BIO-info

Nyheter fra Institutt for biologi

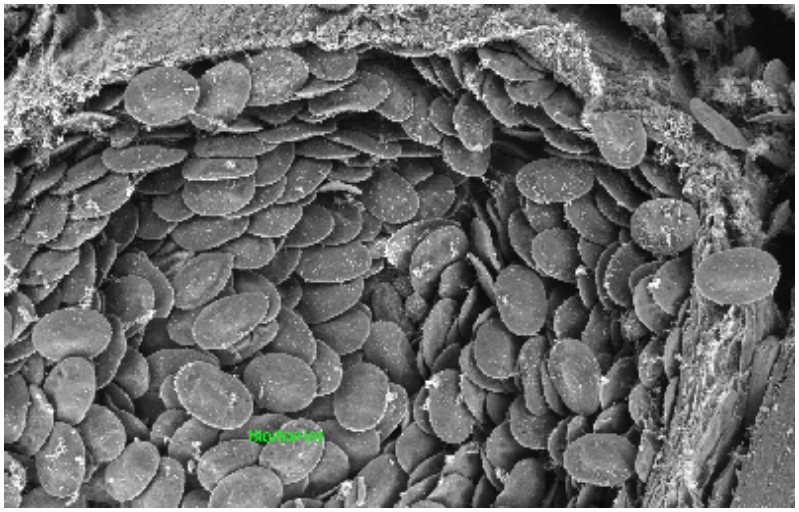
Siden sist!

Kristin Bakken ny assisterende fakultetsdirektør

Kristin Bakken ble i dag tilsatt som ny assisterende fakultetsdirektør på Mat.nat.-fakultetet. Hun begynner i stillingen mandag 1. mars. Kristin har lang fartstid på fakultetet, men har også vært kontorsjef i 8 år på Zoologisk institutt. Kristin var også utlånt til BIO fra fakultetet i oppstarten av instituttet før kontorsjef ble tilsatt. Vi gratulerer Kristin og ønsker lykke til!

.

Ukens bilde



You are invited to submit photos (electronically!) for "Ukens bilde". Please include a very short description and credit information. Picture can be of researchers / students in action, technology, organisms, field sites … Please send your pictures to Elinor Bartle

Caudal artery of an african lungfish

Photographer: **Halala Sdik Saed**

Master student Halala Sdik Saed sends us a SEM picture of a caudal artery of an african lungfish "*Protopterus annectens*" filled with red blood cells.

Halala is in the "**cell and-developmental biology**" programme.

Click here for a larger image with the SEM details included.

Innhold:

BIO-info

Nyheter fra Institutt for biologi

Fra toppen

Topp tur, men topptur?

Mange BIO-ansatte og studenter benyttet anledningen til å få seg en skitur på skidagen i Myrkdalen denne onsdagen. Vi som var med fikk oppleve både lettere kaotiske transportproblemer, et velvillig NSB-personale som så gjennom fingrene på at «gruppen» vår plutselig var spredd ut over mange busser og tog - og dermed ikke hadde med seg hverken reiseleder eller billetter - og en skiopplevelse med puddersnø og vekslende værforhold. Akkurat som en vanlig dag på universitetet.

Noen av oss dristet oss også ut på tur, i dyp nysnø og med varierende sikt. På et tidspunkt mente vi at vi hadde nådd en topp, men siden sikten ikke var den største, er det mulig vi bare beveget oss på et lite høydedrag. Slik det også er når man entusiastisk får nye resultater på bordet fra de siste forsøkene og ser for seg en banebrytende artikkel i Nature, og så etter hvert innser at dataene kanskje ikke var så sikre likevel, eller at noen hadde gjort akkurat det samme før. Også livet på BIO kan av og til fortone seg som en skitur i skoddeheimen.

Det som skiller nedturen i bakkene i Myrkdalen fra andre nedturer, f.eks. i forskningssammenheng, er at det kjennes så bra å beherske (?) svingene og puddersnøen, at det nede i bakken venter god mat og varm drikke, og at man blir så deilig støl i lårene etterpå!

Takk for turen til Vibeke og alle som var med på å lage dette til en flott opplevelse!

Hilsen Anders

Siste nytt fra BIO

Read a couple of short popularisations of recent publications on our external web.

