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## Siste nytt fra BIO

### *Startskuddet for Nordic Marine Academy*

Nordic Marine Academy er nå i gang. Websiden er offentliggjort ([www.bio.uib.no/nma](http://www.bio.uib.no/nma)) og plakater med invitasjon til å delta i NMA-aktivitetene blir sendt i dag til de mest relevante fagmiljøene i Norden. Det er planlagt å starte med Forskerkurs allerede i sommer, og fristen for å sende kursforslag er **15. mars**. Søknadsskjema og retningslinjer for kursarrangørene kan lastes ned fra NMA-websiden. Marinforskere på BIO oppfordres til å søke...

### *Next to kin eller pårørendeskjema*

Vi ønsker at alle våre ansatte skal fylle ut pårørendeskjema. Vi håper at vi aldri får bruk for det, men dersom en alvorlig ulykke skjer, kan et ferdig utfylt skjema være veldig nyttig å ha. Skjemaene blir lagret i personalmappen. Skjema finner du [her](#), fyll det ut og send det til Kaja Iden (bioblokken 3. etasje).

### *Pakker i Realfagbygget*

Utenfor ekspedisjonen/studieseksjonen, 1. etasje i Realfagbygget, er det kommet opp en egen "pakkehylle" på motsatt side av posthyllene. Så langt det lar seg gjøre vil vi henge en lapp på posthyllene hvis vi vet at der er kommet pakke, men ta en sjekk i hyllene!

### 5 BIO-stillinger er utlyst

Disse fem stillingene ble grundig omtalt i siste BIO-INFO. Nå ligger de på web med søknadsfrist og alle formaliteter. Sjekk linken under "Ledige stillinger".

Mer er underveis. Blant annet en universitetsstipendiatstilling som lyses ut åpent for alle som er interessert i det en av vår forskergrupper driver med.

### Normale og gode tidsskrift

På ledermøtet i januar ble forskergrupelederne oppfordret til å gå gjennom listene for "Nivå 1" og "Nivå 2" tidsskrift fra departementet, og å melde tilbake forslag til endringer innen 15. februar. I mellomtida har Nasjonalt fagråd for Biologi sendt ut en hasteoppfordring om å sende inn endringsforslag til dem. Jarl vil gjøre dette i kommende uke. Innspillene som har kommet inn ligger på vår web, se: [http://bio.uib.no/lokal/bioinfo/2005/Level1\\_Level2.htm](http://bio.uib.no/lokal/bioinfo/2005/Level1_Level2.htm)

## Siste nytt fra verden rundt oss

### Arbeidsmiljø på laboratoriet

Bedriftshelsetjenesten gir jevnlig ut informasjonsbrev om Arbeidsmiljø på laboratoriet. Brevene finner du på <http://www.uib.no/bht/nyheter/nyhetsbrev.htm>, skroll ned til overskriften **Arbeidsmiljø på laboratoriet**. I desembernummeret kan du blant annet lese om Pikrinsyre og eksplosjonsfare, Kurspakke i laboratoriesikkerhet, og Nye retningslinjer for farlig avfall. Hovedsiden til Bedriftshelsetjenesten finner du her: <http://www.uib.no/hms/>.

## Avsluttende mastergradseksamen

### Torunn Skau: Reproduksjonsbiologien til dypvannsmantelen *Periphylla Periphylla* (Kronemanet)

**Torunn Skau** holder mandag 14. februar avsluttende presentasjon av sin mastergradsoppgave i Marinbiologi.

Tittel på oppgaven: Reproduction biology of *Periphylla periphylla* (Scyphzoa: Corontae) and its significance for the population recruitment in three Norwegian Fjords

Veiledere: Ulf Båmstedt, Øyvind Fiksen

Tid: Mandag 14. februar kl 11.15, Sted: Seminarrom 328 C1, Høyteknologisenteret

### Torunn Maurstad: Studier av ryggvirvelvekst hos atlantehavslaks

**Torunn Maurstad** holder tirsdag 15. februar avsluttende presentasjon av sin mastergradsoppgave i Celle og utviklingsbiologi.

Tittel på oppgaven: Studier av ryggvirvelvekst hos atlantehavslaks (*Salmo salar* L.) ved ulike lyseksponering.

Veiledere: Geir Totland, Harald Kryvi, Sindre Grotmol

Tid: Tirsdag 15. februar kl 10.15, Sted: Aud. 4, Realfagbygget

## Ny medarbeider

**Birgit Kanz** er engasjert som forskningstekniker i 100 % stilling tilknyttet prosjektet EVERNIA i SKOGFORSK-programmet, i perioden 15.02.05 – 14.04.05. Kanz har Promotion in Botanikk fra Universitetet i Köln. Prosjektleder er Stefan Ekman.

