

NEW RECORDS OF CEPHALOPODS CAUGHT IN IRISH AND SCOTTISH WATERS

M.A. COLLINS, C. LORDAN*, K. FLANNERY[†], D.T.G. QUIGLEY[‡] AND
F.G. HOWARD[§]

Department of Zoology, University of Aberdeen, Tillydrone Avenue, Aberdeen, AB24 2TZ. *Aquaculture Development Centre, Department of Zoology, University College, Cork, Ireland. [†]High Road, Garfinny, Dingle, Co. Kerry, Ireland. [‡]ESB Fisheries Conservation, Ardnacrusha, Co. Clare, Ireland. [§]SOAEFD Marine Laboratory, PO Box 101, Victoria Road, Aberdeen, AB9 8DB

Records of unusual cephalopods, taken as by-catch in Irish and Scottish waters in the years 1985-1995, are presented. Of most interest are three specimens of giant squid (*Architeuthis*) that were caught in bottom trawls off the west of Ireland between April and June 1995, all were mature males of mantle length ~1000 mm. Other records include a large mature female *Histioteuthis bonnellii* from the west of Ireland and three specimens of the gelatinous incirrate octopus, *Haliphron atlanticus*.

Cephalopods are important members of marine food chains, but with the exception of the common, neritic species such as *Loligo forbesi* Steenstrup and *Eledone cirrhosa* (Lamarck) relatively little is known about the distribution and ecology of this class of molluscs. This problem is related to the oceanic habit of many of the species, lack of commercial interest in cephalopods, taxonomic difficulties and the inability of standard fishing gears to capture cephalopods (Clarke, 1977), hence any information on the occurrence and distribution of these species is valuable.

In the present paper (see Table 1) new records of some of the more unusual cephalopod species that have been opportunistically obtained from commercial and research fishing activities in Irish, and to a lesser extent, Scottish waters in the years 1985-1995 are collated. The majority of the specimens came from a small number of fishing boats with whom regular contacts were maintained and hence the cephalopods included here probably represent a small fraction of the unusual cephalopods caught around the British Isles.

Of the specimens included here, the three *Architeuthis* specimens are probably the most interesting, particularly since the three specimens, were trawl caught, in a short space of time, representing the first Irish records of *Architeuthis* for 75 years. Further details of these specimens will be presented elsewhere (Lordan et al., in press). There are other recent records of *Architeuthis* around the British Isles (Boyle, 1986; Heppell & Smith, 1991), but these had been stranded rather than trawl caught. The taxonomy of the family is still poorly understood, but the specimens were probably *A. dux* (Steenstrup), although specimen 3 does show some morphological differences to the others, notably in the apparent fin shape and gill lamellae counts.

Histioteuthis bonnellii has been recorded around Britain before (Yau, 1994), but this was a small specimen captured in a midwater trawls. Massy (1909) reported four small specimens of *H. bonnellii*, but two of these were subsequently reassigned to *H. reversa* (Verrill) Massy, 1913) and in her review of the Irish cephalopods (Massy, 1928) only *H. reversa* is included, indicating that all her specimens were probably reassigned to *H. reversa* (see Voss, 1969). A mature female specimen of *H. bonnellii* was also caught in the Davis Strait, Greenland (Kristensen, 1980).

Table 1. Details of unusual specimens of cephalopods caught incidentally during fishing activities around the British Isles. All were caught in bottom trawls unless otherwise stated.

