Foraminifera.eu Project Newsletter 2021

sent to 751 subscribers

Planularia protracta (Bornemann, 1854) extracted from Jurassic glacial erratics found near Berlin by Steffen Schneider

A Note from Michael

The foraminifera.eu project (FEU) has seen a productive year 2020 and looks forward to the activities planned for 2021. The team has been enlarged by Prof. Dr. Michal Kucera revising the identification of Quaternary planktonics and Dr. Cesare Brizio with whom we work on the renowned Italian catalogue “Foraminiferi Padani”. Small to substantial contributions of raw material, specimens and images were made by our 152 contributors. Thanks a lot for your continuous or new support !

Our work splits into enlarging the FEU database and webpages, studying foraminifera and outreach.

In 2020 we added 1.500 datasets to the FEU database and reached 16.500 entries. Our team members Cai-Uso, Cesare, Dieter and I have photographed about 750 specimens from two to three perspectives. Identifications were discussed via Zoom by using the Ellis & Messina Catalogues and relevant literature. Another 750 entries to the database were made from images contributed by scientists. For 2021 we plan to reach 18.000 entries. The coverage of genera has only slightly improved to 1680 (=44,2% of all described genera).

The study of foraminifera in glacial erratics resulted in my paper on Eocene foraminifera published September 2020 in Micropaleontology. For 2021 another publication on recent foraminifera is in the pipeline. We became cooperation partner of IceAGE (Islandic marine animals: genetics and ecology) and continued our work with Senckenberg am Meer on North Atlantic forams. Miocene material from Austria and Denmark sampled by us in 2019 was processed and about 100 forams imaged and identified. We continued our work on Campanian material from Lägerdorf, Germany, which will be intensified in 2021.

Outreach: The popularity of foraminifera.eu rose to 202.000+ annual visitors and 280+ GB of downloaded data. FEU is well followed in social media. Our local microfossil group met almost every other week.

For 2021 we hope that some fieldwork will be possible. We are looking forward to your contribution of interesting raw material, specimens and images.

Thank you all !

Michael Hesemann

2: From hobby to science

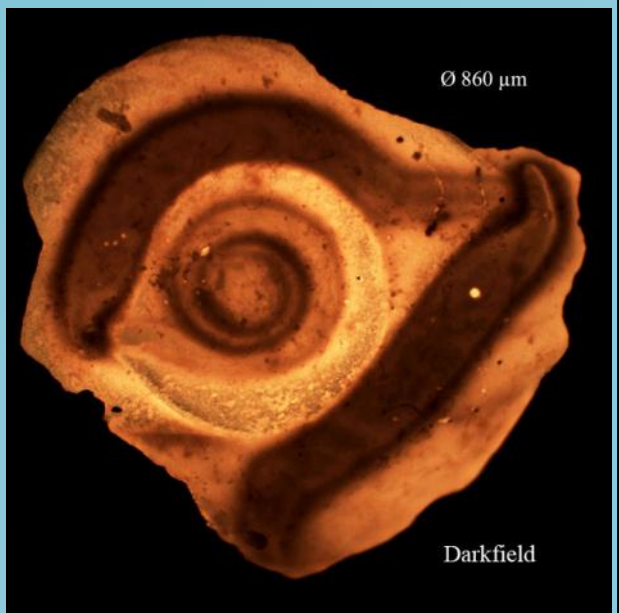
Given its eleven years of free service, the foraminifera.eu project and database has made its way into the scientific world. Loved or hated it is known to almost every scientist dealing with forams. Our pages are accessed from several universities throughout the world every day. It may be concluded that our work is useful for the scientific world. Our team though consists mainly of self-taught avocational scientists with no scientific education in the field of paleontology or marine sciences. No need to address me as Dr. or apply for a job as we are not a well funded scientific institution ! The foraminifera.eu project is a citizen science project organized and funded by us citizen scientists.

