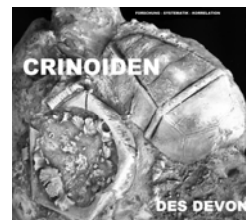


***Cupressocrinites taluxaiensis* n.sp. (Crinoidea, Inadunata) from the Givetian of La Taluxa near Candás (Asturias, Northern Spain)**

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## 1 Introduction

The author had the fortune of finding the new species of *Cupressocrinites* theme of this communication in a area newly eroded by the winter storms in the small outcrop of La Taluxa at the north of Candás. Some blocks of coral reefoid limestone recently slid in the beach platform and are now subject to the tide action till its complete erosion, so the securing of the specimens has been fortunate.

The occurrence of *Cupressocrinites* and other crinoids in this outcrop is not new. In fact they were described by HAUSER & LANDETA, 2007:20-21, fig. 9 along with a brief description of the geology. Part of that would be reproduced in the present paper.

**Kurzfassung:** Ein neuer *Cupressocrinites* (*Cupressocrinites taluxaiensis* n.sp.) wird aus dem Givetium von La Taluxa nahe der Ortschaft Candás an der asturischen Küste beschrieben. Das neue Taxon, das sich besonders durch seine glatte Kelchoberfläche und die intensive Schwarzfärbung auszeichnet, nimmt eine Stellung zwischen *Cupressocrinites scaber* (SCHULTZE, 1866), *Cupressocrinites townsendi* (KOENIG, 1825) und *Cupressocrinites goldfussi* HAUSER, 2006 ein.

**Abstract:** A new *Cupressocrinites* (*Cupressocrinites taluxaiensis* n.sp.) is described from the Givetian of La Taluxa near the town of Candás. The new taxon (with the attributes: very fine granulation and deep black colored surface) takes a systematical position between *Cupressocrinites scaber* (SCHULTZE, 1866), *Cupressocrinites townsendi* (KOENIG, 1825) and *Cupressocrinites goldfussi* HAUSER, 2006.

**Resumen:** Se describe la nueva especie *Cupressocrinites taluxaensis* de la Formación Caliza de Candás (Givetiense medio), del afloramiento de La Taluxa al norte de Candás, en el area del Cabo de Peñas. El nuevo taxón está caracterizado por un caliz muy reducido en comparación al aparato aboral y por una granulación muy fina. Se establecen comparaciones entre el nuevo taxón y las especies *Cupressocrinites scaber* (SCHULTZE, 1866), *Cupressocrinites townsendi* (KOENIG, 1825) & *Cupressocrinites goldfussi* HAUSER, 2006

**Schlüsselwörter:** *Cupressocrinites*, Crinoidea, Systematik, Asturias, Candás, Devon, Givetium.

**Keywords:** *Cupressocrinites*, Crinoidea, Systematics, Asturias, Candás, Devonian, Givetian.

← **Textfigure 1:** Plate-diagram of *Cupressocrinites* after SCHULTZE, 1866:127, Textfigure 1, black = RR.

