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A NEW PROETID TRILOBITE FROM THE LOWER WESTPHALIAN OF NORTH-WEST SPAIN

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ABSTRACT

A new species of the genus *Gitarra* GANDL 1968, *Gitarra leonensis*, is described and figured from the late Westphalian A of northern León, N. W. Spain.

RESUMEN

Se describe una nueva especie de *Gitarra* GANDL 1968, *G. leonensis*, trilobites del Westfaliense A superior de la provincia de León (Cordillera Cantábrica).

INTRODUCTION

A slab containing well preserved internal moulds of a new species of the genus *Gitarra* (GANDL 1968) was found in the Valle El Ejío section, N. N. W. of Rodiezmo, Villamanín area in northern León (see text-fig. 2 in MOORE *et al.* 1971). The genus has not previously been recorded from the Carboniferous of Spain and this recent find extends the known range of the genus from upper Tournaisian (Cu II? ß) to late Westphalian A. The type species *Gitarra pupuloides* (LEYH 1897), was placed by GANDL (1968) in the family Phillipsiidae but the structure of the pygidium suggests that it should be assigned to the subfamily Cyrtosymbolinae of the Proetidae.

The specimens are deposited in the British Museum (Natural History) and prefixed It.

A c k n o w l e d g e m e n t s.—I should like to express my thanks to Dr. GANDL for his comments on a photograph of the species described, and to Dr. R. NEVES for providing the material. The photographs were taken by Mr. B. Pigott, University of Sheffield. Thanks are also extended to Mr. S. MORRIS of the British Museum (Natural History) for drawing my attention to two hypostomata (It. 9146, 9147) which he discovered after trimming the slab for storage at the museum. The description of the hypostomata has been included in the text.

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SYSTEMATIC DESCRIPTION

Family Proetidae SALTER 1864.
Subfamily Cyrtosymbolinae HUPÉ 1953.
Genus *Gitarra* GANDL 1968.

Type species.—*Gitarra pupuloides* (LEYH 1897).

Gitarra leonensis sp. nov.
Pl. 1, fig. 1; Pl. 2, figs. 1-4; text-fig. 1

Diagnosis.—Differs mainly from type species in having relatively longer *(exsag.)* eyes and wider *(tr.)* thoracic and pygidial axes.

Horizon.—Late Westphalian A.

Locality.—R 25 (NEVES coll.), Valle El Ejío section, N. N. W. of Rodiezmo, Villamanín area in northern León, at *ca.* 75 m above the «caliza de montaña» (see text-fig. 2 in MOORE *et al.* 1971).

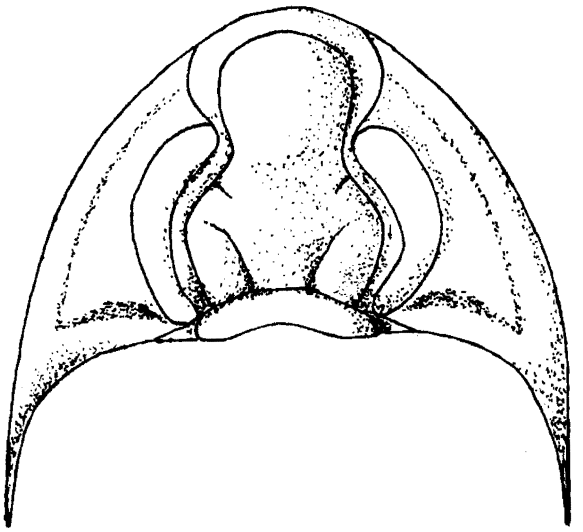
Material.—Two complete exoskeletons, one poorly preserved; cephalon and two anterior thoracic segments of a third, and a poorly preserved pygidium with four disarticulated thoracic segments. All preserved as internal moulds on a single slab and associated with other fragmentary material.

Description.

Dimensions in mm; (e) - estimated	Holotype	Paratypes		
	(It. 8794)	(It. 8795)	(It. 8796)	(It. 8797)
Length *(sag.)* of entire exoskeleton	22.25	16.25	—	—
Length of cephalon (excluding genal spines)	7.50	5.50 (e)	7.00	—
Length of glabella (excluding occipital ring)	6.25	5.25	6.00	—
Width *(tr.)* of cephalon across posterior margin	12.50	12.00 (e)	12.75(e)	—
Length of thorax	8.50	6.00	—	—
Width of thorax across midlength	12.50	9.50	—	—
Width of thoracic axis across midlength	5.00	4.00	—	—
Length of pygidium	6.25	4.75 (e)	—	6.50
Length of pygidial axis	5.75	—	—	6.00
Width of pygidium across anterior margin	12.00	9.50(e)	—	11.75(e)
Width of pygidial axis across anterior margin	4.50	3.25	—	3.75

