



The oldest description and illustration of muscle scars in platyceratid gastropods, published by Daniel Oehlert in 1883

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Abstract. The oldest description and illustration of platyceratid muscle attachment scars were published by Daniel Oehlert in Lower Devonian *Platyceras* (*Orthonychia*) *protei* (OEHLERT, 1883) on June 16, 1883. D. Oehlert sent two specimens of this species from Département de Mayenne, France, to Jaroslav Perner in 1908, as an exchange for Bohemian Koněprusy fossils. These specimens, showing beautifully preserved scars, are deposited in the collections of the National Museum, Prague.

■ Gastropoda, Platyceratidae, muscle scars, oldest description and illustration, Daniel Oehlert, Lower Devonian, France

INTRODUCTION

Muscle scars of Palaeozoic gastropods are generally rarely preserved or available for observation (Peel 1993, Schopf et Morris 1994). Most commonly are recognized in bellerophontoideans and platycerataceans. According to Peel (1976, 1986), the oldest illustration of a muscle scar in bellerophontoideans is that of Koken 1925, who figured it (but not recognized and described) on Pl. I8, fig. 6 in *Sinuities ammonoides* KOKEN, 1897 from the Ordovician of the Baltic region. Only in 1947 Knight described and figured muscle scars in the Ordovician *Sinuities cancellatus* (HALL, 1847) from North America.

Chronologically, muscle scars in Platyceratacea were described and/or figured by Oehlert (1883), Keyes (1890, 1894), Perner (1907), Hyde (1953), Yochelson (1956), Horný (1964), Lane (1973), Peel (1977), Harper et Rollins (1982), Pojeta (1987), Rollins et Brezinski (1988), Fortey et Peel (1990), Horný (2000a, b).

OEHLERT'S PUBLICATION

In his contribution on the meeting of 18th June 1883 (No 16, Compte-rendu sommaire des Séances de la Société Géologique de France, p. LXIV), Daniel Oehlert presented two new polymorphous species of *Acroculia* (= *Platyceras* [*Orthonychia*]) from the Devonian limestones of la Mayenne, showing traces of muscle impressions. Both species, *Acroculia protei* and *A. sileni*, described in his paper, are accompanied with an excellent lithographic plate (Description de deux nouvelles espèces d'*Acroculia* du Dévonien inférieur de la Mayenne. – Bulletin Société Géologique de France, 3^e Série, 11: 602–609). The paper contains notes concerning the nomenclatorial validity of the names *Platyceras*, *Acroculia*, and *Igoceras* and a detailed description of *A. protei*, coming from blackish limestone at the base of the Devonian (Lower Devonian, Pragian, according to pers.

com. of I. Chlupáč). Three specimens are figured; the lectotype with preserved shell and coiled, vermiculous initial part (Pl. 16, fig. 1), and two other specimens, internal moulds with patches of shell (figs 2–4, and 5). The specimen figured on figs 2–4 shows a large muscle scar at the top of the internal mould. The specimen on fig. 5 has a pentagonal outline, with a scar near the centre of gravity, and is partly covered with shell. The musculature is described as follows:

”Empreinte musculaire constituée, à droite, par une large surface d’insertion ovoïde et nettement circonscrite, située non loin du sommet et en avant de celui-ci; l’impression musculaire, qui paraît interrompue pendant un certain intervalle, redevient apparente un peu plus loin, sous la forme d’une bande linéaire sinueuse, contournant le sommet en arrière et se terminant à gauche par une expansion peu distincte, beaucoup moins large que la surface d’insertion située du côté droit.”

It is noteworthy that Oehlert distinguished and correctly explained structures of muscle insertions, so often neglected by many of his contemporary and subsequent palaeontologists. His modern paleontological thinking and observations belong to the most critical in his time.

