider audience, we are proud to include in the present proceedings volume the De Angelis (2012) paper which is part of the special session on “Nautilus as an Endangered Species”. In it, she explores the impact of trade on recent nautili, questioning its current status as an endangered species, a debate that will contribute to the CITES’s (Convention on International Trade in Endangered Species of Wild Fauna and Flora) ongoing works.

Acknowledgements

The editors would like to acknowledge the scientists who attended the 8ISCPP and contributed to make it successful from both scientifically and interactively. Special thanks to the reviewers of the publications for contributing their expertise. The organizers are indebted to members of the organizing committee for their constant help before and during the symposium, and to Gilles Escarguel – chief editor of Geobios – for his work during the proceedings edition process. The 8ISCPP benefitted from the support of the following sponsors, who allowed us to lower registration rates as much as possible: University of Burgundy, CNRS, INEE, Conseil régional de Bourgogne, French Ministère de l’Enseignement et de la Recherche, Laboratory Biogéosciences (Dijon), Laboratory CR2P (Paris), The Palaeontological Association, and the Association paléontologique française (APF).

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12 December 2011
13 December 2011
Available online 26 December 2011