

NATIONAL BIORESOURCE DEVELOPMENT BOARD

Dept. of Biotechnology
Government of India, New Delhi

For office use:

MARINE BIORESOURCES

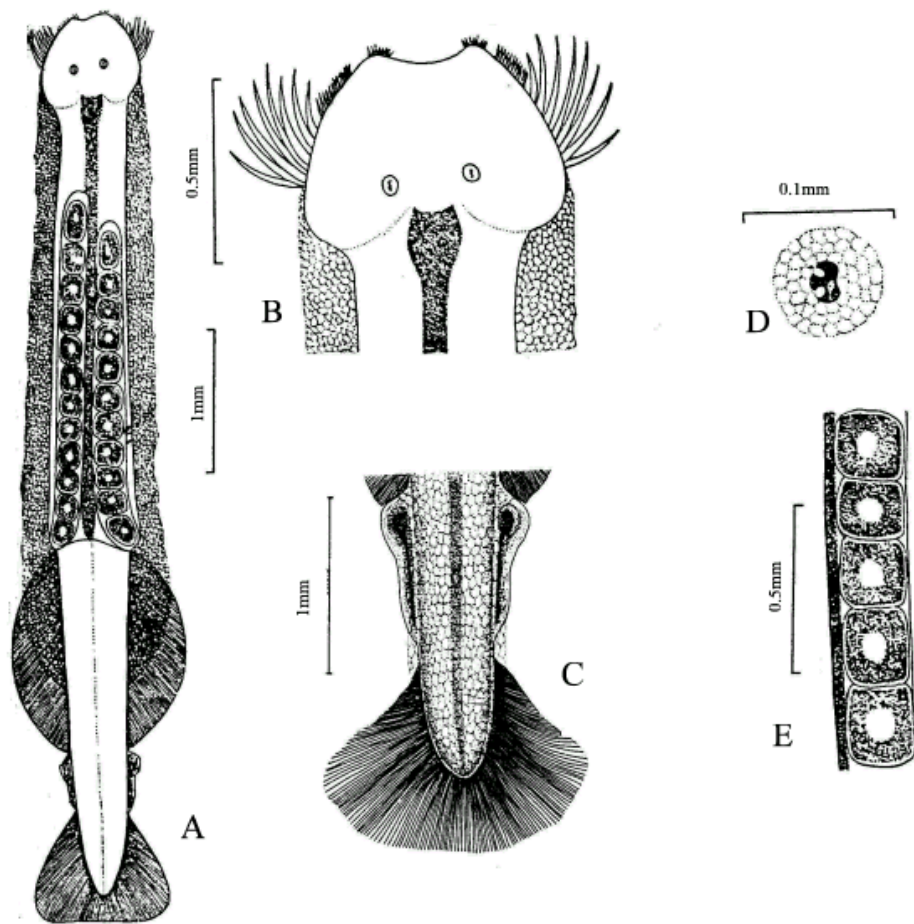
FORMS DATA ENTRY: Form- 1(general) Ref. No.:
(please answer only relevant fields; add additional fields if you require)

Fauna : <input checked="" type="checkbox"/>	Flora	Microorganisms
General Category : Invertebrata (Zooplankton), Chaetognatha		
Scientific name & Authority : <i>Pterosagitta draco</i> (Krohn) 1853 Common Name (if available): Arrow worm		
Synonyms	Author(s)	Status
<i>Sagitta draco</i>	Michael	1911
<i>Pterosagitta besnardi</i>	Vannucci and Hosoe	1952
Classification:		
Phylum: Chaetognatha	Sub-Phylum:	
Super class:	Class:	Sub- Class:
Super Order:	Sub Order:	
Super Family:	Family:	Sub-Family:
Genus: <i>Pterosagitta</i>	Species: <i>draco</i>	
Authority: Krohn		
Reference No.:		
Krohn, A., 1853. Nachtragliche Bemerkungen u. den Bau der Gattung <i>Sagitta</i> , nebst der Beschreibung einiger neuen Arten. <i>Arch. Naturgesch.</i> , 19 : 266-281.		
Geographical Location:		
This is an oceanic, epiplanktonic, cosmopolitan species of warm temperate regions. In Indian Ocean <i>P. draco</i> inhabits the Equatorial-Tropical and central waters. Its extension southwards of Indian Ocean is limited by the subtropical convergence with higher abundance between 10°N and 10°S.		
Latitude: Upto 40°S	Place:	
Longitude: 20-120°E	State:	

Environment

Fresh water: Yes/ No Habitat : Marine Salinity :
Brackish : Yes/ No Migrations : Perform vertical migrations. Temperature :
This can be diurnal in relation
to size/stage of maturity, light
intensity or otherwise
Salt water : Yes ✓/ No Depth range: 250-0 m. Rarely extends below 250m
(Nair, 1978).

Picture (scanned images or photographs of adult / larval stages)



Pterosagitta draco

A – Dorsal view; B – Head (dorsal view);
C – Details of posterior part of tail and seminal vesicles (dorsal view);
D – Eye; E – Arrangement of ova in the ovary.

