



Cephalopod

Identification Guide

North Sea

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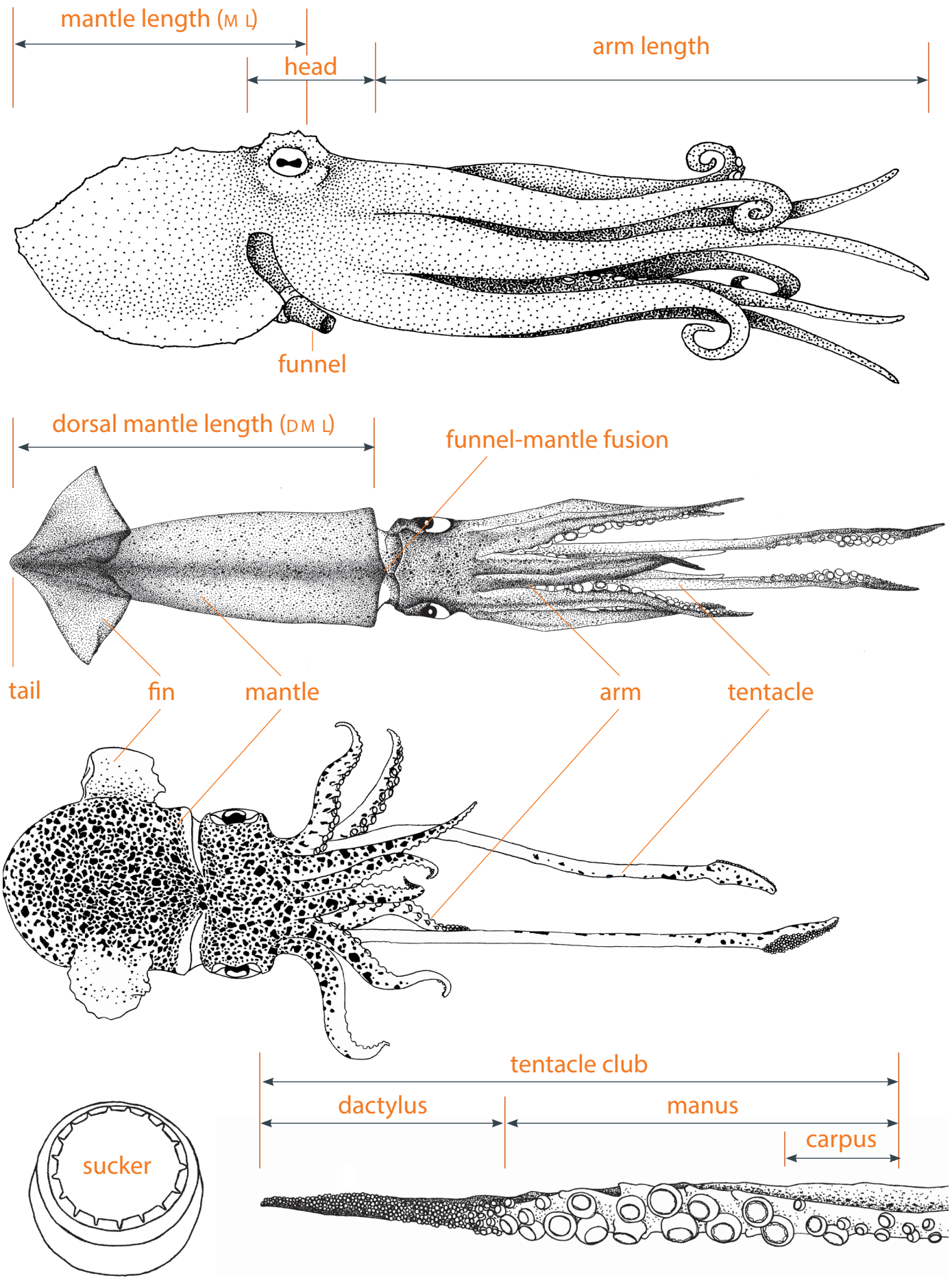
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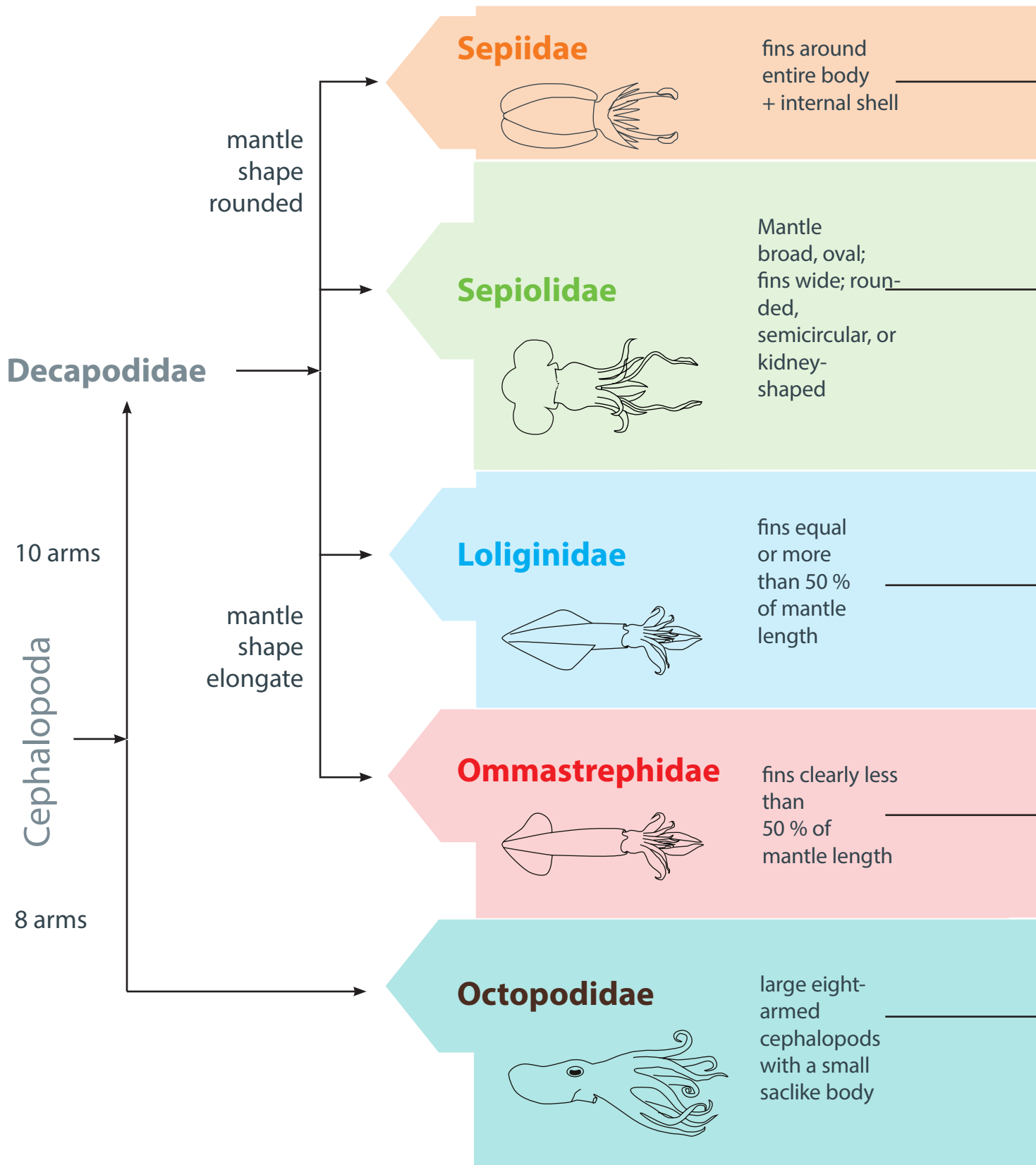
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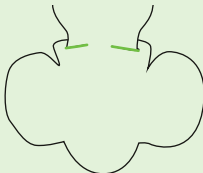
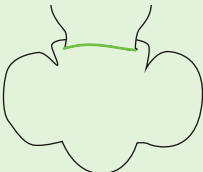
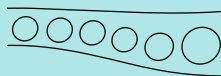
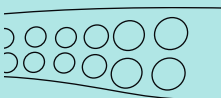
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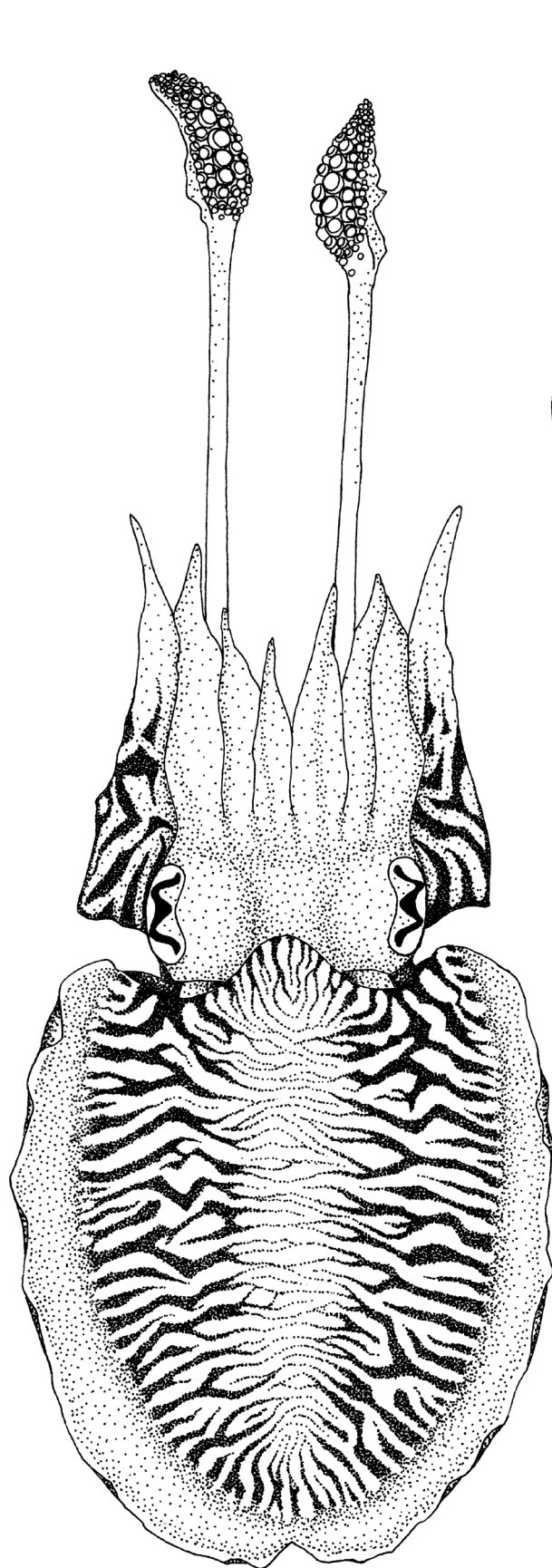
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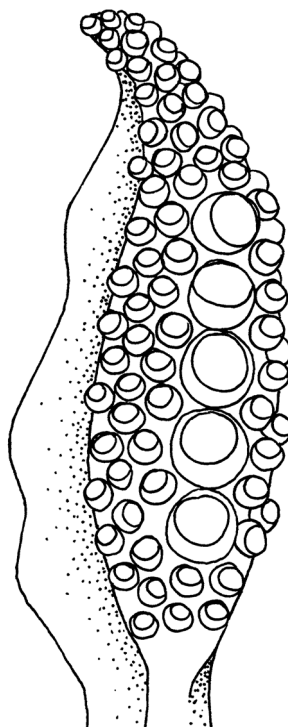