Exoskeleton roughly oval in outline, just under twice as long as wide. Cephalon over half as long as wide (excluding genal spines) except in It. 8795, subtriangular in outline, gently curved anterolateral margins forming blunt point anteriorly. Posterior

margin of cephalon more or less straight medianly but gently curved backwards distally. Glabella hour-glass shaped, just over three-quarters to approximately five-sixths as wide as long, reaching anterior border. Glabella widens anteriorly from occipital furrow to maximum width at about one-quarter glabellar length from posterior end. Sides of glabella then gradually converge to narrowest part (neck) at just over half glabellar length from anterior end. Anterior to neck, sides of glabella diverge in even curve to approximately three-quarters of maximum glabellar width. Anterior margin of glabella gently rounded. Glabella more or less flat dorsally *(sag.)* for about half its length, gently convex just before anterior margin where it again flattens out slightly. Transversely, glabella gently convex, standing well above cheeks anteriorly. Sinuous axial furrows deep anterior to eyes, shallow and wide along rest of length. Occipital furrow broad *(sag.)* and shallow, slightly curved anteriorly and ending distally, at posterior end of eyes, in small apodemal pits. Occipital ring anteriorly curved, longest (*sag.*) medianly where approximately one-tenth length of cephalon. Wide, well marked and curved basal glabellar furrows, shallow near occipital furrow, deeper at midlength and die out before reaching axial furrows. Basal glabellar lobes oval in outline and directed outwards. Anterior end of basal lobes indistinct, marked by faint change in convexity. Second pair of glabellar furrows very faint, short and curved, starting from axial furrows at just under half glabellar length from posterior end. Relatively deep preglabellar furrow; anterior border short *(sag.)* and more or less flat.



Text-fig. 1.—Gitarra leonensis sp. nov. Reconstruction of internal mould of holotype cephalon. × 5.6.

Fixed cheeks small; anterior to eyes suture lines diverge at about 45° to sagittal line and, when opposite maximum anterior glabellar width, curve evenly forwards and inwards apparently continuing along anterior margin of cephalon (preservation poor but see reconstruction in text-fig. 1). Posterior to eyes facial sutures cut posterior

border of cephalon at about one-third length *(tr.)* of border from glabella. Free cheeks narrow *(tr.)* anteriorly, widening posteriorly; posterior border and lateral border of free cheeks making angle of 60° at genal angle. Free cheeks gently convex dorsally sloping downwards towards margins. Posterior border furrow wide *(sag.)* and shallow, posterior borders of same width as furrows. Genal spines slender, pointed, directed backwards and reaching to at least fourth thoracic segment. Large crescent shaped eyes reaching from neck of glabella to posterior border furrows, widest *(tr.)* at midlength. Palpebral lobes narrow *(tr.)*, widest at or just posterior to midlength. Visual surface of eyes more steeply inclined towards free cheeks at posterior end and probably composed of under 400 lenses (impossible to estimate more accurately owing to poor preservation). Lenses commonly hexagonal in outline although pentagonal or quadrate outlines do occur. Cephalic doublure narrow, just under half width of free cheeks anterolateral to eyes and with about five, fine, subparallel terrace lines which become closer spaced on genal spines. No ornament on internal mould of cephalon.

Two fragmentary hypostomata, presumed to belong to the present species, are sub-oval in outline, approximately twice as long as wide, with a weakly convex median body and faint maculae. Anterior wings small, posterior margin with single (?) pair of short spines. Border narrow laterally, slightly broader posteriorly. Ventral surface of hypostoma covered with faint irregularly spaced terrace lines running subparallel to lateral margin.

Thorax about two-thirds as long as wide. Axis widest anteriorly where just under half width of thorax; posteriorly, axis narrows to just over one-third thoracic width. Axial furrows deep, curved outwards slightly. Nine thoracic segments. Axial rings longest *(exsag.)* distally, forwardly flexed medianly (more marked on posterior margin of ring). Small deep apodemes situated in axial furrows opposite axial ring furrows. Pleurae slightly curved backwards ending in blunt points directed postero-laterally. Pleural furrows distinct, oblique and gently convex anteriorly, reaching two-thirds distance *(tr.)* across pleurae from proximal end. Pleural doublures rather narrow with sharply convex inner margin and bearing faint terrace lines subparallel to outer margin of thorax. Axis gently convex dorsally *(tr.)* and with highest part at fourth or fifth segment. Pleural region more strongly convex *(tr.)* rising steeply up from axial furrows to one-third length *(tr.)* of pleurae from proximal end and then dropping as steeply to lateral margin, a strong geniculation being formed at the change of slope. No ornament present on the thorax.

