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Vertebrate extinctions and reorganizations during the Late Silurian Lau Event

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Localities and sample information

A list of all localities sampled on Gotland (in alphabetical order) and each sample from that locality processed for vertebrates and other acid resistant microfossils. A reference to the original description of each locality is provided. The location of previously undescribed localities is given by GPS positions tuned to the Swedish National Grid and to RT90. Sample numbers are G = Gotland, followed by year of field work, number, and initials of the collector (CB = Claes Bergman, DF = Doris Fredholm, and LJ = Lennart Jeppsson; note that these initials are excluded from Figure 2). Sample level is given in meters from a described/well-defined reference level if the locality is a measured section; other localities are surface or shallow ditch exposures. The original, un-processed weight of the sample is provided and followed by the amount of scales recovered (note, however, that not all vertebrate fragments were picked from the richest samples). In addition to the samples listed here the vertebrate collections of Fredholm (1988a,b; 1989) were used for the present study.

Ängvards 5 (Jeppsson, herein). 631977 164570, 2.2 km WNW Vamlingbo church. Top. map 56A Hoburgen. Geol. map A 152 Burgsvik. Exposure in the ford on the northeastern side of the creek, at the intersection with the north-going road along the beach. Hamra Fm. G00-24LJ, 42.57 kg, 25 scales.

Bodudd 1 (Laufeld, 1974). **0.65 – 0.70 m**: G93-930LJ, 26.40 kg, 2 scales. **1.16 – 1.20 m**: G93-929LJ, 57.20 kg, barren of vertebrates.

Botvide 1 (Laufeld, 1974). **-2.25 – -2.23 m**: G93-959LJ, youngest pre-event layer, 37.80 kg, c. 410 scales. **-1.70 – -1.63 m**: G93-962LJ, 32.70 kg, 91 scales. **-1.26 – -1.18 m**: G93-

963LJ, 25.40 kg, 79 scales. **-0.51 – -0.45 m:** G90-164LJ, 10.61 kg, 49 scales. **-0.15 – -0.10 m:** G90-165LJ, 21.90 kg, 138 scales. **0.95 – 1.10 m:** G91-40LJ, 19.10 kg, 13 scales. **c. 7.75 m** (i.e. from the hill above the section along the road): G90-166LJ, 28.70 kg, 3 scales.

Burgen 7 (Laufeld, 1974). **-0.50 – -0.40 m:** G94-29LJ, 76.30 kg, 26 scales.

Burgen 9 (Larsson, 1979). **c. 2.75 m:** G94-32LJ, 58.30 kg, c. 260 scales.

Gannor 1 (Laufeld, 1974). G82-311DF.

Hägvide 1 (Laufeld, 1974). G71-129LJ.

Hägvide 3 (Larsson, 1979). G82-321DF. This sample was the reason that Fredholm (1989) concluded that *Po. porosus* and *Th. sculptilis* appeared already in the lower Eke Formation. No other scales of those species were found in her other nine Eke samples, and none were found by us. The sample also include *G. sandelensis*, *Paralogania* sp., *Pa. ludlowiensis*, *N. striata*, and *Th. parvidens*. Such a fauna characterises the post-event fauna of the Burgsvik Fm, not the lower Eke Fm, as we now know these faunas. More precise Eke conodont faunal range data (Jeppsson, 2005) similarly exclude a lower Eke origin. The sample consisted of a loose slab, hence, most likely a piece from the Burgsvik Formation had in some way been transported there.

Kättelviken 1 (Laufeld, 1974). G02-134LJ, upper (most?) Burgsvik, oolite bed, 96.00 kg, 151 scales.

Malms 1 (Laufeld, 1974). **0.10 – 0.13 m:** G93-942LJ, 29.30 kg, barren of vertebrates.

Nyan 2 (Laufeld, 1974). **-1.47 – -1.43 m:** G91-36LJ, 27.60 kg, 130 scales. **-0.34 – -0.30 m:** G91-32LJ, 30.70 kg, c. 500 scales. **-0.29 – -0.24 m:** G93-948LJ, 39.30 kg, 190 scales. **-0.21 – -0.16 m:** G91-30LJ, 20.50 kg, 2 scales. **-0.14 – -0.11 m:** G91-29LJ, 8.63 kg, 4 scales. **-0.10 – -0.09 m:** G91-28LJ, 6.70 kg, 7 scales. **-0.09 – -0.06 m:** G91-27LJ, 10.20 kg, barren of vertebrates.

Petsarve 14 (Laufeld, 1974). G92-439LJ, 50.20 kg, 168 scales.

Petsarve 15 (Laufeld, 1974). G77-33CB, 44 scales.

Ronnings 1 (Laufeld, 1974). G94-34LJ, topmost bed, 47.90 kg, 28 scales.

Skradarve 1 (Laufeld, 1974). 02-139LJ, 28.40 kg, 209 scales.

Sunnkyrke 2 (Jeppsson, herein). 635414 166972, c. 150 m SSW Lau church. Top. map 6 J Roma SV. Geol. map Aa 156 Ronehamn. Temporary exposure in a trench (for a sewage pipe?). Eke Fm. G71-127LJ, ditch outcrop, 0.50 kg, barren of vertebrates.

Deviant records of *Andreolepis hedei*

There are two reports of *Andreolepis hedei* occurring together with the younger (post-event) fauna (Märss, 1992; Vergoossen, 1999) that deviate from the pattern observed. However, the record from the Tabuska Beds in the Central Urals (Märss, 1992) has subsequently been re-assigned to *Andreolepis petri* Märss, 2001. Therefore, the other record, comprising one complete and a few broken scales from the Öved Sandstone Fm of Skåne, southernmost Sweden (Vergoossen, 1999), also needs re-examination.

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