Lenticulina inornata (d'Orbigny, 1846) with matrix found in an Eocene glacial erratic at a gravel pit near Lübeck by Stefan Polkowsky

Despite us being far from perfect professional scientists gave support from the beginning and tried to drive us more into science and scientific publications. Notably Prof. Dr. Michael A. Kaminski pushed us over the years onto this path. In September 2020 I hope he was delighted to see my paper on foraminifera in Eocene glacial erratics being published in Micropaleontology. An important pusher is Brian Ottway a retired marine scientist who joined our team several years ago. He inspired me to do my publication on the foraminifera.eu database in Palaeontologia Electronica and proofreads all that I publish in English. The next level was reached when Leon Hoffmann from Senckenberg am Meer made contact and convinced Prof. Dr. Freiwald to let me join his team as avocational scientist at Senckenberg in 2018. These days I am working with Senckenberg on an upcoming publication on North Atlantic forams. As I will soon retire from my regular job I will have more time for scientific publications. Nonetheless my focus still remains to work together with the team on foraminifera.eu and the enlargement of the database. Both activities inspire each other. Scientific contacts lead to interesting samples for the team to be photographed and identified. Discussions in the team lead to ideas for publications. Find more on my scientific record at: www.researchgate.net/profile/Michael_Hesemann2

An example of the mutual benefit for professional and avocational activities is our work on forams from the Reykjanes Ridge. Samples were given to us by Dr. J. Taylor and K. Jeskulke from the German Center for Marine Biodiversity Research, Senckenberg am Meer. The team members Dieter Ketelsen and Cai-Uso Wohler picked, cleaned and photographed 170 specimens, each with 2-3 images from different perspectives. The identifications were discussed in Zoom sessions In 2021 we will add rare species. Our results are at www.foraminifera.eu/loc.php?locality=Reykjanes+Ridge

The IceAge (=Icelandic marine Animals: Genetics and Ecology) Project lists us as cooperation partner.



Cornuloculina inconstans (Brady, 1879)
Darkfield image by Dieter Ketelsen
Reykjanes Ridge

3: The Team

In 2020 Prof. Dr. Michal Kucera, MARUM, University of Bremen joined our team and checks the identification of recent and Quaternary planktonic foraminifera. An example is seen to the left: *Candeina nitida* d'Orbigny, 1839. We are happy that our identification was confirmed which was not the case for all of the 500+ specimens in our database. He also proposed changes in the key to planktonic species. Due to technical issues the changes are not yet implemented. For 2021 it is planned to add more features to this key.

Team members Dieter Ketelsen and Cai-Uso Wohler were again very productive in photographing over 600 specimens and discussing the identifications together with me via Zoom.

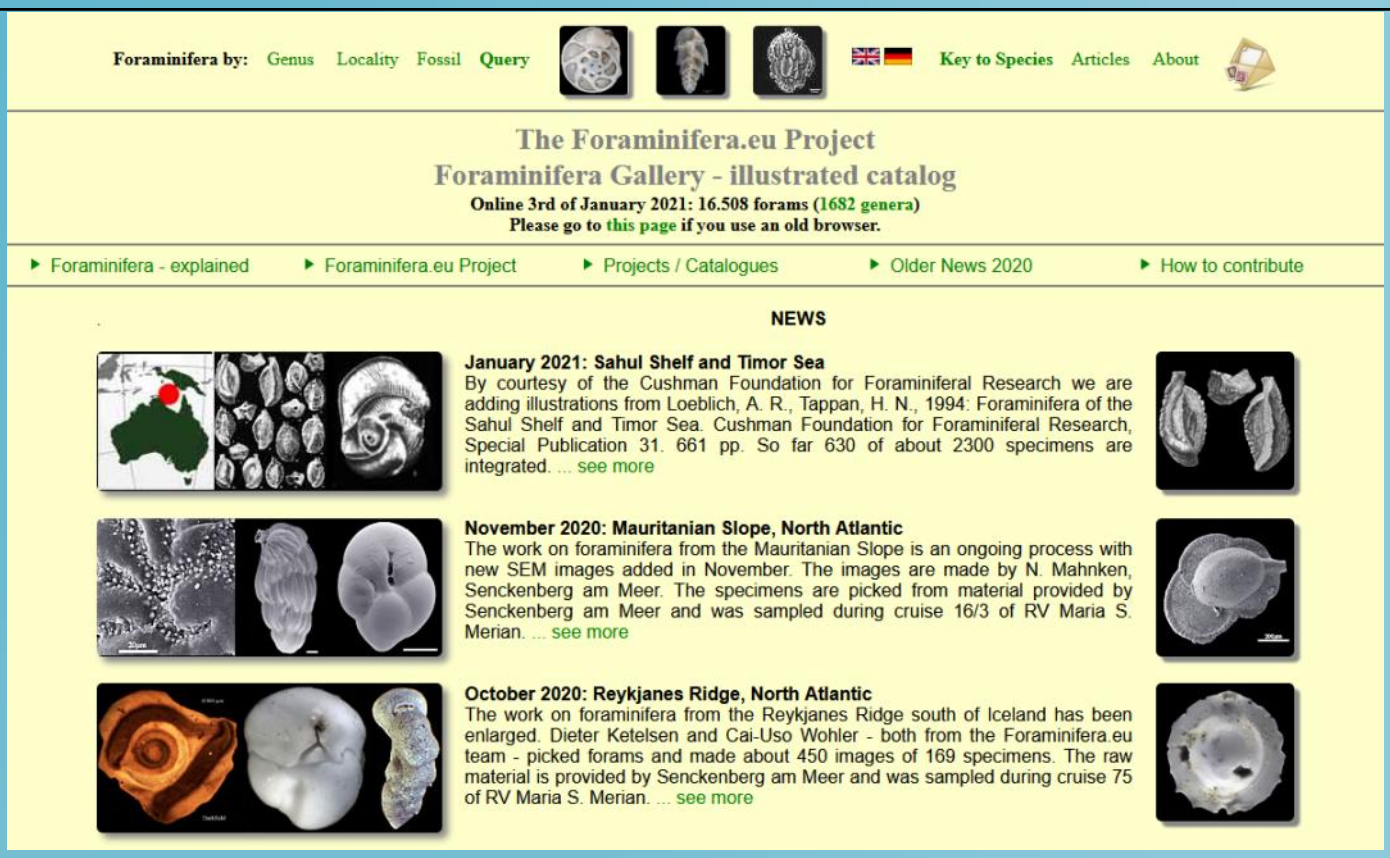
Cai-Uso photographed Miocene specimens from a drill core at Stade near Hamburg provided by team member Stefan Raveling, such as the *Heterolepa dutemplei (d'Orbigny, 1846)* seen to the right. See more at foraminifera.eu/locc.php/locality=Stade