## 2 Systematics

**Classe** Crinoidea J. S. MILLER, 1821

**Sub-Classe** Inadunata  
WACHSMUTH & SPRINGER, 1885

**Order** Cladida

MOORE & LAUDON, 1943

**Sub-Order** Poteriocrinina JAEKEL, 1918

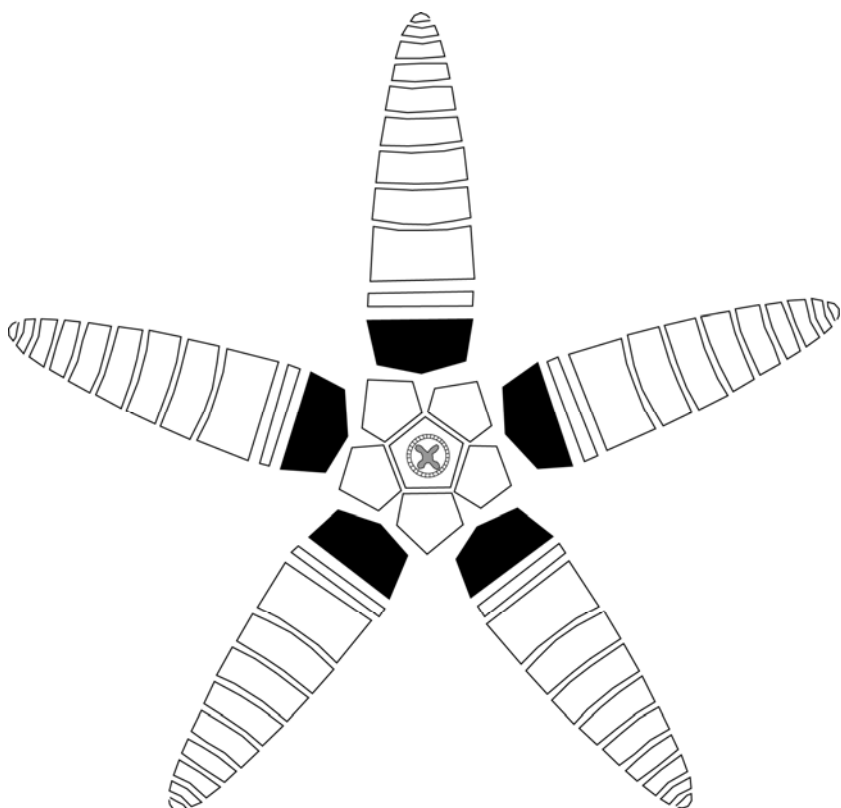
**Superfamily** Cupressocrinitacea

C.F. ROEMER, 1854

**Family** Cupressocrinidae

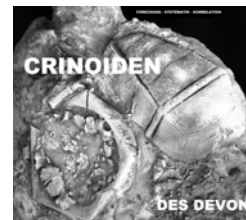
C.F. ROEMER, 1854

**Genus** *Cupressocrinites* GOLDFUSS, 1831



**Typ-species** *Cupressocrinites crassus* GOLDFUSS, 1831

**Stratigraphical range** Lower Devonian – Upper Devonian



*Cupressocrinites taluxaiensis* n.sp.

**Derivation nominis:** The type is named after the outcrop La Taluxa near the town of Candás.

**Stratum typicum:** Candás Formation, Middle Givetian, Middle Devonian (see also Geological settings” part “age” of this paper).

**Locus typicus:** The specimen was found in a red and grey marly coral-shale at La Taluxa SE of the town of Candás.

**Dimensions:** High<sub>max.</sub> of the arms = 8cm; height of the calyce = 1,5cm; external diameter of the calyce = 3 cm.

**Geological settings of the Stratum typicum** (Fernando Gómez LANDETA):

La Taluxa section lays in the East coast of “Cabo de Peñas”, in Asturias province. It is located in the East cliff of a small coastal salient called “Punta Rebolleres”, at the W-side of the bay of the same name, being its distance from the town of Candás, situated to the SE, roughly 2 km.

### Stratigraphy

This section, with a minimal exposure is located in a area tectonically complex both normal (NW), and posterior inverse (NE), faults isolate a mosaic of blocks with plenty of erosion and angular unconformities involving Permo – Trias and Cretaceous sediments, the Devonian outcrop being a semi Horst.

Covered in discordance by the Cretaceous, the Candás Formation outcrops only in its basal 19 metres, being the contact with the underlying Naranco Formation abrupt with the deposit of the first biostromal boundstones with globose corals at the base, lacking the intermediate of crinoidal grainstones who are common in other sections. Upper up this boundstones become massive with only few intercalations of small mudstone beds with bryozoans and thamnophorids.

### Paleontology

Apart from the interesting fauna of crinoids and blastoids of the lower half of the outcrop, the rest of the fauna composed mostly by corals, among them we have only identified the stromatoporoids *Hexagonaria* sp. *Phillipsastrea* sp. and *Anphipora* sp. in the many forms present. The fauna of brachiopods is scarce and banal with forms associated with the coral environment as terebratulids and atrypids.

### Age

As stated above we have no elements to date the section, only with comparison with the close Perán section at the south branch of the Candás anticlinal whose palaeontology was studied by García ALCALDE et al. 1979, (Guidebook of the field trip for the sub commission of Devonian stratigraphy, unpublished), we can deduct its age. By lithological similarity we can parallel La Taluxa outcrop with the lower Member A of that section, that member has the conodonts *Polygnatus renanus* and *Icriodus latecarinatus*, who allows correlation with the local boundary Gi/F1, in the upper part of Givetian group in Ardennes. This middle Givetian age can be a bit lower than that of the Barrios de Gordón section, given that in Perán the brachiopod *Longispina truyolsi* appears at the base of formation in Member A and in the later section only in the upper half.

**Holotyp:** The holotyp of *Cupressocrinites taluxaiensis* is stored in the collection of Joachim HAUSER. It will be given to the Geological Institute of the University Oviedo after studying.