see page

		<i>Sepia officinalis</i>		6, 7
→	Dorsal border of mantle fused with head		<i>Sepiola atlantica</i>	8, 10
			<i>Sepietta oweniana</i>	8, 11
	Dorsal border of mantle <u>not fused</u> with head		<i>Rossia macrosoma</i>	9, 12
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		<i>Ilex coindetii</i>		20, 23
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Fins extending
along entire
body length



tentacular club



Sepia officinalis

Can be confused with

Sepia elegans, *Sepia orbignyana*

Length

max DML: in general: 490 mm ¹
 North Sea: 230 mm ⁵

Diagnostic Details¹

Fins extending along entire body length;
Club suckers in 5-6 rows;
5 or 6 enlarged media suckers on club;

Distribution & Abundance in the North Sea⁵

Most abundant *Sepia* in the North Sea,
More common in the southern part of the North Sea and
English Channel, rare in the northern North Sea

Depth: 23 - 80 m ⁵

Salinity: 34 - 35.2 ⁵

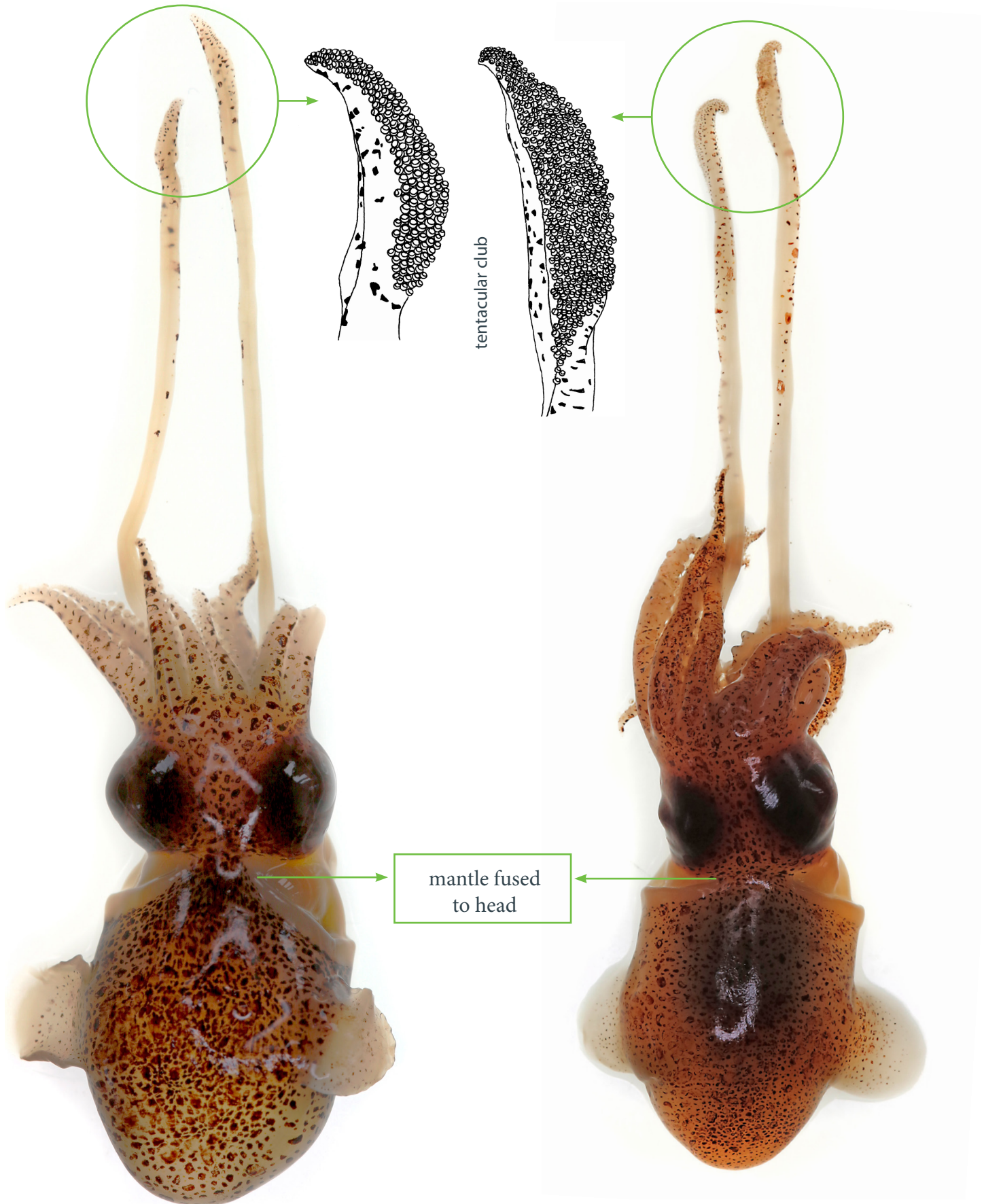
Temperature: 3.5 - 21°C ⁵

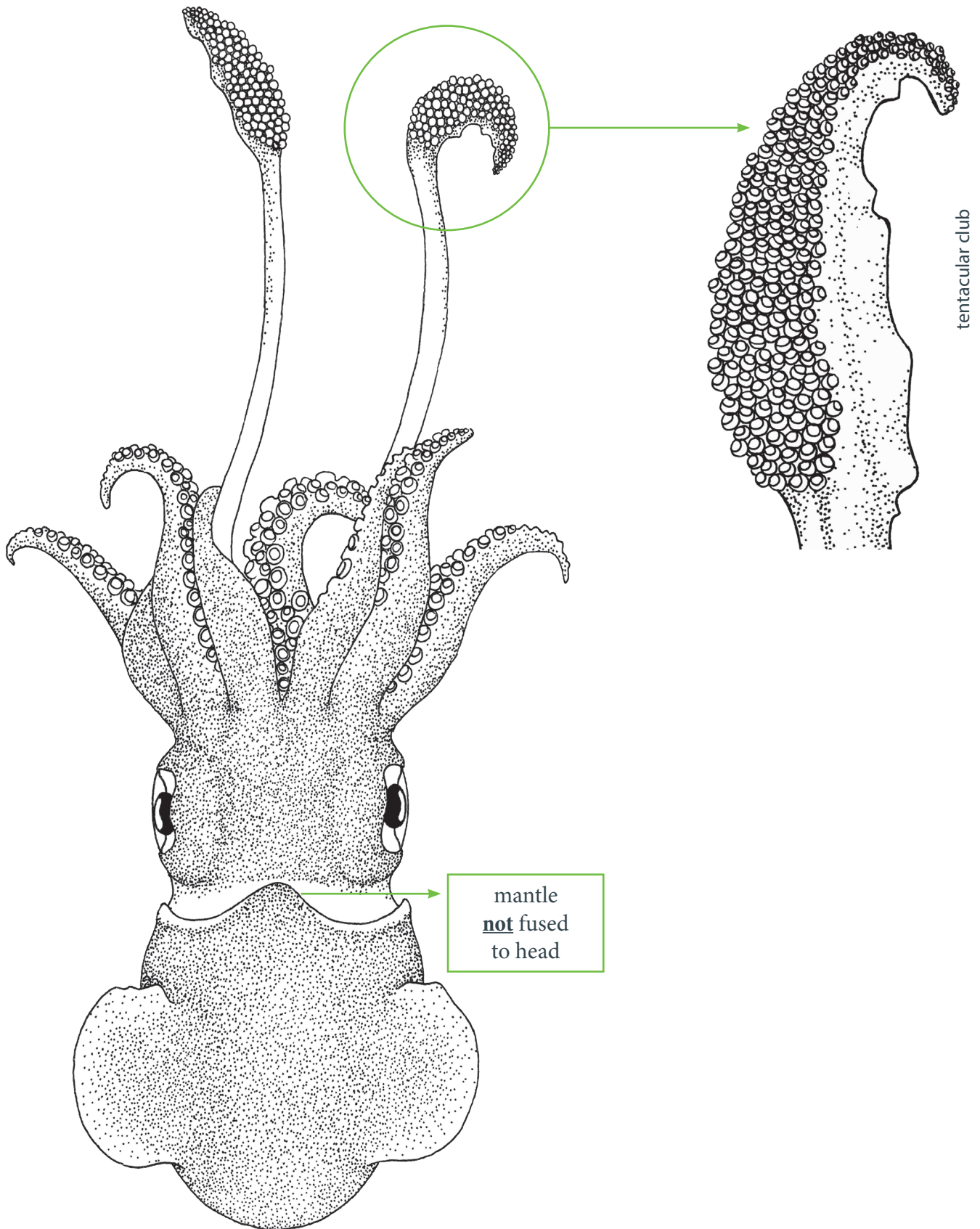


8 Sepiolidae

Sepiola atlantica

Sepietta oweniana



Rossia macrosoma

Sepiola atlantica

Can be confused with

Sepiola pfefferi, *Sepiola tridens*, *Sepietta oweniana*,
