

MINUTES OF THE ANNUAL SDS BUSINESS MEETING

July 12, 2018, Paris, France

Attendance: The Chairman (J. MARSHALL), Vice-Chairman (C.E. BRETT); SECRETARY (L. SLAVÍK)

TMs: T. BECKER (NEWSLETTER EDITOR), R. BROCKE, C. CORRADINI (WEBMASTER), A.-C. DA SILVA, U. JANSEN, J. I. VALENZUELA-RÍOS

CMs: C. DOJEN, I. EVDOKIMOVA, C. GIRARD, S. HARTENFELS, A. HUŠKOVÁ, T. KUMPAN, J.-C. LIAO, E. LUKŠEVIČS, C. PENN-CLARKE, W. QIE, E. SCHINDLER, G. YOUNG

GUESTS: M. ARETZ, H. BYRNE, T. DE BACKER, J. DENAYER, E. DOWDING, J. LU, F. LÜDDECKE, J. PONSTEIN, L. QIAO, C. RANDON, S. STICHLING, M. ZHANG, X. ZHANG

Total attendance: 34 people

The meeting began at 10:45 AM

1. Introductions and apologies for absence

SDS Chair JOHN MARSHALL called the main meeting to order. He started with the introduction of himself as the SDS Chair, Vice-Chair CARLTON E. BRETT, Secretary L. SLAVÍK, Newsletter Editor T. Becker and SDS Web Master C. CORRADINI.

Apologies for non-attendance were received from:

TMs: X. Ma

CMs: G. BAIRD, J. FRÝDA, J. GARCÍA-ALCALDE, A. BARTHOLOMEW, J. EBERT, M. ERINA, R. GESS, S. GOUWY, J. HLADIL, N. IZOKH, O. IZOKH, A. KIM, W. KIRCHGASSER, H. MATYJA, A. NAZIK, S. NIKOLAEVA, O. OBUT, J. OVER, L. PONCIANO, U. RAKHMONOV, C. SPALLETTA, S. TURNER, C. VER STRAETEN, J. ZAMBITO

2. Formal approval of 2017 minutes

JM asked if there were comments on the minutes of last year's SDS meeting in Valencia. There were none and then the Minutes of 2017 meeting in Valencia were approved; they had already been edited and appeared in the Newsletter.

3. Chair's Business

JM reported that he had not been notified of deaths of SDS members: However, Eberhard Schindler reported the passing of R. Bierenheide: Devonian coral expert from Senckenberg and J. Winter, who did much work on zircon studies and tephrostratigraphy in the Devonian of the Rhenish Massif.

It was also noted that there should be a tribute to the late Prof. Art Boucot in the SDS newsletter; TM Thomas Becker noted that he would probably use the statement published by the Paleontological Society.

SDS observed a moment of silence for the passing of these individuals.

Note of appreciation: JM expressed his sincere thanks to the organizers of last year's ICOS 4 meeting and to the organizers of the present IPC in Paris noting that we were allotted a good long time slot for the meeting.

He further noted that when we put out a call for abstracts for the symposium titled: *The Devonian: Environments, and Time*. We were surprised and delighted to receive some 54 abstracts including 33 talks and 21 posters. The Ordovician and Silurian subcommissions were not running annual meetings at Paris, but we are in good stead.

4. ICS Matters: At the recent meeting chaired by DAVID HARPER the three subdivisions of the Holocene had been ratified. In addition, three GSSPs have been established for the Chattian Stage, the Wuliuan Stage and Maolingian Series (both Cambrian) and the Sakmarian stage. So, ICS is getting on with identifying and approving GSSPs and this puts pressure on the Devonian subcommission to do the same.

5. Revision of the Pragian/Emsian boundary

The main discussion of this meeting is again the Pragian-Emsian boundary, which still requires redefinition. J. MARSHALL provided an "outsider's perspective" on the state of affairs with respect to this boundary:

When a new GSSP for the base of the Emsian was established in 1997 in Zinzilban section at Kitab State Reserve, this action was well received by the ICS; the section seemed to be well documented and was valued by SDS, particularly for being in Uzbekistan. Hence, it appeared to be a good GSSP.