Given the limited possibilities for field work and lack of interesting samples, the photographing will slow down in 2021. It though leaves more time to add images from well-known sources such as Loeblich and Tappan, 1994. Foraminifera of the Sahul Shelf and Timor Sea.

As already mentioned I have to thank Brian Ottway a lot for reviewing the published paper and parts of the upcoming one. Due to travel limitations it was not possible to meet him. The meeting with Stefan Raveling also had to be cancelled.

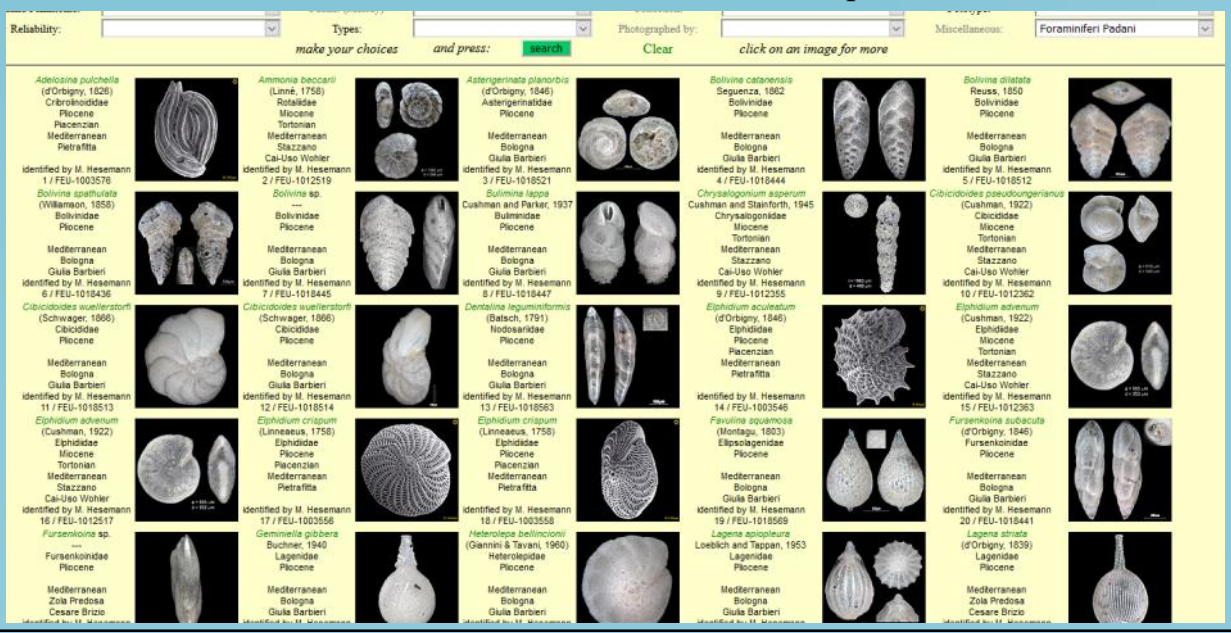
Dr. Cesare Brizio from Bologna, Italy joined the team in 2020. He provided thr images of Eocene foraminifera from Alabama seen below. We started to work on Italian foraminifera and will continue in 2021.

