

INTERNATIONAL COUNCIL  
FOR ARCHAEOZOOLOGY



Fishes - Culture - Environment

15th Meeting  
**FRWG**

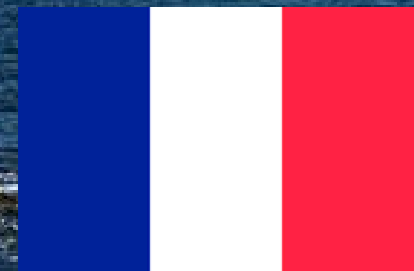


**FRWG 14th Meeting**

**October 2007**

**Antibes, France**

**organized by Philippe Béarez  
Sandrine Grouard and Benoît Clavel**



**Archéologie du Poisson. 30 ans d'archéo-ichtyologie au CNRS**

XXVIII<sup>e</sup> RENCONTRES INTERNATIONALES D'ARCHÉOLOGIE ET D'HISTOIRE D'ANTIBES  
14<sup>th</sup> ICAZ FISCH REMAINS WORKING GROUP MEETING

# ARCHÉOLOGIE DU POISSON

*Exploitations et impacts, transformations  
et usages, paléoenvironnements*

*30 ans d'archéo-ichtyologie au CNRS  
Hommage aux travaux de Jean DESSE et Nathalie DESSE-BERSET*

## Liste des participants



Organisateurs

Philippe BÉAREZ, Sandrine GROUARD et Benoît CLAVEL

18-19-20 octobre 2007

CÉPAM (CNRS-UNSA)  
Ministère de l'Enseignement supérieur et de la Recherche  
Ministère de la Culture et de la Communication  
Ville d'Antibes  
APDCA















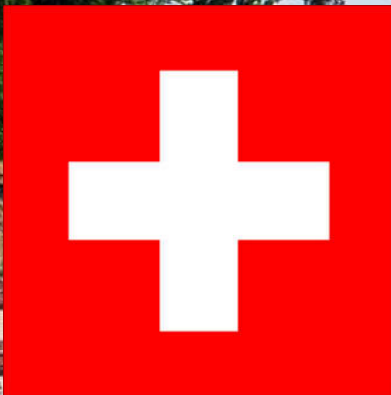


**October 2005**

**FRWG 13th Meeting**

**Augusta Raurica, Basel/Augst,**

**Switzerland** organized by Heide Hüster Plogmann



**The Role of Fish in Ancient Time**





INTERNATIONALE

# ARCHÄOLOGIE

Arbeitsgemeinschaft

Symposium

Tagung

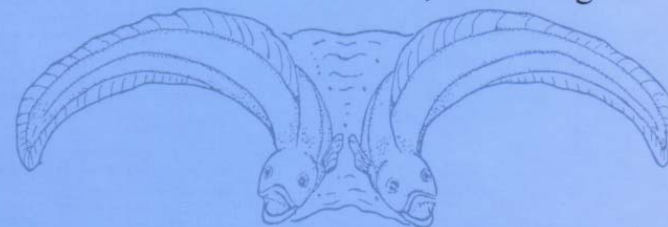
Kongress

8

Heidemarie Hüster Plogmann (Hrsg.)

The Role of Fish in Ancient Time

Proceedings of the 13<sup>th</sup> Meeting  
of the ICAZ Fish Remains Working Group  
in October 4<sup>th</sup> – 9<sup>th</sup>, Basel/Augst 2005



WML



















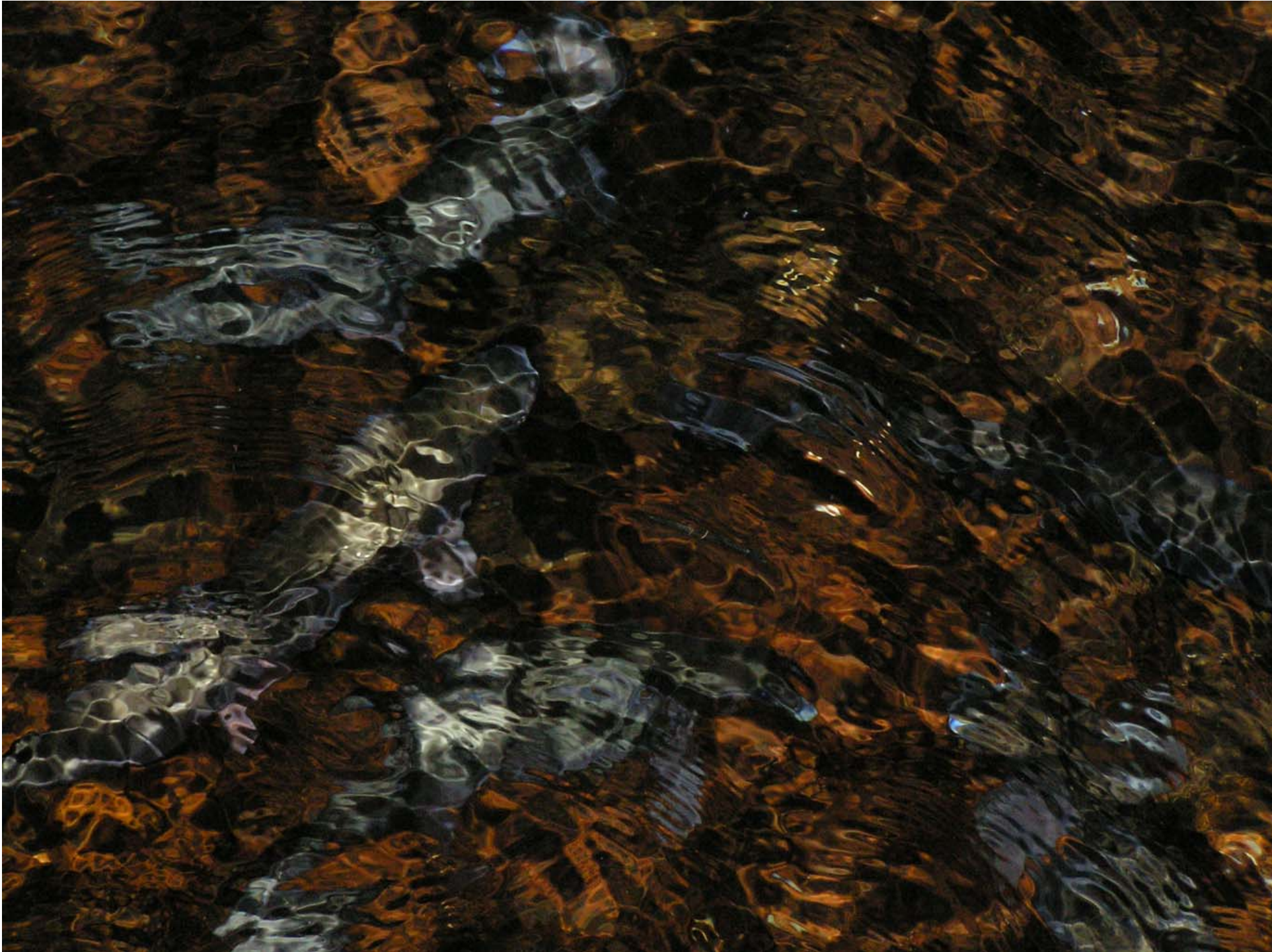






















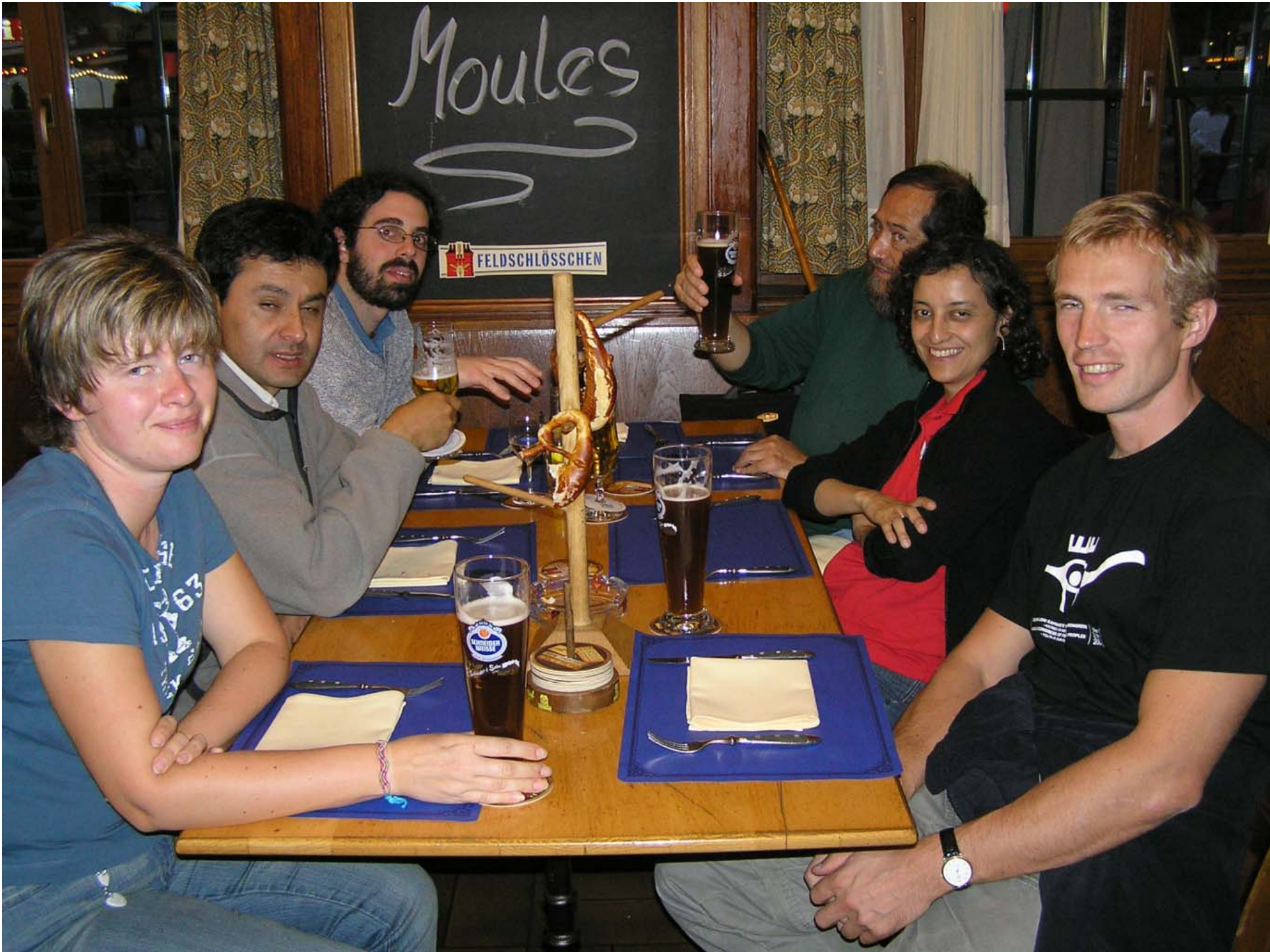


















FRWG 12th Meeting

**September 2003**

**Guadalajara, Jalisco, México**

organized by Ana Fabiola Guzmán, Óscar J. Polaco  
and Felisa J. Aguilar

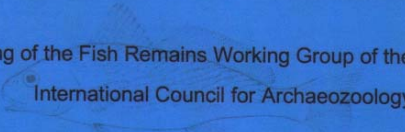
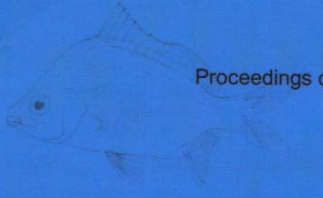