Pygidium approximately twice as wide as long. Semicircular in outline with gently curved anterior margin. Anteriorly, axis about one-third pygidial width. Axis subtriangular in outline with rounded terminal piece and ending just before pygidial border. Nine or ten axial rings, excluding terminal piece. Axial rings, ring furrows and axial furrows less well marked than on thorax. Axis from flat to gently convex longitudinally and quite strongly convex transversely. Pleural region divided into ribs by six (possibly seven) *(exsag.)* pleural furrows. Ribs crossed obliquely by broad *(exsag.)* interpleural furrows which die out just before pygidial border. Pleural regions

less strongly geniculate than on thorax but change of slope in latter continues into pygidium. Doublure of similar width as in cephalon with about five terrace lines. No ornament present on pygidium.

Discussion.—In his diagnosis of the genus *Gitarra*, GANDL (1968, p. 89) remarks on the characteristic guitar shape of the glabella which is a feature also seen in the present species. *Gitarra pupuloides* (LEYH 1897) (GANDL, p. 90, Pl. 8, figs. 1-7) differs from *Gitarra leonensis* in having relatively shorter *(exsag.)* eyes and a narrower *(tr.)* thoracic axis. Similarly the width of the pygidial axis is greater in the Spanish species. Detailed comparison with *G. pupuloides* as described by GANDL is difficult since only internal moulds are available for *G. leonensis*.

GANDL placed *Gitarra* in the family Phillipsiidae but the structure of the pygidium suggests that it should belong to the subfamily Cyrtosymbolinae of the family Proetidae. The present species shows a cyrtosymbolinid pygidium and is provisionally assigned to that subfamily.

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MOORE, L. R., NEVES, R., WAGNER, R. H. & WAGNER-GENTIS, C. H. T. (1971).—The stratigraphy of Namurian and Westphalian rocks in the Villamanín area. N. W. Spain. *Trabajos de Geología, Fac. Ci. Univ. Oviedo*, 3, pp. 307-363, text-figs. 1-7, pls. 1-8.

POSTSCRIPT

In a recent paper OSMÓLSKA (1970, p. 116) also assigned *Gitarra* Gandl, 1968 to Cyrtosymbolinae HUPÉ, 1953. This paper by OSMÓLSKA was not seen until recently and the present placing of *Gitarra* in the Cyrtosymbolinae was arrived at independently.

OSMÓLSKA, H. (1970).—On some rare genera of the Carboniferous Cyrtosymbolinae Hupé, 1953 (Trilobita). *Acta Palaeontologica Polonica*, XV, 1, pp. 115-135, pls. I-II.

