

新疆三疊紀 *Dictyopygidae* 魚科一新屬

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這裏記述的標本是 1955 年石油地質普查 631 隊自新疆準噶爾東部帳篷溝背斜的軸部地層中採集的, 共計有兩塊魚化石, 一塊保存太壞, 難以鑑定; 另一塊保存尚好, 經筆者觀察, 由其所具特徵應列入亞全骨目 (Subholostei) 的最原始的 *Dictyopygidae* 科。由這一魚體各部分的特徵, 很難將其歸入到該科已發現的任何一屬裏, 目前已記述的共有十三屬, 它們被發現於南非的下三疊紀 (3 屬)、非洲羅丹西亞的下三疊紀 (1 屬)、澳洲的下及中三疊紀 (7 屬) 和北美的上三疊紀 (1 屬), 另一屬 *Dictyopyge* 在歐洲、北美和澳洲的上三疊紀地層中均有分佈。新疆的這一標本給該科魚的種屬數量及地理分佈上增添了新資料。由其所具特徵可以增加我們對原始亞全骨類與古鱈類的關係上的了解。

新疆魚 *Sinkiangichthys* (新屬)

特徵: 身體短梭形, 頭長大於體高。口裂大, 懸掛骨斜置。頭部的頂骨和額骨因保存不佳, 難以辨認。眼中等大小, 位於頭的前端。鰓蓋長橢圓形, 小於下鰓蓋骨, 下鰓蓋較寬大, 近乎圓形。上顎骨前窄後高, 下顎較細弱; 具有細小尖形牙齒。匙骨發達, 上匙骨比較窄長。所有頭部骨片和鰓蓋骨表面都有薄層閃光質, 並飾有髮紋。奇鰭和偶鰭的鰭條數目多而密集, 超過相應的內支持骨。背鰭小於胸鰭, 其起點稍在胸鰭起點之前; 胸鰭特大。腹鰭也大, 基線長, 其起點距胸鰭較距胸鰭為近。尾鰭呈半歪形。鱗葉 (Scaly-lobe) 向上葉延伸頗短。身體鱗片中等大小, 菱形, 表面飾有斜向溝紋 2—3 條。

長胸鰭新疆魚 *Sinkiangichthys longipectoralis* (新種)

正型標本: 正型標本為一比較完整的魚, 僅尾鰭上葉末端和吻的尖端有殘缺。野外編號 A. 62, 古脊所編號 V. 949.

產地及時代: 新疆奇台“帳篷溝背斜”軸部。下三疊紀。

特徵: 體小, 頭長不及全長的四分之一, 胸鰭特別長大。

標本描述: 魚體呈棕黃色, 保存在灰色泥質頁岩中。短梭形身體的最高部位於胸鰭與腹鰭之間, 尾柄較細。因壓擠方向關係, 可看到身體左側的偶鰭, 如胸鰭和腹鰭。

頭中等大小, 板狀骨 (Tabula) 呈四方形, 前緣平直, 後下角圓鈍。因壓擠關係, 頂骨、額骨和頭部感覺綫等不易辨識出。眼中等大小, 居頭的最前端。懸掛骨斜置, 上顎骨前窄後高, 後下角微向下伸, 覆蓋着下顎骨後上角部。口裂大, 下顎骨狹窄, 向前端逐漸變細, 在顎骨中段保存有排列密集的細小牙齒。鰓蓋呈長橢圓形, 向吻端傾斜, 其後上角被板狀骨覆蓋。下鰓蓋接近圓形, 較鰓蓋短而寬。在下鰓蓋的下方無鰓條骨 (branchiostegal ray), 所有鰓蓋骨的

表面均飾有同心圓的髮紋。

匙骨保存完整，上匙骨和後匙骨均同形。匙骨相當碩壯，表面均佈有與鰓蓋表面相似的紋飾。胸鰭長大，向後幾伸達腹鰭，鰭條多，靠近前緣的鰭條較粗大，前緣無棘鱗。腹鰭腹位，其起點距胸鰭較距胸鰭近，腹鰭基線長，鰭條多而長，末端分節。

背鰭位置相當靠後，其起點稍在胸鰭起點之前。胸鰭較背鰭大，前緣鰭條很長，呈三角形。背鰭和胸鰭的鰭條數目多，全部分節，節距較大，彼此排列緊密。

尾鰭的上葉殘缺較多，但仍保留着鱗葉，鱗葉短，約相當於上葉全長的四分之一。尾鰭條細，分節中長。由尾鰭保存部分觀察，尾分叉小，上下葉外緣的夾角約為 30° 。

鱗片呈菱形，靠近腹側的鱗片較長，表面有薄層閃光質，靠近後緣有淺的紋飾 2—3 條。在胸鰭前和尾鰭下葉的前邊可見到的棘鱗。從頭後至尾柄共有側鱗 55 列，從背脊至腹緣有 23 列鱗片。有 4 列鱗片介於腹鰭之間。