# Presencia de la arqueoictiología en México

## Presence of the archaeoichthyology in México



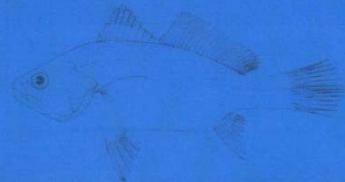
Libro de memorias de la 12ª reunión del Grupo de Trabajo en Restos de Peces del  
Consejo Internacional para la Arqueozoología



Proceedings of the 12<sup>th</sup> meeting of the Fish Remains Working Group of the  
International Council for Archaeozoology

Guadalajara, Jalisco, México

4-12 septiembre / September 2003



Ana Fabiola Guzmán  
Óscar J. Polaco  
Felisa J. Aguilar  
(editores / editors)



CONACULTA • INAH













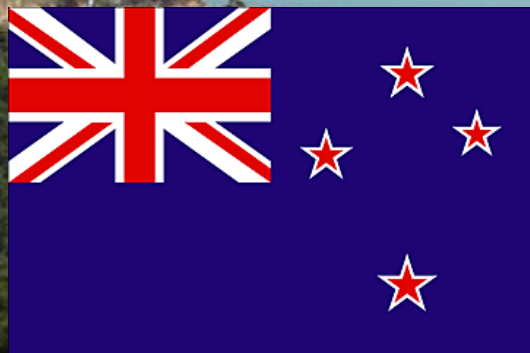
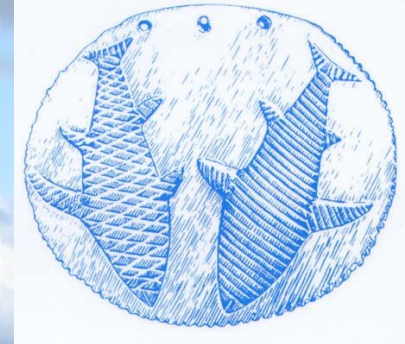


**FRWG 11th Meeting**

**October 2001**

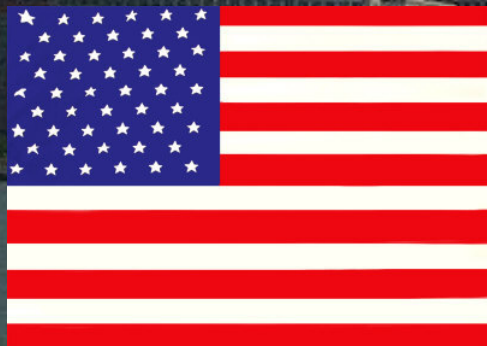
**Paihia, New Zealand**

**organized by Foss Leach**



**FRWG 10th Meeting**

**September 1999**  
**New York city, USA**  
organized by Sophia Perdikaris



# **ICAZ-FRWG**

*International Council for Archaeozoology*

**10<sup>th</sup> Fish Remains Working Group Meeting**

**September 24-October 2**

**New York 1999**

**Approaching a New Millennium: Fisheries research at present, questions for the future**

Hosted by  
Hunter College, City University of New York



In partnership with  
Brooklyn College, City University of New York, and  
The Graduate School and University Center of the City University of  
New York

Under the auspices of  
NABO, NORSEC and NSF









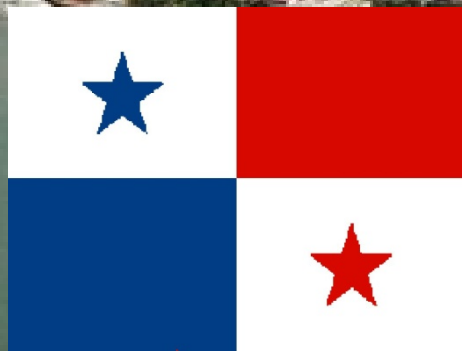


**FRWG 9th Meeting**

**April 1997**

**Panama City, Panama**

organized by Richard Cooke



9TH MEETING OF THE FISH REMAINS  
WORKING GROUP OF THE  
INTERNATIONAL COUNCIL FOR  
ZOOARCHEOLOGY

PANAMA CITY AND CHITRE, PANAMA



*STRI, Panama  
Archaeology Lab*

16-22 MARCH, 1997

















**FRWG 8th Meeting**

**October 1995**

**Madrid, Spain**

**organized by Eufrasia Rosello and Arturo Morales**



# ARCHAEOFAUNA

REVISTA DE LA ASOCIACIÓN ESPAÑOLA DE ARQUEOZOOLOGÍA



ICHTHYOARCHAEOLOGY: FISH  
AND THE ARCHAEOLOGICAL  
RECORD

Proceedings of the Eight Meeting of the  
ICAZ Fish Remains Working/Group  
— Madrid, 3-11 October 1995 —



Madrid October 20 1995

Dear friends:

Since the last of you flew back from our lab to its winter/summer quarters only yesterday the time has come to make a balance of the 8<sup>th</sup> Fish Meeting. As so many of you know, our lab had previously host another I.C.A.Z. Working Group Meeting (i.e., the 1<sup>st</sup> Bird Remains WG) back in 1992 so we have a reference point when stating, simply, that our "fish conference" has been one of the most pleasing academic experiences all of us, students and scholars alike, have had in our life.

Not only have you attendants kept up to all our expectations for a successful event but you have actually surpassed them. The atmosphere has been so open and friendly, so intense the "positive energy flow", that working for you and making you feel at home was actually a pleasure. In "normal" circumstances we would have never taken the trouble of adding an extra circular to our always pressing agenda, but this has been very different.

At Madrid we have seen that the "Copenhaguen spirit" is as strong as ever and that the quantitative increase in the members of the Fish group has actually meant a rise in the quality of the "products" of even greater magnitude. Thank you for having made "our" meeting "your" meeting

Hoping to greet you soon again we'll just say once again  
MUCHAS GRACIAS Y HASTA PRONTO!

Ana Regules

Pachi

Gosé

ARTURO

Novier

Beatriz

Comé

SANTI

Daniela

Jose M

Fliaz

Alberto

Fernando

Fra

Luante

Rob & Abel



FRWG 7th Meeting

September 1993, Leuven, Belgium

organized by  
Wim Van Neer



Fish Exploitation in the Past



**FRWG 6th Meeting**

**September 1991**

**Schleswig, Germany**

**organized by Dirk Heinrich**

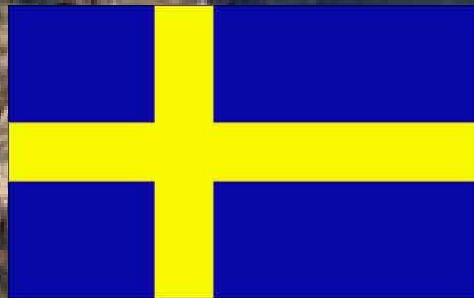


FRWG 5th Meeting

September 1989

Stora-Kornö, Sweden

organized by Leif Jonsson

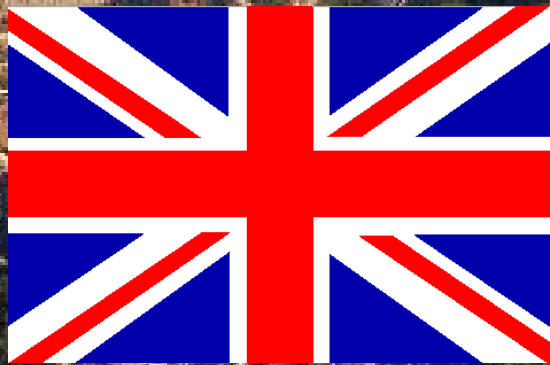


FRWG 4th Meeting

September 1987

York, United Kingdom

organized by Andrew Jones



**FRWG 3rd Meeting**

**August 1985**

**Groningen, The Netherlands**

organized by Anneke Clason  
and Dick Brinkhuizen



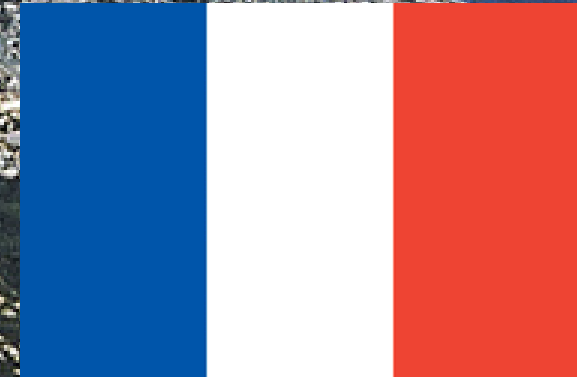
**Fish and Archaeology**

**FRWG 2ndh Meeting**

**October 1983**

# **Sophia Antipolis, France**

organized by Jean Desse and Natalie Desse-Berset



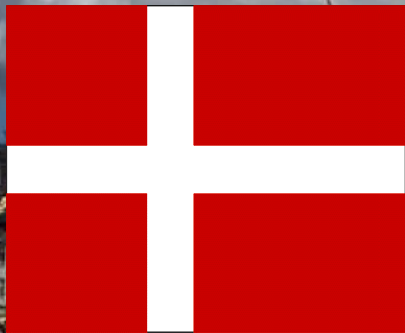
***2nd Fish Osteoarchaeology***

FRWG 1th Meeting

August 1980

Copenhagen, Denmark

organized by Knud Rosenlund, Inge Bodker-Enghoff,  
and Jane Richter



1th Fish Osteoarchaeology

**Fishes - Culture - Environment**



**FRWG  
15th Meeting**

**Poznań & Toruń, POLAND  
September 2009**

**IC AZ**  
through Archaeoichthyology, Ethnography & History



**FRWG 15th Meeting**



**September 2009**  
**Poznań-Toruń, Poland**

organized by  
**Daniel Makowiecki**  
et. al



**Fishes – Culture – Environment**  
**Through Archaeoichthology, Ethnography & History**

# Chronicle of the I.C.A.Z. Fish Remains Working Group Meetings – from 1981 to 2009

(Daniel Makowiecki, Mirosław Makohonienko)

(from 1981 to 1995 after Arturo MORALES MUÑIZ, *Archaeofauna* 5, 1996: 13-20)

## 1<sup>th</sup> MEETING – 1981: København, Denmark (August 28<sup>th</sup> -29<sup>th</sup>)

„1<sup>th</sup> Fish Osteoarchaeology” – organized by Knud ROSENLUND, Inge BØDKER-ENGHOFF and Jane RICHTER

1. A. K. G. JONES: Reconstruction of fishing techniques from assemblages of fish bones.
2. R. LIL JEGREN: Taphonomy.
3. J. DESSE: Presentation of a new method of discrimination by x-ray diagnostics.
4. D. HEINRICH: Standardization of measurements and size/weight reconstructions of fish.
5. N. NØE-NYGAARD: Use of growth rings to determine age of fish and season of catch.
6. H. LERNAU: Fish remains from excavations in the Negev and the Sinai deserts and their connection with the Nile, the Mediterranean and the Red Sea.
7. H. LERNAU: Special methods for defining vertebrae of bony and cartilaginous fish.

## 2<sup>nd</sup> MEETING – 1983: Valbonne, Sophia Antipolis, France (October 14<sup>th</sup> -16<sup>th</sup>)

„2<sup>nd</sup> Fish Osteoarchaeology” – organized by Jean DESSE and Natalie DESSE-BERSET

1. F. J. MEUNIER: Sur la détermination histologique de vertèbres de poissons trouvées dans les sites archéologiques.
2. G. DESSE: Nouvelle contribution à la diagnose des pièces rachidiennes des poissons.
3. A. MORALES MUÑIZ: A study on the representativity and taxonomy of the fish faunas from two mousterian sites on northern Spain with special reference to the trout (*Salmo trutta* L., 1758).
4. A. K. G. JONES: Some effects of the mammalian digestive system on fish bones.
5. J. DESSE: Propositions pour une réalisation collective d'un corpus: fiches d'identification et d'exploitation métrique du squelette des poissons.
6. O. Le GALL: L'exploitation de l'ichtyofaune par les Paléolithiques. Quelques exemples.
7. N. JUAN-MUNS: Le problème de la signification des restes ichtyofauniques fossiles.
8. S. M. COLLEY: Some methodological problems in the interpretation of fish remains from archaeological sites in Orkney.
9. T. TROLLE-LASSEN: A preliminary report on the archaeological and zoological evidence of fish exploitation from a submerged site in mesolithic Denmark.
10. K. ROSENLUND: The fish-bone material from a medieval Danish monastery and an 18<sup>th</sup> century mission station in Greenland. An investigation of materials with a known key.
11. W. VAN NEER: The use of fish remains in African archaeozoology.
12. E.S. WING: Faunal remains from seven sites in the Big Cypress national preserve.

