

## Special issue: recent advances in Cambrian to modern cephalopod research II

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**Abstract** In September 2014, the 9th International Symposium Cephalopods—Present and Past (ISCPP) and the 5th International Coleoid Symposium were held at the University of Zurich. The numerous contributions from two joint symposia fill more than one special issue. After the first special issue, which was published in 2015 in the Swiss Journal of Palaeontology (Vol 134, Issue 2), the present second special issue also contains contributions from all fields of research on fossil and Recent cephalopod. In this editorial, we provide a short obituary honouring Fabrizio Cecca and report from the three conference field trips.

**Keywords** Cephalopoda · Coleoidea · Palaeozoic · Mesozoic · Palaeogene · Neogene · Palaeobiology · Zoology

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### Introduction

From the 04th to 14th September 2014, the 9th International Symposium Cephalopods—Present and Past (ISCPP) was held in combination with the 5th International Coleoid Symposium at the University of Zurich (Lectures on the 07 to 10 September 2014 in KO2-F-180, Universität Zentrum). This series of ISCPP meetings was launched in the 70s in York. Thereafter, they were held each third to fourth year in various cities including Tübingen, Granada, Vienna, Fayetteville, Sapporo, and Dijon. It is the only occasion, on which cephalopod workers from all over the world with paleontological and neontological research focuses meet, and in September 2014 in Zurich, it was again an equally friendly and stimulating meeting.

Zurich had already applied for the 2010 meeting, which was finally carried out in Dijon. When it came to decide, which institution wanted to organise the next meeting, the Palaeontological Institute and Museum of the University of Zurich was the only candidate. Since the same organisers had agreed to organise the Annual meeting of the Palaeontological Association in 2013, it was decided that the ISCPP can be held in 2014 instead. This led to the seeming “conflict” in the timing of the 5th International Coleoid Symposium, which was quickly resolved by fusing the two series of symposia for the first time. This made sense since many participants of the 5th International Coleoid Symposium also tend to visit the ISCPP meetings.

As in the preceding ISCPPs, 4 days of scientific presentations were scheduled. One of the major focuses of this meeting is that both biologists and palaeontologists meet, although there traditionally have been more palaeontologists attending. Although in 2014 the symposium Cephalopods—Present and Past hosted the International Coleoid Symposium, the percentage of researchers working on

Recent forms was high enough for some nice sessions on Recent cephalopods and to stimulate new interdisciplinary research projects.

As in previous ISCPPs, several field trips were offered before and after the meeting. This time, we organised a first three-day field trip to the famous Fossilagerstätten of southern Germany, a second one-day trip to the Jurassic of the canton Aargau (Switzerland) and a third four-day trip to classical Mesozoic fossil localities in Switzerland and eastern France yielding fossil cephalopods. Descriptions of the field trips are given below.

A remarkable number of 27 manuscripts have been submitted for the proceeding volumes of the two meetings, about a third of which on coleoids, one on nautilids and the rest on ammonoids (i.e. only crown group representatives, remarkably). Because of the great number of manuscripts, we decided to distribute the contributions over two issues of the *Swiss Journal of Palaeontology*. To reflect the diversity and disparity of both the cephalopods and the research on this fascinating group, we have distributed the manuscripts according to the date of their acceptance.

## Dedication

In 2014 and 2015, several highly-esteemed cephalopod researchers passed away: Fabrizio Cecca (France), Reinhart Gygi (Switzerland), Hiromichi Hirano (Japan), Helmut Hölder (Germany), Susan Klofak (USA), David Raup (USA), Adolf Seilacher (Germany), Gerd E. G. Westermann (Canada). In the context of our Proceedings, we want to commemorate their important contributions to cephalopod research. The following paragraphs honouring Fabrizio Cecca were kindly provided by Isabelle Rouget (Paris, France).

We want to dedicate this special issue to Fabrizio Cecca (Fig. 1), who passed away in May 2014, at the age of almost 58 years. He was known as a great field geologist and a specialist on Late Jurassic and Early Cretaceous ammonites. Being keenly interested in many aspects of palaeontology, he published more than a hundred papers in a wide range of topics such as biostratigraphy, palaeoenvironments, palaeobiogeography and palaeobiology. Among his works, we want to highlight his contributions on the Early Toarcian biological crisis, on the Early Cretaceous anoxic events and on the ecological control of ammonite assemblages, as well as on the palaeobathymetric interpretation of morphological types of the latest Jurassic ammonites. Of particular importance is his research on palaeogeography.

During his academic career in France as a professor, he taught Earth Sciences and trained many young palaeontologists. Ph.D. students and all colleagues who worked



**Fig. 1** Fabrizio Cecca in front of the ammonite *Parapuzosia seppenradense*. Image courtesy Isabelle Rouget (Paris)

with him recognised his knowledge and expertise as well as the robustness of his style of argumentation in debates. Fabrizio was a tireless researcher with numerous ongoing projects as evidenced by his posthumous book “Paléobiogéographie” written jointly with René Zaragueta (Cecca and Zaragueta 2015). It is perhaps less known by ammonitologists that Fabrizio was an experienced bassist and jazz composer, who used to play with his band in jazz clubs. He was always busy and left a large amount of scientific publications and musical works.