## Info fra studieseksjonen

### Studentassistanse – kontrakt for engasjerte studenter

Alle studenter som skal være kursassistenter på emner ved bio, skal skrive kontrakt. Studieseksjonen må ha navn, antall timer og hvilket emne det gjelder for. Spesifiser om det er lab eller kollokvieassistanse.

### Midtsemestereksamen

Hvis noen planlegger å ha midtsemestereksamen i dette semesteret, må studieseksjonen ha beskjed så fort som mulig!

## Nye artikler

### Husebø, Imsland & Nævdal: hemoglobinvariasjon hos torsk

Husebø A, Imsland AK, Nævdal G 2004. Haemoglobin variation in cod: a description of new variants and their geographical distribution. *Sarsia* 89: 369-378

**Abstract:** Blood from 1209 individual cod was sampled from nine localities in the Northeast Atlantic, and analysed using agar gel electrophoresis (AGE) and isoelectric focusing (IEF) to reveal individual and population variation in haemoglobin genotypes. The second aim of the study was to compare our data with data collected some 30 years ago in the same area to investigate possible directional selection. A new haemoglobin polymorphism of Atlantic cod was documented in samples from Danish waters using IEF electrophoresis (pH 5.5-8.5) and, in addition to the five genotypes seen in earlier studies, 11 subtypes are described. Significantly different genotype distributions were found between the samples from northern Norway on the one hand and southern Norway and Danish waters on the other, and the frequency of the Hb-1(1) allele increased from north to south. With the possible exception of two samples, the frequency of the main haemoglobin genotypes was found to be very similar to corresponding frequencies described in these areas three decades ago. The frequencies of the Hb-1 subtypes off Norway varied among the sampling sites and were only found in Norwegian coastal cod with increasing frequency from north to south. In the Danish samples, 11 novel Hb-1 subtypes were found and are described.

### Paul Berg: genetikk hos øyepål

Berg PR, Mork J 2004. Tissue enzyme loci for routine genotyping in Norway pout (*Trisopterus esmarkii* Nilsson, 1855): electrophoresis conditions, tissue manifestations, allele designations and basic population genetic parameters. *Sarsia* 89: 411-422.

**Abstract:** In order to find polymorphic tissue enzymes and suitable buffer systems for use in population genetic studies of Norway pout (*Trisopterus esmarkii*), a pilot study was performed using 30 individual specimens from one location. A set of potentially useful genetic markers was established, based on electrophoretic analysis of 22 different tissue enzymes in three different buffer systems. The initial analyses revealed 31 putative loci, from which eight were considered to be reliable in routine scoring. Here, a total of 1797 specimens of Norway pout, from 23 individual locations in the fjords and coastal waters of Norway, were scored for these eight loci. Variant alleles were found at all loci. At least five of the loci were polymorphic by the 0.99 criterion (LDH-2\*, GPI-1\*, GPI-2\*, G3PDH-2\*, IDHP-2\*) and one locus also by the 0.95 criterion (LDH-2\*). The frequency of polymorphic loci were  $P_{0.99}$  greater than or equal to 0.625 and  $P_{0.95} = 0.125$ . The average heterozygosity over all loci based on Hardy-Weinberg expectations was  $H = 0.072 (+/-0.050)$ . Here the details of electrophoretic conditions, staining procedures and tissue manifestation of the loci and the allele designations are described.

### Claus Clausen: Gastrotrichider fra Færøyanbanken

Clausen C 2004. Gastrotricha from the Faroe Bank. *Sarsia* 89: 423-458

**Abstract:** As part of the BIOFAR I programme 1987-1990, qualitative analyses of gastrotrichs have been carried out on samples of primarily carbonate sediment collected at the Faroe Bank. The taxonomic composition was examined and studies with respect to morphology performed. In total, 20 species, belonging to three macrodasyidan families and one chaetonotidan family, were recorded: Dactylopodolidae (three), Lepidodasyidae (three), Thaumastodermatidae (12), Chaetonotidae (two). Six new species are described: *Lepidodasyus arcolepis* sp. nov., *L. castoroides* sp. nov., *Tetranchyroderma faroense* sp. nov., *Thaumastoderma moebjergi* sp. nov., *Pseudostomella faroensis* sp. nov., and *Ptychostomella higginsii* sp. nov. A seventh species, *Platydasys* sp. 1, is also probably new. *Platydasys brachycephalus* Levi is transferred to the genus *Ptychostomella* Remane. The subspecies *Diplodasyus ankei pacificus* is given the rank of species