13. J. RIVALLAIN: L'importance de la pêche dans les activités littorales du passé des Alladian, Côte d'Ivoire.
14. A. BOISSIER: Un habitat et un mode de vie traditionnels à l'étang de Salses (P.O., France). Exemples ethnographiques et implication archéologique.
15. N. NØE-NYGAARD: Seasonality determination, a tool in separating fish accumulations of mixed origin on Mesolithic island sites.
16. J. RICHTER: Indication of selection of different fish species at various seasons in the Neolithic.
17. M. S. GORECKI: Détermination des températures de développement durant le cycle de vie de certains poissons pour la mesure des rapports d'oxygène isotopique dans les otolithes.
18. P. LAHTIPERÄ: Measurements of Gadidae; problems and possibilities.
19. M. LERNAU: Nouvelles techniques de préparation et de rangement des collections de référence.

### 3<sup>rd</sup> MEETING – 1985: Groningen, The Netherlands (October)

„Fish and Archaeology” – organized by Anneke CLASON and Dick BRINKHUIZEN

1. A. T. CLASON: Fish and Archaeology.
2. N. BENECKE: Some remarks on sturgeon fishing in the Southern Baltic region in Medieval times.
3. D. C. BRINKHUIZEN: Features observed on the skeletons of some recent European Acipenseridae: their importance for the study of excavated remains of sturgeon.
4. S. M. COLLEY: Site formation and archaeological fish remains. An ethnohistorical example from the Northern Isles, Scotland.
5. D. HEINRICH: Fishing and consumption of Cod (*Gadus morhua* Linnaeus, 1758) in the Middle Ages.
6. A. K. G. JONES: Fish bone survival in the digestive systems of the pig, dog and man: some experiments.
7. L. JONSSON: Fish bones in Late Mesolithic human graves at Skateholm, Scania, South Sweden.
8. A. LENTACKER: Archaeozoology of Late Prehistoric Portuguese sites with marine and riverine resources.
9. H. LERNAU: Fish bones excavated in two Late Roman-Byzantine Castella in the southern desert of Israel.
10. W. VAN NEER: Some notes on the fish remains from Wadi Kubbaniya (Upper Egypt; Late Palaeolithic).
11. W. PRUMMEL: The presence of bones of eel, *Anguilla anguilla*, in relation to taphonomic processes, cultural factors and the abundance of eel.
12. K. ROSENLUND: The sting ray, *Dasyatis pastinaca* (L.) in Denmark.
13. M. SEEMAN: Fish remains from Smeerenburg, a 17<sup>th</sup> century Dutch whaling station on the Westcoast of Spitsbergen.

14. J. DESSE: Les poissons du Grand Louvre.
15. I. BØDKER-ENGHOFF: New results from the classical shell midden in Ertebølle, Denmark.

**4<sup>th</sup> MEETING – 1987: York, United Kingdom (September 9<sup>th</sup> -12<sup>th</sup>)**

organized by Andrew JONES

1. P. V. ADDYMAN: Fish out of water: An Archaeologists' view of Archaeoichthyology.
2. K. M. STEWART: Fish remains at Olduvai Gorge.
3. W. VAN NEER: Fish remains from a Holocene site in Wadi Howar, Sudan.
4. V. L. BUTLER: Natural versus cultural salmon bones: a preliminary assessment of the Dalles «Roadcut» remains.
5. B. GHALEB: Fish and Women on a Western Torres Strait Island, Northern Australia.
6. I. TAKÁCS: Fish exploitation in Hungary.
7. M. ROSE: Prehistoric Fishing in the Aegean.
8. E. ROSELLÓ & A. MORALES: Cultural typification of Spanish pre-and protohistorical sites through the study of fish assemblages: proposal of a new methodology of study.
9. A. LENTACKER: The mesolithic Muge shell-middens of Portugal.
10. A. MORALES & E.ROSELLÓ: Casual or intentional? Comments on fish taxa skeletal representation from Spanish archaeological settlements.
11. E. S. WING: A Modern midden experiment.
12. A. E. BULLOCK: Dispersal of Fish waste: a modern experiment.
13. S. COLLEY: Cooking fish on a fire: an experiment in differential burning.
14. A. K. G. JONES: Walking the cod.
15. A. MORALES, E. ROSELLÓ, K. ROSEN LUND & J. L. LÓPEZ GORDO: Spanish and Danish ichthyofaunal assemblages: patterns of diversity and abundance commented from a paleocultural perspective.
16. D. HEINRICH: Some remarks on fish remains from late- and postglacial sites near Hamburg.
17. I. BØDKER-ENGHOFF: Fishing at Mesolithic Bjørnsholm, Denmark, compared with the neighbouring settlement: the Ertebølle locus classicus. Principally eel-fishing sites?.
18. I. BØDKER-ENGHOFF: Rare species of fish in the Mesolithic Bjørnsholm Shell-midden, Denmark - indicators of a warmer climate.
19. L. JONSSON: Middle Mesolithic Fishing strategies and the marine environment on the Swedish west coast.
20. L. BARTOSIEWICZ: Size reconstruction of pike, *Esox lucius*, L.
21. I. TAKÁCS: Size reconstruction of catfish, *Silurus glanis*.
22. M. COLBURN: Cranial osteology of Redcar sunfish.
23. M. DUTTING & B. BEERENHOUT: Distribution analysis of the fish remains of a Roman Castellum at Velsen, the Netherlands.

24. R. C. HOFFMANN: Pike (*Esox lucius*) in late Medieval Culture: from illiterate empiricism to literate traditions.
25. J. COY: Saxon evidence from the river Thames.
26. D. SERJEANTSON: Fish Remains from a Monastic Site: St. Albans Abbey, Hertfordshire, England.
27. N. PAAP & M. SEEMAN,: Focussing on Fish eyes.
28. D. BRINKHUIZEN: Some remarks on seasonal dating of fish remains by means of growth ring analysis.
29. A. ROJO: X-rays to differentiate vertebrae from the Gadidae family.
30. D. WARD: A machine for processing clay to extract fish remains.
31. J. COY: Medieval documentation and the fish trade.
32. R. NICHOLSON: Fish remains from excavations near the river front at Newcastle, England.
33. L. JONSSON: Osteological evidence of medieval fish trade in Scandinavia.
34. R. KEMP: Fishing at Bylands Abbey, Yorkshire.
35. J. DESSE & N. DESSE-BERSET: Use and exchange of osteometric data for ichthofauna.
36. E. S. WING: Comparative fish skeleton collections.

### 5<sup>th</sup> MEETING – 1989: Stora-Kornö, Sweden (September 5<sup>th</sup>-9<sup>th</sup>)

organized by Leif JONSSON

1. L. JONSSON: An introduction to Stora Kornö and its village and the roots of an archaeoichthyologist.
2. W. VAN NEER: Fish remains from the Middle Palaeolithic site Bir Tarfawi (Eastern Desert, Egypt).
3. N. BENECKE: Seasonal dating of fish remains from the Hoabinian site Can-Cave (Vietnam).
4. E. WING: Prehistoric Fishing in the West Indies.
5. R. LARJE: Favourite fish dish of the Romans in Carthage.
6. E. AURA TORTOSA: A preliminary report about marine exploitation on the Andalusian coast: the Fish gorges from the Cave of Nerja (Málaga, Spain).
7. B. WILKENS: The importance of fishery in the economy of the Fucino Basin (Italy) from Upper Palaeolithic to Neolithic Times.
8. D. HEINRICH: Fish remains from Flem, a Stone Age settlement at Skulöy, Norway.
9. M. STERNBERG: La pêche et la consommation du poisson sur le site de Lattara (France, Hérault) du III<sup>e</sup> au I<sup>er</sup> s. AV. J.C.
10. E. GEHASSE: Fish as salinity and tidal indicators at P14, a late Neolithic - early Bronze age site in the Netherlands.
11. L. BARTOSIEWICZ: Pre-depositional modifications on fish bone from Hungarian Excavations.
12. W. PRUMMEL: Fishing methods in Oldenburg (Holstein).

13. P. LAHTIPERÄ: Big Ling from Lofoten area from Stone age and Iron age.
14. S. HAMILTON-DYER: Fish in the Tudor Naval diet.
15. R. HOFFMANN: «*Carpes pour le duc ...*» The operation of fish ponds at La Perriere -sur-saune, Burgundy, 1338-1352.
16. L. JONSSON: Violet is nice. Comparative bone collections and the illustration of fish bones.
17. I. TAKÁCS: Osteomorphological studies on great sturgeon (*Huso huso*) from Hungary.
18. L. JONSSON: The Holocene History of western Sweden, geology, fishes, history of research.
19. R. NICHOLSON: Burnt fish bones: what value to archaeology?
20. A. K. G. JONES: How many fish bones do we need from a site?
21. D. HEINRICH: Some remarks on the term «Thanatocoenosis», especially «anthropogenic thanatocoenosis».
22. A. ROJO: x-Ray as a tool to identify the fish specimens of subfossil vertebrate from archaeological sites.
23. A. LEAK: An assessment of the value of the scales of the grayling *Thymallus thymallus* (L.) to the archaeologist for deriving information about the fish found in archaeological deposits.
24. A. LENTACKER: A Growthline study on the otoliths of *Argyrosomus regius*.
25. B. BERENHOUT: Velsen 1: Indications of water pollution in Roman times.
26. E. ROSELLÓ & A. MORALES: Castillo de Doña Blanca: fish remains from the oldest phoenician site on the Iberian Peninsula.
27. M. ROSE: Polished otoliths from archaeological contexts.
28. M. ARNAY-de-la-ROSA: Osteometrical analysis of *Sparisoma cretense*.
29. E. ROSELLÓ & A. MORALES: Comparative osteomorphology of the sardine (*Sardina pilchardus*) and round sardinella (*Sardinella aurita*).
30. S. STEN: Medieval and post-reformative fish finds from urban contexts as indicators of fish trade.
31. K. ROSENLUND: Computerized estimates of fish size based on osteometric data: presentation of a program.

## 6<sup>th</sup> MEETING – 1991: Schleswig, Germany (September 3<sup>rd</sup>-7<sup>th</sup>)

organized by Dirk HEINRICH

1. V. VOGEL: Excavations in the ancient centre of Schleswig, the archaeological background to the conference-town.
2. A. BULLOCK: Evidence for the exploitation of fishes from Tudor deposits and the Little Prickle excavations in 1989, Surrey, England.
3. I. BØDKER-ENGHOFF: Fishing from medieval Holbaek.
4. A. ERVYNCK & W. VAN NEER: Fish remains in medieval castles and towns (Flanders, Belgium): a preliminary survey.