## Field trips

During the pre-conference field trip, we visited important German Fossilagerstätten, which are also famous for exceptionally-preserved cephalopod remains. On September 4th, we went to the excellent museum at Holzmaden (Fig. 2), followed by a visit of the nearby quarry in Ohmden (Fig. 3). The same evening, we drove to Eichstätt in Bavaria, where we spent two nights in the hotel “Trompete”. On September 5th, we began with a visit of the Juramuseum in the Willibaldsburg, one of the three

**Fig. 2** Participants of field trip 1 (Fossilagerstätten of southern Germany) in front of the Urwelt-Museum Hauff in Holzmaden



**Fig. 3** Looking for fossils in the Posidonia Slate (Toarcian) in the Kromer quarry, Ohmden near Holzmaden

famous museums of the important Eichstätt–Solnhofen region. In addition to *Archaeopteryx* originals, this museum is also home of some spectacular cephalopod fossils. We then looked for ammonites in the quarry in Mörsheim, where the Mörsheimer Schichten are exposed. In the afternoon, we first went to see the Bürgermeister Müller Museum in Solnhofen, which offers exquisite fossils of the region, also including

*Archaeopteryx* and squids with soft-body remains as well as other cephalopods. Later in the afternoon, we went to the quarry, where most of the *Archaeopteryx* specimens were found. Here, ammonoids with aptychi in situ also occur in great abundance. On our way back to Zürich on September 6th, we first were guided to the Werksmuseum of the Holcim cement factory at Dotternhausen, followed by a visit of the nearby Posidonia-Shale quarry. This quarry is

**Fig. 4** Participants of field trip 2 to localities in the Jurassic of the Swiss Jura Mountains. The photo was taken by Heinz Furrer (Zürich) on a roundabout in Holderbank



**Fig. 5** Impressions from field trip 3 (Mesozoic cephalopod localities in central Europe). **a** The participants on the summit of Mt. Säntis (Switzerland). **b** *Germanonautilus* and *Ceratites*, Middle Triassic, Héming (France). **c** At the excavation of Middle Jurassic cephalopods

near Anwil (organised by Ursula Menkveld-Gfeller, Bernhard Hostettler, and Walter Etter). **d** Searching Cretaceous ammonites in the Garschella-Formation

well known for its abundant ammonites and belemnites as well as sporadic coleoid finds. The last stop was at the Nusplingen quarry, a Kimmeridgian Fossilagerstätte of growing importance, which yielded exceptionally-preserved ammonoids (with stomach contents), coleoids (with

mandibles, etc.), belemnites (with ink sac, arm hooks and mandibles) as well as nautilids (also with mandibles).

The second field trip (Fig. 4) was guided by Heinz Furrer on September 11th. He brought the participants to Jurassic outcrops in the canton of Aargau. In addition to the

visits of the Schümel quarry in Holderbank (Oxfordian) and the quarry in Frick (mainly Early Jurassic), they went to see the Saurier museum in Frick.

The third field trip (Fig. 5) started immediately after the last lecture on September 10th. We first drove to the Alsace (France), where we spent two nights. On September 11th, we visited a Holcim quarry in Héming, where the Muschelkalk (Middle Triassic) crops out, and is extremely rich in ceratitids and nautilids. On the 12th of September, Antoine Pictet explained us the outcrops of the fossiliferous Hauterivian and Barremian in the Veveyse-valley near Lausanne and Walter Etter led us to a small outcrop of the Alpine Toarcian Posidonia-Shale at the Teysachaux. We spent the night in Solothurn and visited the Argovian Jurassic the next day. First, we focussed on the Callovian to Oxfordian deposits in the Jura-Cement-quarry at Auenstein. Then we drove to Anwil and visited the excavation that was jointly organised by the colleagues from Bern (Ursula Menkveld-Gfeller and Bernhard Hostettler), Basel (Achim Reisdorf) and Baselland. Finally, we were guided through the fine temporary exhibit of Anwil-fossils in Oltingen by Peter Bitterli. The following night we slept on the summit of Säntis to visit the Cretaceous exposures between pillar 2 and Tierwies on the last day (September, 14th). We started off from pillar 2 in bright sunshine (guided by Peter Kürsteiner, Karl Tschanz and Antoine Pictet), with ibexes accompanying us the entire morning, and examined the section from the Schrätkalk to the Seewer Kalk. Especially the Garschella and Seewer Kalk yielded many ammonites, nautilids and belemnites. At midday, we went to Tierwies and studied the Altmann Member, which yielded medium-sized *Emericiceras* and *Cymatoceras*. To conclude, the very international group of participants of the field trips was impressed of most of the outcrops and the museums.

## Summary

With ca. 110 participants from 26 different countries and all parts of palaeontology and neontology of cephalopods, the 9th International Symposium Cephalopods—Present and Past in combination with the 5th International Symposium Coleoid Cephalopods through Time can be considered a great success. We have received almost

exclusively positive feedback and we are convinced that the foundations for numerous new scientific relationships and collaborations have been created.

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