4: Changes to the Webpages



The redesign of the home page in 2020 was well received. Single topics are now presented in a block consisting of text flanked by images. In 2021 it is planned to reprogram parts of the website using full responsive webdesign. At the moment we are digesting literature on responsive webdesign with HTML5 and CSS. We intend to improve the user experience on mobile devices. In 2020 older versions of PHP - a scripting language suited for web development - have been discontinued. We did a lot of reprogramming and updated all pages to the latest PHP version.

Minor changes have been made to the database. The field “collection” is now split into “collection” and “photographed by” as material provided by a contributor may be photographed by someone else. Both though want their contribution to be searchable. All 15.000 datasets needed to be split. The field “Miscellaneous” is added to allow criteria for special collections. The search on “Foraminiferi Padani” results in a plate seen below.



5: Foraminifera in glacial erratics

During the Quaternary ice ages glaciers transported enormous amounts of rock and flakes of geological formations over long to short distances from North and East into the broader Hamburg area, the nearby Baltic coast, Denmark and beyond. These so called glacial erratics range from very old magmatic rock to sedimentary and younger pieces, all left mixed together by the glaciers. They are found widely on the topsoil, along the Baltic cliffs, river flanks and in gravel pits. Sedimentary glacial erratics often contain fossils which are used to date the pieces and correlate them with source areas and formations. The focus for collectors and in publications are mainly macrofossils.

It occurred to Dieter Ketelsen and me, that little to no studies have been undertaken on foraminifera in glacial erratics. We are both members of the Society of Glacial Erratics and presented our plan to study and portray foraminifera from glacial erratics. We collected ourselves and, more importantly, received much material from colleagues of the Society. In the course of time we worked on Campanian flakes in Baltic cliffs, the Eocene Heiligenhafener Kieselgestein, the Oligocene “Sternberger Gestein” and the Miocene flake at Groß Pampau. Our publications are listed on my researchgate page. The latest is Hesemann, M., 2020: Foraminifera in the glacial erratic rock Heiligenhafener Kieselgestein of northern Germany. Micropaleontology 66 (6), 397-418. We are very grateful to Jan Deppermann, Johannes Kalbe, Stefan Polkowsky, Steffen Schneider and Karina and Nils Thiede for providing glacial erratics and specimens.

Lenticulina, Sternberger Gestein, Oligoc. sectioned+photographed by D. Ketelsen

At the moment we are working on Jurassic foraminifera extracted from so called “Kelloway Glacial Erratics”, which despite their name range beyond the Callovian alone. Steffen Schneider contributed a collection of specimens from gravel pits Northeast of Berlin. From the continuous fieldwork 2020/21 led by Stefan Polkowsky we have pieces of Danian yellowish ochre “hornstein” under investigation.

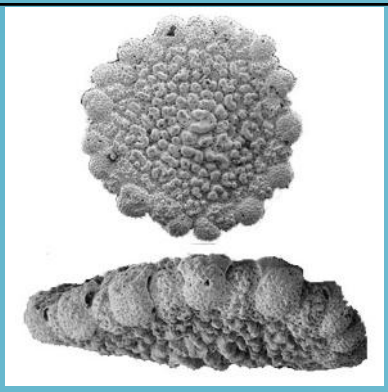
Please consider sending us sedimentary Glacial erratics for investigation for forams.

Lenticulina quenstedti (Guembel, 1862) gravel pit Hohensaaten, Jurassic. Collector: Steffen Schneider, Foto: Michael Hesemann

Find our 350+ datasets on forams from glacial erratics at:

https://foraminifera.eu/querydb.php?misc2=Glacial+erratic&aktion=suche

6: Contributions



Andrea Perl contributed a set of SEM images from her diploma thesis on recent forams from the Gulf of Aqaba. See to the left *Planorbulinella larvata* (Parker & Jones, 1865).

