

INTERNATIONAL SUBCOMMISSION ON JURASSIC STRATIGRAPHY

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Secretary: Dr. Olaf Michelsen, Geological Survey of Denmark, Thoravej 31, DK-2400 Copenhagen NV,

June 1982

NEWSLETTER No. 8

Our proposals in our last Newsletter on establishing smaller working groups have been accepted in a positive way. However, very few have agreed in being chairman. With some restrictions BLOOS has accepted to be chairman of the Hettangian-Sinemurian Working Group, and SCHLATTER of the Pliensbachian-Toarcian.

Our chairman and REMANE have discussed the usage of different Upper Jurassic stage-names. From the following you may see that it has been decided to arrange an informally inquiry about the present Status of the Subcommission members and other competent persons' opinion on the usage of Tithonian/Volgian/Portlandian. You are asked to copy the attached questionnaire and send it to your colleagues.

The following text is on the usage of the term Kimmeridgian and some criteria as a basis for this informal voting on the name of the uppermost Jurassic stage:

In a letter to the secretary Dr. Stevens drew attention to the fact that the stages Kimmeridgian and Portlandian are used contineously in different meanings.

Also the chairman of the subcommission noticed this different usage in very important publications (e.g. Special report No. 15, Geological Society London (Jurassic, part two), 1980; Les zones du Jurassique en France 1981, Synthèse paléogéographique du Jurassique de France 1980).

It seems necessary to recall the resolutions of the second Luxembourg meeting, concerning the use of the term Kimmeridgian: "Le sommet du Kimmeridgien est marqué par la zone à Gravesia, laquelle est à inclure, de ce fait, dans l'étage supérieur, terme ultime du Systems Jurassique" (see also copy of the published text as enclosure No. 4). The resolutions of the Luxembourg meetings were acknowledged unanimously

to be the base of the further work of the new established subcommission on Jurassic stratigraphy in 1978 (see Newsletter No.



1). As the lowermost zones of the Kimmeridgian the zones of *Pictonia baylei* and *Sutneria platynota*, respectively, have been already recommended at the first Luxembourg Colloquium (1964).

Therefore, the Kimmeridgian stage can be defined due to the recommendations and resolutions of the first and second Luxembourg Colloquium as follows:

Kimmeridgian	top:	Zone of <i>Aulacostephanus autis - siodorensis</i> (boreal) and <i>Hybonotoceras beckeri</i> (Mediterranean)
	base:	Zone of <i>Pictonia baylei</i> (boreal) and <i>Sutneria platynota</i> (Mediterranean)

The name of the uppermost Jurassic stage has been discussed at both of the Luxembourg Colloquia (Portlandian, Tithonian, Volgian), but no decision was there possibly because opinions were too different. After the clearing up of the Kimmeridgian question at Luxembourg II only the following possibilities remain:

Tithonian

Top:	Zone of <i>Durangites</i> due to the voting after the Lyon-Neuchatel- Meeting 1975
Base:	Zone of <i>Hybonotoceras hybonotum</i> (<i>Gravesia</i> sp.)

Volgian

Top:	Zone of <i>Craspedites nodiger</i>
Base:	Zone of <i>Ilowaiskya klimovi</i> (<i>Gravesia</i> sp.)

Portlandian s. gallico

Top:	Zone of <i>Subcraspedites lamplughi</i> (uppermost zone of the marine equivalents of the Purbeckian facies)
Base:	Zone of <i>Gravesia</i> sp.

If we were to use the Portlandian s. anglico (base: *Progalbanites albani* Zone, top *Subcraspedites lamplughi* Zone) a new stage would have to be introduced for the time span: *Gravesia* sp. - *Virgatopavlovia* zones. But it should be pointed out that the Kimmeridgian has formally been defined to end with the appearance of *Gravesia* sp. by Luxembourg II and . . .

that the possibility of two stages above the Kimmeridgian is not envisaged in this resolution.

Also correlations with the Mediterranean area would be extremely difficult, e.g. what is the equivalent of base of the Progalbanites albani zone in the Mediterranean area. Thus the use of the Portlandian s. anglico seems not recommendable.

One of the recommendations of the second Luxembourg Colloquium was to arrange a meeting for the Jurassic/Cretaceous boundary. This has been held in Lyon and Neuchatel in 1973. The result of the discussions and voting have been published in 1975. Of the uppermost Jurassic stages only the Tithonian has been considered. This usage seems highly preferable because the Tithonian has its type area in the Mediterranean faunal province (Submediterranean included). The lowermost stages of the Cretaceous System (Berriassian, Valanginian) have been or can be defined by complete type sections in the same biogeographical area. This is very important if one considers all the difficulties in correlation due to the high degree of faunal provincialism at the Jurassic/Cretaceous boundary.