Interesting is also the paragraph concerning J. Barrande: “Il existe dans la Bohême des formes qui nous semblent voisines de notre espèce, et il est probable que lorsque le travail de M. Barrande, sur les Gastéropodes de cette région, aura paru, il sera possible de trouver des affinités entre certains *Acroculia* de Bohême et ceux de l’Ouest de la France.”

Unfortunately, Oehlert’s paper appeared only incomplete four months before Barrande’s death (5th October 1883) that interrupted the friendly cooperation of these outstanding scientists and discontinued Barrande’s work on the fourth volume (Gastéropodes) of his *Système silurien du centre de la Bohême* (see Horný et Henry 1999).

OEHLERT’S SPECIMENS IN PRAGUE

In 1908, Oehlert sent two specimens of *Acroculia protei* OEHLERT, 1883 (= *Platyceras* [*Orthonychia*] *protei* [OEHLERT, 1883]) and two specimens of *Acroculia sileni* OEHLERT, 1883 (= *Platyceras* [*Orthonychia*] *sileni* [OEHLERT, 1883]) to Perner. Perner, according to the note in the Accessite Catalogue, exchanged them for fossils from the Lower Devonian Koněprusy Limestone. The specimens have been housed in the collections of the Department of Palaeontology, National Museum, Prague, under catalogue numbers S 4738–S 4741. All of them come from Early Lower Devonian limestones from the Département de la Mayenne, La Baconnière, Carrrière de Galleries.

***Platyceras* (*Orthonychia*) *protei* (OEHLERT, 1883)**

Pl. I, figs 1–3

Specimen S 4738 (Pl. I, figs 1–3)

Internal mould of an adult specimen, 56 mm long and 42 mm wide, preserved in dark grey bioclastic limestone with debris of crinoid ossicles. Surface is smooth, with patches of thin internal shell lamellae. The outline of the shell is irregularly pentagonal. The muscle scar is located in the “posterodorsal” area, which is the centre of gravity; it is transversally elongated, large 26 × 16 mm, of irregular outline, raised, with concentric increments. The aperture is probably adapted to life on top of a crinoid calyx, its margin is damaged.

Specimen S 4739

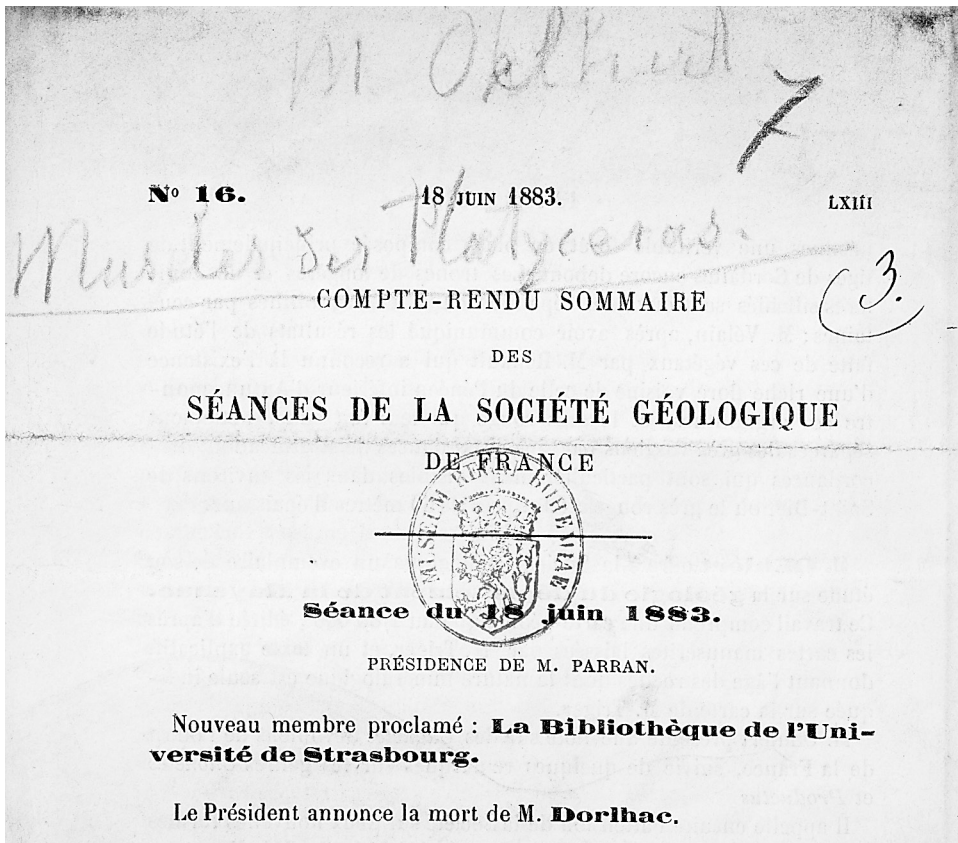
Similar to S 4738 but slightly smaller (53 × 43 mm) and lower, preserved in identical type of rock. Muscle scar less well preserved, subtrigonal, 24 × 16 mm.