### Egil Karsbakk: trypanosom-infeksjoner hos fisk uten for Vestlandet

Karsbakk E 2004. Prevalence of trypanosome infections in marine fishes from western Norway. *Sarsia* 89: 459-466

**Abstract:** Marine fishes from several locations along the west coast of Norway were examined for trypanosome infections. In total, 1640 fishes representing 63 species and 33 families were examined

for trypanosome infections. Of these, 19 species of teleosts from eight families were found to be infected, mostly benthic codfish and flatfish in addition to *Chelidonichthys gurnardus* (L.) and *Lophius piscatorius* L. Trypanosomes in all fish species appeared to belong to a single form, considered identical to a trypanosome transmitted by the leech *Calliobdella nodulifera* (Malm, 1863). In the fjords near Bergen, west Norway, trypanosome infections appeared to be restricted to fishes caught deeper than 50 m, probably reflecting a limited bathymetric distribution of the leech vector. Available evidence suggests that the trypanosome parasitaemias decline and become undetectable in a year or less. Despite this, prevalence appeared unaffected by fish size in some species and increased with length in some slow growing species. The latter observations suggest that repeated infections occur, signifying that acquired immunity does not protect against re-infections.

**Torild Johansen: artsidentifisering hos uer**

Johansen T, Dahle G 2004. Discrimination among species of the genus *Sebastes* in the North Atlantic by random amplified polymorphic DNA. *Sarsia* 89: 478-483

**Abstract:** Genetic variation among and within species of the genus *Sebastes* [*S. viviparus*, *S. fasciatus*, *S. mentella* (including deep-sea and oceanic types) and *S. marinas* (both ordinary and giant types)] from the North Atlantic was investigated by polymerase chain reaction (PCR)-based random amplification of polymorphic DNA (RAPD). Initial analyses were based on 80 different 10 base pair primers applied to a small number of individuals of each of the four species. Four of the most variable primers were selected for analysis of the total samples from Norway, Iceland and Canada. Only one primer, OPA20, could be used to diagnostically distinguish among species. Statistical analysis clustered all samples in relation to known species structure. No genetic distance was found between ordinary and giant-type *S. marinas* and minor differences were observed between *S. viviparus* from Iceland and Norway. *Sebastes mentella* from the different locations clustered together, but some structuring was shown within this species. Twelve untyped *Sebastes* and *S. fasciatus* from Gulf of St. Lawrence clustered closer to *S. viviparus* than to *S. marinus* and *S. mentella*.

**Nils-Kåre Birkeland: mikrobiell diversitet i olje-researvoarer**

Birkeland NK 2004. The microbial diversity of deep subsurface oil reservoirs. *PETROLEUM BIOTECHNOLOGY: DEVELOPMENTS AND PERSPECTIVES STUDIES IN SURFACE SCIENCE AND CATALYSIS* 151: 385-403

**Josefin Titelman og Øyvind Fiksen: aldersbestemt døgnvandring hos små hopperekreps**

Titelman J, Fiksen Ø 2004. Ontogenetic vertical distribution patterns in small copepods: field observations and model predictions. *MARINE ECOLOGY-PROGRESS SERIES* 284: 49-63

**Abstract:** We investigated fine-scale (5m, 4h) species- and stage-specific (N1 to C6) distributions of common copepods at an anchor station in a Swedish fjord during two 24 h periods in October 1997. Generally, both calanoid and cyclopoid nauplii were found near the surface, while copepodids stayed deeper in the water column. No diurnal migration was observed. To analyze the observed distributions, we combined mechanistic models of predation risk from fish and copepods, formulations of temperature-dependent growth and a habitat optimization model, maximizing expected lifetime reproductive output. Motility pattern has implications for encounter rates with copepod predators, and therefore affected optimal vertical positioning in the model. By applying species- and stage-specific motility, and accounting for the ambient copepod predator field, we computed depth profiles of the mortality risk for the observed field situation. Predicted diel and ontogenetic vertical distribution patterns for various levels of fish concentrations were compared with observed distributions, and much of the patterns in the field were explained by the model. While the risk of fish predation governs the deeper habitat selection of the larger copepodids, the risk of copepod predation is probably more important for nauplii and small copepods. In addition, the vertically homogeneous growth profile and dense layers of copepod predators may wipe out potential benefits of diurnal migration.