But as better correlations were established with the nominal Pragian based on the Praha Formation in Prague Synform and with the traditional base of the German Emsian, it was found that this redefined Emsian had become excessively long, with the Pragian highly reduced and the new boundary did not closely match traditional usage. Then SDS held a field meeting in Uzbekistan in 2008 to review the sections and consider whether or not the boundary was adequately placed and the GSSP adequate. This resulted in the establishment of a working group, including TM's L. SLAVÍK, NACHO VALENZUELA-RÍOS, and NADYA IZOKH to consider a new and higher stage boundary. The first sampling commenced 10 years ago, in 2008, when it was decided that the present boundary placed at the *P. kitabicus* Zone was too low relative to the traditional Pragian of the Prague

Synform. The SDS in 2008 formally voted on the new definition level based on the Polygnathus 114. Subsequently, when there appeared to be a need for further sampling a second field sampling trip took place three years ago in 2015. But samples did not all yield many conodonts and there were only five which yielded polygnathids. There was not nearly enough material to establish a new and higher boundary.

Thus, the Zinzilban section was found to be unacceptable as a stratotype for a new level close to the original Emsian base as defined in Germany because there are no long unbroken records of conodont lineages and there is little good supplemental data. This section does not have the strengths needed to hold up to modern standards for GSSPs. We will be judged by criteria similar to those used for Mesozoic: single fossil lineages showing unbroken successions, C and O isotopic and other geochemical data, magnetic susceptibility, cyclostratigraphy, geochronology etc. Many of these are not adequately sampled for the Zinzilban.

At this point JM turned the program over to TM and Secretary L. SLAVÍK to review the current status of the Pragian-Emsian boundary.

Pragian-Emsian:

A new document has arrived from workers in Novosibirsk which gives further details on O and C isotope profiles. The status of the Pragian-Emsian boundary working group was made up of the SECRETARY LADISLAV SLAVÍK (LS). Sample splits from the 2015 sampling at Kitab Reserve, Zinzilban have now been studied independently in the labs of himself, TM NACHO VALENZUELA-RÍOS, TM NADYA IZOKH. Most samples have now been processed; the results are not promising.

However, the new document from the Novosibirsk group does provide new data on high-resolution C and O isotope patterns. But there seem to be some problems. For example, in many places around the World a cooling trend has been documented from Lochkovian into the Pragian. For example, in the Praha Formation there is a continuous increase in $\delta^{18}\text{O}_{\text{carb}}$. The Zinzilban data, by contrast, show a very minor positive shift in $\delta^{18}\text{O}_{\text{carb}}$ near the boundary but no steady trend above. The map of the Kitab State Geological Reserve provided in the document shows the Zinzilban Gorge section and other possible sections in a parallel gorges. There was a suggestion by colleagues from Novosibirsk that there are two more sections with no significant facies change that potentially could be sampled (the Bursyhirman Range and Sangitovar Gorge).

Because of video-projection problems with the Word document, LS asked TM Nacho Valenzuela-Ríos to summarize the contents of a document from Novosibirsk he had in hand and made a summary of the document: The colleagues from Novosibirsk do not recommend the base of the *excavatus* Zone of the Emsian Stage and FAD "*Po. excavatus* -114" (sample MZ891-42/7) as a candidate for the revision of the Emsian GSSP. Instead, they suggest focusing on the much lower interval. In their opinion "*Po. excavatus* -114" should be identified as *Po. gronbergi* Klapper et Johnson (Yolkin et al., 1994).

To exclude influence of changes in the lithofacies on variations of the carbon and oxygen isotope composition, they suggest to investigate a number of Pragian-Emsian parallel

sections cropped out on the west and on the east of the Zinzilban Gorge section in the Kitab State Geological Reserve.