To get a picture of the present Status of opinions we adjoin a questionnaire. Of course the subcommission can make a vote only on the base and the name of the uppermost Jurassic stage. The upper limit is involved with the problem of the Jurassic/Cretaceous boundary and has to be fixed by the International working group on the Jurassic/Cretaceous boundary. *)

*) the Working Group on the Jurassic-Cretaceous Boundary has decided unanimously at its meeting in Munich 2.6.82, to use provisionally a Mediterranean Jurassic/Cretaceous boundary between the Tithonian and Berriassian stages (at top of Dugites Zone = top Crassicollacia Zone) and a boreal boundary between the Volgian and Ryazanian stages (at top of the Nodiger/Zetae Zones).

INFORMATION

According to a letter from MENNER to REMANE the International Colloquium on Jurassic-Cretaceous Boundary (arranged by the Jurassic-Cretaceous Working Group), which was planned in USSR in July 82, has been postponed to 1984. It will be arranged as one of the activities of the XXVII Session of the International Geological Congress.

As mentioned in the last newsletter a field and discussion meeting will be arranged in 1984 in Poitiers (France). Our French colleagues have agreed in organizing the meeting, provided they will get financial support from the CNRS.

Enclosure 1 : Includes a new list of the members with correct addresses as we have received corrections from China.

Enclosure 2: The new established Triassic-Jurassic Boundary Working Group has now been organized. A list of the members is found in the enclosure. MOUTERDE has accepted to act as chairman.

Enclosure 3: Second report from South America.

Enclosure 4: Copy of resolutions of the 2nd Luxembourg Meeting

Arnold Zeiss

Olaf Michelsen

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QUESTIONNAIRE

To be returned to the chairmen before the 1st October, 1982, every comment is welcome; (we shall inform Prof. REMANE about the results of the presented opinions, and hope to come to a formal voting of the members in due time).

I prefer as uppermost Jurassic stage (please indicate with a cross):

the Tithonian stage
(base: Hybonotum zone, top: Durangites zone)

the Volgian stage
(base: Klimovi/Gravesia zone, top: Craspedites nodiger zone s .l .)

the Portlandian (sensu gallico),
(base: Gravesia zone, top: Subcraspedites lamplughi zone (highest zone of the marine equivalents of the Purbeck facies))

I am a member of the subcommission

We would be thankful to make copies of this questionnaire and send it to all colleagues which might be interested and competent in these questions.

Name and address

DEADLINE 1 .10.1982



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ENCLOSURE 1 for Newsletter No. 8

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*Please report to the Secretary any corrections to the adresses
and any changes*

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ENCLOSURE 2

For Newsletter No. 8

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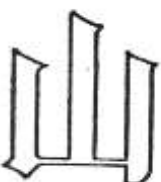
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SOUTH AMERICASecond Report

This report covers most activities on the South American Ju-
cince August 1973 first report). It must be pointed out that it is not
exhaustive and that no information has been specially requested to my
colleagues.

General Activities: Most activities have been related to the
Circum Pacific Jurassic Research Group and the South American Committee
on the Jurassic and Cretaceous.

The Circum Pacific Jurassic Research Group, through several
circulars, has become quite well organised. Attendance of several
southamerican specialists to the Calgary Field Meeting (August 82) will
provide the opportunity to work out a list of common problems and
projects to be tackled in the near future. Informal discussions have
already taken place, in a short visit of Dr. Gerd Westermann to
Argentina (Dec. 81) and in several Meetings held throughout 1981 among
Chilean, Peruvian and Argentinien specialists.

The South American Committee on the Jurassic and Cretaceous
organized a Symposium on the Jurassic-Cretaceous Sedimentary Ba-
sins of South-America (Cuenc. Sed. Jur. Gret. S, Am.), during the
Second Latin American Paleontological Congress (Porto Alegre, 1981).
The results were published in 2 volumes. Vol.1 includes papers on
the general stratigraphy and evolution of different South-American
Basins, whilst Vol. 2 deals mainly with paleontological matters (see
below). This Committee has produced 2 Newsletters (Aug.80, Dec. 80)
and is presently engaged in preparing a synthesis of known facts about
the stratigraphic distribution of Jurassic and Cretaceous fossils in
South America. An outcome of this project would ...

be to analyze the possible existence of Regional Stratigraphic "Systems".