***Platyceras* (*Orthonychia*) *sileni* (OEHLERT, 1883)**

Pl. I, figs 4–6

Specimen S 4740 (Pl. I, figs 5, 6)

Internal mould of an adult specimen, 54 mm long and 39 mm wide, preserved in light grey biodetritic coquina



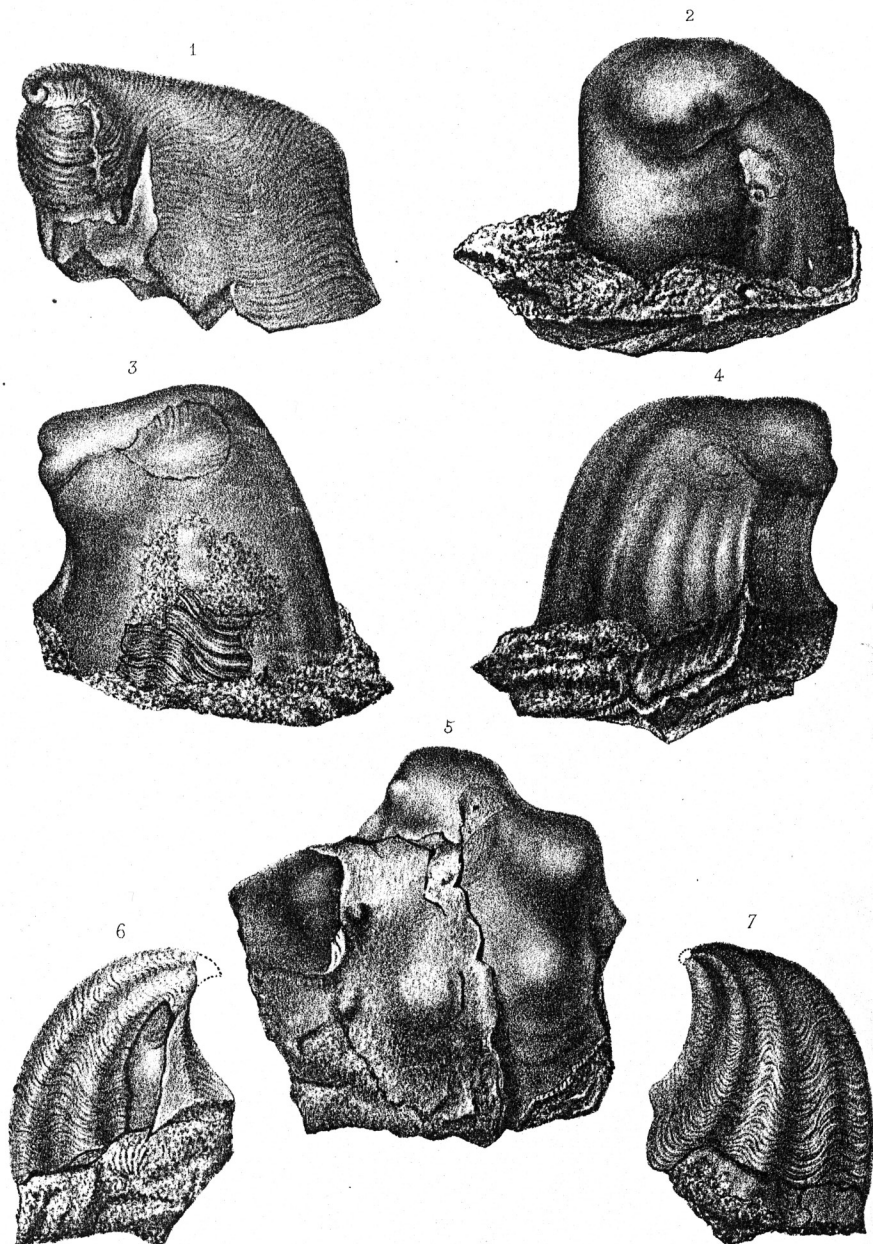
M. Oehlert présente une note sur des *Chonetes* dévoniens de l'ouest de la France, suivie de quelques remarques sur les genres *Chonetes* et *Productus*.