Family Species	No.	ML (mm)	Sex	Weight (kg)	Area of capture	Date of capture	Vessel	Bottom Depth (m)	Comments
Haliphronidae									
<i>H. atlanticus</i> Steenstrup, 1861	1	430	F	15.5	59°N 02°E	09/04/89	'Ardent'	100	
<i>H. atlanticus</i> Steenstrup, 1861	1	400	F	-14	West of Dingle	Nov 1992	'Undaunted II'	180	NHMI 69-1992 ¹
<i>H. atlanticus</i> Steenstrup, 1861	2	-400	-	-	West of Dingle	May 1985	'Roving Swan'	150	
Sepiidae									
<i>S. elegans</i> d'Orbigny, 1826	1	45	-	-	55°11'N 09°24'W	24/10/91	'Lough Foyle'	100	Zoology Department, University College Cork
Histioteuthidae									
<i>H. bonnellii</i> (Ferrussac, 1835)	1	228	F	2.01	52°00'N 11°00'W	22/04/94	'Siønnainn'	300	Mature
Ommastrephidae									
<i>O. bartrami</i> (LeSueur, 1821)	9	>300	-	-	Rockall Bank	11/08/92	'Mary M'	320	
<i>O. bartrami</i> (LeSueur, 1821)	1	565	M	6.437	49°03'N 12°36'W	09/05/94	'Jemaleen'	1200	Tuna drift netter
<i>O. bartrami</i> (LeSueur, 1821)	1	574	M	5.246	49°03'N 12°36'W	09/05/94	'Jemaleen'	1200	Tuna drift netter
<i>O. bartrami</i> (LeSueur, 1821)	1	525	F	4.852	49°03'N, 12°36'W	09/05/94	'Jemaleen'	1200	Tuna drift netter
<i>Illex</i> sp.*	4	-	M	-	Off Aberdeen	1995	'Sunset'	-	Both ventral arms hectocotylized in mature males
Architeuthidae									
<i>Architeuthis</i> sp.	1	1028	M	26.90	53°00'N 12°20'W	26/04/95	'Siønnainn'	287	Mature (NHMI 14-1995 ¹)
<i>Architeuthis</i> sp.	1	975	M	22.45	52°25'N 13°45'W	24/06/95	'Siønnainn'	300	Mature (NHMI 44-1995 ¹)
<i>Architeuthis</i> sp.	1	1084	M	26.50	52°50'N 10°20'W	25/06/95	Galway trawler	110	Mature (NHMI 43-1995 ¹)

¹Specimen numbers for specimens held at the Natural History Museum in Dublin. ML, mantle length. *H. atlanticus*, *Haliphron atlanticus*; *S. elegans*, *Sepia elegans*; *H. bonnellii*, *Histioteuthis bonnellii*; *O. bartrami*, *Ommastrephes bartrami*.

Elsewhere *H. bonnellii* is normally found south of 50°N in the Mediterranean and north-east Atlantic (Clarke, 1966; Voss, 1969) where it is an important component of the diets of sperm whales (Clarke, 1966; Clarke, 1977).

Ommastrephes bartrami has been recorded previously in various parts of the British Isles and there have also been records of *O. caroli* Furtado and *Sthenoteuthis pteropus* (Steenstrup). *Ommastrephes caroli* has been shown to represent mature female *O. bartrami*, whilst records of *S. pteropus* are probably *O. bartrami* (Heppell, 1992). *Ommastrephes bartrami* is essentially a southern species and most of the British records are of stranded squid, perhaps due to low temperature. The Rockall specimens all came from a single bottom trawl at 320 m, and may have been captured during hauling and were not necessarily associated with the sea-bed.

Although *Illex coindetii* is relatively abundant off the west coast of Ireland (C.L., personal observation), the specimens included here from the North Sea are morphologically distinct from *I. coindetii* and *I. illecebrosus* in that both ventral arms are hectocotylyzed in the males. The taxonomy of the *Illex* genus is not clear, but both *I. coindetii* and *I. illecebrosus* have only one ventral arm modified. Grimpe (1924) also reported *Illex* (assigned to *Illex coindetii*) with both ventral arms modified from the North Sea, but it is not clear if these specimens with both arms hectocotylyzed represent a form of *I. coindetii* or a different species. *Illex coindetii* is thought to occur in the north-east Atlantic and Mediterranean, with *I. illecebrosus* occurring in the north-west Atlantic.