Papers presented in the Second Argentinien Paleontological Congress (and First South American) (Buenos Aires 1978) have been published (1980) in five volumes. One of them (Vol. 5) is devoted to a Symposiun on the Jurassic-Cretaceous boundary and includes most papars listed in my (first) Circular of Aug. 79. The Third Argentinien Paleontological Congress (Sept. 82) will be the forum for another Jurassic-Cretaceous Symposium.

A number of papers dealing with Jurassic matters were published by the VIII Argentinien Geological Congress (Actos I-III, 1981). Two papers by C. Gulisano (Vol. III: 553-592) deal with the Lower Jurassic of the Neuquen Enbayment, Argentina,

A team of geologists of the Argentinien Government Oil Agency (Y.P.F.), headed by C. Gulisano, is involved in a reassessment of the Jurassic stratigraphy of the Neuquen and Mendoza provinces, - Argentina. Thus far 36 sections have been studied in the Neuquen province, and field work is now proceeding in the Mendoza province. Samples are being analyzed palynologically, micropaleontologically, and for nannofossil content. Studies on the lithology and geochemistry are also being carried out. Large invertebrate collections (including Sinemurian-Oxfordian ammonites, bivalves, brachiopods, gastropods, etc.) are being studied in the La Plata Museum.

Of general interest is also a paper by Wiedmann J. (1980, Münster Forsch. Geol. Pal, 51: 27-61) on the paleogeography and stratigraphy of the Jurassic-Cretaceous boundary in South America. A general stratigraphic synthesis of the Central Andes of Peru was published by F. Megard (1979, Bol. Inst. Geol. Peru 8: 1-227), and aspects of the stratigraphy of southern Peru have been dealt with

by J.-C. Vicente 1931, Cuenc. Sed. Jur. Cret. S. Am 1: 319-351) and by J.-C. Vicente et al. (1979, Bol. Soc. Geol. Peru 61: 67-99). Members of the Peruvian Geological Institute are working on Jurassic invertebrates (C. Rangel) and in structural and stratigraphic problems of the Lima area (J. Celdon, O. Palacios and M. Montoya). A. v. Hillebrandt has published on the Jurassic paleozoogeography of South America (1981, Geol. Runds. 70, 2: 570-582), and is engaged in a study on the Hettangian-Kimmeridgian paleogeography of the Coastal and High Cordilleras of Chile, between 23° and 26° S. O.F. Geyer has published on the paleogeography of the Mesozoic incursions and transgressions in Colombia (1979, N. Jb. Geol. Pal. Mh. 6: 349-368).

Plantae; A. Baldoni described Jurassic megaflore from Neuquen, Argentina (1981, Ameghiniana XVII, 3: 243-272) and has published a review (Cuenc. Sed. Jur. Cret. S. Am. 2: 359-391) on the Jurassic and Early Cretaceous megaflore of South America. In the same volume W. Volkheimer and M.E. Quattrocchio (p. 407-443) reviewed the Jurassic and Cretaceous microflora. M.E. Quattrocchio (1980, Opera Lilloana 31: 5-59) has also published a paper on the Tithonian microflora of Neuquen province, Argentina.

Invertebrata : A. v. Hillebrandt, in coauthorship with R. Schmidt-Effing has published a study on the dactyloceratids (ammonoidea) from Chile (1981, Zitteliana 6: 1-74). He has also produced an important paper on the Hettangian-Pliensbachian ammonites from Chile (1981, Cuenc. Sed. Jur. Cret. S. Am. 2: 499-538), and is presently engaged in a study of the Early Jurassic ammonoidea of Peru, Chile and Argentina, Aalenian (with G. Westernann) and Oxfordian (with R. Gygi) ammonoidea of Chile. M. Mancenido (1981, Cuenc. Sed. Jur. Cret. S. Am. 2: 625-660) has reviewed the Early Jurassic Spiriferinidae (Brachiopoda) from Argentina.

F. Escobar (1980, *Inst. Inv. Geol. Chile Bol.* 35) has studied the paleontology and biostratigraphy of the Upper Triassic-Lower Jurassic boundary in the Curepto area, Chile. H. Leanza has described Early and Middle Tithonian ammonites of Neuquen, Argentina (1930, *Zitteliana* 5: 3-49) and has also discussed the Jurassic-Cretaceous boundary in West Central Argentina (*N. Jb. Geol. Pal. Abh.* 161, 1: 62-92). He also published an illustrated review on the Late Jurassic-Early Cretaceous ammonites of South America (1981, *Cuenc. Sed. Jur. Cret. S. Am.* 2: 559-597). R. Reyes and E. Peres (1980, *Pacific Geology*, 14: 87-93) described a new Liassic Trigonidae, i.e. *Quadratojarskiella* n. subg., from Chile. C. Rangel (1979, *Bol. Inst. Geol. Peru* 16: 1-35) has described some Early Jurassic bivalves and brachiopods from Peru. The Early Jurassic ammonites of northern Peru have been studied by O.F. Geyer (1979, *Paläont. Z.* 53, 3/4: 198-213). S. Damborenea is proceeding with a large study on the Early Jurassic bivalves of Argentina. G. Westermann and A. Riccardi are working on the Bathonian-Callovian Stephanocerataceae, Perisphinctaceae and Haplocerataceae of the Andes.