Generasjonsskifte kan skapa kjønnsbalanse

Vigdis Vandvik og og fakultetsdirektør Bjørn Åge Tømmerås var intervjua av På Høyden og seir at 27 prosent av dei tilsette i vitskaplege stillingar ved UiB nærmar seg pensjonsalderen, noko som kan bana veg for yngre kvinner. Vigdis Vandvik er ein av dei nyaste kvinnelege professorane ved UiB. Les meir.

A serious problem in the offing?

The Nile tilapia is an economically important fish catch in Uganda. BIO PhD student **Ronald Semyalo** and colleagues have been undertaking a study of both the water and the fish from two lakes in Uganda. Read more on BIO's web pages.

Cross-disciplinary research: biological evidence reinforces archaeological conclusions

When sites of ancient human occupation are discovered, researchers want to know who has been there, why they were there and what they were doing, and when they were there. Three researchers from the Department of Biology (BIO) collaborated with researchers from Bergen Museum to learn more about two Mesolithic sites. Read more on BIO's web pages.

BIO Ski Day

Thanks to **Vibeke Saure Lokøy**, nearly 70 BIO employees had a wonderful day at Myrkdalen near Voss. Despite train and bus troubles, the conditions were EXCELLENT and the company, as usual, fabulous. Maybe there should be a prize for the best suggestion concerning our fearless leader … what is he about to say? / doing? We know who won the prize for the most pregnant on skis!! See more pictures.

Siste nytt fra STIM

STIM thanks Nicolas Dupont

STIM would like to extend a special thank you to Nicolas Dupont who held a PhD seminar last Friday February 19th. He presented information about his work regarding Water Clarity as a forcing factor of marine ecosystems. We would also like to thank the Biology department for providing pizza and all the master and PhD students that attended.

Siste nytt fra verden rundt oss

Oppsigelse av medlemsskap i BioMed Central, norsk forskning og internasjonale miljøgiftreguleringer, jenter og realfag, ny modell for internhusleie, rektor frykter kvalitetskutt, lettere tilgang til videokonferanser, Informasjon om SAIH

UiB sier opp medlemskapet i BioMed Central

På grunn av en svært kritisk budsjettsituasjon har Universitetsbiblioteket (UB) nå bestemt å si opp medlemskapet i BioMed Central som er utgiver av Open Access-tidsskrift med journaltitler innen biologi / biomedisin, fra og med 1.3. 2010. UB vil fra samme dato betale for et "supportive membership" i BMC og på denne måten sørge for at UiBs forskere fortsatt får 15 % rabatt på publiseringsavgiften. Etter en prøveperiode sammen med flere av de norske universitetene, er UiB nå den siste som ser seg nødt til å si fra seg fullt medlemskap. Dette betyr at den enkelte forsker nå vil motta faktura på publiseringsavgiften når de sender inn et manuskript til BMC. Beslutningen er basert på en grundig dialog med universitetsledelsen, i UiB sitt forskningsutvalg og i UBs styre. Les mer om saken her.

Open meeting regarding the New Immigration Act

UiB would like to invite foreign employees at UiB, Uni Research, HiB and NHH for an open meeting regarding the New Immigration Act

Date/time: Thursday, March 11. From 3:30 p.m. until 5 p.m.
Venue: Auditorium 118, Christie gate 12 (Faculty of Psychology).

Organizers: International Staff Services, Human Resource Department, UiB

Kurs i Forskningsveiledning av master og PhD.

Kurset inngår som ein valmodul i utviklingsprogrammet i Universitetspedagogikk og blir leia av professor emeritus Gunnar Handal frå Pedagogisk forskningsinstitutt (PFI) ved Universitetet i Oslo. Handal har særdeles omfattande erfaring og er en nestor i det norske universitetspedagogikkmiljøet.

Kurset går over to samlingar:
1. samling: 15. og 16. april – begge desse dagane i seminarrom BC520 kl 09.00-15.00 i Bjørn Christiansens hus i Christies gate 12.
2. samling: 31. mai – seminarrom C og D kl. 09.00-15.00 på Vilvite-senteret i Thormøhlensgate 51.

Påmelding kan skje ved e-post til koordinator for UPED: Kare.helleve@psych.uib.no
Påmeldingsfrist: fredag 19. mars. Studieplan for kurset kan du finne her.