5. E. ROSELLÓ & A. MORALES: Cartuja: Fish remains from a late medieval monastery in Seville (Spain).
6. P. MOREL: Medieval fish remains from a site near Basel.
7. N. IVANOVA: Fish remains from archaeological sites of the northern part of the Black Sea Region.
8. D. C. BRINKHUIZEN & E. ROSELLÓ: Laminak II: Marine fishes within a paleolithic limnetic ichthyocenosis from the Spanish Basque country.
9. A. LENTACKER: Fish remains from Saltés (Huelva, Spain).
10. L. JONSSON: Fish bone measurements. Gadiformes. Review and proposals.
11. W. VAN NEER: Fish size reconstructions: How accurate should they be?
12. D. HEINRICH: Fish remains from Durankulak and from some other sites - are they biased by the excavator?
13. J. STUDER: Fish and water: influence of a lake on the distribution of ichthyological remains.
14. M. MEZES & L. BARTOSIEWICZ: Fish bone preservation and fat content.
15. R. G. COOKE & J. BORT: A comparison between prehistoric and modern artisanal fishing in a small estuarine embayment on the Pacific coast of Panama.
16. A. SANCHEZ MOSQUERA: Fishing patterns in the continental coast of Ecuador.
17. N. JUAN-MUNS: Fishing strategy in the Beagle channel: an ethnoarchaeological approach.
18. R. C. HOFFMANN: The craft of fishing Alpine lakes, ca A.D. 1500.
19. C. G. RODRÍGUEZ SANTANA: The role of fishing in a prehistoric settlement on the island of La Palma (Canary Islands, Spain).
20. B. BEERENHOUT: What conclusions can be drawn from mature haddock bones in a neolithic coastal site in the Netherlands?
21. W. R. BELCHER: Fish utilization in the Harappan civilization: a view from the type site of Harappa.
22. D. SERJEANTSON, J. EVANS & S. WALES: Fish in latter prehistoric Britain.
23. L. JONSSON: Fish processing before salting and drying - historical evidence from Scandinavia.
24. M<sup>a</sup>J. RODRIGO GARCÍA: The paleoecological implications of the presence of *Melanogrammus aeglefinus* (L., 1758) in the transition Upper Pleistocene-Holocene levels in Nerja Cave (Málaga, Spain).
25. I. SZEKELYHIDY, I. TAKÁCS & L. BARTOSIEWICZ: Size variability by geographic regions of some fish species in Hungary.
26. A. BULLOCK: Cost tradeoffs of mesh size and sieving rate in environmental processing.
27. R. LARJE: Are dermestid beetles safe for fish bones?
28. D. C. BRINKHUIZEN: Pathologies and anomalies in recent and subfossil fish bones.
29. A. MORALES & W. VAN NEER: Abundance indexes as potential discriminators of natural and anthropogenic paleoichthyocenosis.
30. D. C. BRINKHUIZEN: The diet of recent otter (*Lutra lutra*) from two regions in the northern Netherlands.

31. W. PRUMMEL: Bird and sea mammal catching during fishing.
32. B. IRVING: Possible evidence for Roman fish farming at Nicopolis ad Istrum, Bulgaria.
33. S. HAMILTON-DYER: Fish remains from Mons Claudianus – a Graeco-roman site in the Eastern desert of Egypt.
34. R. C. HOFFMANN: European subfossil carp (interim report).
35. D. PATÓN & E. ROSELLÓ: A computerized procedure for the classification of Mugilid remains from archaeological sites.
36. Ch. RADTKE: Medieval fishing with «*herring-fences*» in the Schlei.
37. A. SÁNCHEZ MOSQUERA: The evolution of Ecuatorian Archaeozoology.

**7<sup>th</sup> MEETING – 1993: Leuven, Belgium (September 6<sup>th</sup>-10<sup>th</sup>)**

“Fish Exploitation in the Past” – organized by Wim VAN NEER

1. J. H. BARRETT: Bone weight and the intraclass comparison of fish taxa.
2. O. LERNAU & M. BEN-HORIN: Taphonomic curve and index: a preliminary exploration of a new concept.
3. F. FALABELLA, M. LORETO VARGAS & R. MELENDEZ: Differential preservation and recovery of fish remains in Central Chile.
4. A. VON DEN DRIESCH: Hyperostosis in fish.
5. F. J. MEUNIER & J. DESSE: Histological structure of hyperostotic cranial remains of Pomadasys hasta (Osteichthyes, Perciformes, Haemulidae) from archaeological sites of the Arabian Gulf and the Indian Ocean.
6. L. BARTOSIEWICZ; I. TAKÁCS & I. SZEKELY-HIDY: Problems of size determination in common carp (*Cyprinus carpio*).
7. M. STERNBERG: Reconstitution de la taille de Dicentrarchus labrax provenant de Lattes (Iléme Age du Fer-début de la romanisation).
8. J. DESSE & N. DESSE-BERSET: Osteometry and fishing strategies at Cape Andreas Kastros (Cyprus, 8th millennium BP).
9. N. DESSE-BERSET: Sturgeons of the Rhone during Protohistory in Arles (6<sup>th</sup>-2<sup>nd</sup> century BC).
10. O. LE GALL: Quelques remarques sur l'adaptation à court et à long termes chez les poissons d'eau douce du sud de la France.
11. R. COOKE & G. TAPIA RODRIGUEZ: Marine and freshwater fish amphidromy in a small tropical river on the Pacific coast of Panama: a preliminary evaluation based on gill-net and hook-and-line captures.
12. L. BARTOSIEWICZ; E. HERTELENDI & A. FIGLER: Seasonal dating of hand-collected fish remains from a prehistoric settlement in Hungary.
13. W. R. BELCHER: A regional approach to fish remains and seasonality in East Penobscot Bay, Maine.
14. O. J. POLACO & A. F. GUZMÁN: Fishes in some Spanish sixteenth century chronicles.
15. T. DE JONG: Fish consumption at Eindhoven Castle: archaeological remains versus historical sources.



16. R. C. HOFFMANN: Remains and verbal evidence of carp (*Cyprinus carpio*) in medieval Europe.
17. L. VAN BUYTEN: Données historiques sur le commerce de poissons à Louvain (Brabant, Belgique) au 18ème siècle et leur apport à l'archéozoologie.
18. S. CROCKFORD: New archaeological and ethnographic evidence of an extinct fishery for giant bluefin tuna (*Thunnus thynnus orientalis*) on the Pacific Northwest Coast of North America.
19. W. R. BELCHER: Butchery practices and the ethnoarchaeology of South Asian fisherfolk.
20. A. M. CHOYKE & L. BARTOSIEWICZ: Angling with bones.
21. W. Z. WENDRICH & W. VAN NEER: Preliminary notes on fishing gear and fish at the late Roman fort at 'Abu Sha'ar (Egyptian Red Sea coast).
22. J. STUDER: Roman fish sauce in Petra, Jordan.
23. D. C. BRINKHUIZEN: Some notes on fish remains from the late 16<sup>th</sup> century merchant vessel Scheurrak SO1.
24. R. CERON-CARRASCO: The investigation of fish remains from an Orkney farm mound.
25. D. HEINRICH: Fish remains of two medieval castles and of an urban context – a comparison.
26. W. VAN NEER & A. ERVYNCK: New data on fish remains from Belgian archaeological sites.
27. I. ZOHAR, T. DAYAN, E. SPANIER, E. GALILI & O. LERNAU: Exploitation of grey triggerfish (*Balistes carolinensis*) by the prehistoric inhabitants of Atlit-Yam, Israel: a preliminary report.
28. C. CARTWRIGHT: Preliminary results of the study of fish remains from a 3<sup>rd</sup> millennium BC site, HD1, at Ra's al-Hadd, Oman.
29. K. C. MACDONALD & W. VAN NEER: Specialised fishing peoples in the Later Holocene of the Mema Region (Mali).
30. A. MORALES, E. ROSELLØ & J. M. CAÑAS: Cueva de Nerja (prov. Málaga): a close look at a twelve thousand year ichthyofaunal sequence from southern Spain.
31. A. LENTACKER: Fish remains from Portugal: preliminary analysis of the Mesolithic shell-midden sites of Cabeco da Amoreira and Cabeco da Arruda.
32. B. IRVING: Identification to family or species in ichthyofaunal studies. The importance of a filter where osteologically similar species share the same habitat niche: examples from the site of Saar, Bahrain.
33. I. BØDKER-ENGHOFF: Fishing from Denmark in the Ertebølle-period.
34. H. HÜSTER-PLOGMANN: Neolithic fish remains from the Zurich-lake region: difficulties and possibilities.
35. N. JUAN-MUNS & C. RODRÍGUEZ SANTANA: Sant Pere de Rodes (Empordá, Catalonia, Spain): an analysis of the eighteenth century ichthyofauna.
36. W. VAN NEER, S. AUGUSTYNEN & T. LINKOWSKI: Daily growth increments on fish otoliths as seasonality indicators on archaeological sites: the tilapia from late palaeolithic Makhadma in Egypt.



**8<sup>th</sup> MEETING – 1995: Madrid (Cantoblanco), Spain (October 3<sup>rd</sup> -11<sup>th</sup>)**

organized by Eufrasia ROSELLÓ and Arturo MORALES

1. Arturo MORALES MUÑIZ: ICAZ's Fish Remains Working Group: A Retrospective look (1981-1995).

SESSION: FISHING AND OVERFISHING IN THE PAST

2. José A. PEREIRO: Fishery Research: a long way and some conclusions.
3. Thomas AMOROSI: Scaly headaches within the Atlantic stock-fish trade: problems in interpreting numbers, recovery and scalar regional perspectives .
4. Sophia PERDIKARIS: Scaly Heads & Tales: Detecting commercialization in Early Fisheries.
5. Richard HOFFMANN: Economic expansion, habitat destruction and depletion of inland fisheries in medieval Europe.
6. Foss B. LEACH: The overfishing hypothesis in prehistoric New Zealand.
7. Lembi LÕUGAS: Stone Age Fishing strategies in Estonia - What have they been depending on?
8. Atholl J. ANDERSON: Regional variation in the prehistoric Maori fish catch.
9. Amelia SÁNCHEZ MOSQUERA: Patrones de pesca precolombinos en la costa central ecuatoriana.
10. Norbert BENECKE: Fish exploitation during the Neolithic: some new data from Northern central Europe.
11. Olivier LE GALL: Aspects de l'ichthyologie et de pêches préhistoriques en Europe occidentale.
12. Inge BØDKER ENGHOF: A Medieval Herring industry in Denmark.
13. Myriam STERNBERG: La pêche sur le littoral méditerranéen entre le IV<sup>e</sup> et le II<sup>ème</sup> s.av.n.é: une activité saisonnière ou annuelle?
14. Omri LERNAU, Hannah COTTON & Yuval GOREN: Salted fish and fish sauces from Masada.
15. Wim VAN NEER: A study on the otoliths of plaice from Raversijde, a late medieval coastal site in Belgium.

POSTERS OF RELATED INTEREST FOR THE "FISHING AND OVERFISHING" SESSION

16. Amelia SANCHEZ MOSQUERA: Pesca durante el desarrollo regional: el caso Guangala
17. Pippa SMITH: The identification of a local cornish fishing industry
18. Barbara WILKENS: Different kinds of fish preserved from four roman amphorae

SESSION: METHODS I: TAFONOMY

19. William BELCHER: Site function and fish remains: comparison of village and elite contexts within the Indus Valley tradition (ca. 2600-1600 BC).
20. Irit ZOHAR & Richard COOKE: Contemporary fish processing at Parita Bay, Panamá: an osteological approach.
21. Suzanne NEEDS-HOWARTH: Intra-site differences in fish bone discard at the Carson site, a prehistoric Iroquoian village near lake Simcoe (Canada).
22. Rebecca NICHOLSON: Fish bone diagenesis in different soils.

SESSION: METHODS II: OSTEOLOGY AND OSTEOLOGY

23. Jean DESSE: On the boundaries of osteometry applied to fish.
24. László BARTOSIEWICZ: Pike (*Esox lucius* L., 1758) bones from a Turkish Period military fort in Hungary.
25. Jean DESSE & Nathalie DESSE-BERSET: Archaeozoology of groupers (Epinephelinae) in the Mediterranean and the Arabian Gulf: identification, osteometry and keys to interpretation.