Sepietta neglecta, *Rossia macrosoma*

Length

max DML: in general: 37 mm³
 North Sea: 37 mm³

Diagnostic Details⁴

Mantle fused with head;
Dactylus with 8 suckers in transverse row;
Fins short and irregular rounded;
Suckers on arms in pairs but on arms IV with
4-8 suckers in transverse row with light organ in the
distal end

Distribution & Abundance in the North Sea³

S. atlantica is the most common Sepiolidae in the North
Sea bottom trawls whereas higher abundances occur in
winter in the North Sea.

It is distributed throughout the whole area.

Depth: 19 - 152 m³

Salinity: 29.5 - 35.6³

Temperature: 5 - 21 °C^{3,5}



Sepietta oweniana

Can be confused with

Sepiola atlantica, *Sepiola tridens*, *Sepiola pfefferi*, *Sepietta neglecta*, *Rossia macrosoma*

Length

max DML: in general: 50 mm ^{3,6}
 North Sea: 50 mm ^{3,6}

Diagnostic Details ⁴

Mantle fused with head; Dactylus with 32 suckers in transverse row; Fins wide and rounded with pronounced anterior lobes; Suckers on arms in pairs without light organ

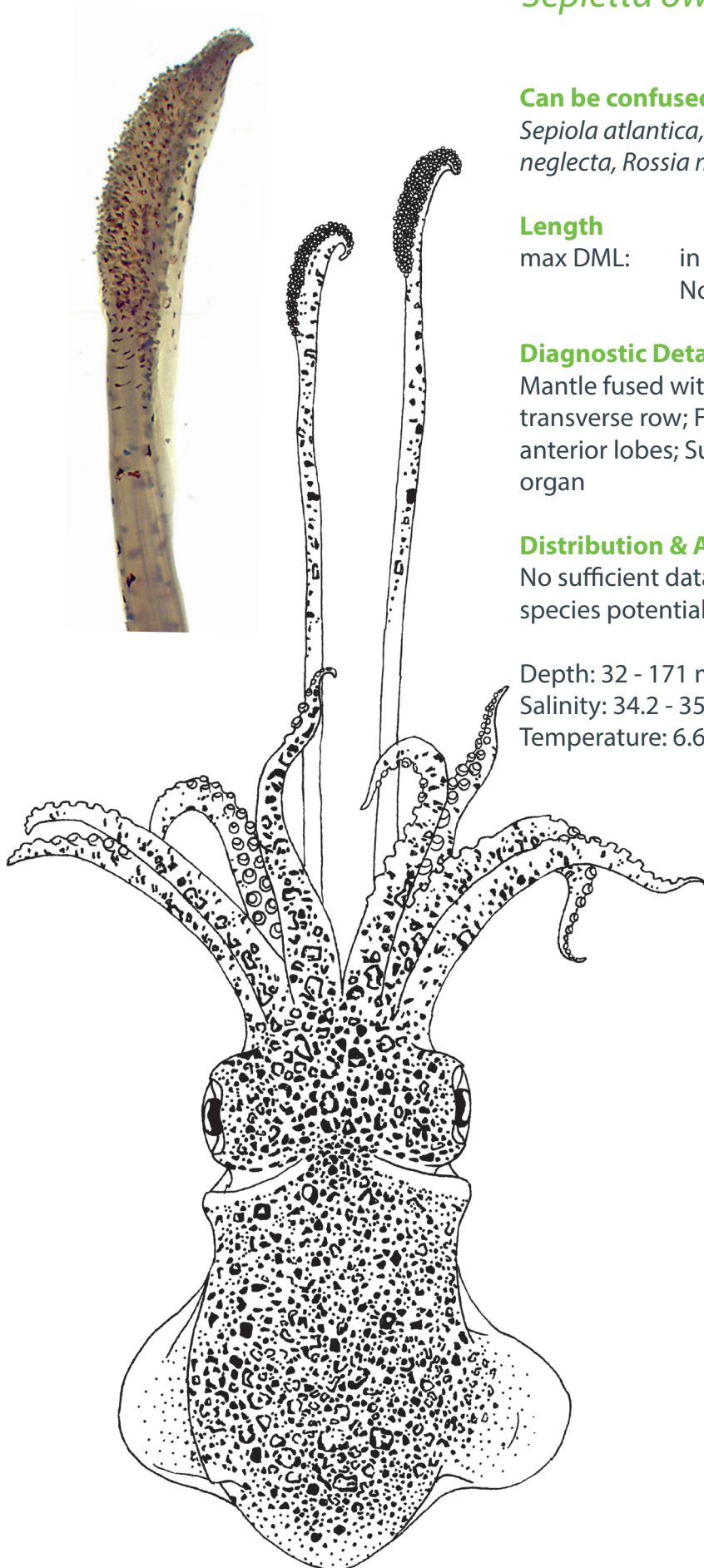
Distribution & Abundance in the North Sea ^{3,5}

No sufficient data exist. However, it seemed that the species potentially occurs throughout the whole area.