**Material:** Only the holotype. The specimen is embedded in matrix.

**Diagnosis and description:** A typical *Cupressocrinites* with very fine granulation and deep black colored surface. The calyce is three-dimensional obtained and three more or less complete brachia are preserved. All parts of the crown are embedded in a grey-reddish matrix. Radialia and basalia have more or less the same height and they are only descreet convex. The same characteristic of convexity can be observed by the arms. One small typical *Cupressocrinites* “connecting-IBr<sub>1</sub>” is preserved. The fixation-point of the stem on the calyce is *Cupressocrinites* like four-sided. Only a part of the musculoskeletal of the calyce is preserved: the small visible area show one typical “wing of oralia”.

↓ **Textfigure 2:** Holotyp von *Cupressocrinites taluxaiensis* n.sp. from the Givetian of La Taluxa (Asturias)

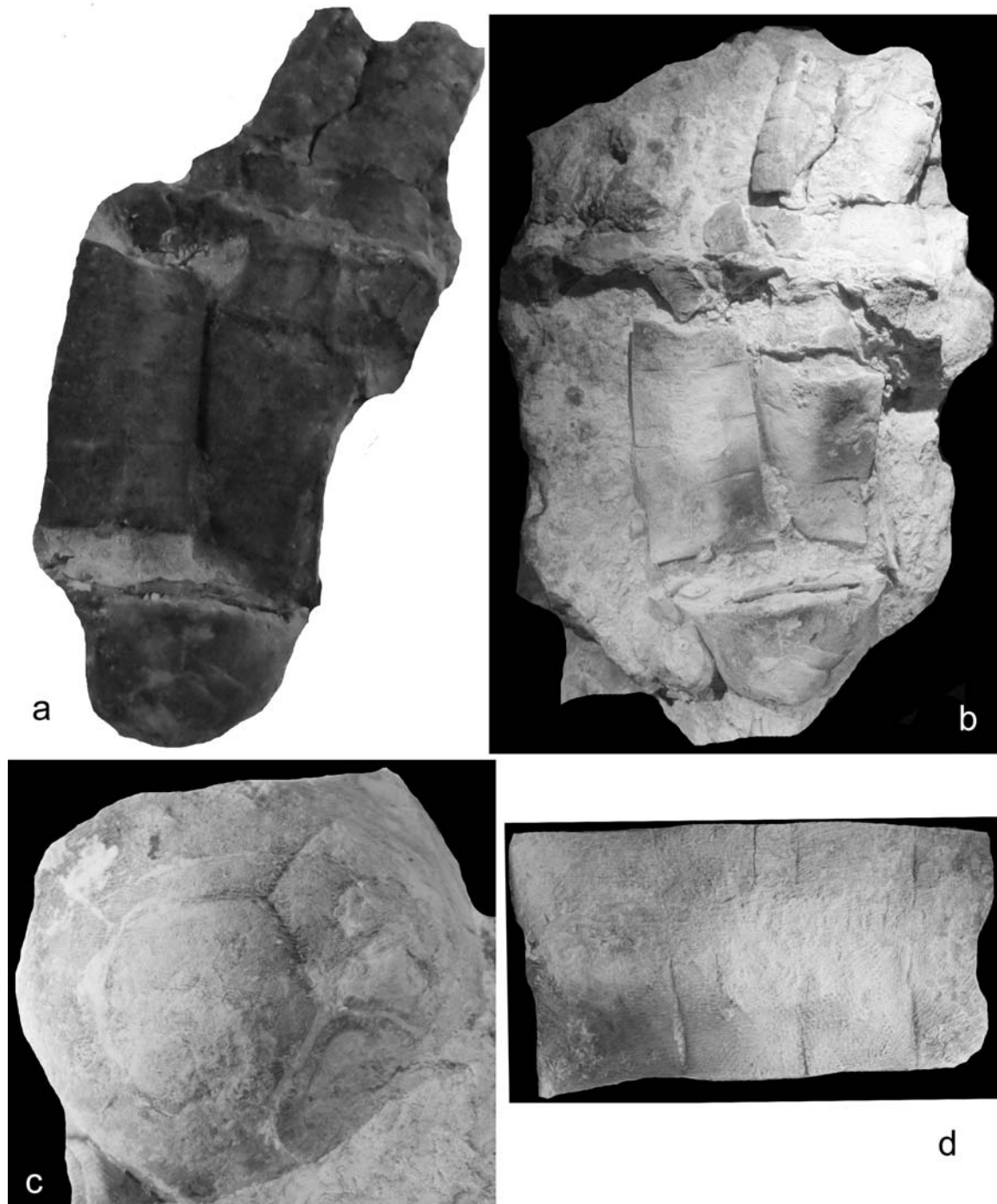
Figure 2a: color-photo of the holotype, to shown the black colored surface