**Ivar Hordvik: pigmentering i laks som følge av vaksinerings**

Koppang EO, Haugarvoll E, Hordvik I, Aune L, Poppe TT 2005. Vaccine-associated granulomatous inflammation and melanin accumulation in Atlantic salmon, *Salmo salar* L., white muscle. *JOURNAL OF FISH DISEASES* 28: 13-22

**Abstract:** The purpose of this study was to investigate the nature of variably sized pigmented foci encountered in fillets of farmed Atlantic salmon, *Salmo salar* L. The material was sampled on the fillet production line and on salmon farms from fish with an average size of 3 kg from various producers. The fish had been routinely vaccinated by injection. Gross pathology, histology, immunohistochemistry using antisera against major histocompatibility complex (MHC) class II beta chain and transmission electron microscopy (TEM) were used to characterize the changes. Macroscopically, melanized foci were seen penetrating from the peritoneum deep into the abdominal wall, sometimes right through to the skin, and also embedded in the caudal musculature. Histological investigation revealed muscle degeneration and necrosis, fibrosis and granulomatous inflammation containing varying numbers of melano-macrophages. Vacuoles, either empty or containing heterogeneous material, were frequently seen. The presence of abundant MHC class II+ cells indicated an active inflammatory condition. TEM showed large extracellular vacuoles and leucocytes containing homogeneous material of lipid-like appearance. The results showed that the melanized foci in Atlantic salmon fillet resulted from an inflammatory condition probably induced by vaccination. The described condition is not known in wild salmon and in farmed salmon where injection vaccination is not applied.

**Ivar Hordvik & Curt Endresen: allergener hos torskefisk**

Van Do T, Hordvik I, Endresen C, Elsayed S 2005. Characterization of parvalbumin, the major allergen in Alaska pollack, and comparison with codfish Allergen M. MOLECULAR IMMUNOLOGY 42: 345-353

**Abstract:** Increased fish consumption has led to frequent reporting of fish allergy and adverse reactions. Alaska pollack (*Theragra chalcogramma*) is a globally important commercial fish species, belonging to the Gadidae family. This family of fish also includes cod whose parvalbumin, Allergen M (God c 1), has been thoroughly studied and considered as a reference to sensitization in fish allergy. In the present study, parvalbumin from Alaska pollack, designated The c 1, was purified by use of anion exchange chromatography. To demonstrate the homogeneity of the purified protein, reverse phase high performance liquid chromatography was performed and showed two distinct fractions which had singular IgG and IgE binding capacities. Accordingly, cDNA cloning revealed two isotypic parvalbumin transcripts in pollack muscle. Recombinant parvalbumins of pollack exhibited low IgG and IgE binding capacities. in contrast to the native counterparts. which were almost as potent as cod Gad c 1. The allergenicity of The c was assayed by ELISA inhibition. and compared to cod. the concentration required for obtaining 50% ELISA inhibition (C 50%) was only 18% higher for The c 1.

**Torleiv Brattegard: lyskontroll av klekking hos rur**

Davenport J, M.S. Berggren, T. Brattegard, N. Brattenborg, M. Burrows, S. Jenkins, D. McGrath, R. MacNamara, J.-A. Sneli, G. Walker and S. Wilson 2005. Doses of darkness control latitudinal differences in breeding date in the barnacle *Semibalanus balanoides*. J. Mar. Biol. Ass. U.K. 85: 59-63.

**Abstract:** This paper reports the first study of breeding in the boreo-arctic barnacle *Semibalanus balanoides* in which latitudinal variation in timing of egg mass hardening has been examined simultaneously over the geographical scale involved, thereby excluding temporal confounding of the data. The timing of autumn egg mass hardening on the middle shore was established in 2002 and 2003 at ten stations ranging latitudinally from Trondheim (63°24'N) to Plymouth (50°1'N). To assess variation at local scale (510 km), breeding was studied on three shores at each of two Irish locations (Cork and Galway). At Oban (Scotland) and Cork, the effect of shore height on timing of breeding was investigated. A strong influence of latitude and day length on timing of breeding was found in both 2002 and 2003. In both years, barnacles bred much earlier (when day length was longer) at high rather than low latitudes. No significant effect of environmental temperature or insolation on timing of breeding was detected. Shores no more than 10 km apart showed minimal difference in middle shore breeding date (54 days). However, upper shore barnacles bred significantly earlier (by 7-13 days) than middle shore animals. The data indicate that breeding is controlled by period of daily darkness, with high shore animals encountering longer effective 'nights' because of the opercular closure response to emersion (which will reduce light penetration to tissues). Predictions concerning the effects of global changes in climate and cloud cover on breeding and population distribution are made. It is suggested

that increased cloud cover in the northern hemisphere is likely to induce earlier breeding, and possibly shift the present southern limit of *Semibalanus* southwards.

## Ledige stillinger

Sjekk liste over ledige stillinger for biologer på <http://bio.uib.no/lokal/stillinger/biologistillinger.htm>