Indexed
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MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY
CONWY, GWYNEDD, U.K.

1988 RESEARCH VESSEL PROGRAMME

REPORT: R.V. PRINCE MADOG

STAFF: B. R. HOWELL (SIC)
A. R. Child
D. Thompson
M. M. Helm - p/t
A. Tzoumas - p/t (Student, Stirling Univ.)
B. Dunne (Student, UCNW)

DURATION: Left Menai Bridge 1400 h, 9 May 1988
Arrived Menai Bridge 1000h, 13 May 1988

LOCALITY: Irish Sea

AIMS:

1. To collect live mature sole to supplement broodstocks held at the Conwy Laboratory.

2. To evaluate and adapt methods for the induction of triploidy and gynogenesis for the sole.

NARRATIVE

PRINCE MADOG arrived at a position about 8 m north of Llandudno at 1630 h on 9 May where concentrations of spawning sole were known to occur. Fishing was confined to the evening (1700-2400) of each day to maximise the catches of females containing ovulated eggs.

At 0930 on 10, 11, 12 May a rendezvous with Conwy Laboratory staff was arranged at Llandudno. Live fish and eggs were landed for transport to the Conwy Laboratory and normal and irradiated sole sperm, as well as halibut sperm secured from the Ardtoe stocks, were taken on board. On 10 May Mr Helm left the ship having completed an experiment on the effect of cytochalasin on triploidy induction the previous evening, and Apostolos Tzoumas joined the ship for 24 h.

RESULTS

1. Twenty five female and twenty male sole were transported to the Conwy Laboratory for potential broodstock. Subsequent survivals have been high.

2. No difficulty was experienced in obtaining adequate numbers of 'running' female sole to support the experimental programme. Three experiments were completed each night which included evaluations of the effects of

(a) cold shock, pressure (at 4 different times after fertilization) and cytochalasin (at 3 concentrations) on triploidy induction, and

(b) u/v irradiated sole sperm and halibut sperm followed by cold shock or pressure on the induction of diploid gynogenesis.

The results are yet to be fully analysed but perhaps the most significant was the finding that sole eggs could be activated by halibut sperm.

In addition to making significant progress with the stated aims B. Dunne (UCNW) acquired substantial numbers of Iophius for his studies of kidney physiology.

B. R. HOWELL

30 May 1988

INITIALLED: DJG

DISTRIBUTION:
Basic list+
B R Howell
A R Child
D Thompson
M M Helm
B Dunne (UCNW)
A Tzoumas
I Rees (UCNW)
FCR 23