

Iconography of Marine Creatures in Classic Maya Art: Sharks, Sea Turtles, Stingray (Spines), Conch Shells, etc.

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NICHOLAS M. HELLMUTH

Monster und Menschen in der Maya-Kunst



ADEVA

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FIERY POOL THE MAYA AND THE MYTIC SEA

Daniel Finamore, Stephen D. Houston



Published: 2010

1: Crabs

Crabs, Shore Crabs, Amatique Bay hilltop crabs, Fresh water crabs

Crab in Mural of Chichen Itza, Yucatan, Mexico

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Crabs in the stone sculptures of Bilbao, Cotzumalhuapa, Guatemala

We estimate most salt water fauna inspiration comes from the Caribbean, but we still need to learn about sea creatures of Pacific area of Oaxaca, Chiapas, and Costa Sur Guatemala.

By NICHOLAS HELLMUTH (iconography and ethnozoology) & VICTOR MENDOZA (zoology)
PowerPoint Design by Senaida Ba Mucu, June 2022

Since many aspects of Maya cosmology and symbolism come from the Olmec it is helpful to learn what sea creatures are in coastal Veracruz

Crabs

Land crabs: Gecarcinids (Gecarcinidae) are a family of true crabs that are adapted to terrestrial existence, commonly known as land crabs. Like all other crabs, land crabs have a series of gills.

fresh water crabs: Are freshwater decapod crustaceans belonging to the Astacoidea and Parastacoidea superfamilies (two of the five superfamilies of the Astacidea infraorder). They breathe through feather-like gills and are found in bodies of water that do not freeze to the bottom, abounding in streams and rivers where they can shelter from predators. They feed on living and dead animals and plants.

Beach crabs (salt water crabs): This type of crab is characterized by having a more flattened and rounded central body than river crabs. They include species from very different families that can inhabit different spaces, from the depths of the sea, to coastal areas, passing through brackish waters such as marshes and estuaries.

Land crabs	fresh water crabs	Beach crabs (salt water crabs) Caribbean	Beach crabs (salt water crabs) Pacific Ocean
<i>Grapsus grapsus</i>	<i>Grapsus grapsus</i>	<i>Grapsus grapsus</i>	<i>Grapsus grapsus</i>
-	<i>Cardisoma guanhumi</i>	<i>Cardisoma guanhumi</i>	-
<i>Goniopsis pulchra</i>	<i>Goniopsis pulchra</i>	-	<i>Goniopsis pulchra</i>
<i>Gecarcinus quadratus</i>	<i>Gecarcinus quadratus</i>	-	<i>Gecarcinus quadratus</i>
<i>Callinectes arcuatus</i>	<i>Callinectes arcuatus</i>	-	<i>Callinectes arcuatus</i>
<i>Callinectes ornatus</i>	<i>Callinectes ornatus</i>	<i>Callinectes ornatus</i>	
-	<i>Pseudothelphusa belliana</i>	-	<i>Pseudothelphusa belliana</i>
-	-	<i>Ocypode quadrata</i>	-
<i>Johngarthia planata</i>	-	-	-
<i>Gecarcinus lateralis</i>	-	-	-
-	<i>Pseudothelphusa jouyi</i>	-	-
-	<i>Odontothelphusa palenquensis</i>	-	-
-	<i>Potamocarcinus magnus</i>	-	-
<i>Typhlopseudothelphusa mocinoi</i>	-	-	-



