

Table 2

Length of carapace	Normal crabs	Rate of growth	Glandless crabs
2-3 cm.	6.1 per cent (+ 1.57 mm.; $\sigma_m = 0.17$)	21.2 per cent (+ 5.61 mm.; $\sigma_m = 0.49$)	
3-4 "	6.0 per cent (+ 1.84 mm.; $\sigma_m = 0.18$)	24.2 per cent (+ 8.84 mm.; $\sigma_m = 0.81$)	
4-5 "		25.3 per cent (+ 10.6 mm.; $\sigma_m = 0.78$)	

These results seem to indicate that the elongation factor of the intermoult period in the larger crabs has been suppressed. In other words, the activity of the sinus glands apparently increases with the age of the individual and seems to be responsible for the decreasing number of moultings as the animal becomes older.

We have measured the rate of linear growth in normal and in glandless specimens, kept in aquaria (Table 2).

The rate of growth in the glandless specimens appears to be from three to four times higher. This extends the observations of Scudamore³ on the *Macrura* to the *Brachyura*. The table also indicates that the well-known depressive effect of captivity on growth⁵ is related to the sinus glands, since this effect disappears in the specimens from which the glands have been removed. We can eliminate diet as a factor responsible for these differences.

One additional fact confirms the primary role of the sinus glands as a growth-inhibiting factor. It is well known that the regeneration of legs and claws depresses growth following moulting (from 40 to 60 per cent according to Kamps⁶). We have observed that in animals deprived of their sinus glands such an inhibition disappears (Table 3).

Table 3

Sex and size	Regenerated	Rate of growth
♂ 39 mm.	4 legs, 1 claw	28.2 per cent
♀ 37 "	2 legs, 2 claws	24.8 "
♂ 32 "	3 legs	28.1 "
♀ 33.5 "	1 leg, 1 claw	27.7 "
♂ 36.5 "	1 leg, 1 claw	23.3 "

A detailed account of this work will be published in *Annales de la Société Royale Zoologique de Belgique*.

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(= *C. tomentosum* (Huds.) Stackh.) and *Codium fragile* (Sur.) Hariot (= *C. mucronatum* J. Ag.) and the brown algae, *Dictyota dichotoma* (Huds.) Lamour. and *Colpomenia peregrina* Sauv. (= *C. sinuosa* var. *peregrina* Sauv.). The first three mentioned were recorded by Rosenvinge¹, the last two by Lund^{2,3}. They are forms of a somewhat more southern origin, which have gradually spread towards the north; but the Danish localities are not their northernmost limits, for they were also met with on the west coast of Norway. They are all known from the coasts of Great Britain.

In 1948, I⁴ was able to add another species to those mentioned above, namely, the subarctic brown alga *Fucus edentatus* De la Pyl. (= *F. inflatus* var. *edentatus* (De la Pyl.) Rosenv.), which was found in the northern part of the harbour of Copenhagen and in two neighbouring localities of the Sound. Until recent times the southern limit of the species in Europe was the Faroes, the Shetland Isles and South Norway, but during the 'twenties it was found in a few localities on the west coast of Sweden⁵, and later it has apparently been spreading in a southward direction to the Sound. It may also have spread from the Shetland Isles to the east coast of Scotland, for which reason I wish to direct the attention of British naturalists to it.

The most characteristic features of the species are its narrow, entire, evesiculate thallus, the indistinctness or lack of the midrib in the upper part of the shoots and its linear or cylindrical, hermaphrodite receptacles. In Danish plants the length was 20-25 cm., the breadth 0.4-0.6 cm., the receptacles measuring 3-5 × 0.5-0.6 cm. In places where the renewal of the water was not very good, it was forming associations from the surface to a depth of about 2 m. (at Copenhagen the difference between ebb and flow is nearly imperceptible). In localities with a better renewal of the water, its number decreased very much in favour of *Fucus serratus* and *F. vesiculosus*; but on the other hand, it showed better development in such localities.

The species seems to be comparatively insensitive to the salinity and its fluctuations. At Copenhagen the salinity of the surface water generally only amounts to about 10 ‰, now and then, however, exceeding 20 ‰; the mean value is 11.7 ‰. But at the Faroes and elsewhere it exists under the conditions of high salinity of the ocean water.

The find at the Shetlands was made by Eörgesen⁶, but this statement must have been overlooked by Newton⁷, who does not mention the species.

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Immigration of Algae into Danish Waters

THANKS to the careful studies of the late Prof. Rosenvinge on the vegetation of Algae in Danish waters, particularly in the 'nineties, we are now able to study the changes since that time in the algal flora. An increase has occurred in this flora, amounting to five species during the past fifty years: the red alga, *Trailiella intricata* Batters; the two green algae, *Codium dichotomum* (Huds.) Setchell