Norwegian research behind international regulation of environmental toxins

Norwegian research has played an important role in the efforts to achieve international regulation of the environmental toxin group PBDEs. "A small country like Norway can achieve a lot in international negotiations if it has sound knowledge to rely on," the researchers emphasise. Read more

Jenter og realfag

Opptatt av krig og fred og sånn...
Jentene skal berge realfagene, ifølge mat.nat-direktør Bjørn Åge Tømmerås. De får litt av en utfordring. Les mer fra Bergens Tidende

Jenter kan redde realfagene
Flere jenter kan redde både verden og realfagene. Les mer fra På Høyden

Siste nytt fra Bergen Museum

Enorme samlinger på nett
Universitetsmuseene lanserer i dag nye portaler for arkeologi og mynt- og medaljesamlinger. Rundt 600.000 gjenstander er bare et museklikk unna. Les mer fra På Høyden
Les mer fra NRK: **Hva er funnet i ditt nabolag?**
490.000 funn er lagt ut på nett. Nå kan du se om det er gjort arkeologiske funn i ditt nabolag.

Ny modell for internhusleige

Kostnader ved internhusleie
Leserbrev i På Høyden av rektor Sigmund Grønmo og universitetsdirektør Kari Tove Elvbakken

Ny modell for internhusleige – men ingen veit kva det kostar
Leserbrev av Per Lægreid i På Høyden

Universitetsrektorer frykter kvalitetskutt

Rektorene på landets tre ledende universiteter mener de neppe vil klare å opprettholde god nok studiekvalitet etter kuttene de nå står overfor. Les mer fra Adressa

Lover lettere tilgang på videokonferanser

Universitetsdirektør Kari-Tove Elvbakken lover å gjøre det enklere å bestille og bruke videokonferanserommene på UiB. Les mer fra På Høyden

Vil du bli SAIH-akademiker?

SAIH er studenter og akademikere i Norge sin egen solidaritets- og bistandsorganisasjon. De jobber med utdanningsbistand, informasjonsformidling og politisk påvirkning. Ved å støtte høyere og uformell utdanning i Latin-Amerika og Sørlige Afrika mobiliserer SAIH unge mennesker til samfunnsansvar og medbestemmelse. UiB er medlem av SAIH. Les mer om studenter og akademikere i Norge sin egen solidaritets- og bistandsorganisasjon (SAIH) her.

Ledige stillinger for biologer

Sjekk oversikten på jobbnor!

01.03	Postdoc , plant macrofossils and pollen in sediment cores, Dept of Ecology and Evol. Biol, Brown University
15.03	PhD Molecular Ecology, Bodø University College, Norway
15.03	PhD position: Geology/Geography/Biology, Dept. of Geosciences & Geography, Univ. Helsinki, Finland
17.03	PhD positions at Institute of Biology, Syddansk Universitetet (five fellowships are offered within the topics Environmental Stress and Aquatic Ecology)
23.04	Professorship in plant physiology at the University of Innsbruck, Austria
31.03	Faculty position in BioGeology, Université Libre de Bruxelles, Belgium
?	Postdoc position on biogeochemical modelling, Brest, France
Spring 2010	10 post doctoral positions at The Alexander von Humboldt Foundation and the Cluster of Excellence „The Future Ocean" at the Christian-Albrechts University in Kiel, Germany
Until filled	Several positions in Physical, Chemical and Biological Oceanography, Marine Biology/Marine Ecology, Genomics, and Ecosystem Modeling at KAUST (the King Abdullah University of Science and Technology)
Until filled	Several Graduate and Post-doctoral Fellowships in ocean observation, modeling and data assimilation at Dalhousie University

Forskning: utlysninger, nye satsinger og prosjekter

Internasjonal erfaring – Canada, Planlagt utlysning i HAVKYST

International Experience Canada

International Experience Canada gives 300 young Norwegians per year the opportunity to travel and work in Canada. You can work anywhere in Canada for up to a year, and you do not have to arrange a job in advance. It's a great way of getting to know Canada and making new friends! Read more

Planlagt utlysning for 2011 (HAVKYST)

Det vil komme en utlysning med søknadsfrist 2. juni kl 13.00.
Endelig utlysning kommer i siste halvdel av mars. Det vil bli lyst ledig ca 17.5 mill innenfor de fleste delprogrammene i Havet og kysten.
Søknadsfrist: 02.06.2010 13:00
Les mer

Ny internasjonal strategi: Vegskilje for norsk forsking

For at norsk forsking skal bli enda betre, må ho bli meir internasjonal. Det internasjonale perspektivet skal difor inn i alle delar av Noregs forskingsråd sitt arbeid.
Les mer