Depth: 32 - 171 m ³

Salinity: 34.2 - 35.4 ³

Temperature: 6.6 - 8.6°C ³



Rossia macrosoma

Can be confused with

Sepietta oweniana, *Sepiolo atlantica*

Length

max DML: in general: 85 mm ⁴
 North Sea: 70 mm ⁵

Diagnostic Details ⁴

Mantle not fused with head;
 Dactylus with 8 - 12 suckers in transverse row;
 Fins short,
 Suckers on arms basal in pairs
 medial and distal in 4 rows

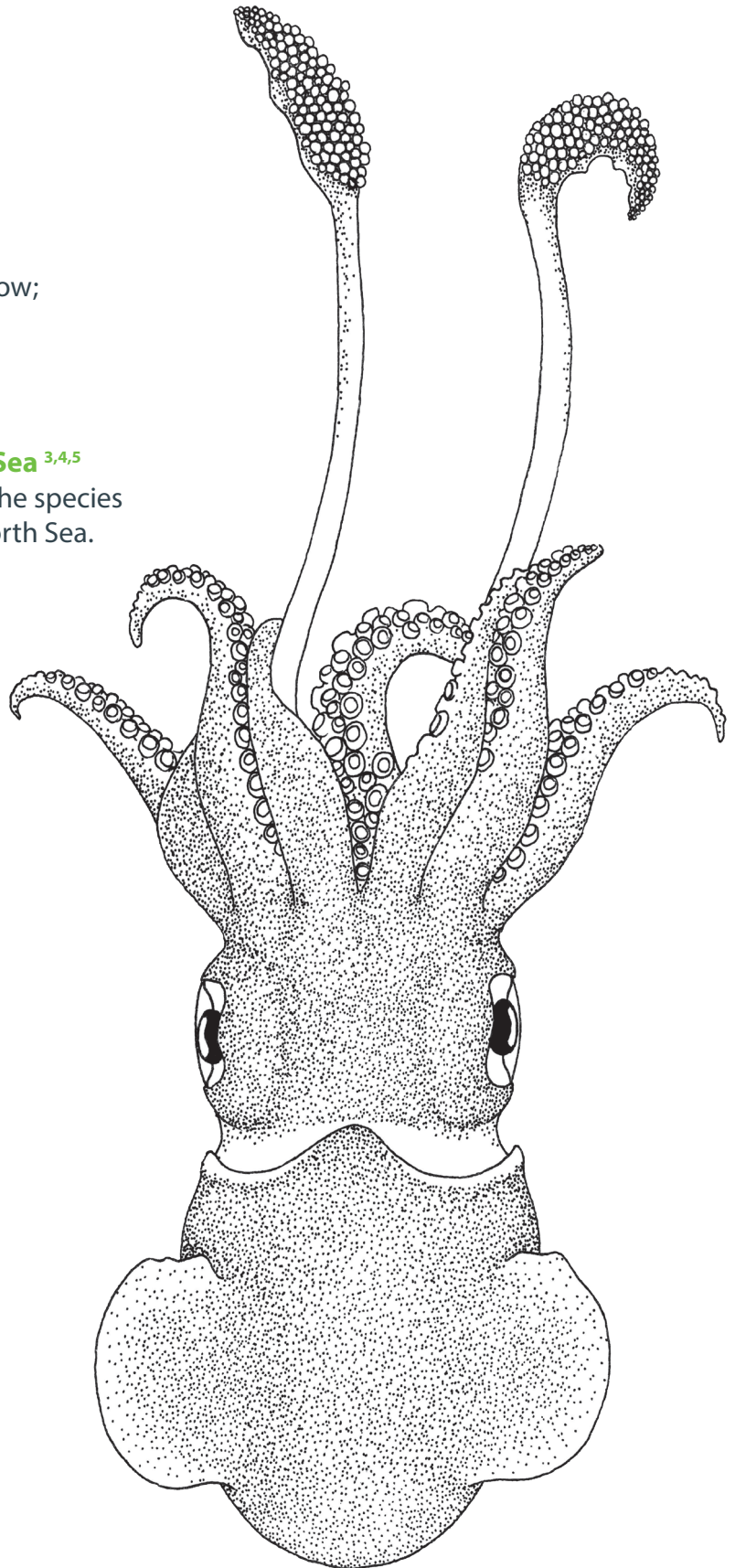
Distribution & Abundance in the North Sea ^{3,4,5}

No sufficient data exist. But it seems, that the species occurs more in the northern parts of the North Sea.

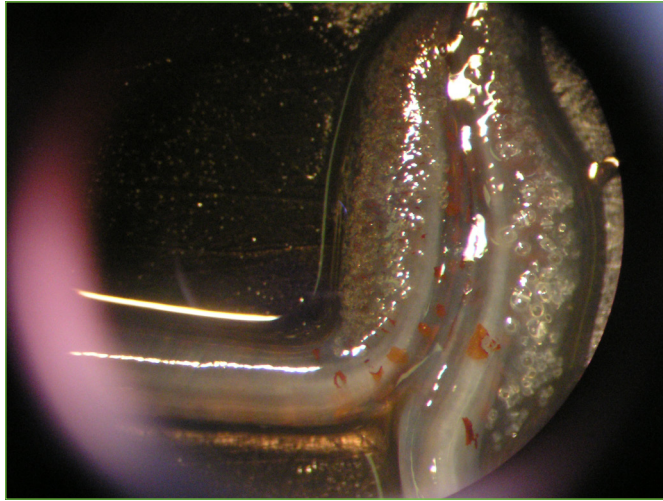
Depth: 75 - 171 m ³

Salinity: 34.8 - 35.4 ³

Temperature: 5.7 - 12 °C ^{3,5}



Comparison of tentacle and arms



left tentacle: *Sepietta oweniana*

right tentacle: *Sepiola atlantica*

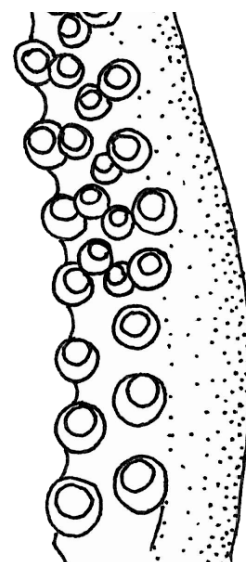


Sepiola atlantica

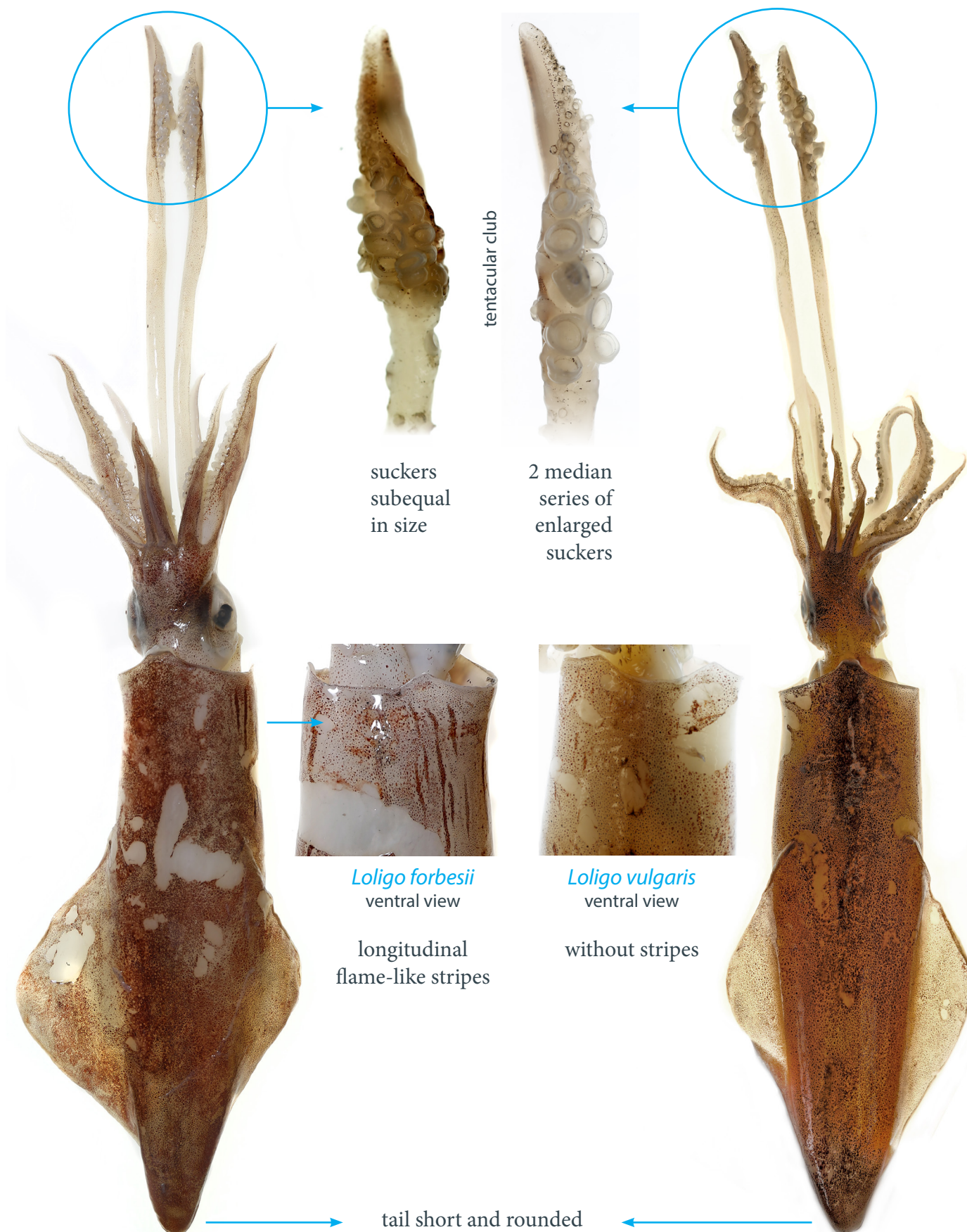
(only fourth arms)



Sepietta oweniana



rossia macrosoma

*Loligo forbesii**Loligo vulgaris*

Alloteuthis spp.