SESSION: METHODS III: PHYSICO-CHEMICAL AND NUMERICAL METHODS

26. Susan J. CROCKFORD: Analysis of ancient fish DNA.
27. Heidemarie HÜSTER-PLOGMANN: Correlation between sample size and relative abundance of fishbones: examples from the excavation ARBON/TG BLEICHE 3
28. Cedric A. POGGENPOEL: The application of Br/Sr ratio's in fish as a means to determine fish habitat changes during the Holocene in the Southwestern Cape, South Africa.
29. Carmen G. RODRÍGUEZ SANTANA: On the Quantification of Archaeozoological Ichthyofaunas: looking for solutions to specific problems.

POSTERS OF RELATED INTEREST FOR THE "PHYSICO-CHEMICAL AND NUMERICAL METHODS" SESSION

30. Omri LERNAU: Fish bones in archaeological excavations: suggestions for an explicit way of
31. Jørn ZEILER: Archaeobone: Archaeological Research Bureau

SESSION: HISTORICAL STUDIES

32. Jennie COY: Medieval records vs. excavation results. Examples from central Southern England.
33. Dirk HEINRICH: Information about fish from tales and myths.
34. Wim VAN NEER & Anton ERVYNCK: Food rules and status: patterns of fish consumption in a monastic community (Ennemy, Belgium).
35. Juan ZOZAYA STAHBEL-HANSEN: Fishes in pots.
36. Myriam STERNBERG: A propos de la romanisation: qu'en est-il de la pêche. Le cas du littoral languedocien.
37. Angelika LAMPEN: Medieval fish-weirs: the archaeological and historical evidence.

POSTER OF RELATED INTEREST FOR THE "HISTORICAL STUDIES" SESSION

38. M<sup>a</sup> Jesús BIELZA DÍAZ-CANEJA: El pescado en la dieta de los cartujos de El Paular en el siglo XVI
39. Film session: "Haddrah et Gargour, pêche traditionnelle à Bahreim", produced by Nathalie DESSE-BERSET.

SESSION: REGIONAL STUDIES

40. Bea DE CUPERE; Local and imported fish from the classical site of Sagalassos (Burdur province, Turkey).
41. Ana Fabiola GUZMAN & Oscar POLACO: The fishes from the offering 23 of the Templo Mayor, México.
42. Judith POWELL: The fishbone assemblage from the Cave of Cyclops, Youra, Alonnessos.
43. Daniel MAKOWIECKI: Fish remains from prehistoric and medieval sites in Poland: a survey of old and new data.
44. Manuel PELLICER CATALAN & Carmen G. RODRÍGUEZ SANTANA: Fishers of the Cave of Nerja: from hunter-gatherers to producers.
45. An LENTACKER: Aquatic and terrestrial resources at two roman sites along the Red Sea Coast, Egypt.
46. Annica CARDELL: Coastal Fishing during the Early Medieval period in Simrishamm, Sweden.
47. Mark ROSE: Fishing at Minoan Pseira: Formation and seasonality of a Late Bronze Age fish assemblage from Crete.

POSTERS OF RELATED INTEREST FOR THE "REGIONAL STUDIES" SESSION

48. Mark BEECH: New evidence for an 'Ubaid period fish processing site, Abu Dhabi Emirate, U.A.E.
49. Jacob S. JAYA RAJ: Aquatic remains in archaeological sites: an archaeological survey of India
50. Suzanne NEEDS-HOWARTH: Lake sturgeon bones from prehistoric Iroquoian sites near lake Simcoe
51. Mark ROSE: Fishing in a changing environment: Franchthi Cave, Greece, 11,000-5,000 B.P.
52. Barbara WILKENS: Fish remains from the roman ship of Grado, Italy



**9<sup>th</sup> MEETING – 1997: Panama City & Chitre, Republica de Panama (March 16<sup>th</sup> -22<sup>nd</sup>)**

organized by Richard COOKE

Oral presentations:

1. Arturo ACERO: Importance of Osteological Studies for Systematics and Biogeography.
2. James BARRETT, Ruby CERON-CARRASCO, and Rebecca NICHOLSON: The Prehistory of Marine Resource Use in the Highlands and Islands of Scotland.
3. László BARTOSIEWICZ: Early History of Fish Exploitation in Hungary and the Lower Danube Region.
4. László BARTOSIEWICZ: Relative Size Estimation of Archaeological Fish Using Computerized Mass Measurement of Vertebrae.
5. M.J. BEECH: History of Fishing in the United Arab Emirates.
6. Inge BØDKER ENGHOF: Prehistoric Fishing in the Baltic.
7. A.T. CLASON: Traditional Fishing on the South Coast of West Java, Indonesia.
8. Richard COOKE: Fishing in Lower Central America from 7,000 BP to the Spanish Conquest.
9. Anton ERVYNCK, Wim VAN NEER, and Dick BRINKHUIZEN: Evolution of Fisheries and the Fish Trade in the Low Countries.
10. Ana Fabiola GUZMAN: Archaeoichthyological Analysis of Offering 23 from the Templo Mayor of Tenochtitlan.
11. Ruth GREENSPAN: The Use of Gear Selectivity Models in the Interpretation of Archaeological Fish Remains: a Case Study from the Harney Basin, Oregon, USA.
12. Sheila HAMILTON-DYER: Fishing in Mediaeval Novgorod, Russia.
13. Máximo JIMÉNEZ: Fishing at Cerro Juan Diaz, a Precolumbian Village on the Central Pacific Coast of Panama.
14. Foss LEACH: A Review of 35,000 Years of Fishing in the Pacific.
15. Lembi LÕUGAS: A Regional Study of Stone Age Fish Remains in the Eastern Baltic.
16. Daniel MAKOWIECKI: Fishing in Poland during the Prehistoric and Historic Periods.
17. Laetitia MATHIEU: An Assessment of the Diet of the Great Cormorant (*Phalacrocorax carbo sinensis*) Based on the Osteological Analysis of Regurgitated Pellets.
18. Peter MILLER: Identification of gobiid fish remains.
19. Arturo MORALES: Bone Fracture Patterns of Sea Breams (Sparidae) from Spanish Archaeological Sites.
20. S. NEEDS-HOWARTH: Iroquoian Fishing around Lake Simcoe, Ontario, Canada.
21. S. NEEDS-HOWARTH: Seasonality from Scales and other Structures: an Application of Fisheries Methods.

22. S. PERDIKARIS: The Commercial Fisheries of Mediaeval Arctic Norway.
23. German PENA: Precolumbian Fishing in Colombian Rivers and Freshwater Lakes.
24. Oscar POLACO: A Fish Offering of the Tarascan Culture, Mexico.
25. Elizabeth RAMOS ROCA: Precolumbian Fishing along the Atlantic Coast of Colombia.
26. Teresa ROSALES THAN and Victor VASQUEZ SANCHEZ: The Sciaenidae in the Prehistory of the North Coast of Peru.
27. Eufrasia ROSELLO: Comparative Osteology of Spanish Sea Breams (Sparidae): a Reference for Ichthyoarchaeologists.
28. Amelia SANCHEZ: Fishing during the Valdivia and Machalilla Periods on the Ecuadoran Coast.
29. Dale SERJEANTSON: Fish Consumption in Southern England in the Middle Ages.
30. Jacqueline STUDER: Fish in Jordan: Food Source and Model for Mosaics.
31. Wim VAN NEER: Prehistoric Fishing along the Egyptian and Sudanese Nile.
32. Wim VAN NEER: An Overview of Archaeoichthyology at Turkish and Syrian Sites.
33. Barbara VOORHIES: Preceramic Fishing in the Estuaries of Chiapas (Mexico).
34. Irit ZOHAR: Prehistoric Fishing in Israel.

Poster presentations:

35. Richard COOKE and Conrado TAPIA: Hyperostosis: a Preliminary Guide for Archeologists in the Eastern Tropical Pacific.
36. Alison LOCKER, Dale SERJEANTSON: The Demise of Stockfish and Herring in British Armed Forces Rations in the Late 17<sup>th</sup>. and Early 18<sup>th</sup>. Centuries.
37. Lembi LÖUGAS, Wim VAN NEER: Growth Ring Studies of Fish Remains from Archaeological Sites: a Methodological Approach.

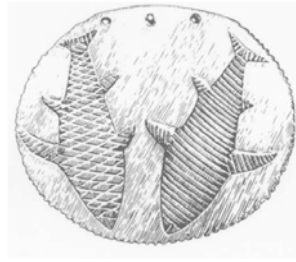
**10<sup>th</sup> MEETING – 1999: New York City, USA (September 24<sup>th</sup> – October 2<sup>nd</sup>)**

organized by Sophia PERDIKARIS

1. Thomas H. MCGOVERN, Clayton TINSLEY, Ragnar EDVARDSSON, Colin AMUNDSEN: Fishing in the Mid Atlantic: Recent and ongoing NABO projects in Iceland - Group presentation.
2. Inge BØDKER ENGHOFF: Aspects of Fishing in the Baltic and North Sea Region from the 5<sup>th</sup> century BC to the 16<sup>th</sup> century AD.
3. Annica HEPP CARDELL: "Lost and Found" A Methodological Study of Fish Retrieval
4. Ruby CERON CARRASCO: The fish remains from Bostadh Beach, Great Bernera, Isle of Lewis, Scotland.
5. Andrew JONES: Fish bones and public archaeology. Why we must involve children and prisoners.
6. Sophia PERDIKARIS: Commercial Signatures across the North Atlantic: The saga of *Gadus morhua*.
7. Richard HOFFMAN: Exotic Food: Medieval Europeans eating fish from outside natural local ecosystems.

8. Claudia MILNE & Pamela CRABTREE: From Sea to City: Commercial Fishing in 19<sup>th</sup> Century New York City.
9. Ruth GREENSPAN: Prehistoric Fishing on the Southern Northwest of North America.
10. Virginia BUTLER: Human caused resource depression in the late Holocene: an example from the Lower Columbia River, Oregon, USA.
11. Andrew JONES: Workshop: Presenting fish bone work to the general public.
12. Wim VAN NEER: Short and long-distance trade of fish in Turkey.
13. Irit ZOHAR, Wim VAN NEER, Nadel DANI: Cyprinid Exploitation at the Sea of Galilee by Early Epipalaeolithic Hunter-Gatherers: Preliminary results.
14. Foss LEACH and Janet DAVIDSON: Estimating Fish Size from Archaeological Bones within one family: A detailed look at three species of Labridae.
15. Greg MONKS: How much is enough?: An approach to sampling ichthyofaunas.
16. Margarethe UERPMANN: Significance of fishing at sites of different time periods in the Arabian Gulf area.
17. Bill BELCHER: Households and Fish Remains at Balakot and Harappa - Comparisons from the Indus Valley Civilization.
18. Mark BEECH and Mohamed SALEM: Modelling the ancient seasonal exploitation of marine resources in the southern Arabian Gulf: a study of archaeological otoliths and modern fisheries data.
19. Omri LERNAU: "Fish and Chips" for the audience of King Herods' "Amphitheatron" in Cesarea.
20. Judith POWELL: Fishing in the North Aegean Mesolithic and Neolithic - evidence from Youra, Greece.
21. Chris MOSSERI-MARLIO: The fat is in the Fire: A Bronze Age Dolphin Processing Site at Ra's al'Hadd, Oman.
22. Irit ZOHAR: Large Molariform Fish Teeth from the Lower/Middle Pleistocene Acheulian Site of Gesher Benot Ya'aqov, Israel: A brief communication.
23. Foss LEACH: Review of Fishing in the Pacific.
24. Alfred GALIK: Fish scale morphology of Fresh Water.
25. Heide HÜSTER-PLOGMANN and Andre Rehazek: Historical record versus archaeological data. Fish remains from roman and medieval sites in Switzerland.
26. Daniel MAKOWIECKI: The Evolution of Fish Fauna in the Lowland of Northern Central Europe.
27. László BARTOSIEWICZ: Bronze Age Fish Remains in the Tisza River Region, Hungary.
28. Alfred GALIK: Historical and ichthyological evidence of fish consumption in Medieval Austria.
29. Heather BUILTH: Aboriginal occupation and migrating eels, a GIS approach to cultural landscapes.
30. Kristin BOSMA: Roman Period fishing in the Dutch terpen region.
31. Ana Fabiola GUZMÁN and OSCAR POLACO: Fishes consumed in a XVI century house of Mexico City.
32. Phillipe BÉAREZ: Archaic Fishing in Southern Peru Coast.