New international strategy for Norwegian research

Norwegian research must become even more internationally-oriented if it is to expand to a higher level. International perspectives will now be integrated into all aspects of the Research Council's activities. Read more

Mer info om følgende utlysninger og mange flere (inkl. løpende, dvs. uten frister) finner du her

Husk å sende søknadsutkastet til post@bio.uib.no 1 uke i forveien (gjelder ikke mindre bevilgninger som legater og fonds)

28. feb 28. feb	IIASA Post-doctoral program ABEL EXTRAORDINARY CHAIR – funding exchanges learn more
1. mar 5. mar 8. mar 12. mar 15. mar 17. mar 17. mar 22. mar 25. mar 25. mar 26. mar 31. mar	INTERNFRIST – BIO Skisse til Bergen Forskningsstiftelse - rekrutteringsprogrammet Living labs samarbeidet (LILAN) (RCN and NordForsk) BTO-VisjonVest stipendkonkurranse Bergen Forskningsstiftelse - rekrutteringsprogrammet MESOAQUA: second call for participation in trans-national access at one of the network's mesocosms ERC Advanced Grants, Life sciences Research Training Courses (NordForsk) HFSP preregistration Marie Curie International Research Staff Exchange Scheme (IRSES) Researcher Networks 2010 (NordForsk) COST pre-proposal HFSP Submission deadline
01. apr 21. apr	Nordic Marine Academy: siste organisering av forskerkurs og støtte til konferanser og workshops SFI Endelig søknad
01. mai	Nordic Marine Academy: siste mobilitetstipend
02.juni	Aurora-programmet. Forskerutveklsing mellom Norge og Frankrike (IS-AUR)

Among other thing the pages contain a lot of useful information concerning admission and doctoral training.

Faglige møter

New summer school on the list: Summer school in Ecology and Biodiversity

Among other thing the pages contain a lot of useful information concerning admission and doctoral training.

Summer school programmes

Date	Location	Course title	application deadline
May 24-29	Mammal Research Institute, Polish Academy of Sciences, Białowieża, Poland	Summer School in Ecology and Biodiversity: Understanding patterns and Processes	31 March
June 20 – July 20	USC Wrigley Institute for Environmental Studies	GeoBiology 2010: An International Training course in a Rapidly Evolving Field	5 March 2010
June 21 – 2 July	UiB	Bergen Summer Research School 2010	1 March 2010
August 23-27	Brest, France	ClimECO2 Oceans, Marine Ecosystems, and Society facing Climate Change	15 April

Nye artikler

Modellering av påtreffsrater, fagocytose hos torsk og laks, oppbygging av modeller for mikrobielle interaksjoner, konsekvens av avlivningmetoder for laks, paleolimnologisk beregning av fortidige tettheter av fisk og planter

Øyvind Fiksen: modellering av påtreffsrater og romlig fordeling av bevegelige predatorer og byttedyr

Huse Geir & Øyvind Fiksen 2010. Modelling encounter rates and distribution of mobile predators and prey. Progress In Oceanography 84:93-104

Abstract Marine ecosystem models often contain modules for two phytoplankton compartments (flagellates and diatoms) and two zooplankton groups (micro- and mesozooplankton). The models rarely include fish, not even as an agent in zooplankton mortality, which is often formulated as a constant rate. This mortality rate is treated as a free parameter, which can be used to tune or stabilize the model. There are major gaps in our knowledge and modelling capabilities of interactions at the higher trophic levels for example with regards to movement of fish at different scales, prey selection, and zooplankton responses to predators. Here, we argue that there are good reasons for making zooplankton mortality dependent on some key environmental variables known to affect the interaction strength between zooplankton and fish. In addition, since fish are highly mobile organisms, often moving in large groups, there is a need to better understand and model their horizontal migration and to include this in ecosystem models. We present basic models for light-dependent encounters between fish and their zooplankton prey and illustrate how predator–prey interactions can be modelled for herring–*Calanus* and cod–capelin interactions using individual-based models with super-individuals. In the latter two cases individual displacement is determined by movement behaviour and ocean circulation, and growth and mortality become emergent properties resulting from local encounters between predators and prey. Similarly movement behaviours emerge from simple adaptive rules or more complex models where behavioural strategies are evolved using a genetic algorithm. Such models are versatile and we argue that emergent mortality and growth rates resulting from adaptive behaviours and key environmental forcing are essential for realistic representation of fish–zooplankton interactions.