Comparison of club suckers



L. forbesii – club sucker



L. vulgaris – club sucker

Loligo forbesii

Can be confused with

L. vulgaris, *A. subulata*, *A. media*

Length

max DML: in general: 735 mm²
North Sea: 520 mm³

Diagnostic Details⁸

1) Fin length three quarters of mantle;
2) Posterior borders of fins slightly concave;
Suckers on manus of tentacular club subequal in size;
Sucker rings regularly toothed all around, with 13 to 18 larger sharp, conical teeth; largest arm sucker rings with 7 or 8 teeth.
Colour: prominent longitudinal flame-like stripes of purplish dark chromatophores on the anterior and ventrolateral surfaces of the mantle.

Distribution & Abundance in the North Sea⁹

Loligo forbesii is more abundant than *Loligo vulgaris*. Especially in winter when *L. forbesii* is most abundant in the northern part of the North Sea. In summer low numbers occur throughout the whole North Sea.

Depth: 20 - 171 m⁹

Salinity: 32.75 - 35.4⁹

Temperature: 6.3 - 18.2 °C⁹



Loligo vulgaris

Can be confused with

L. forbesii, *A. subulata*, *A. media*

Length

max DML: in general: 640 mm¹⁰
North Sea: 409 mm³

Diagnostic Details⁸

Fins rhomboidal, Fins exceeds 50% of mantle length, Posterior borders slightly concave.

Manus of tentacular clubs with 4 longitudinal series of suckers; 2 median series with 6 to 8 enlarged suckers each; Sucker rings of median series on manus with approximately 30 irregularly-sized and distributed teeth; Clubs with about 36 transverse rows of suckers; Arm suckers biserial; Sucker rings with about 20 teeth, the distal ones large and pointed, the proximal ones, small or absent

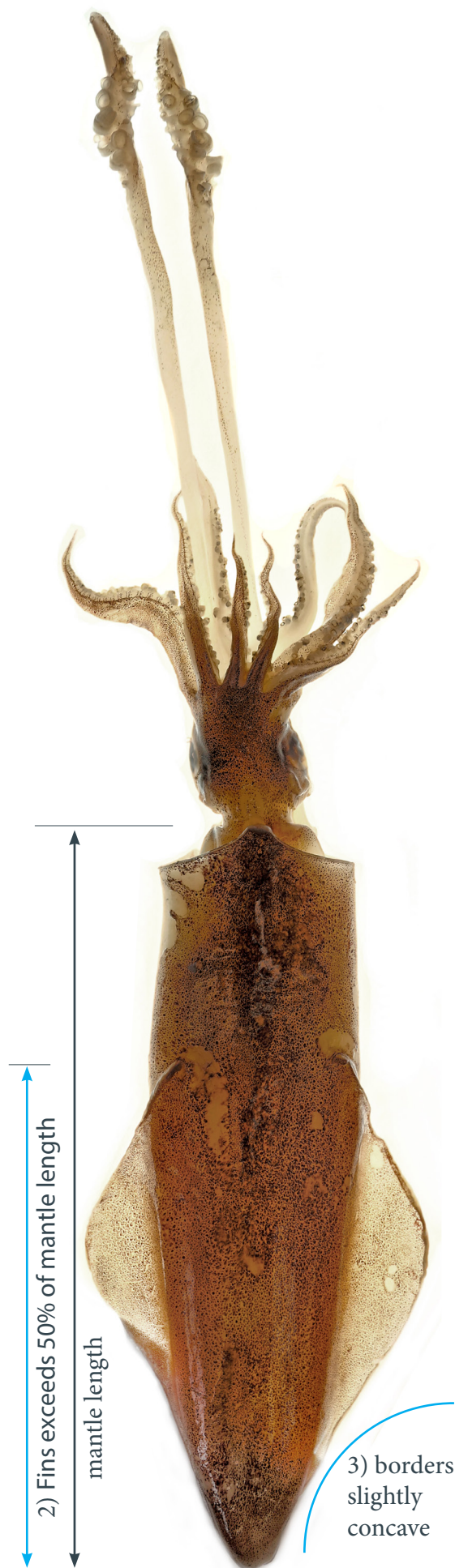
Distribution & Abundance in the North Sea⁹

L. vulgaris is rare in the North Sea especially in summertime. The species is more concentrated in the southern and central part of the North Sea and almost never in the northern parts.

Depth: 23 - 139 m^{3,5}

Salinity: 33.4 - 38³

Temperature: 6 - 18 °C³



Alloteuthis spp.

Can be confused with

L. forbesii, *L. vulgaris*

Length

max DML: in general: 215 ¹¹
 North Sea: 160 mm ³

Diagnostic Details ⁸

Mantle tail long; Fins rhombic with pointed lateral angles, Their posterior borders concave and they extend along the tail; Fin length exceeds 50% of mantle length; Buccal lappets without suckers; Tentacles short, delicate; Clubs small, narrow, median manal suckers small (6 to 8% of head width); Arms are medium to short.

Distribution & Abundance in the North Sea ⁹

Alloteuthis spp. is the most common squid in the North Sea. In winter *Alloteuthis* spp. is most abundant in the central part of the North Sea (feeding grounds), during summer most individuals occur in the south western parts of the North Sea (spawning grounds). Genetic studies illustrate that currently only *Alloteuthis media* is present in the North Sea ²².

Depth: 15 - 171 ⁹

Salinity: 32,3 - 38 ³

Temperature: 5 - 21 °C ^{3,5}

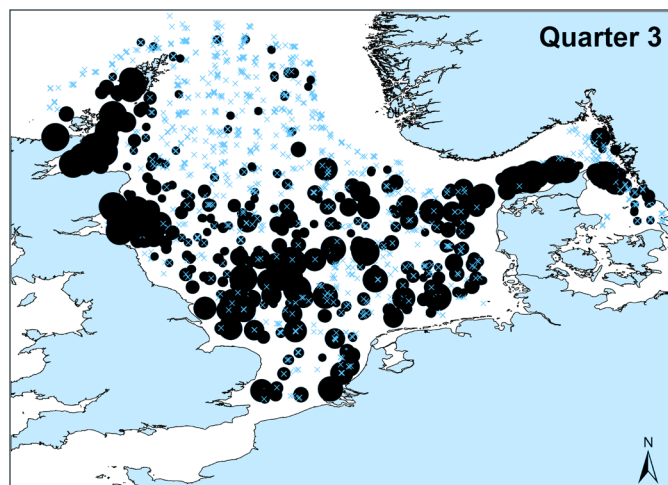
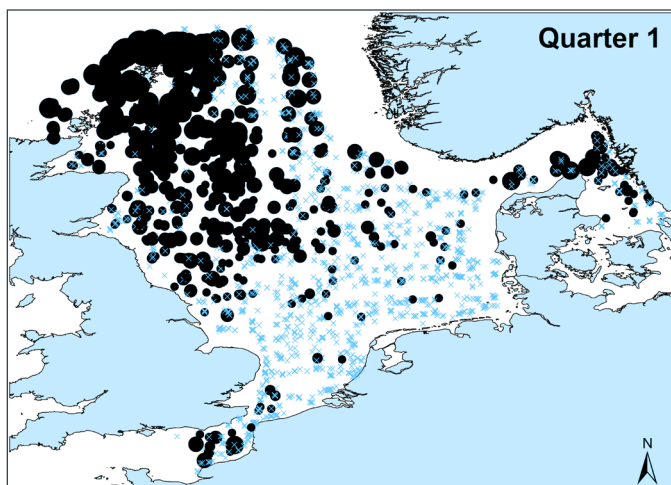


