

SUPPLEMENT TO "EARLY DESCRIPTION OF NORWEGIAN TRILOBITES"

The type specimen of *Illænus glaber* Kjerulf.

BY

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1 text-figure.

As mentioned in my paper on early trilobite types (1940 p. 121), Kjerulf (1865) introduced a new trilobite species which has not been adopted by later writers on account of incomplete description and apparant lack of type specimen. In his "Veiviser ved geologiske excursioner i Christiania omegn" he gives a scematic woodcut of a complete trilobite specimen which he refers to the new species *Illænus glaber*, or *Illænus Dalm. glaber Musæum Christianiæ*. The figure and name is not accompanied by any description, but a certain affinity to a British species is indicated by the reference: "An *I. perovalis* Murch. Silur. Syst. 661 pl. 23. 7". The specimen is found at Ladegaardsøen (= Bygdøy near Oslo) in "etage 4" which comprises chiefly the Middle and Upper Ordovician.

In his monograph on Swedish Illænid Holm (1882 p. 103) described a new species, *Illænus linnarssoni* which he assumed might be identical with Kjerulf's species. Holm (l. c. p. 82—83) was inclined to discard the name proposed by Kjerulf because it represented only a catalogue number not accompanied by any diagnosis or description, neither he remembered to have seen the type specimen in the museum of Kristiania (Oslo).

Holm (1886) also described the Baltic Illænid and presents a more detailed description of *I. linnarssoni*. He points out that his original description of the species was based on Upper Ordovician specimens and that some specimens from the Middle Ordovician (Chasmops beds) differed from this form. Also in the Baltic material two forms might be distinguished, the older one occurring in the Chasmops series he describes as Forma *avus* while the younger one of the Lyckholm is called the "Hauptform".

Middle and Upper Ordovician Illænid of Sweden have more recently been described by Warburg (1925) and Thorslund (1940).

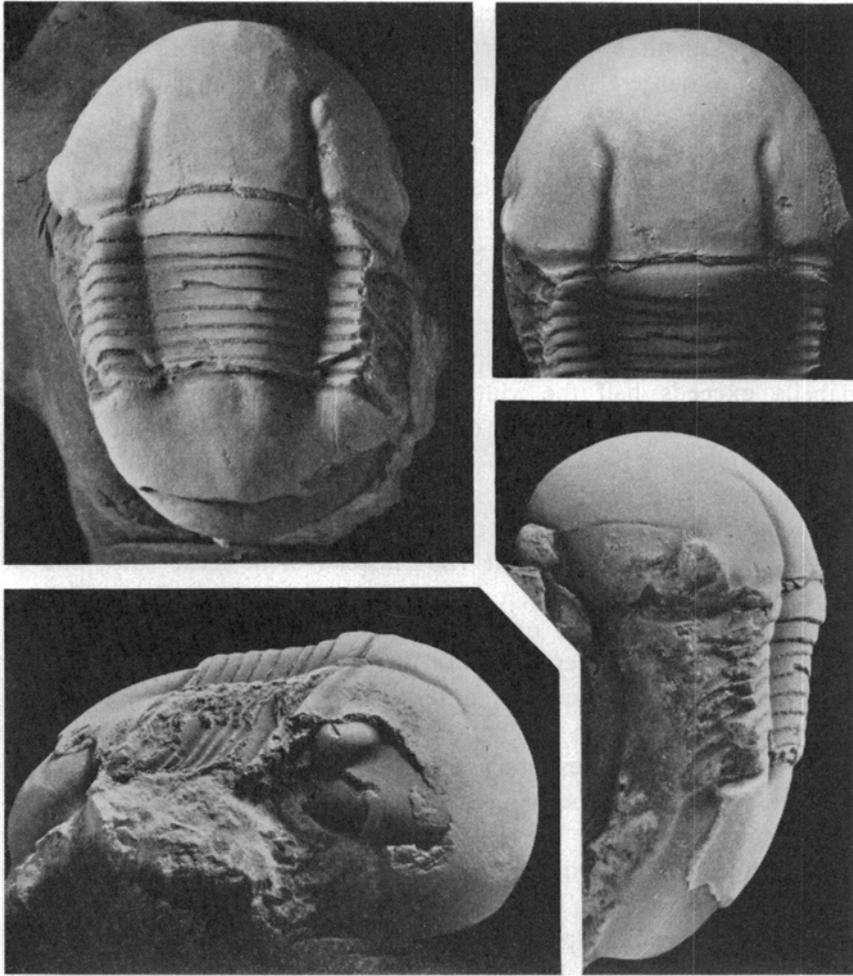
Warburg (l. c. p. 117) gives a thorough description and discussion of *I. linnarssoni* Holm and in accordance with the line indicated by Holm the old form is distinguished as a separate species with the name *I. avus* Holm. From the original species is also separated the species *I. oviformis* Warburg.