Sepia elegans has previously been recorded off the south and west coasts of Ireland (Massy, 1909) and off the west of Scotland (see Stephen, 1944), but is less abundant than the conspecific, *S. officinalis*.

Haliphron atlanticus is a gelatinous incirrate octopod. All the specimens were large animals, but were badly damaged during capture. Adult *H. atlanticus* are thought to be benthic, though the juveniles are pelagic. There is one other published record of this species around the British Isles (Collins et al., 1995), whilst Lu & Clarke (1975) caught a juvenile specimen at 53°N 20°W in an RMT net at a depth of 1260–1500 m. Willassen (1986) also records two adult specimens from the Norwegian coast.

We would like to thank the skippers and crew of the fishing vessels 'Sionnainn' and 'Jemaleen' for keeping specimens.

REFERENCES

- Boyle, P.R., 1986. Report on a specimen of *Architeuthis* stranded near Aberdeen, Scotland. *Journal of Molluscan Studies*, **52**, 81–82.
- Clarke, M.R., 1966. A review of the systematics and ecology of the oceanic squids. *Advances in Marine Biology*, **4**, 91–300.
- Clarke, M.R., 1977. Beaks, nets and numbers. *Symposia of the Zoological Society of London*, **38**, 89–126.
- Collins, M.A., Brown, E. & Pierce, G.J., 1995. The octopus *Haliphron atlanticus* Steenstrup in Shetland waters. *Shetland Naturalist*, **1**, 123–124.
- Grimpe, G., 1924. Teuthologische Mitteilungen IX–XI. *Zoologischer Anzeiger*, **58**, 320–330.
- Heppell, D., 1992. A re-evaluation of the records of *Sthenoteuthis pteropus* (Steenstrup, 1855) (Cephalopoda: Ommastrephidae) from the British Isles. *Journal of Conchology*, **34**, 125–138.
- Heppell, D. & Smith, S.M., 1991. *Checklist of British marine Mollusca*. Edinburgh: National Museums of Scotland. [Information Series no 11.]
- Kristensen, T.K., 1980. Large mature female of *Histioteuthis bonnellii* (Férussac, 1835) (Mollusca: Cephalopoda) recorded from the Davis Strait, West Greenland. *Steenstrupia*, **6**, 73–79.
- Lordan, C., Collins, M.A. & Raya, C.P., in press. Observations on morphology, age and diet of three *Architeuthis* specimens caught off the west coast of Ireland in 1995. *Journal of the Marine Biological Association of the United Kingdom*.
- Lu, C.C. & Clarke, M.R., 1975. Vertical distribution of cephalopods at 40°N, 53°N and 60°N at 20°W in the North Atlantic. *Journal of the Marine Biological Association of the United Kingdom*, **55**, 143–163.

- Massy, A.L., 1909. The Cephalopoda Dibranchia of the Coasts of Ireland. *Scientific Investigations of the Fisheries Branch, Department of Agriculture for Ireland*, 1907, no. 1, 1-39.
- Massy, A.L., 1913. Further records of the Cephalopoda Dibranchiata of the coasts of Ireland. *Scientific Investigations of the Fisheries Branch, Department of Agriculture for Ireland*, 1912, no. 5, 1-12.
- Massy, A.L., 1928. The Cephalopoda of the Irish coast. *Proceedings of the Royal Irish Academy B*, 38, 25-37.
- Stephen, A.C., 1944. The Cephalopoda of Scottish and adjacent waters. *Transactions of the Royal Society of Edinburgh*, 16, 247-270.
- Voss, N.A., 1969. A monograph of the Cephalopoda of the North Atlantic. The family Histioteuthidae. *Bulletin of Marine Science*, 19, 713-867.
- Willassen, E., 1986. *Haliphron atlanticus* Steenstrup (Cephalopoda, Octopoda) from the coast of Norway. *Sarsia*, 71, 35-40.
- Yau, C., 1994. *The ecology and ontogeny of cephalopod juveniles in Scottish waters*. PhD thesis, University of Aberdeen.