TM Nacho Valenzuela-Ríos then remarked that the decision had been to move the boundary up from *P. kitabicus* to “*P. excavatus groenbergi*” near level 114; but there was a misidentification of the specimens considered as *groenbergi*. The morphotype of *P. excavatus* at level 114 is not *groenbergi*, which in fact occurs much higher in the section. “Morphotype 114” could be used but the succession around this level has yielded only rare or no conodonts. Even the colleagues from Novosibirsk admit that the conodont succession is poor, but suggest other sections.

JM. Argued that we can't delay for another three years and then try to sample a section 1 km away only to risk not finding conodonts again.

LS. Pointed out that there are other issues. New security checkpoints have been set up; it takes negotiation and paperwork to be allowed to pass these. It is now both difficult for local people and for the foreigners to be granted with access to the Kitab State Reserve.

CM Eberhard Schindler. Noted that one of the key criteria for stratotype sections is that they should be readily accessible to future workers. The Kitab Reserve is not necessarily accessible to many workers.

TM Thomas Becker (TB): Zinzilban may be poor but there is another section at Khodzha Kurgan Gorge where he had obtained good ammonoid occurrences. He thought this might be better.

LS: We have re-visited this section in 2015. This section is too short, condensed at the base, and with faults.

TB: Perhaps the section is not impossible; new level could be defined based on *P. excavatus* morph 114. He also pointed out however, that there may be problems with the isotopic data; noting that the $\delta^{18}\text{O}_{\text{carb}}$ were done just on micrite, not on conodonts, and that there were parallels between the $\delta^{18}\text{O}_{\text{carb}}$ and the $\delta^{13}\text{C}_{\text{carb}}$, which commonly indicates diagenetic alteration rather than a primary signature.

JM: Where to go from here? We can suggest eventually formalizing a late Pragian substage boundary (Zinzilbanian) in the Kitab Reserve but should not stay in Zinzilban for redefined stage boundary?

TM Nacho V-R: Indicated that *Eocostapolygnathus excavatus* sp.114 (i.e., non *groenbergi*) will be an important working taxon in the finalization of the Emsian basal boundary. The new lineage succession will be (in descending order):

Eocostapolygnathus excavatus 114 morphotype

P. kitabicus

P. pyrenae

It is possible to see a series of evolutionary changes in transverse ridges (separated to semi-crossed) and inversion of basal cavity.

The new morphotype was localized in terms of beds 41 and 43, in fact these are intervals of beds. The original measurement of the section was not by thickness, but the length of the section alongside the gorge. Therefore *Polygnathus* ssp. 114 is not corresponding to 114 m in thickness.

In summing up and based on cross correlation with brachiopods and other faunas the morphotype 114 level might be just a little below the traditional base of the Emsian so it would appear to be an acceptable new datum for the Emsian base. Next question then is where?

JM: In a year SDS members and colleagues should come to STRATI in Milano next year with solid proposals for a new stratotype section using this datum.

TB: In a paper on Morocco Thomas reported conodonts similar to 114 morphotype, but there is a black shale below this (presumably lacking conodont data) so not quite sure where it starts. However, he now has conodonts from the same bed with *E. excavatus* morphotype 114. If we chose to use the 114 datum we would be close to the ancestry of goniatites.

JM: Again, we need to have talks and lists of taxa for the Milano meeting.

Markus Aretz: Have we voted on criteria for the stratotype?

TM Nacho Valenzuela-Ríos: In 2008 biostratigraphic criteria were laid out when it was decided to look for a new level in Zinzilban; after ten years, we are still not there.

CM Eberhard Schindler: If there is a need to vote on new criteria should we do it now?

JM: No, we would have to have a proposal put out to the membership via e-mail and a formal vote.

TB: For him the Pyrenees would be the best section. He saw them on last year's ICOS trip and felt sections were excellently documented in terms of conodonts. Nacho may need to do a more refined study of other proxies; all the other sorts of studies would be needed: isotope profiles, magnetic susceptibility, etc.

JM: We are no longer in 1975! No serious GSSP can be considered without multiple criteria; it is also important to have parastratotypes. These are all regional references and it is important to have several.