Il appelle ensuite l'attention de la Société sur deux nouvelles formes du genre *Acroculia* (= *Platyceras*) du calcaire dévonien de la Mayenne; il a pu, sur divers échantillons de ces espèces si polymorphes, reconnaître des traces des impressions musculaires.

Enfin il dépose une note descriptive sur six espèces dévoniennes qui portent des noms dans le Prodrôme de d'Orbigny, mais qui n'ont jamais été figurées.

Fig. 1. Oehlert's contribution concerning two new species of *Acroculia* and muscle scars in *Compte-rendu sommaire des Séances de la Société Géologique de France* of 18 June 1883 (p. LXIII, LXIV). Notes in pencil written by O. P. Novák.

with small fragments of brachiopods, dactyloconarid tentaculites etc. Surface smooth, with small patches of thin internal shell lamellae, in different places overgrown with a bryozoan *Stomatopora* (det. Dr. K. Zágöršek). The shape is horn-like, with pentangular cross-section. The muscle scar is located in the "posterodorsal" area, which is the centre of gravity; it is transversally elongated, large 24 × 16 mm, of irregular outline, slightly raised, with concentric increments, pigmented. The margin of the aperture is irregular, probably adapted to life on top of a crinoid calyx.

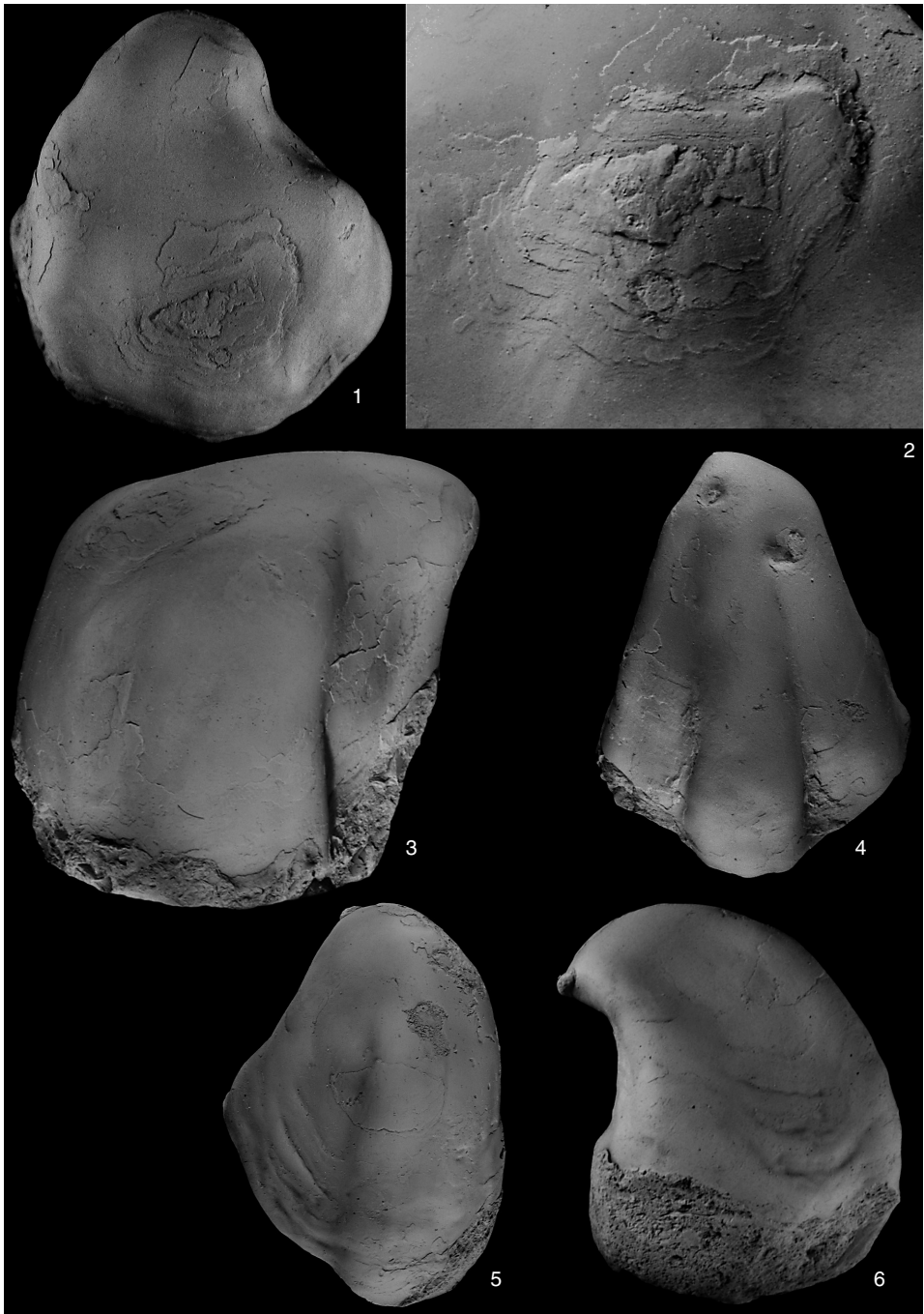


Inp. Becquet fr. Paris.

Maubert lith.

1-5. *Acroculia Protei*, Oehl.
6-7. *A. _____ Sileni*, Oehl.

Fig. 2. Plate XVI of Oehlert's 1883 paper on *Acroculia*.



Pl. I. Oehlert's specimens in the collections of the Department of Palaeontology, National Museum, Prague. *Platyceras (Orthonychia) protei* (OEHLERT, 1883): specimen S 4738, 1 – apical view ($\times 1$), 2 – enlarged muscle scar ($\times 2$), 3 – lateral view ($\times 1$). *Platyceras (Orthonychia) sileni* (OEHLERT, 1883): specimen S 4740, 5, 6 – different lateral views ($\times 1$); specimen S 4741, 4 – lateral view showing rounded injuries ($\times 1$).

Specimen S 4741 (Pl. 1, fig. 4)

Similar to S 4740 (56×42 mm), but preserved in dark grey bioclastic limestone with debris of crinoid ossicles like S 4738 and S 4739. The muscle scar is less well preserved, irregular, 20×18 mm, shifted laterally and adaperaturally. In the adapical area there are four, variably deep, approx. 3–5 mm wide, rounded dents, perhaps a result of a failed attack of unknown predator (a cephalopod?).

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