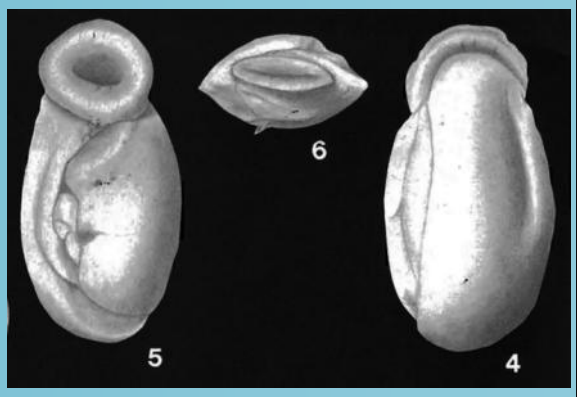
Find more at:

https://foraminifera.eu/collection.php?collname=Andrea+Perl&aktion=suche

The Cushman Foundation for Foraminiferal Research gave permission to integrate the images from Loeblich and Tappan, 1994: *Foraminifera of the Sahul Shelf and Timor Sea*. To date 630+ of about 1800 datasets are integrated. To the right is a drawing of *Wiesnerella ujiiei* Hatta in Hatta & Ujiie, 1992.

Find more at:

https://foraminifera.eu/loc.php?locality=Sahul+Shelf+and+Timor+Sea&aktion=suche

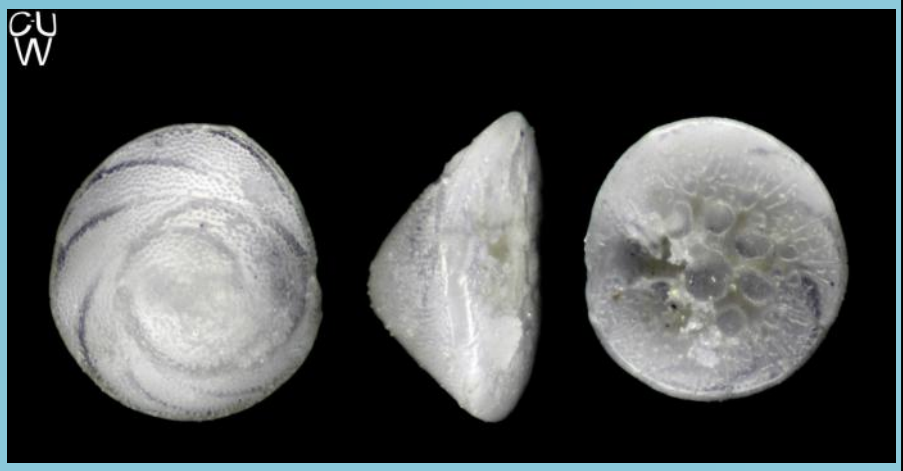


Larry Bell from Texas, USA continuously contributes images of foraminifera he found and extracted from material of Cretaceous outcrops of the Ozan formation near Lavon Lake in Southeast Texas.

Find more at:

https://foraminifera.eu/collection.php?collname=Larry+Bell&aktion=suche

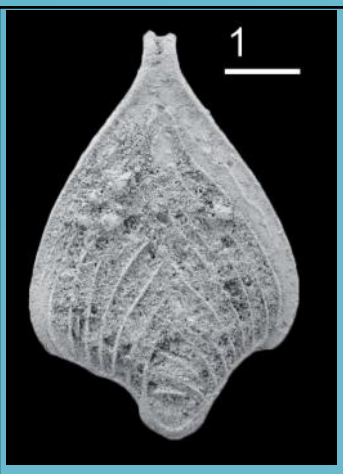
Dr. Hans-Joachim Gregor sent us a huge collection of slides with beach material collected by the deceased collector and world traveler Dieter Schmidt. Cai-Uso Wohler started photographing forams from New Zealand. The identifications will be discussed later in 2021.



Dr. Cesare Brizio: before becoming a team-member, early in 2020, Cesare contributed SEM images from his PhD thesis on foraminifera found in strata Pliocene in Bologna. See all of his contributed images at

https://foraminifera.eu/collection.php?collname=Cesare+Brizio&aktion=suche

7: Contributions



Prof. Dr. Olaf Elicki, University of Freiberg, contributed a huge set of 279 SEM-images of foraminifera from the Cretaceous of Brandenburg and Saxony. An example is seen to the left: *Neoflabellina rugosa* .We know each other from the 9th Course - International School on Foraminifera in Urbino.