TB: Then we are also back to the age of the Emsian; many people feel that the stage is too long. Is there any progress on this front; new bentonites, etc?

JM: TM Anne Christine Da Silva has disturbing news.

Anne Christine DaSilva: Based on astrochronology, everything else is getting shorter and Emsian continues to get longer!

TB: There needs to be a call for new age dates for the Emsian.

JM: Colleagues should bring proposals to STRATI.

TB: Who will make the proposal for STRATI session.

JM: It will come from himself (John Marshall) and Ladislav Slavík. (That proposal was put in the same day).

Devonian-Carboniferous (D-C) Boundary

JM: As SDS we “own” the Silurian-Devonian boundary but not the D-C. Markus Aretz will have a short section following the SDS meeting. We defer further discussion to that meeting.

6. Devonian Substages

JM. Moving on from the D-C boundary he noted that substages were still on hold. Stan Finney had tabled further discussion of substages until all needed redefinitions and other issues (e.g., Pragian-Emsian and D-C boundary) are resolved. He had hoped that under the new leadership of David Harper the ban on substage work until all stages complete might be lifted. But this is not clear. So, for now, these discussions are still on hold.

CM Nacho Valenzuela-Ríos: Even though substages not officially accepted we should move ahead with substage proposals and have them ready to go if and when the substage adoption takes place.

JM: Of course, no substages is the official policy for the moment but he is in agreement and had even mentioned the likelihood of making a Zinzilbanian substage of Emsian himself.

TB: Still begging for things for the Newsletter; he notes that there is a pretty well accepted division of lower, middle, and upper Lochkovian. Could someone write that up as a formal proposal? Nacho?

Eifelian: TB reminded Carl Brett (CB) that he had asked him some time ago to make a proposal for two substages of the Eifelian. CB agreed to try to get on with this.

Givetian: It appears that CM Pierre Bultynk is no longer able to continue with this task. TB would like to move ahead with upper Givetian. Question is where to put the stratotype; it appears that Nevada is not good; Morocco section is possible; but now we must work outside the Military Zone, though best sections are within.

TM Carlo Corradini: Note that now the rank of subseries has been formally adopted by ICS (mainly for Cenozoic workers).

JM: there is some concern that this could interfere with substage adoption. We could elevate our stages to subseries (*or series?*) and change our substages to stages. That would be more in line with the Silurian series and stages, but probably the terminology of stages and series is too entrenched.

TB: One more thing: the Famennian: the Belgian workers have long considered the latest part of Famennian or Strunian to be a substage equivalent to the late Famennian. Trouble is that the Famennian is now divided into four substages, lower, middle, upper and uppermost. Strunian would be uppermost. This should be at base of *ultimus* Zone, but *ultimus* is now divided into subspecies; should be *ultimus ultimus* (BTW there is also an *ultimus corradinii!*). CM Sven Hartenfels and Dieter Weyer are working on this, but need to get out a “real” paper on the subject.

Membership

Proposal of new members:

JM: There are no new titular members under consideration. This comes up only every four years. By 2020 we will need to have a new chair. There is a procedure to be followed involving nominations and then voting for a replacement chair of SDS.

There has been discussion about the roles of CMs and “other members”. For example, we should encourage student members who will eventually become corresponding members in the future. It might make Newsletter more difficult.

Are there any new CM proposals?

LS: CM Svetlana Nikolaeva wished to propose Dr. Sezim Mustapaeva from Kazakhstan, a worker on foraminifers as a new corresponding member. She has sent her CV that was projected by LS. She was then proposed by LS, seconded by TB.

CM Carlo Corradini (CC): We now have a list of most TMs and CMs; it would be nice to have this list on the website.

CM Eberhard Schindler: If names and e-mails were to be put on the website we would need permission from those involved, because of new GDPR measures.

TB: In other subcommissions the rule is to request permission and then take a “no reply” as an acceptance.

CC: That may not even be legal.

TM Nacho Valenzuela-Ríos: It is in fact legal.

Markus Aretz: Notes that it may not be legal for long; EU may institute a new law that would prevent this action.

