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A REASSESSMENT OF HISTORICAL PLESIOSAURIAN SPECIMENS FROM THE TURONIAN (LOWER UPPER CRETACEOUS) OF THE OPOLE AREA, SOUTHWEST POLAND

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In 1897, Richard Leonhard presented brief descriptions and some illustrations of a few plesiosaurian remains (teeth and a supposed phalanx) from the lower Turonian of the Opole area (southwest Poland). Leonhard assigned the teeth to *Polyptychodon interruptus* and established a new genus, *Plesiosauridarum* (a species name was not supplied, making this a *nomen nudum*), for the supposed phalanx. Until recently, the whereabouts of all these specimens were unknown. However, during a recent survey of several Polish and German collections, most of Leonhard's specimens could be relocated. Furthermore, other historical, still undescribed specimens (i.e., a tooth and paddle element) were encountered, and these supplement Leonhard's material. Most of the original material has probably been found in now abandoned quarries in the area. Active quarrying is done at the Odra Nowa quarry in the Opole city area, but so far no plesiosaurian remains have been collected there. In total, four slender pliosauromorph teeth from the Opole area are available for study. These differ from the typically more massive teeth of Late Cretaceous pliosaurids (*Brachauchenius*/ *Megacephalosaurus*) and the pliosauromorph teeth from coeval strata in the Bohemian Cretaceous Basin (Czech Republic; see Kear *et al*., 2014). However, a closely similar tooth crown has recently been described from the upper Turonian of the Saxonian Cretaceous Basin (eastern Germany; see Sachs *et al*., 2016). Generic placement of isolated pliosauromorph teeth from Cretaceous strata to the genus *Polyptychodon* is commonly seen in old literature sources. However, this taxon is, in fact, a *nomen dubium* (see Madzia, 2015). *Polyptychodon* has long been considered to be a late pliosaurid, but the slenderness of some referred tooth crowns, including those from Opole, indicate that these might rather derive from polycotylids (see Sachs *et al*., 2016). The presence of similar teeth in Turonian strata in Germany and Poland indicate that some pliosauromorph taxa had a wider distribution than previously recognised.

The paddle element (probably a mesopodial) is not diagnostic at the family level and Leonhard's *Plesiosauridarum* (which, so far, could not be traced) is a mosasauroid vertebra. In order to date these early finds, powdered rock samples for calcareous nannoplankton studies were scraped from the matrix or the infill of dentin canals. Light microscope studies have demonstrated nannofossil assemblages of 32 taxa, dominated by *Watznaueria barnesae.* Based on the presence of the stratigraphically youngest species, *Quadrum gartneri*, the samples appear to be not younger than nannofossil zone UC7, i.e., probably represent the lower (lower middle?) Turonian (see Burnett, 1998).

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