Figure 2b: photo of the complete specimen

Figure 2c: photo of the calyce



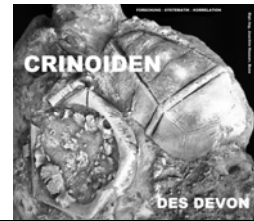
Figure 2d: photo of one of the brachia









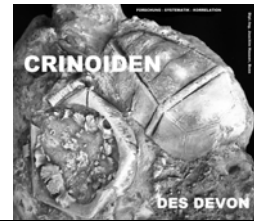
**Relations:** The new *Cupressocrinites* has a systematical position between *Cupressocrinites scaber* (SCHULTZE, 1866), *Cupressocrinites townsendi* and *Cupressocrinites goldfussi* HAUSER, 2006. The differences: *Cupressocrinites scaber* has had small calyces with more or less convex formed basalia and radialia and a net of fine tubercles; the calyce of *Cupressocrinites goldfussi* is much more depressed as that of *Cupressocrinites taluxaiensis*. *Cupressocrinites townsendi* has short but very convex formed brachia-segments and show much more granulation on the surface than that of *Cupressocrinites taluxaiensis*.








**Occurrences of *Cupressocrinites* in the Devonian of northern Spain and other Devonian outcrops of Europe**

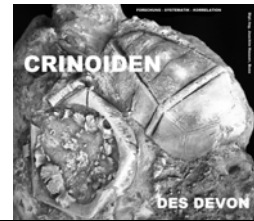
Tab. 1: Following *Cupressocrinites* from the main Devonian fields of Europe are described:








No.	Species	Asturias (A) und León (L) (Nordspanien)	Holy-Cross-Mountains (Poland)	Rhenish-Slate-Mountains (Eifel)
1	<i>Cupressocrinites abbreviatus abbreviatus</i> (GOLDFUSS, 1831)	 <p>(Collection of Fernando Gómez LANDETA, Oviedo) (A)</p>		 <p>(Collection of Joachim HAUSER)</p>
2	<i>Cupressocrinites hybrida</i> HAUSER & LANDETA, 2011	 <p>(Collection of Joachim HAUSER) (A)</p>		 <p>(Collection of Joachim Hauser)</p>
3	<i>Cupressocrinites hieroglyphicus</i> (SCHULTZE, 1866)	 <p>(Collection of Joachim HAUSER) (A)</p>		 <p>(Collection of Harald PRESCHER, Kerpen-Horrem)</p>



<p>4</p>	<p><i>Cupressocrinites inflatus inflatus</i>                  (SCHULTZE, 1866)</p>	 <p>(Mount las Penotas after BREIMER, 1962:                  Collection of Rijksmus. Geol. Min. Leiden                  (L))</p>	 <p>(Collection Universität Śląskiego ul.                  Będzińska, Sosnowiec)</p>	 <p>(Collection of Naturkundemuseum                  Gerolstein)</p>
<p>5</p>	<p><i>Cupressocrinites nodosus</i>                  (SANDBERGER &amp;                  SANDBERGER, 1856)</p>	 <p>(Collection of Fernando Gómez                  LANDETA, Oviedo) (A)</p>	 <p>(Kollektion Universität Śląskiego ul.                  Będzińska, Sosnowiec)</p>	 <p>(Collection of Joachim HAUSER)</p>
<p>6</p>	<p><i>Cupressocrinites scaber</i>                  (SCHULTZE, 1866)</p>			



		(Collection of Fernando Gómez LANDETA, Oviedo) (A)		 <p>(Collection of Harald PRESCHER, Kerpen-Horrem)</p>
7	<i>Cupressocrinites sampeloyi</i>	 <p>(Collection of Fernando Gómez LANDETA, Oviedo) (L)</p>	 <p>(Collection Universität Śląskiego ul. Będzińska, Sosnowiec)</p>	 <p>(Collection of Joachim HAUSER)</p>
	<i>Cupressocrinites townsendi</i> (KOENIG, 1825)	 <p>(Collection of Joachim Hauser) (L)</p>		



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