When I wrote my paper on the early trilobite types I had not been able to locate the type specimen of *I. glaber* Kjerulf and I was therefore inclined to agree with Holm in discarding the species name of Kjerulf. At present, however, the type has been found in the museum collection and photographs of it are reproduced in the text-fig. In addition to the type a piece of grey limestone containing several cephalæ and one pygidium referred to *I. glaber* (on later labels *I. linnarssoni*) is at hand and the locality is stated to be "Stenbrudd ved Hovedgaarden" at Bygdøy. A small rectangular white label indicates the old collection (Størmer 1940 p. 115). The position of the quarry is unknown, but it seems probable that the specimens belong to the Chasmops series since these beds occur at the Royal Estate or Hovedgaarden. A similar enrichment of the same species is very common in the uppermost layers of the Upper Chasmops Limestone (4 b δ) in the Oslo district. It is not unlikely that the type specimen of *I. glaber* belongs to the same locality and horizon.

Description of the lectotype. No. 63891 Pal. Mus. Oslo Coll. Outline of body elliptical. Cephalon semielliptical in outline, strongly vaulted in longitudinal direction, the median line forming a nearly circular arc of 120° . Axial furrows distinct in the cast, converging slightly forward with frontal portions diverging and bordering oblong fields. Largest width of glabella just below half the width of the cranidium. Fixed cheek sloping rapidly towards the small and narrow palpebral lobes. Posterior branch of facial suture not well preserved, but probably directed backwards and outwards. Anterior branch directed straight forward. Free cheek almost vertically bent down, genal angle well rounded.

Thorax with 9 segments. Axis convex, in the middle a little more than $\frac{2}{5}$ the width of thorax. Axial furrows converging posteriorly. Distal half of pleura strongly bent downwards and somewhat backwards.

Pygidium semielliptical in outline with length nearly $\frac{7}{8}$ the width. Surface gently vaulted with posterior portion sloping rather steeply (towards a narrow margin in the doublure). Axis bordered



Illænus glaber Kjerulf. Type specimen. Lectotype. $2\times$. Upper Chasmops Limestone(?), Bygdøy near Oslo. No. 63891 of Pal. Mus. Oslo Coll.

by shallow axial furrows converging towards a point backwards $2/3$ the length of the pygidium. Five segments faintly visible in anterior portion of axis. Facets long and narrow. Doublure increasing in width posteriorly, having a largest width about $2/5$ the length of the pygidium. A faint median furrows is present, but the anterior median border is not exposed.

Dimensions. The lectotype evidently belongs to a small specimen, Length of body (projection) 23 mm, width 15 mm, length of cephalon (largest projection) 12 mm, length of pygidium 11 mm, width 13 mm.

Remarks. According to the detailed studies by Warburg (1925) the *I. linnarssoni*-group comprises at least three closely related species, *I. linnarssoni* Holm, *I. avus* Holm and *I. oviformis* Warburg. The first and third species are in Sweden restricted to the Upper Ordovician while the second one occurs both in the Middle and Upper Ordovician. Common to the species are nine thoracic segments, small eyes and very small palpebral lobes. The largest width of the glabella exceeds half the width of the cranidium in *I. linnarssoni*, is like half the width in *I. oviformis* and is smaller in *I. avus*. *I. oviformis* differs from the others by the shape of the glabella and the sub-triangular pygidium. *I. avus* deviates from *I. linnarssoni* in having the two portions of the posterior branch of the facial suture meeting at an angle of about 120° instead of at least 150° , and at the same time by the greater width of the doublure in the pygidium.

The type specimen of *I. glaber* differs from the typical *I. linnarssoni* by the smaller width of the glabella and by the broader doublure of the pygidium. It differs from *I. oviformis* by its more evenly curved cephalon and by its elliptical outline of the pygidium. The present form corresponds, however, to the description of *I. avus*. The width of the glabella is the same and the other characteristics (facial suture not well preserved) correspond to this species. The pygidium is more elongate than in *I. avus*, but both elongate and broad forms occur in the species. The type specimen of *I. glaber* is smaller than adult specimens of *I. avus*.

With our present knowledge of the type specimen of *I. glaber* Kjerulf, it is probable that *I. avus* Holm is identical with this species. Since Kjerulf's species is not merely a manuscript name, but is figured and has the type specimen preserved, it seems natural to maintain the species *Illænus glaber* Kjerulf and to regard *I. avus* Holm as a synonym of this species.

Concerning the occurrence of *I. glaber* and related illænidids in the Norwegian Ordovician, this might be elucidated by future studies. Of previous references to the occurrence of the *I. linnarssoni*-group in the Norwegian Ordovician, Warburg (1925 p. 122) mentions only two papers (Brøgger 1884 and Kiær 1897) referring the species from

the Upper Ordovician (upper part of 4 d and from 5). A more detailed account is given in a later paper by Brøgger (1887) who records the present species, or group of species, from the Chasmops limestones 4 b β and 4 b δ , and the Trinucleus zones 4 c α and 4 c β in the Oslo district. Especially in 4 b δ the species is said to be common. Brøgger regards the form from 4 c α as the genuine *Illænus glaber* (= *Il. Linnarssoni* Holm part.).

From the Mjøsen district Holtedahl (1909 p. 30) quotes the species as occurring commonly in the Coelosphæridium beds of the Chasmops Series.

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