比較：該魚在體形上與 *Helichthys* 屬相似，在胸鰭和腹鰭的大小關係上與 *Ischnolepis* 屬近似；但由其短梭狀的體形、長大的胸鰭與胸鰭、特別長的腹鰭基線、萎縮的半歪尾和較細的尾柄諸特徵，很容易與上述兩屬區分。*Helichthys* 屬的尾鰭鱗葉較長，腹鰭基線短，其起點居胸鰭二鰭中間，且在尾鰭蓋之下有特化的第一鰓條骨 (Brough)。 *Ischnolepis* 屬的體形較高，最高部位較靠後，尾鰭鱗葉約伸達上葉的二分之一處，尾分叉大，其夾角約為 55° ，胸鰭短小。

新疆魚具有自基端分節的奇鰭鰭條。腹鰭基線長。懸掛骨和上顎骨的性狀等皆反映出古鱗類 (Palaeoniscoidea) 的特徵。但從其奇鰭位置靠後以及具有非常短的半歪形尾、鱗葉長不及上葉的四分之一等特徵看來，應屬於歪全骨類。筆者根據上述各點，尤其是根據長大的胸鰭這一特性，將新疆這一化石魚訂名為長胸鰭新疆魚 *Sinkiangichthys longipectoralis*, gen. et sp. nov., 它代表着 Dictyopygidae 科中的較原始種類。

本文在研究過程中承周明鎮及劉東生先生給以幫助；袁復禮教授提示化石產地情況；王哲夫和胡惠清同志攝制圖影，筆者於此一併致謝。

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ON A NEW TRIASSIC DICTYOPYGID FISH FROM SINKIANG, CHINA

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In a collection of fossil fishes from Chang-P'eng-Kou Anticline in Sinkiang made by some petroleum geologists of North-west Bureau of Geology in 1955, there are two specimens, of which one described in this paper represents a new Dictyopygid genus, and the other is too fragmentary and is incapable of determination.

Genus *Sinkiangichthys*, gen. nov.

Diagnosis.—Dictyopygid fish with trunk bluntly fusiform. Head longer than depth of body. Gape wide; mandibular suspensorium oblique. All bones of head ornamented with ridges of ganoine. Parietals and frontals indistinguishable. Tabulars small, quadrangular; operculum and suboperculum both with long elliptical shape. Suboperculum larger than operculum. Mandible slender, tapering anteriorly, with sharp teeth. Supracleithrum long, narrow. Dorsal and anal fins triangular, the former just a little in advance of the latter, anal much larger. Pelvics large and with long-base, nearer to the anal than to the pectoral. Unpaired fins with completely jointed rays, which outnumber the endoskeletal supports. Scales moderate, bearing prominent obliquely placed rugae.

***Sinkiangichthys longipectoralis*, sp. nov.**

(Plate 1)

Diagnosis.—Same as for the genus. Fish up to 98 mm in length. Head occupies about less than one-quarter of the entire length. Pectorals with long rays and the more anterior rays lost their articulation.

Material.—Nearly complete fish, wanting the upper lobe of the caudal and the tip of snout. Cat. No. V. 949.

Horizon and Locality.—Lower Triassic. Chang-P'eng-Kou, Chitai, Sinkiang.

Description.—Trunk is moderately bluntly fusiform. Head with the opercular apparatus occupies less than one-quarter of the entire length of the fish. The dorsal is a little in advance of the anal; scaly lobe of caudal fin extends about one-quarter of the distance toward the dorsal lobe of the tail.

Dimensions:—

Total length (approx.)	98 mm
Greatest depth	20 mm
Length of head	22 mm

Head is moderate in size; because the direction of pressure is not exactly from the sides, therefore the limits of the membrane bones of the cranial roof are difficult to decipher. But the forward position of the eye and the obliquity of the suspensorium are evident. The maxilla has a low anterior portion and a higher and long postorbital part. The mandible is slender and with a pointed anterior end. There seems to be traces of minute teeth upon the upper margin of the mandible.

The tabula is small and almost tetragonal in shape, and below it there is a large long oval operculum and suboperculum. The latter is broader than the former. There is no branchiostegal rays. All of the opercular apparatus are ornamented with circular ridges of ganoin.

The shoulder girdle is well displayed. Supracleithrum is a large element, below it there is a post-cleithrum. The long pectoral fin has 36 unbranched and unjointed rays, but it is likely that the more posterior ones are jointed toward their distal extremities. Fulcra are absent.

The pelvic is a long-based triangular fin, which has about 26 distally jointed rays.