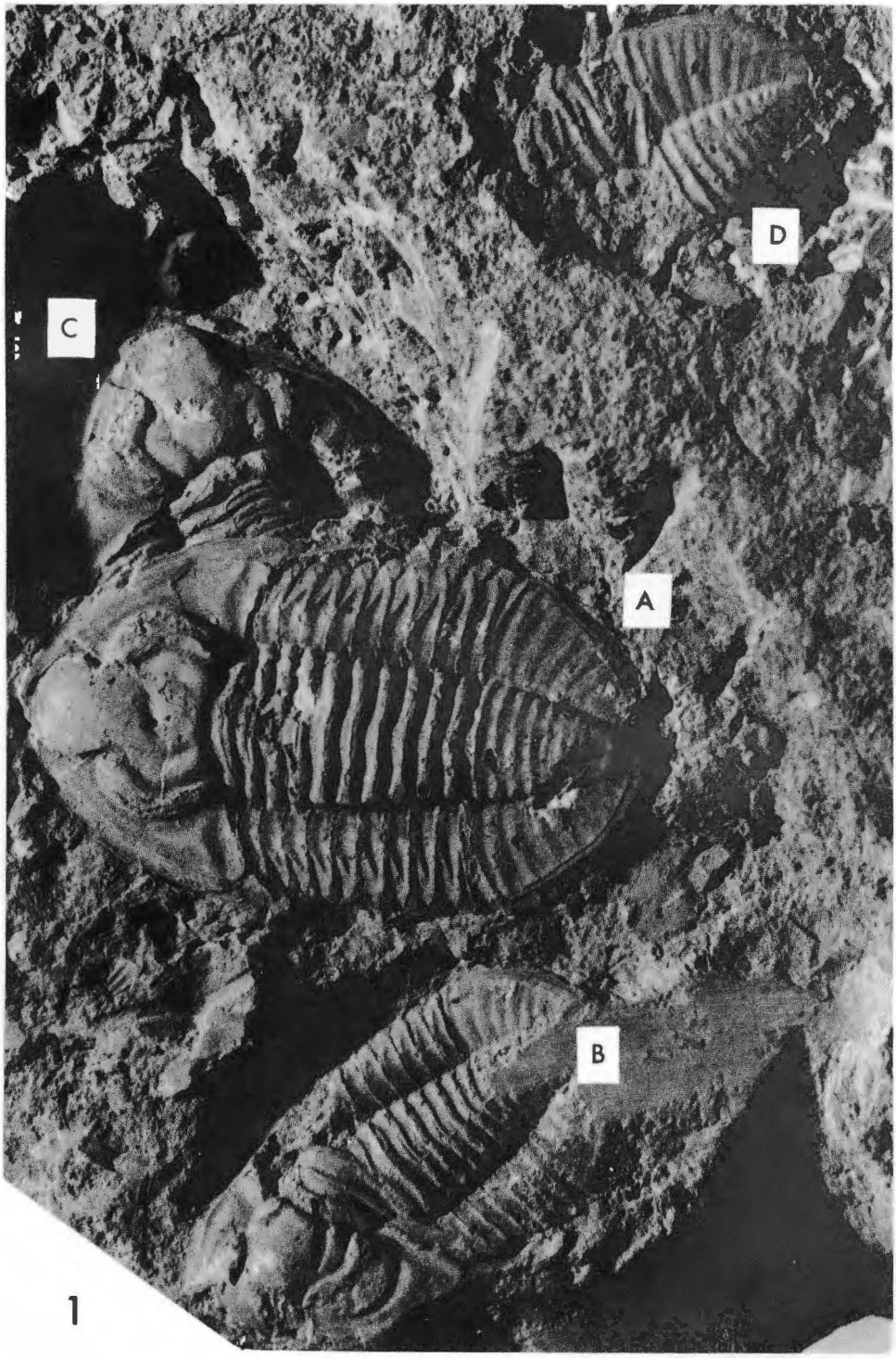
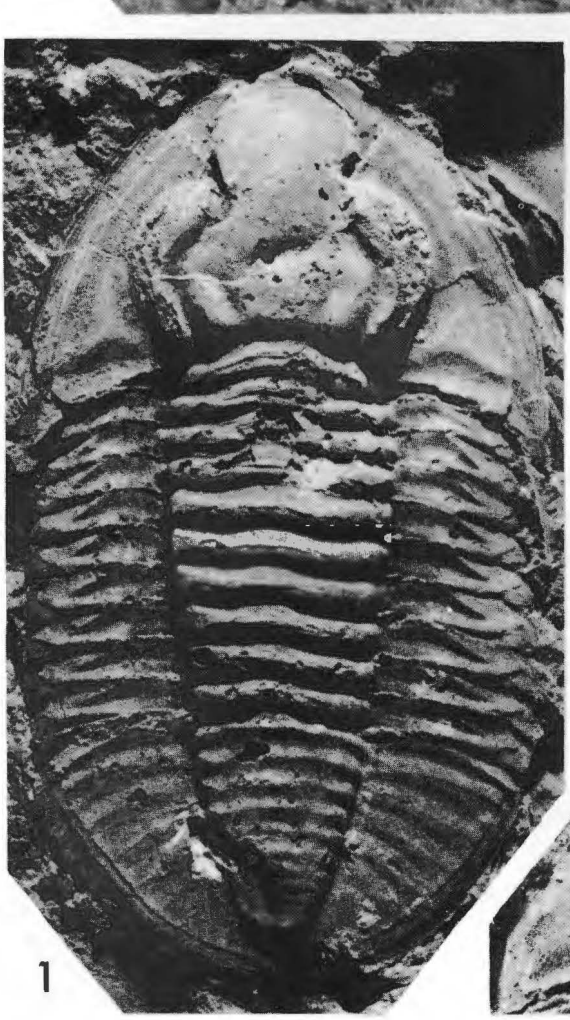


Fig. 1.—Gitarra leonensis sp. nov. Slab containing holotype and three paratypes.
A. Holotype. It. 8794. B. Paratype. It. 8795. C. Paratype. It. 8796. D. Paratype. It. 8797.



Gitarra leonensis sp. nov.
Figs. 1, 2.—Holotype: It. 8794, dorsal and dorsolateral view respectively. × 5.4.
Fig. 3.—Paratype: It. 8795, dorsal view. × 5.5. *Fig. 4.*—Paratype: It. 8796, dorsal view. × 4.2.