See all images at:

https://foraminifera.eu/collection.php?collname=Olaf+Elicki&aktion=suche

Leon Hoffman and Prof. Dr. André Freiwald, Senckenberg am Meer provided new recent material from the Mauritanian Slope. They also facilitated the production of SEM-images. It allowed us to substantially enlarge the coverage of foraminifera from this area. To the right is *Hormosina globulifera* Brady, 1879. So far 499 specimens have been photographed.

See all images at:

https://foraminifera.eu/loc.php?locality=Mauritanian+Slope&aktion=suche

Dr. Giulia Barbieri, University of Bologna, provided several samples from Northern Italy. To the left is *Rectuvigerina siphogenerinoides* (Lipparini, 1932) from Pliocene exposures at the Savena river at Monticella, Bologna.

See more images at:

https://foraminifera.eu/collection.php?collname=Giulia+Barbieri&aktion=suche

The Oligocene clay material collected in 2019 with **Dr. Björn Berning,** Museum Linz, Austria was processed in 2020. Dieter Ketelsen photographed 46 specimens. To the right is *Uvigerina rudlingensis* Papp, 1975.

See more images at:

https://foraminifera.eu/loc.php?locality=Unterrudling&aktion=suche

8: List of Contributors

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Wilke-Launer, Renate
Wilson, Dr. Brent
Wohler, Cai-Uso

9: Outreach

The foraminifera.eu webpage is the main tool to reach out. In 2020 280+ GB of data were downloaded by 202.000+ visitors from 8800+ places in 181 countries. 750+ people subscribe to our annual newsletter. We have only little time for social media and post once a month a photo with a couple of lines. On facebook we have 2000+ subscribers, my twitter feed has 620+ and my instagram presence 200 followers. Even the poorly made youtube videos were watched by hundreds of people. Emails reach us every day and we try to assist, answer the questions and help with the identification of specimens.

Meetings, Talks, Workshops, Fieldwork and Stands in 2020

There are many activities where we train and share our expertise or present certain topics. A monthly meeting of micropaleontologists is held in Hamburg every third Monday from 6.00 to 8.30 p.m. in German. In 2020, besides of four real meetings others were changed to virtual Zoom meetings. 15 additional Zoom meetings were held to discuss the identifications of specimens imaged. A fieldtrip was made to the river Elbe in Hamburg, where we found very small and delicate tests of *Elphidium* and *Haynesina*. We think that their occurrence in a freshwater environment and their small size is evidence for being transported in suspension by incoming tides. I visited several gravel pits in the search for glacial erratics. In May we had a stand at a Mineral and Fossil Fair in the Uhrzeithof. In September a small workshop was given at the Uhrzeithof.

2021 virtual outreach continues

It is planned to add another 1500 datasets to the database in 2021. We hope to attract again more than 200.000 visitors and enlarge the number of followers in social media. Several projects with team members and contributors are in the making. They comprise recent forams from the North Atlantic, fieldwork and photographing in the Upper Cretaceous, work with glacial erratics and with Italian Quaternary, Neogene and Paleogene foraminifera.

Our local group has already planned a rich program for the upcoming months. The Zoom meetings and discussions on identifications though are in German only. Please find more details at https://www.facebook.com/AGMIPA

Follow us on Twitter, Facebook or ResearchGate

twitter.com/ForamsEU
www.facebook.com/foraminifera.eu
researchgate.net/profile/Michael_Hesemann2

Get involved in our projects or start a new one.

10: Mission

The Foraminifera.eu-Project wants to foster the interest in foraminifera. We love to work on raw material and build working groups and project teams in which avocational and professsional scientists work together in well defined and scheduled projects.

An outcome is our freely accessible, illustrated catalogue of foraminifera based on a well structured database and easy-to-use interfaces. Avocational and professional scientists get a free platform where they find valuable information and may show their results.

The Foraminifera.eu-Project is non-commercial. Our team and our contributors do not get a financial compensation as our work is based on naturalist enthusiasm. We will use donations of money or equipment only to cover costs. Find more on the team and details at www.foraminifera.eu/about.html .

Our Services

We love to work on interesting samples and have built up expertise in the processing of raw material containing microfossils. We offer our services for free, but we only engage in work that is of interest to us. Please contact us first and explain what you want.

Example: Optical imaging of foraminifera

Bolivina alata, recent, off Panama, image: Michael Hesemann

Practical work on samples

Fieldwork

Sample processing

Picking of microfossils

Identification of foraminifera

Optical Imaging

Assessment of species distribution(s)

Stratigraphical analysis of profiles

Support of any kind

Talks and workshops