Distribution & Abundance

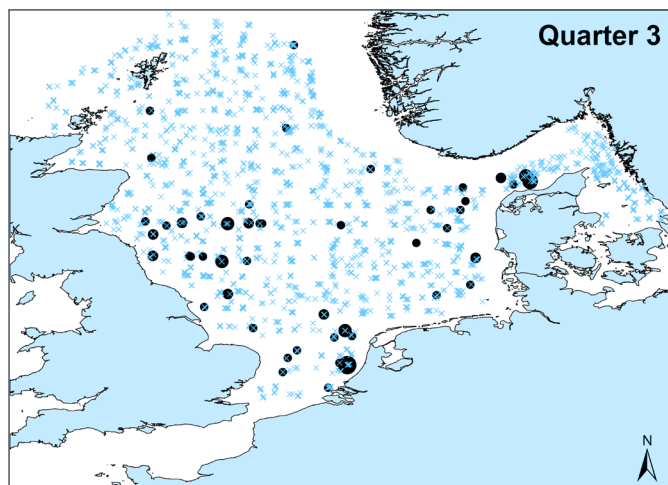
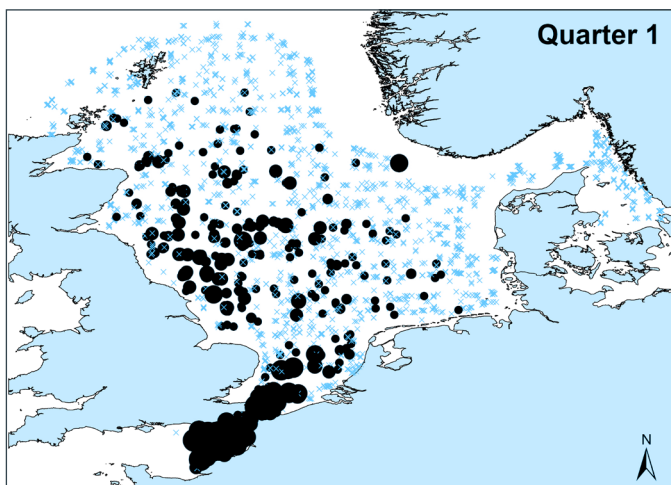
number per haul hour



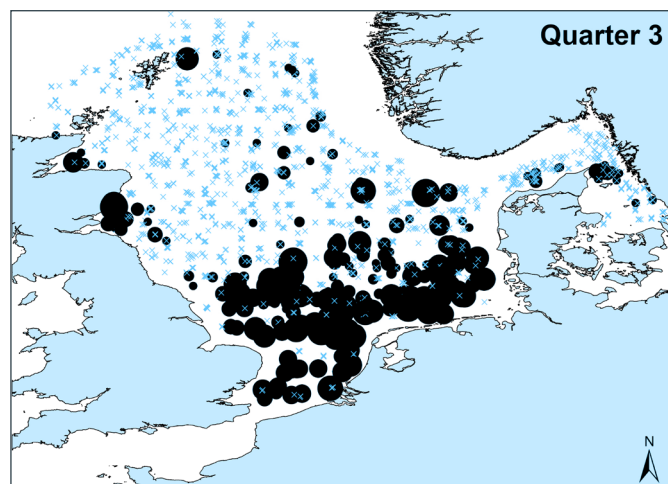
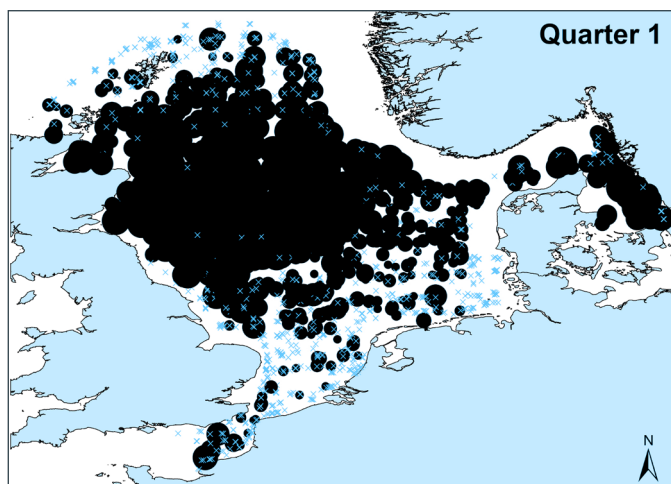
Loligo forbesii



Loligo vulgaris

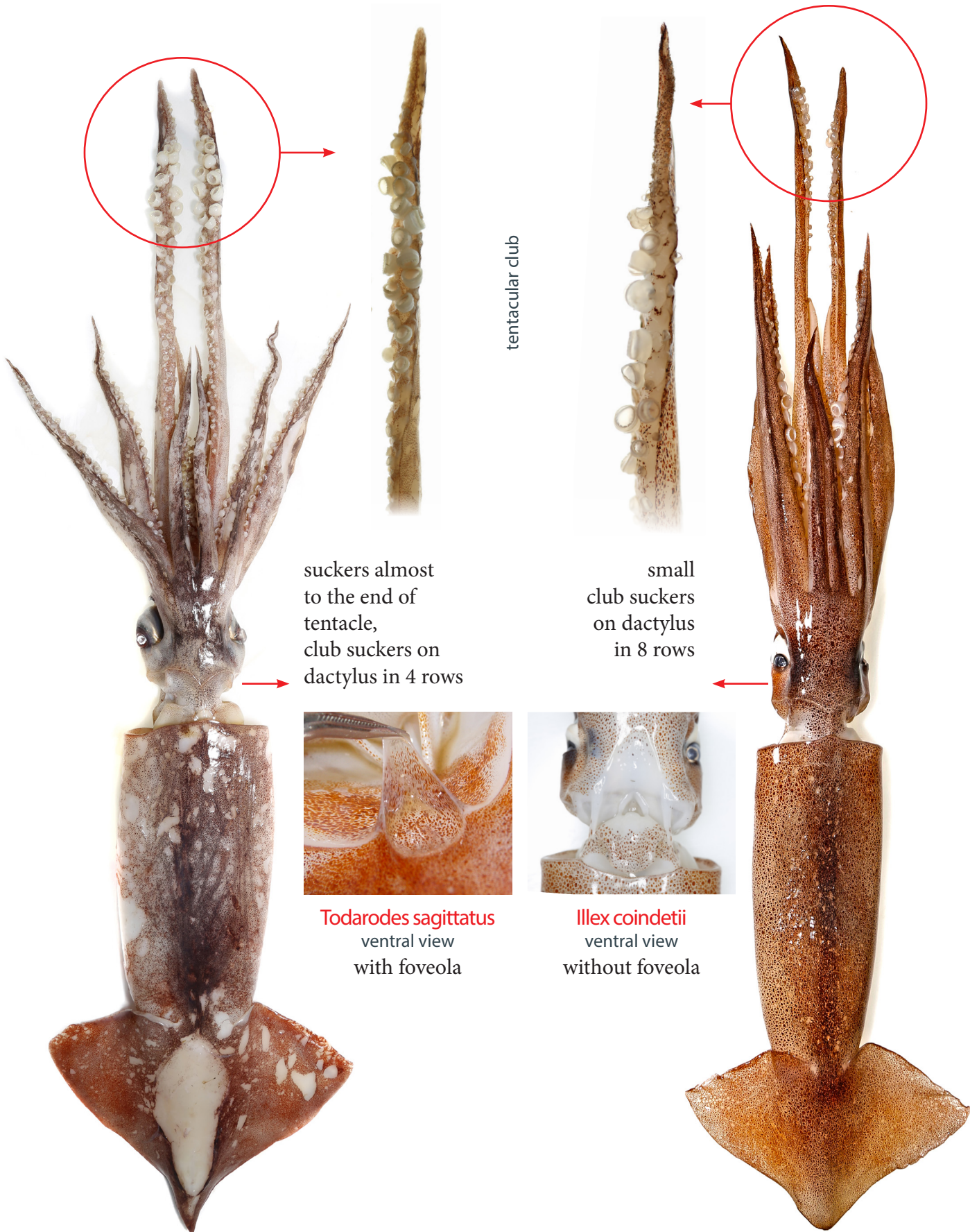


Alloteuthis spp.