Hanne Øverland, Eirin Fausa Pettersen, Anita Rønneseth & Heidrun Wergeland: fagocytose i cellekulturer fra laks og torsk

Øverland, Hanne S, Pettersen, Eirin Fausa, Rønneseth, Anita & Wergeland, Heidrun I. 2010. Phagocytosis by B-cells and neutrophils in Atlantic salmon (*Salmo salar* L.) and Atlantic cod (*Gadus morhua* L.). FISH & SHELLFISH IMMUNOLOGY 28: 193-204

Abstract: Phagocytosis by fish cells has mostly been studied using adherent leucocytes, excluding suspended cells such as the majority of B-cells and neutrophils, but a recent study describes professional phagocytosis of latex beads and bacteria by B-cells from rainbow trout In the present study, phagocytosis by B-cells and neutrophils from salmon and cod was studied. Leucocytes were isolated from peripheral blood (PBL) and head kidney (HKL). By flow cytometry analyses, proportions of MAb labelled cell populations with internalized fluorescent beads, as well as the number of beads within each cell, could be determined. Phagocytic capacity and ability were demonstrated in B-cells and neutrophils from salmon and cod. In salmon, B-cells had higher phagocytic ability than neutrophils in HKL, but not in PBL For cod the phagocytic ability of B-cells were lower than for neutrophils in both HKL and PBL, but the phagocytic capacity of cod B-cells were higher than for neutrophils in both HKL and PBL For salmon B-cells the phagocytic capacity was lower than or similar to neutrophils in HKL and PBL The total phagocytic ability of leucocytes was different in the species studied. The highest phagocytic ability was observed in cod, showing similar values for PBL and HKL. Salmon PBL displayed about twice the phagocytic ability of cod PBL There seemed to be some major differences between the two fish species concerning phagocytosis. In salmon, a rather large proportion of phagocytic leucocytes were phagocytic B-cells, indicating that B-cells may have an important function in particle clearance in this species. In cod, phagocytic leucocytes in HKL and PBL were mostly

neutrophils, and only a small proportion of B-cells were phagocytic, supporting the more prominent role of innate immune functions in cod neutrophils.

Frede Thingstad & Aud Larsen: trinnvis oppbygging av PFT modeller på veien mot mer komplekse modeller?

T. Frede Thingstad, Espen Strand, Aud Larsen. 2010. Stepwise building of plankton functional type (PFT) models: A feasible route to complex models? Progress in Oceanography 84: 6–15.

Abstract: We discuss the strategy of building models of the lower part of the planktonic food web in a stepwise manner: starting with few plankton functional types (PFTs) and adding resolution and complexity while carrying along the insight and results gained from simpler models. A central requirement for PFT models is that they allow sustained coexistence of the PFTs. Here we discuss how this identifies a need to consider predation, parasitism and defence mechanisms together with nutrient acquisition and competition. Although the stepwise addition of complexity is assumed to be useful and feasible, a rapid increase in complexity strongly calls for alternative approaches able to model emergent system-level features without a need for detailed representation of all the underlying biological detail.

Endre Grimsbø, Ragnar Nortvedt & Bjørn Roth: granskning av hjerte og hjerne etter avliving ved slag og støt

Lambooij E., E. Grimsbø, J.W. van de Vis, H.G.M. Reimert, R. Nortvedt , B. Roth 2010. Percussion and electrical stunning of Atlantic salmon (*Salmo salar*) after dewatering and subsequent effect on brain and heart activities. Aquaculture 300, 107-112