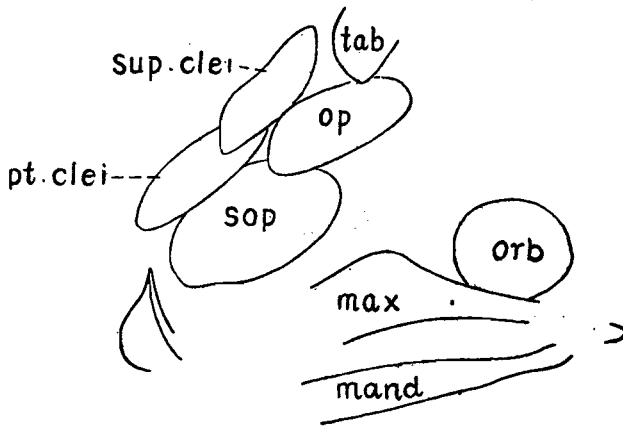
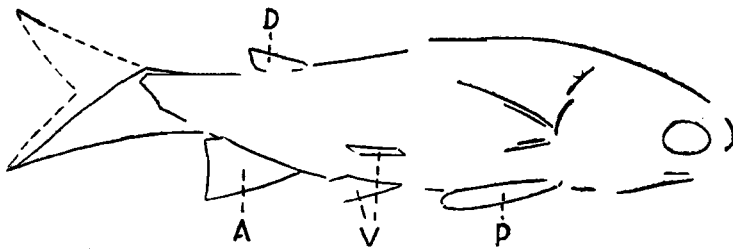
The dorsal fin is rather low, triangular in form, and a little in advance of the anal. It is also conspicuously smaller than the anal exhibiting about 30 rays.

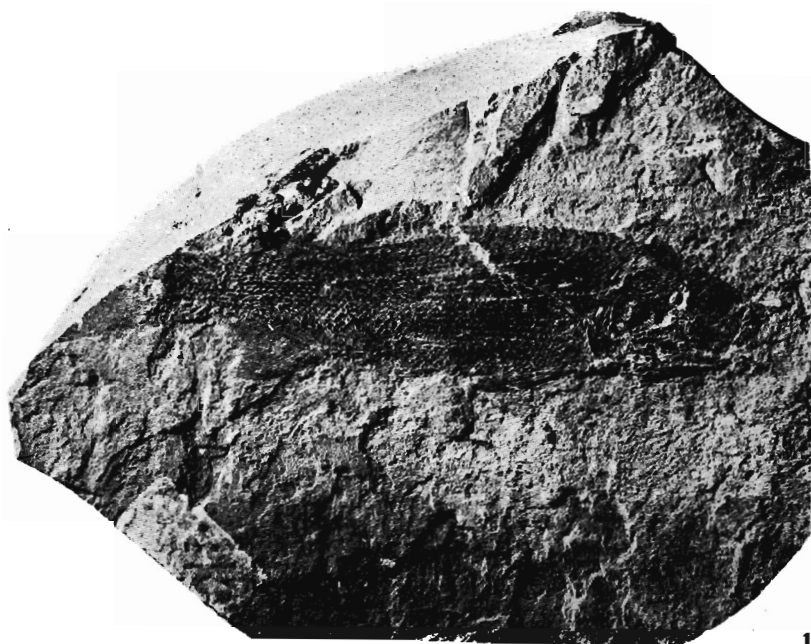
The tail is incomplete. The distal part of the upper lobe is lacking. The scaly-lobe is distinct but very short. It extends about one-quarter of the distance toward the tip. There are completely jointed rays. Fulcra are present on the dorsal ridge.

Scales are moderate in size. The scales of the flank are at least as deep as broad, and become shallow on the ventral surface. The posterior part of the scale surface is ornamented with sparse oblique markings. Ridge scales are present on the tail-pedicle and in front of the anal fin. There are not less than 55 transverse rows of scales, 23 rows from dorsal to ventral and 4 rows intervening between the ventrals.

The combination of characters gives this fish a very distinctive appearance, such as the body-form, position of fins; both the pelvic and anal have a long base. The pectorals are very long, suggesting the specific name of the fish. It is sufficient to distinguish this fish from all known genera. Therefore it is necessary to found a new genus for it, which can be known as *Sinkiangichthys longipectoralis*, gen. et. sp. nov.

According to the remarkably atrophied heterocercal tail, such as occurs in *Catopterus*, its advanced character is indicated, but in other respects, the rays of unpaired fins are more numerous and completely segmented; the pelvic base is rather long, just like the case seen in Palaconiscids and Platysomids. The specimen represents a primitive group of the Dictyopygids and probably contains the genera *Hellichthys* and *Ischnolepis*, both discovered in Africa.





Explanation of Plate I

1. *Sinkiangichthys longipectoralis*, gen. et sp. nov., slightly imperfect fish, the holotype. Cat. No. V. 949, X 1.
2. *Sinkiangichthys longipectoralis*, gen. et sp. nov., enlarged (X 3), showing skull and pectoral fins. A.=Anal. D.=Dorsal. mand.=mandible. max.=maxilla. op.=operculum. orb.=orbit. P.=Pectoral. pt.clei.=postcleithrum. sop.=suboperculum. sup. clei.=supracleithrum. tab.=tabular. V.=Ventral.