

# CINCORIOLA HAQUE FROM DHAK PASS FORMATION, SURGHAR RANGE, DISTRICT MIANWALI, PAKISTAN

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## ABSTRACT

*Haque (1956) described a new genera Cincoriola (pro Punjabia) and its two species, viz., C. ovoidea and C. patalensis from the upper horizons of the Patala Formation in Nammal Gorge, western Salt Range, Pakistan. The present investigation has recorded for the first time a rich assemblage from the Dhak Pass Formation in Lumshiwala Nala, Surghar Range, which is the oldest lithostratigraphic unit of the Paleocene Series in the region. Cincoriola patalensis Haque and a new species C. sp. A is described. This genus is proved to be a good time indicatrix for the Paleocene Epoch.*

## INTRODUCTION

With a view to apprise the microfauna of the Early Tertiary formations of the Trans-Indus Salt Range, a detailed sampling of the Paleocene rocks from the Lumshiwala Nala (lat. 32° 51' N; long. 71° 08' E) in the Makarwal coalfields, Surghar Range, was carried out in the month of February, 1970. The Dhak Pass Formation is the oldest unit of the Paleocene (Ranikot) series of the Potwar province and comprises of carbonaceous shale, siltstone and thin beds of calcareous shale, with impure limestone interbeds which are particularly common in the upper part (Fig. A). As the complete microfaunal study of the formation will require considerable time for description, it seems advisable to discuss in advance certain important forms. The upper calcareous part of the formation yielded a considerable number of fairly well-preserved specimens of the genus *Cincoriola*. This genus was first described by Haque (1956, p. 152) from his "Punjabia ovoidea Zone" of the Patala Formation, Nammal Gorge, and was not recorded from the underlying older Paleocene formations.

## DISTRIBUTION

The present study has revealed an abundance of the genus *Cincoriola* from the upper calcareous part of the Dhak Pass Formation, one specimen from the lower part of the Lockhart Limestone and a fairly rich wealth from the Paleocene part of the Patala Formation. It has not been found in the upper part of the Patala Formation which contains fauna of Eocene affinity.

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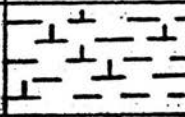
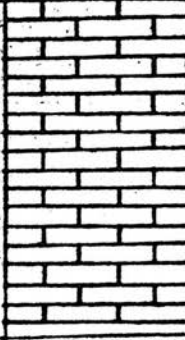
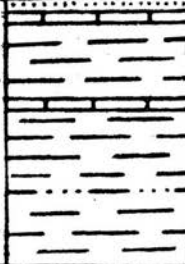
AGE	FORMATION	THICKNESS	LITHOLOG	DESCRIPTION
	DATALA	270'		Dark grey shale with subordinate marl
	LOCKHART LIMESTONE	80'		Grey - cream, nodular, argillaceous limestone with bituminous odour
	DHAK - PASS	110'		Dark grey, argillaceous limestone

Fig.A - STRATIGRAPHIC SECTION SHOWING OCCURENCE OF CINCORIOLA SP. LUMSHIWAL NALA, SURGHAR RANGE.

The foraminiferal classification, as proposed in the "Treatise of Invertebrate Paleontology" (1964), is followed for the systematics.

SYSTEMATICS

- Super-Family .. .. ORBITOIDACEA Schwager
- Family .. .. EPONIDIDEA Hofker
- Genus .. .. CINCORIOLA Haque (1956)
- Type species .. .. *C. ovoidea* Haque

**CINCORIOLA PATALENSIS HAQUE (PLATE 1, FIG. 1)**

1956 *Punjabia patalensis* Haque, Pakistan Geol. Survey Mem., Paleont. Pakistanica, vol. 1, p. 154. pl. 34, figs. 1a-c.

1958 *Cincoriola patalensis* Haque, Cushman Found. Foram. Research Contrib., vol. 9, pt. 4, p. 103.

Material: Eight specimen.

Horizon: Eight inches thick, dark grey limestone bed, a foot below the top of the Dhak Pass Formation; from the base of the Lockhart Limestone and the Patala Formation.

## Stratigraphic

Range: Paleocene.

Description: Test trochoid, planoconvex, slightly longer than broad, periphery with a narrow keel on the spiral side. Spiral side flattened, sometimes faintly concave, evolute, with a small rounded raised knob in the central part representing the first formed chamber. Umbilical side strongly convex, high, involute; the narrow umbilical area covered by a finely perforated plate. Chambers distinct, rectangular on both spiral and umbilical sides but comparatively elongated on the latter; last whorl comprising of seven to eight chambers, uniform in shape and gradually increasing in size as added. Sutures distinct, limbate, slightly curved on spiral side, radial on umbilical side. Wall calcareous, smooth, shining. Aperture a narrow elongate slit at the base of the last chamber.

Dimensions: Length           0.72 mm  
Breadth            0.60 mm  
Height             0.43 mm

Remarks: This form is similar to the holotype of Haque (1956) except for slightly higher ratio between length and breadth, 7-8 chambers in the last whorl as against 5-6 chambers in Haque's specimen and rectangular shape of chambers compared to triangular shape of the holotype. This is the dominant species.

Locality: Lumshiwala Nala, Surghar Range.

**CINCORIOLA SP. A SP. NOV. (PLATE 1, FIG. 2)**

Material: Three fairly well-preserved specimens.

Horizon: Eight inches thick, dark gray limestone bed, a foot below the top of the Dhak Pass Formation.

## Stratigraphic

Range: Early Paleocene.

last trochospire plano-convex, spiral side flat, evolute, umbilical side convex. Involutions umbilicus wide, covered with perforated plate. Chambers distinct, rectangular to square shaped, last chamber slightly inflated, last whorl comprising of 7-8 chambers, gradually increasing in size. Sutures distinct, on the spiral side limbate in the earlier part and raised in the lateral part, on the umbilical side, deep and radial. The sutures of the second whorl on the spiral side is partly raised. Wall calcareous, smooth, shining, and hyaline. Aperture short, narrow slit at the base of the last chamber.

Length	0.70 mm
Width	0.60 mm
Height	0.45 mm

The specimen has resemblance to *C. ovoidea* Haque but differs in the larger number of comparatively narrow rectangular chambers and less inflated last. It differs from the *C. patalensis* in having a wide umbilicus in the absence of central raised knob representing the first formed chamber on the spiral side and a truncated convexity of umbilical side. Three specimens of this species are recorded, therefore a specific name is avoided.

Locality: Near Surghar Range.

### CONCLUSION

The occurrence of *Concorvatus* with definitely known Paleocene foraminifera in the Salt Range was present only during Palaeocene times and as such *Concorvatus* is a guide fossil for the Paleocene Epoch.

### ACKNOWLEDGEMENT

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