<p>DATA ENTRY FORM: Form- 2(Fish / shellfish / others) (please answer only relevant fields ; add additional fields if you require) Form –1 Ref.No.:</p>			
<p>IMPORTANCE</p> <p>Landing statistics (t/y) : from to Place : Ref . No.:</p> <p>Main source of landing: Yes/ No Coast: east/ west</p> <p>Importance to fisheries:</p> <p>Main catching method :</p> <p>Used for aquaculture : yes/ never/ rarely</p> <p>Used as bait : yes/no/ occasionally</p> <p>Aquarium fish : yes/ no/ rarely</p> <p>Game fish : yes/ no</p> <p>Dangerous fish : poisonous/ harmful/ harmless</p> <p>Bioactivity : locally known/ reported/ not known Details:</p> <p>Period of availability : Throughout the year – yes/ no If no, months:</p>			
<p>SALIENT FEATURES :</p> <p>Morphological:</p> <p>Diagnostic characteristics:</p> <p><i>Pterosagitta draco</i> can be easily identified by its massive wing like collarete. Body is robust with strong and thick longitudinal muscles. Width of the animal is uniform from head to short, stumpy and opaque tail segment. Intestinal diverticula are absent.</p> <p>Head is larger than body with well defined neck. Tail segment varies from 41 to 46 per cent of total length. Eyes are oval in shape with a central pigmented region. Ventral ganglion is situated at about midlength of trunk. The characteristics of the species is the thickening of lateral epidermis resulting in an exaggerated development of collarete covering the body from head to seminal vesicles as a thick layer and then continues as thin layer up to the tip of the tail segment. Collarete reaches maximum dimension between neck and mid level of tail septum. This species has only one pair of lateral fins corresponding to the posterior lateral fins of the genus <i>Sagitta</i>. Lateral fins are semicircular in shape, originating at tail septum and extend to seminal vesicles. Fins are fully rayed. The length of the fin varies from 21 to 24 per cent of the animal.</p>			
<p>Sex attributes:</p> <p>Hermaphrodite. Male gonads being located in the tail segment, the female in the posterior part of the trunk. Though hermaphrodite cross – fertilization by copulation is the rule.</p> <p>Descriptive characters:</p> <p>Ovarian tubes are long, thick and in mature specimens they extend even up to neck region. Ova are large and spherical. Ova are compactly arranged in two rows. Seminal vesicles touch posterior end of paired fins and caudal fin. They are elongated with a bulged anterior portion. Bursting of the vesicles takes place along the anterior lateral margin through which the sperms are liberated.</p>			

Meristic characteristics:

Hooks are strong, well curved and vary from 8 to 10. Anterior teeth are short and number 10 per set. Posterior teeth are long and conical in shape numbering upto 18 per side.

Feeding habit: Active, well armed, voracious animals.

Main food : Crustaceans, hydromedusae, other chaetognaths, fish larvae.

Feeding type : Carnivore.

Additional remarks:

Size and age:

Maximum length (cm) (male / female/ unsexed)

Ref. No.:

Length at maturity : 9-10 mm

Average length (cm) (male / female / unsexed)

Ref. No.:

Range and average length: 5-10 (av. 7.5) m.

Maximum weight : (g) (male / female / unsexed)

Ref. No.:

Average weight :(g) (male / female / unsexed)

Ref. No.:

Longevity (y) (wild) : (captivity)

Ref. No.:

Length / weight relationships:

Eggs and larvae: Characteristics: Abundance:	Ref. No.:
Biochemical aspects: Proximate analysis: moisture/ fat/ protein/ carbohydrate/ash Electrophoresis:	Ref. No. Ref. No.
SPAWNING INFORMATION:	
Locality: Season: Fecundity: Comment:	Main Ref:
MAJOR PUBLICATIONS (INDIAN): (include review articles, monographs, books etc.)	
Vijayalakshmi Nair, R. 1977. Chaetognaths of the Indian Ocean. <i>Proc. Symp. Warm Water Zoopl. Spl. Publ. UNESCO/NIO</i> . 168-195.	
Vijayalakshmi Nair, R. 1978. Bathymetric distribution of chaetognaths in the Indian Ocean. <i>Indian J. Mar. Sci.</i> 7: 276-282.	
Srinivasan, M. 1979. Taxonomy and ecology of Chaetognatha of the west coast of India in relation to their role as indicator organisms of watermasses. <i>Zool. Surv. India, Tech. Monogr.</i> No. 3. 1-47.	
Pierrot – Bults, A.C and Vijayalakshmi Nair, R. 1991. Distribution patterns in Chaetognaths. <i>In: The Biology of Chaetognaths</i> . Q.Bone, H. Kapp and A. C. Pierrot – Bults (Eds.). Oxford Science Publications, Oxford University Press, Oxford, New York, Tokyo. 86-116.	
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