Vertebrata: S. A. Aremayo described Tithonian pisces of Neuquen province, Argentina (Second Latin American Paleontological Congress 1980, vol. 1: 321-323). J.P. Bonaparte has summarized information on the Jurassic Vertebrates of South America (1981, *Cuenc. Sed. Jur. Cret. S. Am.* 2: 661-633). Z. B. de Gasparini described a Callovian crocodile from Chile (1960, *Ameghiniana* XVII, 2: 97-103).

A.C. Riccardi

La Plata, March 9, 1982

GRAND-DUCHE DE LUXEMBOURG
Publication du MUSEE D'HISTOIRE NATURELLE

UNION INTERNATIONALE DES SCIENCES GEOLOGIQUES

COMMISSION INTERNATIONALE DE STRATIGRAPHIE
SOUS-COMMISSION DU JURASSIQUE

COLLOQUE
DU
JURASSIQUE
A
LUXEMBOURG .

1967

1970

Résolutions du deuxième Colloque International du Jurassique

(LUXEMBOURG - 17-22 JUILLET 1967)

La Sous-Commission internationale du Jurassique, de l'Union Internationale des Sciences Géologiques (Commission de Stratigraphie),

après avoir entendu les discussions du Colloque, pris connaissance des rapports et notes communiqués, entendu et lu les résultats des diverses réunions nationales ou internationales tenues depuis 1962 à propos de la Stratigraphie des terrains jurassiques, qui lui ont été tous officiellement communiqués, pour la stabilité et l'uniformité de la nomenclature stratigraphique,

confirme les conclusions et recommandations du Colloque de 1962.

Elle maintient l'Aalénien et la base du Jurassique moyen, avec leur signification admise en 1962 (A titre indicatif, les membres du Colloque de 1967, présents en séance lors du vote, ont exprimé : 60 pour le maintien de l'Aalénien au sens de 1962 ; 3 contre ; 1 pour y inclure les couches à *Dumortieria*. Pour l'Aalénien dans le Jurassique inférieur : 25 ; dans le Jurassique moyen : 36 ; sans opinion : 7).

Elle maintient la limite du Jurassique moyen et supérieur comme en 1962, compte tenu des votes indicatifs (42 pour la Résolution de 1962 ; 14 contre ; et 10 abstentions), entre le Callovien et l'Oxfordien.

Elle précise de façon formelle que nos étages sont fondés sur les chronozones, abstractions à base de biozones.

L'étage Kouyhavien, établi en Pologne, n'est pas admis dans l'échelle unifiée (Rejeté à l'unanimité, moins une abstention, par le Colloque).

Le sommet du Kimméridgien est marqué par la zone à *Gravesia*, laquelle est à inclure, de ce fait, dans l'étage supérieur, terme ultime du Système Jurassique (1).

Le problème de l'étage terminal du Jurassique reste à résoudre : sa dénomination et sa limite supérieure n'ont pu être précisées. La Sous-Commission admet la nécessité de réunir un Colloque International des spécialistes du Jurassique et du Crétacé, pour trancher la question, sous les auspices des Sous-Commissions internationales compétentes : S.-C. du Jurassique, et S.-C., projetée, du Crétacé. L'U.R.S.S., la France, l'Allemagne, et plus spécialement la Suisse, ont été suggérées comme siège de ce prochain Colloque. Au préalable, des réunions restreintes de spécialistes régionaux ou non, des Systèmes Jurassique et Crétacé, sont invitées à étudier le problème.

(1) *Observations* : S'il s'avérait que des *GRAVESIA* existent déjà à l'extrême sommet du Kimméridgien, ceci est actuellement considéré seulement comme une variation des biozones, jusqu'à preuve du contraire.

Ces résultats ne gênent pas la construction des cartes géologiques, mais, au contraire, poussent au progrès même s'ils ont été acceptés de façon plus ou moins unanime par les géologues et groupements de géologues, spécialistes, consultés.