33. Arturo ACERO: The CGSM (Colombian Caribbean): Fisheries in the Past and Present.
34. Sandrine GROUARD: Methodological approach in the body size reconstruction of two fish families (Lutjanidae and Scaridae) from cranial bones. Applications to the ichthyoarchaeological remains of Anse a la Gourde (Guadeloupe, West-indies) from the period holocene Saladoid.
35. A. MORALES, E. ROSELLÓ, V. VASQUEZ and T. ROSALES: The Fishes from Mo Che (Peru)



### 11<sup>th</sup> MEETING – 2001: Paihia, New Zealand (October 8<sup>th</sup>–15<sup>th</sup>)

organized by Foss LEACH

1. László BARTOSIEWICZ, Vasile SISU and Clive BONSALE: The history of sturgeon fishing in the Danube.
2. Philippe BÉAREZ. Sciaenids' otoliths: A useful tool for size reconstruction of consumed fishes in southern Peru archaeological sites and a help for understanding fishing strategies.
3. William BELCHER: Maritime adaptation on the Downeast Coast of Maine (USA): Fish remains and seasonality of the Roque Island Archipelago.
4. Heather BUILTH: Lipids as archaeological bio-markers for testing Gunditjmara settlement in south eastern Australia.
5. Matthew CAMPBELL: Taphonomy and archaeofaunal analysis of fish bone from Pleasant River Mouth, New Zealand.
6. Richard COOKE: Fishing by habitat in tropical tidal estuaries: A case study from Parita Bay, Panama.
7. Janet DAVIDSON, Foss LEACH and Christophe SAND: 3000 years of fishing in New Caledonia and the Loyalty Islands: A Pacific anomaly?
8. Jean DESSE and Nathalie DESSE: Tunas (Thunnus, Euthynnus, Katsuwonus) and Scaridae (parrot fishes) from Polynesia to the Indo-Pacific: Skeletal exploitation and archaeological interpretations.
9. Arlene FRADKIN and Omri LERNAU: The fishing economy at Caesarea Maritima, Israel.
10. Ruth GREENSPAN: Patterns of fish use and processing in contrasting coastal environments.
11. Ana Fabiola GUZMÁN and Oscar POLACO RAMOS: A comparative analysis of fish remains from some Mexica offerings.
12. Ana GUZMÁN and Oscar POLACO RAMOS: Hyperostosis in Mexican fishes.
13. Lucy JOHNSON: Prehistoric fishing technologies and species targeted in the Aleutian Islands: Archaeological and ethnohistoric evidence.



14. Sharyn JONES-O'DAY: Change in marine resource exploitation patterns in prehistoric Jamaica: Human impacts on a Caribbean island environment.
15. Leif JONSSON and Louise JONSSON: Fish hooks and marine fishes exploited during the Mesolithic and Neolithic stone age periods on the Swedish west coast.
16. Tonya LARGY, Peter BURNS, Elizabeth CHILTON and Diana DOUCETTE: Lucy Vincent Beach: Another look at the prehistoric exploitation of Piscine resources off the coast of Massachusetts, U.S.A.
17. Foss LEACH and Janet DAVIDSON: Freshwater and marine eels: food avoidance behaviour and/or differential preservation in the Pacific and New Zealand.
18. Tony LEGGE: The Third wave: colonisation and the acclimatisation of Salmondids in New Zealand.
19. Omri LERNAU and Dani GOLANI: The political significance of fish in Lachish.
20. Alison LOCKER: Fish as food: Evidence of stored fish in domestic deposits and comparison of herring and the gadids by 'portion' versus bone numbers.
21. Akira MATSUI and Osamu TAKAHASHI: The significance of anadoromus Salmonidae in Japan.
22. Rebecca NICHOLSON. Social storage and the rise of fish as an economic resource in Shetland.
23. Alaric NICHOLLS, Melinda ALLEN and Elizabeth MATISOO-SMITH: Application of mtDNA to problems in Polynesian fisheries studies.
24. Patrick O'DAY: Exploitation of freshwater shellfish (Unionidae) from Stallings Island.
25. Rintaro ONO: First study of prehistoric marine fishing in Borneo: The analysis of bones excavated from Neolithic site in Sabah, Borneo Island.
26. Sophia PERDIKARIS: Nabone data products.
27. Fiona PETCHEY: Problems and prospects of radiocarbon dating archaeological fish bones.
28. Tony PITCHER: Back to the future: Why tommorrow's fisheries need fish remains archaeologists.
29. Elizabeth REITZ: Archaeological evidence for change in marine fishes off the southeastern United States.
30. Eufrasia ROSELLÓ IZQUIERDO and Arturo MORALES-MUÑIZ: A new look at the fish remains from Cueva De Nerja (Costa Del Sol, Spain): a paleocultural and biogeographic perspective.
31. Jim SAMSON: Metrical and other characteristics of tarakihi (Family: Cheilodactylidae, Species: Nemadactylus macropterus).
32. Ian Smith: New Zealand fishing in nutritional perspective.
33. Sue STALLIBRASS: Fishers of men: Archaeology, art, religion and dead fish.
34. Ian STREETER: Reconstructing season of capture from growth increments on archaeological rockfish (Sebastes sp.) vertebrae: Implications for seasonality and settlement patterns on the west coast of Vancouver Island.
35. Hans-Peter UERPMANN: Fishing gear from Stone Age sites in the Oman Peninsula.
36. Margarethe UERPMANN: Changing patterns of coastal fisheries in SE-Arabia from the 5th to the 1st millennium BC.

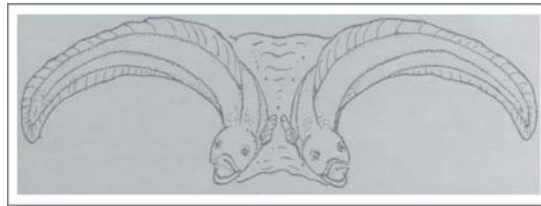
37. Deborah VALE: Marine faunal assemblages on the mid-north coast of New South Wales, Australia.
38. Marshall WEISLER and Chris LALAS: When is enough, enough?: Sampling fish bones from archaeological sites for estimating length-frequency distributions of prey species.
39. Elizabeth WING: To catch a shark: Prehistoric shark fishing in the circum-Caribbean.

### **12<sup>th</sup> MEETING – 2003: Guadalajara, Jalisco, México (September 4<sup>th</sup>-12<sup>th</sup>)**

**“Presencia de la arqueoictiología en México. *Presence of the archaeoichthyology in México*”** – organized by Ana Fabiola GUZMÁN, Óscar J. POLACO and Felisa J. AGUILAR

1. Colin AMUNDSEN: Early medieval fishing activity in the Kola Peninsula.
2. László BARTOSIEWICZ: Eat not this fish-a matter of scaling.
3. Philippe BÉAREZ & Richard LUNNISS: Scombrid fishing at Salango (Manabí, Ecuador) during the first millenium BC.
4. Ruby CERON-CARRASCO: Caravan trails in antiquity.
5. María Isabel GONZÁLEZ de BONAVERI, Damián MOCCIOLA & Gabriel Gustavo GIACOBONE: Identificación de vértebras de peces explotados durante el Holoceno tardío en la región Pampeana Argentina.
6. Ruth L. GREENSPAN: Environmental reconstruction at seaside, Oregon: contributions of the fish bone assemblages.
7. Sandrine GROUARD: Pre-Columbian fishing strategies in Guadeloupe archipelago (FWI).
8. Ana Fabiola GUZMÁN & Óscar J. POLACO: Archaeological record of shark, ray, and sawfish remains in México.
9. Sheila HAMILTON-DYER: Exploitation of marine resources at Quseir, Egypt: Same stuff, different date?
10. Abraham KOBELKOWSKY: Comparative osteology of the mojarras (Pisces: Gerreidae).
11. Lembi LÕUGAS: Did Stone Age people eat fish or meat: stable isotope and archaeozoology data.
12. Daniel MAKOWIECKI: Neolithic fishing on the Polish area.
13. Daniel MAKOWIECKI: Culture and fishes in the past.
14. Nina MANASERYAN: The fishes of the ancient Armenia.
15. Sónia MARQUES GABRIEL: La ictiofauna de los concheros mesolíticos del Valle del Sado (Portugal) - propuesta de estudio e integración.
16. Arturo MORALES & Eufrasia ROSELLÓ: Gihayu: A 6th millennium BC fishing station on the coast of Yemen.
17. Argentina Javier MUSALI, Alejandro ACOSTA & Daniel LOPONTE: Methodological issues: an attempt to assess bone representation of Pampa's Wetlands ichthyoarchaeological record.
18. Anna C. NOAH: Status and fish consumption: inter-household variability in a simple chiefdom society on the California Coast.

19. Sophia PERDIKARIS: Freshwater and marine fish in inland sites in North Iceland.
20. Sophia P. PERDIKARIS, Thomas MCGOVERN, Yekaterina KRIVOGORSKAYA & Matthew WAXMAN: Early modern fisher-farmers at Finnbogastadir and Gjogur in Northwest Iceland.
21. Fermín REYGADAS DAHL & Gerardo González BARBA: Ornamento elaborado con dientes de tiburón impregnado a un cráneo humano del sitio prehispánico El Conchalito (Ensenada de La Paz), Baja California Sur, México.
22. César Antonio RODRÍGUEZ ARCE: Nueva metodología para el estudio de los remanentes faunísticos de los sitios arqueológicos en Cuba.
23. Eufrasia ROSELLÓ, Arturo MORALES, Darío BERNAL & Alicia ARÉVALO: Salsas de pescado de la factoría romana de Baelo Claudia (Cádiz, España).
24. Christophe SAND: Fish hooks and other fishing implements found in archaeological contexts in New Caledonia: new perspectives on fishing techniques during southern Melanesia's prehistory.
25. Thomas A. WAKE: Prehistoric fisheries of the greater Soconusco region, pacific coastal Chiapas and adjacent Guatemala.
26. Wim VAN NEER, Anton ERVYNCK, Loes J. BOLLE, Adriaan D. RIJNSDORP & Richard S. MILLNER: Seasonality only works in certain parts of the year. The reconstruction of fishing seasons through otolith analysis.