Todarodes sagittatus

Illex coindetii



Todaropsis eblanae



tentacular club

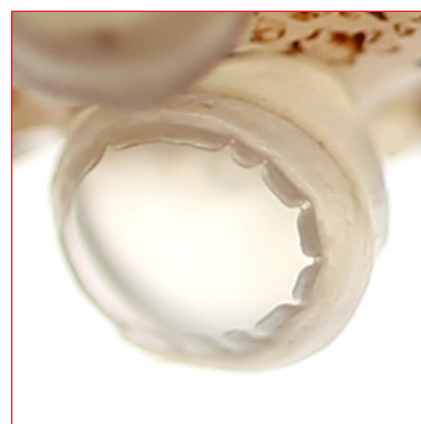
club suckers
on dactylus
in 4 rows

without foveola

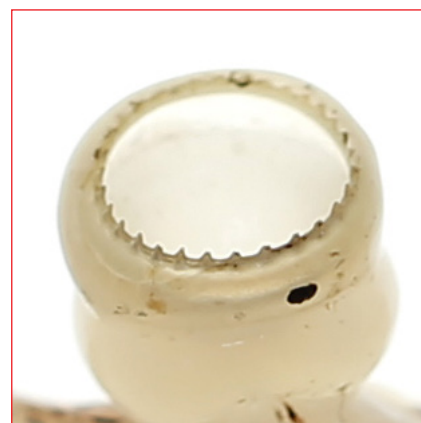
Comparison of club suckers



T. sagittatus – club sucker



Illex coindetii – club sucker



T. eblanae – club sucker

Todarodes sagittatus

Can be confused with

Illex coindetii, *Todaropsis eblanae*,
Ommastrephes bartramii

Length

max DML: in general: 750 mm ¹²
North Sea: 490 mm ¹³

Diagnostic Details ¹⁴

Funnel groove with foveola, Side pockets absent;
Tentacular club with 2 pairs of carpal suckers (dactylus 4 longitudinal rows of suckers);
Tentacles without fixing apparatus;
Suckers on dactylus of tentacular club quadriserial;
Medial manus sucker rings with 20 or fewer long and pointed teeth with a single larger tooth distally in some species

Distribution & Abundance in the North Sea ¹³

T. sagittatus is the rarest ommastrephid of the 3 regular common short fin squids in the North Sea. The species occur almost exclusively in winter in the North Sea and very seldom in summer.

Most frequently the species occur in the Northern part of the North Sea, but sporadical catches in the central part of the North Sea were also observed.

Depth: 44 - 171m ¹³

Salinity: 34.9 - 35.4 ³

Temperature: 5.5 - 8.4°C ¹³



Illex coindetii

Can be confused with

Todaropsis eblanae, *Todarodes sagittatus*,
Ommastrephes bartramii

Length

max DML: in general: 379 mm ¹⁵
 North Sea: 312 mm ¹³

Diagnostic Details ¹⁴

Funnel groove smooth, foveola or side pockets absent;
Dactylus of tentacular club with 8 longitudinal rows of
small suckers;

Largest distal manal sucker rings notched in distal half
or all around with low crenulations, not smooth.

Distribution & Abundance in the North Sea ¹⁶

I. coindetii became in the last years the most common
short finned squid in the North Sea.

In summer the species occurs regularly in the central
and northern North Sea, while in winter the species
occurs in higher numbers in the central and northern
part of the North Sea.

Depth: 25 - 166 m ¹³

Salinity: 33.3 - 35.3 ¹³

Temperature: 5.5 - 18 °C ^{13, 16}



Todaropsis eblanae

Can be confused with

Illex coindetii, *Todarodes sagittatus*,
Ommastrephes bartramii

Length

max DML: in general: 290 mm ¹⁷
 North Sea: 212 mm ¹³

Diagnostic Details ¹⁴

Funnel groove without foveola or side pockets;
Dactylus of tentacular club with 4 longitudinal rows of small suckers; Manus of club with 6 transverse rows of 4 suckers; Each with median pairs up to 4 times larger in diameter than lateral suckers;
Sucker rings of largest median club suckers with about 30 short and pointed teeth, occasionally alternating with minute teeth.

Distribution & Abundance in the North Sea ¹³

T. eblanae is the second most common short finned squid in the North Sea. It occurs throughout the whole North Sea with higher numbers in the central and southern part of the North Sea.