Abstract The overall objective of the study was to evaluate a percussive and an electrical stunning method under laboratory conditions in Atlantic salmon. Evidence of unconsciousness and insensibility of the salmon was provided on the electroencephalogram (EEG) by the appearance of slow waves and spikes, followed by a strong depression in electrical activity. This phenomenon was observed in 17 salmon after percussive stunning using an air pressure of 8.1 to 10 bars, whilst 8 fish were considered conscious at pressures below 8.1 bars although some were seemingly unconscious on behaviour. Consequences were a haemorrhage in the brain cavity in 15 out of 17 fish, broken upper or lower jaws in 9 fish and eye burst in 8 fish. A general epileptiform insult (unconscious and insensible) was obtained by delivering a voltage, consisting of a direct current (DC) coupled with 100 Hz alternating current (AC) with a peak value of ?112 volt (V), head to body, for ? 0.5 s. The total duration of the insult was 62 ± 44 s (mean ± SD; n = 25) which was followed by minimal brain activity in 19 fish. The heart rate was 20 ± 7 beats/min prior to stunning. After stunning the electrocardiogram (ECG) revealed fibrillation for 22 ± 15 s and became irregular and showed extra systolae (ventrical contraction) afterwards. Exposing the salmon for 5 s with electricity followed by a gill cut resulted that 1 out of 3 fish recovered temporary after 3 min. Haemorrhages were not observed in the fillets. Average current for head to body electrical dry stunning was 668 milliampere (mA) root mean square (RMS) with an average stunning voltage of 107.9 Vrms. Electrical head to body stunning can be recommended when using coupled AC and DC current of 668 mArms and ? 107 Vrms. The salmon can be stunned in ? 0.5 s. However, a correct bleeding procedure should be developed. For percussive stunning we conclude that if sufficient force is used the fish will be rendered unconscious insensible which result in damage of the carcass, whereas a combined AC and DC can be recommended source for dry electrical head to body stunning

Tom Davidson (EECRG): metode for paleolimnologisk beregning av fortidige tettheter av fisk og planter

Davidson, T.A., Sayer, C.D., Perrow, M., Bramm, M. & Jeppesen, E. 2010. The simultaneous inference of zooplanktivorous fish and macrophyte density from sub-fossil cladoceran assemblages: a multivariate regression tree approach. Freshwater Biology 55: 546-564. doi: 10.1111/j.1365-2427.2008.02124.x

Abstract: Cladoceran assemblages and their sub-fossil remains in shallow lakes are shaped by a combination of interacting factors. Partial constrained ordination of sub-fossil cladoceran assemblages from 39 shallow lakes (29 in Norfolk, U.K. and 10 in Denmark) indicated that both zooplanktivorous fish (ZF) density and submerged macrophyte abundance significantly influenced community

composition. These dual structuring forces precluded the use of a transfer function as one of the key assumptions of this approach was not met, namely that environmental variables apart from the variable being modelled have negligible influence on species distribution or that there is a linear relationship between the two. Separate transfer functions for ZF and macrophyte abundance were developed but had poor performance diagnostics with low bootstrapped r2, high root mean square error of prediction (RMSEP) and large bias.
To obviate the problem of multiple structuring forces a multivariate regression tree (MRT) was employed, which allows for more than one explanatory variable within a model. The MRT analysis defined six groups with discrete ranges of ZF and macrophyte densities. The technique identified critical values or 'break points' in ZF and macrophyte abundances which result in significant alterations in the sub-fossil cladoceran assemblage. In addition, the MRT groups had different summer mean values for chlorophyll-a, Secchi depth, total phosphorus and nitrate-nitrogen.

Tom Davidson: paleolimnologisk beregning av fortidige tettheter av fisk og planter i en innsjø

Davidson, T.A., Sayer, C.D., Langdon, P.G., Burgess, A. & Jackson, M. 2010. Inferring past zooplanktivorous fish and macrophyte density in a shallow lake: application of a new regression tree model. Freshwater Biology 55: 584-599. doi: 10.1111/j.1365-2427.2009.02391.x
Abstract: Established palaeolimnological inference models are limited to reconstructing a single variable. As macrophyte and zooplanktivorous fish abundance exert dual and interacting controls on cladoceran assemblages a single variable inference model may contain significant error. To obviate this problem, we applied a new cladoceran-based multivariate regression tree (MRT) model to cladoceran subfossil assemblages from dated cores from a small shallow lake (Felbrigg Lake, U.K.) to assess long-term change in fish and submerged macrophyte abundance. Plant macrofossil, chironomid and mollusc subfossil assemblages were also analysed to track changes in biological structure and function and to evaluate the inferences of the MRT model.
Over the 200+ year period covered by the sediment cores, there was good agreement in the timing and nature of ecological change reflected by the plant macrofossil, mollusc, chironomid and cladoceran data. The MRT model, applied here for the first time, appears to have successfully tracked changes in macrophyte abundance and ZF over the last 200 years at Felbrigg Lake. The inferences agreed with historical observations on the fish community and the supporting palaeolimnological data. Given that multiple structuring forces shape most biological communities, the application of a model capable of allowing for this represents a significant advance in palaeolimnology.