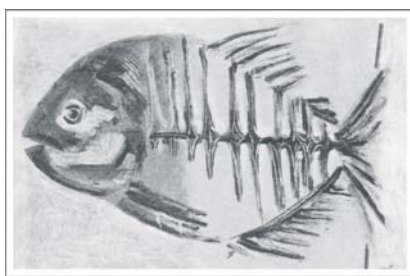
**13<sup>th</sup> MEETING – 2005: Augusta Raurica, Basel/Augst, Switzerland (October 4<sup>th</sup>-9<sup>th</sup>)**

**“The Role of Fish in Ancient Time” – organized by Heide HÜSTER-PLOGMANN**

1. R.-M. ARBOGAST, B. CLAVEL: Hunting, fishing and ancient Neolithic traditions in the North of France.
2. J. BARRETT: Freshwater Fishing in Early Medieval England: The evidence from Flixborough.
3. M. BAZZANELLA, U. WIERER: Mesolithic wetland exploitation at Galgenbühel/ Dos de la Forca (Bozen, Eastern Alps).
4. Ph. BÉAREZ: Inland fisheries in the Llanos de Mojos, Bolivian Amazonia. The site of Loma Mendoza (400 – 1400 A.D.).
5. L. BEJENARU, S. STANC, C. TARCAN: Fishing on the territory of Romania during Medieval times.
6. N. BENECKE, K. PRIVAT, J. SCHNEEWEISS: Fish as a food resource in the Late Bronze Age of Western Siberia: faunal evidence versus palaeodietary analysis of human remains and residues from ceramic vessels.
7. I. BØDKER ENGHOF: Viking age freshwater fishing at Viborg, Denmark. Results from an interdisciplinary research project with special focus on methods of excavation.

8. R. CERÓN-CARRASCO, D. STONE, C. BONSALE – MaRS: An introduction to a database of Marine Resource exploitation in Scotland.
9. J. DESSE, N. DESSE-BERSET : Exploitation du milieu marin par les populations du littoral au Bélouchistan (Pakistan), et leur contacts avec les oasis de l'intérieur, dès la fin du Vème millénaire BC.
10. A. ERVYNCK: Fish and fishing at the late medieval coastal settlement of Walraverside (Flanders, Belgium).
11. A. FRADKIN: Pre-Columbian fishing in the Everglades, South Florida, USA.
12. A. GALIK: Fish consumption, economical and social impact in late Hellenistic and Roman Ephesos.
13. R. L. GREENSPAN: The Distribution and Interpretation of Pacific Hake (*Merluccius Productus*) Remains from Archaeological Sites along the West Coast of North America.
14. A. F. GUZMÁN, O. J. POLACO: Fishing in Prehispanic México.
15. D. HEINRICH: Some remarks on the postglacial immigration of wels (*Silurus glanis*), pikeperch (*Stizostedion lucioperca*) and asp (*Aspius aspius*) into Scandinavia and northwestern Central Europe.
16. R. HOFFMANN: “Strekfusz”: a competitor to imported stockfish in late medieval eastern Europe.
17. J. KILROY: The Pedantic Hansa? An unusual fish bone assemblage from the Knowe of Skea, Orkney, Scotland.
18. A. KRAIKOVSKI, I. TARASOV: The project “The Russian Baltic fisheries on the base of the Russian cadastres of the 16<sup>th</sup> and 18<sup>th</sup> cc. and their comparison with the 19<sup>th</sup> c. documents” – first results and future perspectives.
19. Y. KRIVOGORSKAYA: Fish and Fishing: A profile of marine fish exploitation in the Westfjords of Iceland.
20. L. LÕUGAS, A. JÜRGENSON: The history of fishery in Estonia on the basis of archaeological and ethnographical data.
21. A. LUDWIG, U. ARNDT, L. DEBUS, D. MAKOWIECKI, N. BENECKE: What ancient DNA analysis tell us for the present day restoration of Baltic sturgeon.
22. D. MAKOWIECKI: Preliminary results of fish identification from Tell el-Farkha (Delta of Nile).
23. L. MIRANDA MUÑOZ: The importance of the anchovy and sardine in the diet, the economy and the emergence of the complex late archaic society in Caral-Supe, Peru.
24. R. PARKS: Sea and Sand: seasonal fishing in the Mesolithic of Scotland in the “Fish Event Horizon”: Results from Quoygreew and Earl’s Bu, Viking Age and Medieval sites from Orkney, Scotland.
25. G. A. PEÑA: Ancient seasonal fishermen of the Magdalena River in Colombia.
26. S. PERDIKARIS: Dead Fish Swim Upstream: Inland consumption of fish in Myvatn, Iceland.
27. A. REHAZEK, M. NUSSBAUMER: Fish remains from a 16<sup>th</sup> century noble household in Unterseen, Bernese Oberland, Switzerland.
28. J. STUDER: Like a fish out of water : The role of fish in the diet of Classical and Medieval populations living in the Petra region (Jordan).

29. G. THÜRY: Freshwaterfish on Roman Tables. What Roman Authors wrote about Culinary Ichthyology.
30. W. VAN NEER, A. ERVYNCK, S. HAMILTON-DYER: A review of archaeozoological evidence for fish sauces and salsamenta in Europe, northern Africa and the Near East.
31. A. F. ZANGRANDO: Fishbone assemblages in the Beagle Channel region: the implication of fish in the subsistence of southern South American sea-nomads.



**14<sup>th</sup> MEETING – 2007: Antibes, France (October 18<sup>th</sup> -20<sup>th</sup>)**

**“ARCHÉOLOGIE DU POISSON - Exploitations et impacts, transformations et usages, paléoenvironnements” - 30 ans d’archéo-ichtyologie au CNRS: Hommage aux travaux de Jean Desse et Nathalie Desse-Berset – organized by Philippe BÉAREZ, Sandrine GROUARD and Benoît CLAVEL**

Oral presentations:

1. James BARRETT, Jennifer HARLAND: Why Do People Fish ? A Viking Age Perspective.
2. Luminita BEJENARU: Information concerning the fish in the historical documents of Iasi City (Romania).
3. Megan CALDWELL: Fish traps and shell middens : Examining the role of fish traps in Comox Harbour, British Columbia, Canada.
4. Diana Rocio CARVAJAL CONTRERAS: Fish Heads and Fish Tails : Taphonomy of fishing at a coastal rockshelter in Panama.
5. Ruby CERON-CARRASCO: Fish remains in domestic contexts : ‘A question of scales’. A study from a Late Iron Age settlement in Lewis, Western Isles of Scotland.
6. 6. Louis CHAIX, Salah El-Din MOHAMED-AHMED: Une sauce plurimillénaire, le tirkiné soudanais.
7. Richard COOKE, Maximo JIMENEZ: Marine catfish of the eastern tropical Pacific : taxonomy, ecology and role in pre-colombian subsistence.
8. Michelle COURTEMANCHE: Aperçu de la pêche à l’anguille d’Amérique (*Anguilla rostrata*) dans le Haut-Saint-Laurent (Canada) préhistorique.
9. Anton ERVYNCK, Wim VAN NEER: Fish processing and consumption at the ancient city of Chersonesos (Crimean peninsula, Ukraine).
10. Arlene FRADKIN, H. Sorayya CARR: Middle Formative Fishing at Cuello, Belize.
11. Ruth L. GREENSPAN: « Garden Hunting » in Canals : Artificial Extension of Aquatic Habitats as a By-Product of Canal Irrigation in the American Desert Southwest.
12. Ana Fabiola GUZMAN CAMACHO, Salvador GUILLIEM, Oscar J. POLACO: The fishes

- from a XVIth century waterbos at Tlatelolco, Central Mexico.
13. Jennifer HARLAND, Cluny JOHNSTONE, Andrew JONES, Mike RICHARDS: A Case Study from the Medieval Origins of Commercial Fishing Project : Zooarchaeological and isotopic results from York.
  14. Richard C. HOFFMANN: Aquaculture in champagne before the Black Death (1348-50).
  15. Máximo JIMÉNEZ , Richard COOKE : Pre-columbian and early colonial fishing at a coastal site in Panama (Panama la Vieja).
  16. Olivier LE GALL: Les poissons des eaux douces pléistocènes sont-ils des indicateurs paléoclimatiques ? Une approche élargie à l'Europe.
  17. Richard LUNNISS, Philippe BÉAREZ: The archaeo-ichthyological evidence from the Machalilla phase village at Salango and its implications for the history of fishing on the central coast of Ecuador.
  18. Daniel MAKOWIECKI : Fishing of sturgeon in Polish Lowland during Holocene.
  19. Luis MIRANDA MUNOZ : The importance of the anchovies and sardine in the diet, the economy and the emergence of the complex late archaic society in Caral-Supe, Peru.
  20. Arturo MORALES, Eufrasia ROSELLO: Iruña-Veleia (Alava, Spain) : A third century ad roman site from the basque country.
  21. Werner MULLER: The fish remains of the Upper Palaeolithic sites Champréveyers and Monruz (Neuchâtel, Switzerland).
  22. Tarek OUESLATI: Paleo-Christian trade and consumption of fish in Limenas (VII th c. A.D., Thasos, Greece).
  23. Albina Hulda PALSDOTTIR: The Tjarnargata 3C archaeofauna : Fishing industry and the rise of urbanism in pre-modern Iceland.
  24. Sophia PERDIKARIS, Thomas H. MCGOVERN: Codfish and Kings, Seals and Subsistence : Norse Marine Resource Use in the North Atlantic.
  25. Valentin RADU, Marjan MASHKOUR: Ancient carp (Cyprinidae) on the Iranian Plateau : the case of Yafteh cave and tappeh Hesar.
  26. Carmen Gloria RODRIGUEZ SANTANA, Véronica ALBERTO BARROSO, Abel GALINDO RODRIGUEZ: Escamas y cuernos: a proposito de asociaciones insolitas en el yacimiento del Lomo de los Melones (Telde, Gran Canaria).
  27. Elena SALMINA: Medieval fishing in Pskov-Peipsi lake (North-West Russia) on the archaeological data.
  28. Tony SILVINO, Catherine HANNI, Gaël PIQUES: Salaisons et sauces commercialisées à *Lugdunum* (Lyon, France) aux III<sup>e</sup> et IV<sup>e</sup> siècles : analyse pluridisciplinaire des restes de poissons marins issus des contextes stratigraphiques de la fouille du Parc Saint-Georges.
  29. Simina STANC: Analyse archéozoologique des restes de poissons provenant du site de Slava Rusa (Roumanie).
  30. Myriam STERNBERG: La pêche dans l'économie des sociétés méditerranéennes du VIII<sup>e</sup> s. av. n.-è. au III<sup>e</sup> S. de n.-è. : apports de l'archéo-ichtyologie.
  31. Jacqueline STUDER: Like a fish out of water: The role of fish in the diet of Classical and Medieval populations living in the Petra region (Jordan).
  32. Tatiana THEODOROPOULOU: Évolution de l'exploitation des ressources aquatiques au passage du Néolithique à l'âge du Bronze en Égée septentrionale : paramètres culturels

ou environnementaux ?

33. Günther E. THÜRY: Species of Fresh Water Fish in Roman Culinary Use. The Testimonies of Literary Sources.
34. Teresa TROST : Effects of Identifying a Subset of Fish Skeletal Elements on Archaeological Interpretation of a Site.
35. Wim VAN NEER, James BARRETT, Cluny JOHNSTONE, Jennifer HARLAND, Anton ERVYNCK, Inge ENGHOF, Anne Karin HUFTHAMMER, Colin AMUNDSEN, Sheila HAMILTON-DYER, Dirk HEINRICH, Andrew JONES, Leif JONSSON, Alison LOCKER, Lembi LOUGAS, Daniel MAKOWICKI, Wietske PRUMMEL, Callum ROBERTS, Mike RICHARDS: Origines de l'intensification des pêches maritimes dans le Nord de l'Europe aux 1<sup>er</sup> et 2<sup>e</sup> millénaires de notre ère.
36. Wim WOUTERS, Luc MUYLAERT, Wim VAN NEER: Osteomorphological distinction between plaice (*Pleuronectes platessa*), flounder (*Platichthys flesus*) and dab (*Limanda limanda*) : how and why?
37. Michael ZEHETER: To Prevent a Disorder in the Lake: The Regulation of Lake Constance Fisheries c. 1350-1800.
38. Irit ZOHAR, Miriam BELMAKER: Fish, fishing and the environment within: A taphonomical case study from Lake Kinneret, Israel.