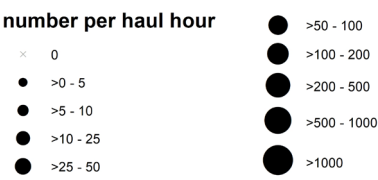
Depth: 31 - 169m ¹³

Salinity: 34.1 - 35.9 ¹³

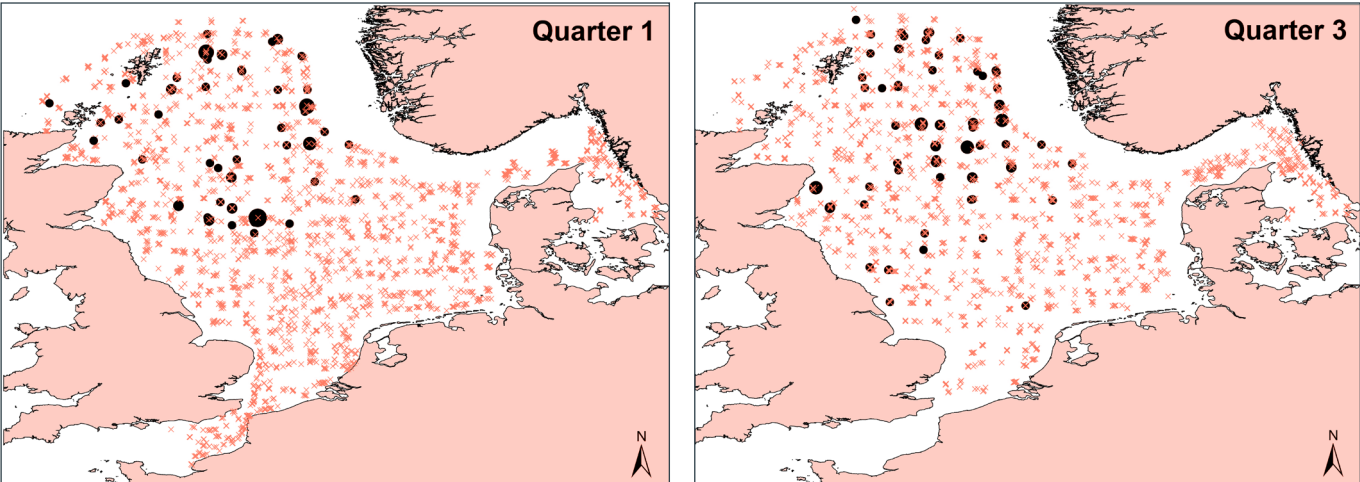
Temperature: 4.6 - 17.3 °C ¹³



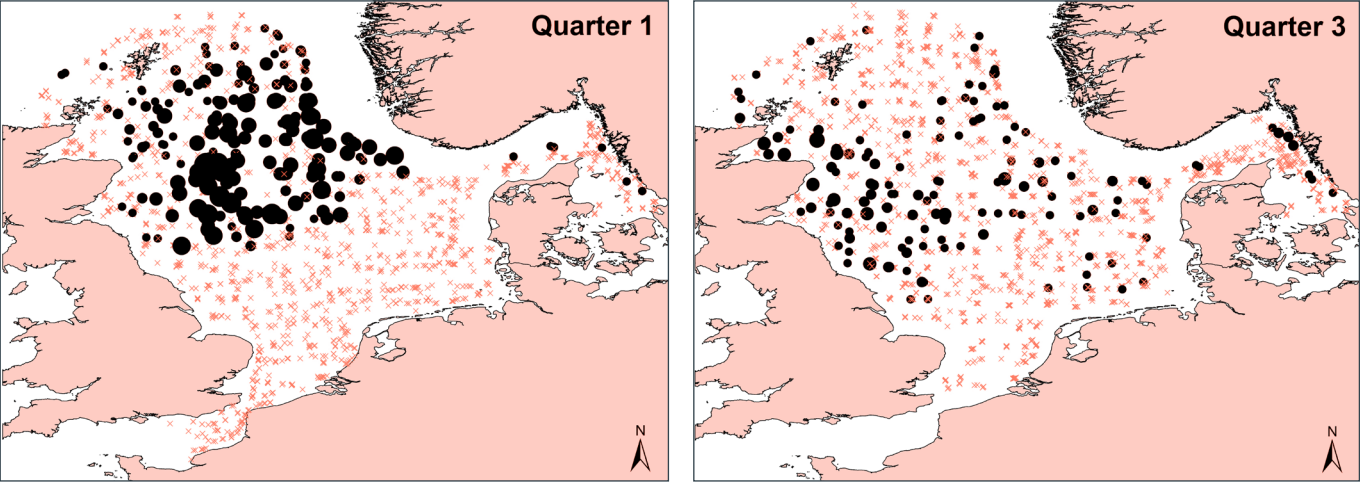
Distribution & Abundance



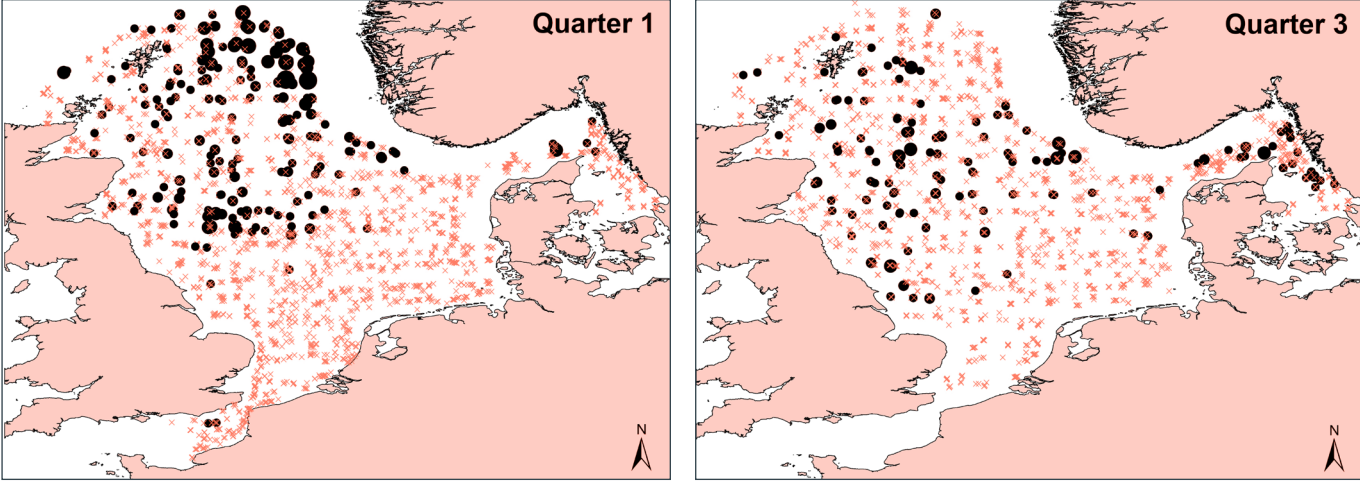
Todarodes sagittatus



Illex coindetii



Todaropsis eblanae



Eledone cirrhosa

Can be confused with *Octopus vulgaris*

Length:

max ML: in general: 191 mm¹⁸
 North Sea: 180 mm³

Diagnostic Details¹⁹

One row of suckers on each arm;
One cirrus close to each eye

Distribution & Abundance in the North Sea³

In bottom trawls very rare, but more often than *Octopus vulgaris*.

Depth: 95.8 - 169 m³

Salinity: 35.2 - 35.4³

Temperature: 6 - 12°C⁵



one
row of
suckers



Octopus vulgaris

Can be confused with *Eledone cirrhosa*

Length

max ML: in general: 400 mm ²⁰
 North Sea: unknown

Diagnostic Details ¹⁹

Two rows of suckers on each arm,
 No cirrus at the eyes

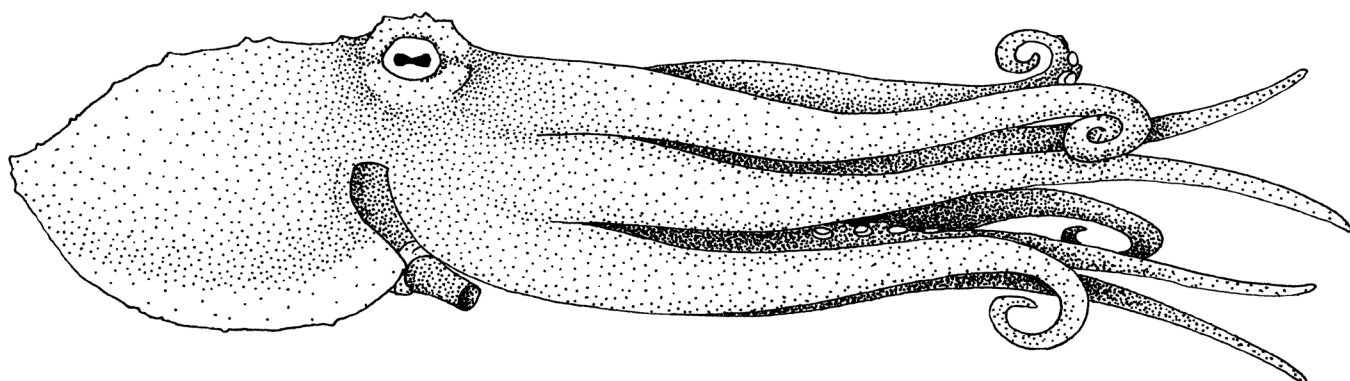
Distribution & Abundance in the North Sea ²¹

Extrem rare and may be only an invader in the southern part

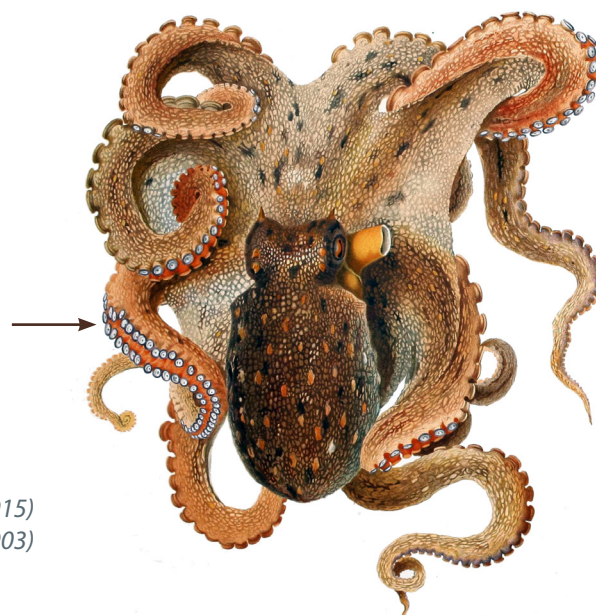
Depth: unknown

Salinity: unknown

Temperature: unknown

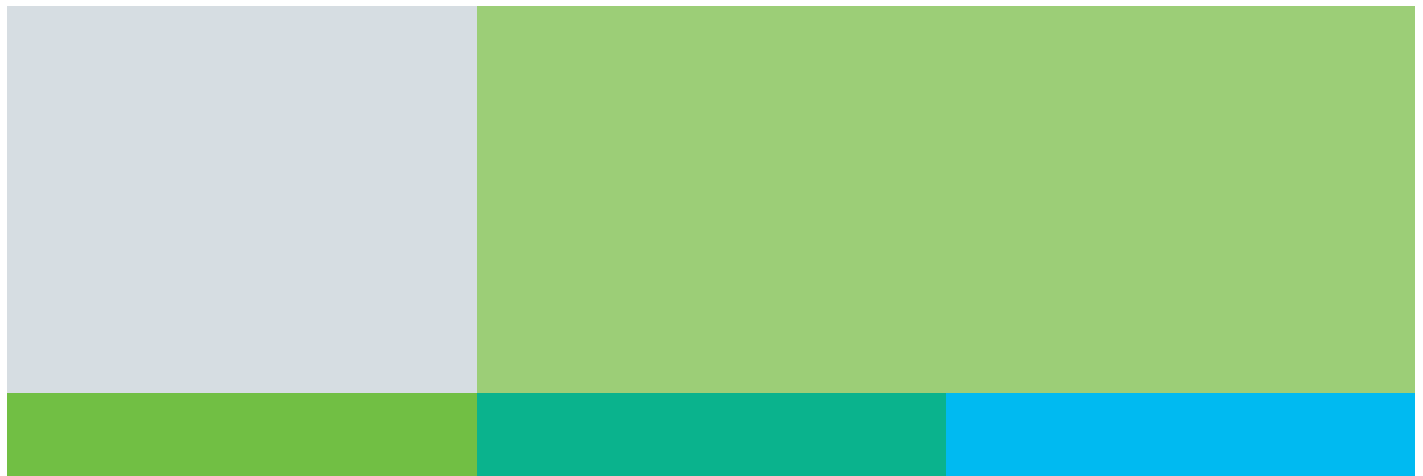


two
rows of
suckers



drawing from Comingio Mercuriano (1845-1915)
 in Jatta Giuseppe (1860-1903)

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