CC. We should send out a formal request for approval and then post the list on the website.

TB: In some subcommissions there are photos of TMs and CMs.

CM Eberhard Schindler: At the Senckenberg a formal request was sent out: "do you agree to have name, affiliation, e-mail, photo included on the public list?" If yes, for any given item then that including. Many did not respond; they were removed from the website.

JM: This only applies to the EU, if the newsletter, were to be moved out of the EU, for example to North America, then these rules would not apply.

Publications:

Papers from the 2015 Brussels Meeting on Devonian events edited by Peter Koenigshof, Bernard Mottequin and Ladislav Slavík are now all published by Senckenberg's P-2 (*Palaeobiodiversity and Palaeoenvironments*) as a two volume series and others.

TM Nacho's proposal to Peter Koenigshof for a volume of papers related to the Valencia meeting was accepted. For those wishing to publish a paper in this volume the deadline has been extended from July to end of September. The volume will include not only Devonian but also other papers related to conodonts.

TB: The volume for the 2nd International Cephalopod Symposium (held in Morocco spring 2018) was published. Volume includes abstracts and a complete field guide to localities in Hammar Lagdad and others with new data. However, all copies were bought out by the Moroccans. He needs to decide how many to reprint. He asked for signatures of those who wished to purchase a copy.

CM Sven Hartenfels, CM Peter Koenigshof and others are planning a special volume on the Devonian to Carboniferous geology of the Rhenish Massif and Ardennes. Sven had a sheet to pass around for prospective papers.

SDS Newsletter:

RTB Reminded the subcommission that the official deadline for receipt of newsletters items for the next issue is listed on the inside of front cover (p.2); it had stated June, 2018, but most people did not see this, so now the deadline is August 20, 2018. The next issue should include a document on Emsian boundary. Any documents that you wish to get out quickly can be put in the newsletter.

TMs and CMs reminded that should all make contributions. TMs are required to make reports; CMs should also correspond regularly.

TB also wants the minutes of this meeting, any obituaries, an advert for the STRATI meeting etc., by then. He reminded SDS that the newsletter is a good forum for getting out short reports quickly.

TM Nacho Valenzuela-Ríos asked if there is any way to approve material before it is printed. His name got mixed up before and some parts of his reports did not appear, etc.

TB: Expressed surprise at this and asked Nacho to show him.

JM: Suggested that the newsletter contents could be put on line on the website for people to check it.

TB Agreed with it.

Future Meetings

2019

STRATI in Milano, Italy. TM Carlo Corradini, noted that he just became aware of a website with information on the STRATI conference which will meet July 2-5, 2019 in Milan. The organizers have already requested proposals for symposia by the end of July, 2018.

JM suggested that we “recycle” the proposal we used for the IPC meeting and he would get that in right away together with a request for a meeting time for the annual SDS meeting. (It was submitted the same day).

CB had today discussed with Dr. Jeff Over (SUNY Geneseo) the organization for a major meeting of SDS in western New York in 2020. This would begin with a 3-4 day pre-meeting field trip in western New York near Lake Erie to include a visit to Niagara Falls, a 3 day meeting in Geneseo (noted two new hotels) – with mid-meeting field trip in the Genesee Valley area near Geneseo. Post-meeting trips in the Lower-Middle Devonian of the Hudson Valley and eastern New York (3 days). The meeting would also include a workshop on cyclostratigraphy and astrochronology run by TM Anne-Christine Da Silva, University of Liege.

TM Da Silva also reminded the FIRST IGCP-652 Meeting in Bremen that will take place in September 12-19, this autumn.

2020

IGC is in New Delhi, India, but it is likely that few members will attend. The ISC requires attendance. We will need to have a new chair of SDS by then. No decision for the next IPC so far.

Financial Report:

SDS received \$1500 this year for the newsletter and to support attendance by SDS officers.

Any Other business:

None brought forth.

Meeting was adjourned at 12:15 PM so attendees and others from the Carboniferous subcommission could have a brief meeting on the status of the D-C boundary.