Poster presentations:

39. Patrick BERREBI, Nathalie DESSE-BERSET, Marie PAGES, Laurent BROSE, Christelle TOUGARD, Catherine HANNI: Identification spécifique de la population éteinte d'esturgeons du Rhône par séquençage de l'ADN mitochondrial de restes osseux datant du 6<sup>e</sup> au 2<sup>e</sup> siècle avant J.-C.
40. Vincent CARPENTIER, Bruno FAJAL: La gestion des ressources piscicoles d'une abbaye normande au XVIII<sup>e</sup> siècle d'après un registre d'exploitation inédit.
41. Giovanni DISTEFANO: Fauna ittica fra la Sicilia e l'Africa. Esempi da repertori musivi bizantini.
42. Yvon DREANO: Etude de la vieille commune (*Labrus bergylta*) du site de la Tène final de l'île aux Moutons, Finistère.
43. Elise DUFOUR, Philippe BEAREZ: Reconstruction of palaeoenvironments based on otolith geochemical tracers.
44. Manoel GONZALEZ: Use of *Carcharias taurus* (Elasmobranchii, Lamnidae), by Fishing-Gatherers on the Coast of Sao Paulo, Brazil.
45. Sandrine GROUARD: Reconstitution de la taille de huit familles de poissons par l'ostéométrie (Acanthuridae, Carangidae, Haemulidae, Holocentride, Lutjanidae, Scaridae, Scombridae, Serranidae) : application aux restes archéozoologiques de la Caraïbe.
46. Ramona HARRISON: A Fish puzzle – Preliminary results on fish remains from the high medieval trading station at Gásir, N Iceland.
47. Sharyn JONES: Zoo-and ethno-archaeological contributions to marine ecology : A long-term perspective on change.
48. Evelyn KEAVENEY: Radiocarbon Reservoir Corrections for Freshwater Fish in Britain and Ireland.

49. Rita LARJE, Leif JONSSON: Combined length estimation and vertebral number identification in Atlantic Bluefin tuna *Thunnus thynnus* (Scombridae).
50. Lembi LOUGAS: Fishing during the Viking Age in the eastern and western Baltic Sea.
51. Ricard MARLASCA MARTIN: Les restes d'ichtyo-faune de la grotte cova Riuets (Formentera, Baléares).
52. Carina OLSON: Neolithic Cod (*Gadus morhua*) and Herring (*Clupea harengus*) Fisheries in the Baltic Sea.
53. Hannah RUSS: Taphonomy and Human Accumulation of Fish Remains at Palaeolithic sites in Europe. Grotto di Pozzo ; A Case Study.
54. Konrad SMAROWSKI: Preliminary Analysis of Ichthyological Remains from an Early Medieval Trading Emporium at Janów Pomorski (Truso) in Northern Poland.
55. Justine VORENGER, Benoît CLAVEL: Pêche à la fin du Néolithique ancien en basse vallée de la Marne (le cas de Fresnes-sur-Marne).



**15<sup>th</sup> MEETING – 2009: Poznań-Toruń, Poland (September 3<sup>rd</sup> -9<sup>th</sup>)**

**“Fishes – Culture – Environment. Through Archaeoichthyology, Ethnography & History”** – organizing committee: Daniel MAKOWIECKI, Wojciech CHUDZIAK, Andrzej M. WYRWA, Michał BRZOSTOWICZ, Mirosław MAKOHONIENKO

SESSION: PREHISTORIC AND MEDIEVAL FISHING IN THE NORTH ATLANTIC REGION

1. James BARRETT, Cluny JOHNSTONE, Jennifer HARLAND, Wim VAN NEER, Anton ERVYNCK, Daniel MAKOWIECKI, Dirk HEINRICH, Anne Karin HUFTHAMMER, Inge BØDKER ENGHOF, Colin AMUNDSEN, Andrew K. G. JONES, Alison LOCKER, Sheila HAMILTON-DYER, Leif JONSSON, Lembi LÕUGAS & Michael RICHARDS: The medieval origins of commercial Sea Fishing Project: a preliminary synthesis.
2. Wim VAN NEER, Anton ERVYNCK, Benjamin T. FULLER, Patrick DEGRYSE & Wim WOUTERS: Freshwater fisheries in Belgium during medieval and postmedieval times: looking for markers for the onset of overfishing and pollution.
3. Ian RIDDLE & Nicola TRZASKA-NARTOWSKI: From Dover to New Romney: medieval fishing in south-east Kent, England.
4. Arlene FRADKIN: Pre-Columbian estuarine fishing along the lower St. Johns River, Florida, USA.
5. Sheila HAMILTON-DYER: Cod, calves and clerics: the remains from Skriðuklaustur monastery, Iceland.
6. Richard C. HOFFMANN: Puzzling out medieval herring from a pan-European perspective.



7. Monica DÜTTING: Fishing in the Netherlands in Roman times.

SESSION: FISHES AND FISHERY IN THE BALTIC / BLACK SEA DRAINAGE BASINS

8. Lembi LÕUGAS: Palaeolithic fish from southern Poland: a palaeozoogeographical approach.
9. Ken RITCHIE: Late Mesolithic fishing in Northwest Zealand, Denmark.
10. Dirk HEINRICH & Ulrich SCHMÖLCKE: Some aspects concerning the Holocene development of the vertebrate fauna and the related environmental change in the south-western Baltic area.
11. Mirosława ZABILSKA: Archaeoichthyology and archaeology in reference to fishing in Late Bronze Age and Early Iron Age in Polish Lowland.
12. Mirosława ZABILSKA, Jerzy M. ŁAPO & Janusz JANOWSKI: Fish remains from the Site of Kal, a 5th – 7th century settlement in the Mazovian Lakeland. Preliminary data.
13. Andrzej M. WYRWA & Daniel MAKOWIECKI: Fish in the menu of the Cistercians from Łekno and Bierzwnik (Poland). An historical and archaeoichthyological consideration.
14. Adam CHEĆ: The fishes and fishery in the Teutonic Knights State in Prussia according to written and archaeozoological sources.
15. Stanisław CIOS: What do we know about the extinction of sturgeon in Poland?
16. Elena SALMINA: Fishery organization in medieval Pskov: fishing tool owners' marks as a historical source.
17. Alexei V. KRAIKOVSKI: The governmental projects of modernization of herring fisheries in Russia (18<sup>th</sup> – 19<sup>th</sup> cc.).
18. Elona LYASHKEVICH: The ancient fishing of Belarusion Polesye.
19. Alfred GALIK, Günther Karl KUNST & Silvia RADBAUER: Fish remains from a stratigraphic sequence from the Roman civil town of Carnuntum (Lower Austria).

SESSION: FISHES AND FISHING IN MEDITERRANEAN AND AFRICA REGION

20. Sónia GABRIEL, Carlos FABIÃO & Iola FILIPE: Fish remains from the *Casa do Governador* - a Roman fish processing factory in *Lusitania*.
21. Eufrasia ROSELLO IZQUIERDO & Arturo MORALES MUÑIZ: The onset of commercial fishing in the western Mediterranean: Castro Marim (Algarve, Portugal) and Los Gavilanes (Murcia, Spain).
22. Tatiana THEODOROPOULOU & Georgia STRATOULI: Fishbones vs. fishhooks: a comparative study from the Neolithic lakeside settlement of Dispilio, Greece.
23. Irit ZOHAR & Rebecca BITON: Fish speciation and endemism in the Paleo Lake Hula, Israel.
24. Marek CHŁODNICKI & Daniel MAKOWIECKI: **Archaeology and archaeoichthyology on fish and fishing at Tell el Farkha (Egypt – predynastic and early dynastic times).**
25. Eréndira Quintana MORALES: Swahili fishing culture and fish consumption in coastal East Africa.

SESSION: FISHES AND FISHING IN THE WEST AND NORTH PACIFIC OCEAN REGION

26. Fredeliza Z. CAMPOS: Prehistoric fishing in the northern Philippines: ecological and

cultural implications in islands of southeast Asia.

27. Eriko ISHIMARU, Ichiro TAYASU, Tetsuya UMINO, Minoru YONEDA & Takakazu YUMOTO: Ancient transport in the Japanese archipelago revealed through carbon and nitrogen stable isotope ratios of excavated marine fishes.
28. Eriko ISHIMARU: What kind of fish are these? Bones from the Bancho site and the Yokkaichi site of the Edo period (17<sup>th</sup>-19<sup>th</sup> century) in Japan.
29. Sharyn JONES: 3000 Years of Fishing on Nayau, Lau Group, Fiji.
30. Olga KRYLOVICH: Fish remains from ancient Aleutian archaeological site (Adak island, Aleutian chain) and environmental changes.

SESSION: FISHES AND FISHING IN THE EAST PACIFIC OCEAN REGION

31. Richard COOKE & Máximo JIMÉNEZ: Fishing at pre-Hispanic settlements on the Pearl Island archipelago (Panama, Pacific), I: Pedro González Island (4030-3630 cal BCE).
32. María Fernanda MARTÍNEZ, Máximo JIMÉNEZ & Richard COOKE: Fishing at pre-Hispanic settlements on the Pearl Island archipelago (Panama, Pacific), II: Bayoneta Island (900-1300CE).
33. Philippe BÉAREZ: Fishing the Chilean Fjords in pre-Hispanic times. Evidence from Juan Stuvan Island.
34. A. Francisco ZANGRANDO: The golden fish. Subsistence changes and dietary implications of littoral fishing among sea nomads of Tierra del Fuego.
35. Manoel M. B. GONZALEZ: Zoomorphs of Shark and Rays in the Brazilian Prehistory.

SESSION: ARCHAEOICHTHYOLOGY – METHODOLOGY & METHODS

36. Stéphanie CRAVINHO: Length reconstruction of cyprinids from the measurement of vertebrae: methods and applications on azilian fish bones from Pont d'Ambon (Bourdeilles, Dordogne).
37. Matthew COLLINS, Jen HARLAND, Mike BUCKLEY & Andrew JONES: Zoo-MS: Zooarchaeology by Mass Spectrometry, collagen as a molecular fingerprint for fish remains?
38. H. HÜSTER-PLOGMANN, K. ISMAIL-MEYER & Ph. RENTZEL: Site formation processes and conservation in Neolithic lakeside settlements. Some examples from Arbon / Bleiche 3 (Lake Constance, Switzerland).
39. Wim WOUTERS: Osteological differences within the family of the Cyprinidae.

SESSION: FISHES THROUGH ETHNOGRAPHY

40. Simone HÄBERLE: Archaeo ichthyology and museum. An exhibition about fish and fishing in the past.
41. Artur TRAPSYC: Fishing and fishermen. Collections , exhibitions and research of the Ethnographic Museum in Torun.
42. Wojciech OLSZEWSKI: Polish ethnological research on the traditional fishing.
43. Adrianna GARBATOWSKA: Loach - a poor man's fish.

POSTERS:

44. Monica DÜTTING: Fishing in the Netherlands in Roman times

45. Sally GRAINGER: Roman fish sauce: an experiment in archaeology
46. Eriko ISHIMARU: What kind of fish are these? Bones from the Bancho site and the Yokkaichi site of the Edo period (17<sup>th</sup>-19<sup>th</sup> century) in Japan
47. Sharyn JONES: 3000 Years of Fishing on Nayau, Lau Group, Fiji
48. Anthony James KETTLE: Evidence of ocean circulation change from European eel remains in archaeological and palaeontological sites
49. Simina STANC, Valentin RADU, Luminita BEJENARU: Cyprinid fishing in Dobrudja (Romania) from prehistory to the Middle Ages
50. Wim WOUTERS: Osteological differences within the family of the Cyprinidae
51. Mirosława ZABILSKA, Jerzy M. ŁAPO & Janusz JANOWSKI: Fish remains from the Site of Kal, a 5th – 7th century settlement in the Mazovian Lakeland. Preliminary data