Crab Pacific Ocean beach fiddler

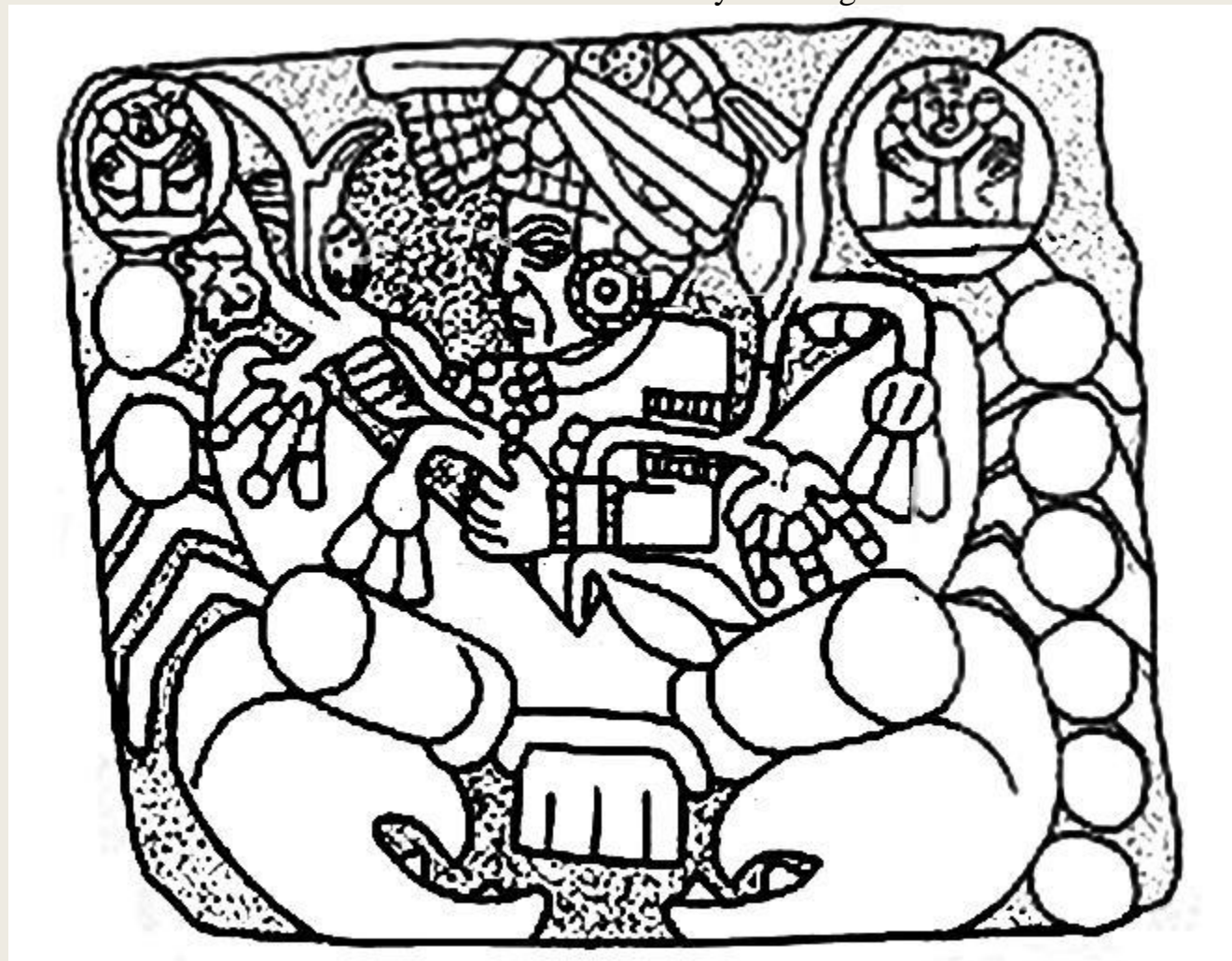
Crabs (the largest crabs of the Caribbean area live high in the hills overlooking Amatique Bay)
Crabs are seen in art of far away Bilbao, Cotzumalhuapa, boca costa/costa sur Guatemala



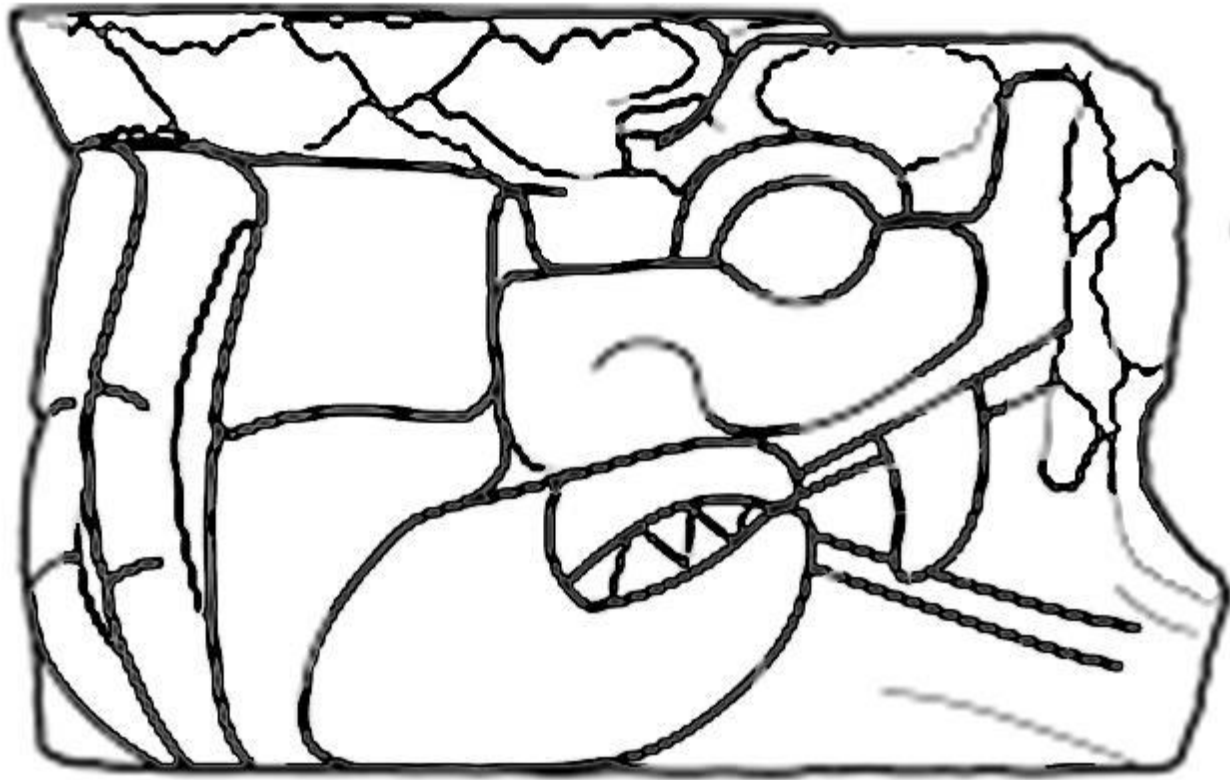
Source: Charles Zidar – Ancient Maya Zoological Research



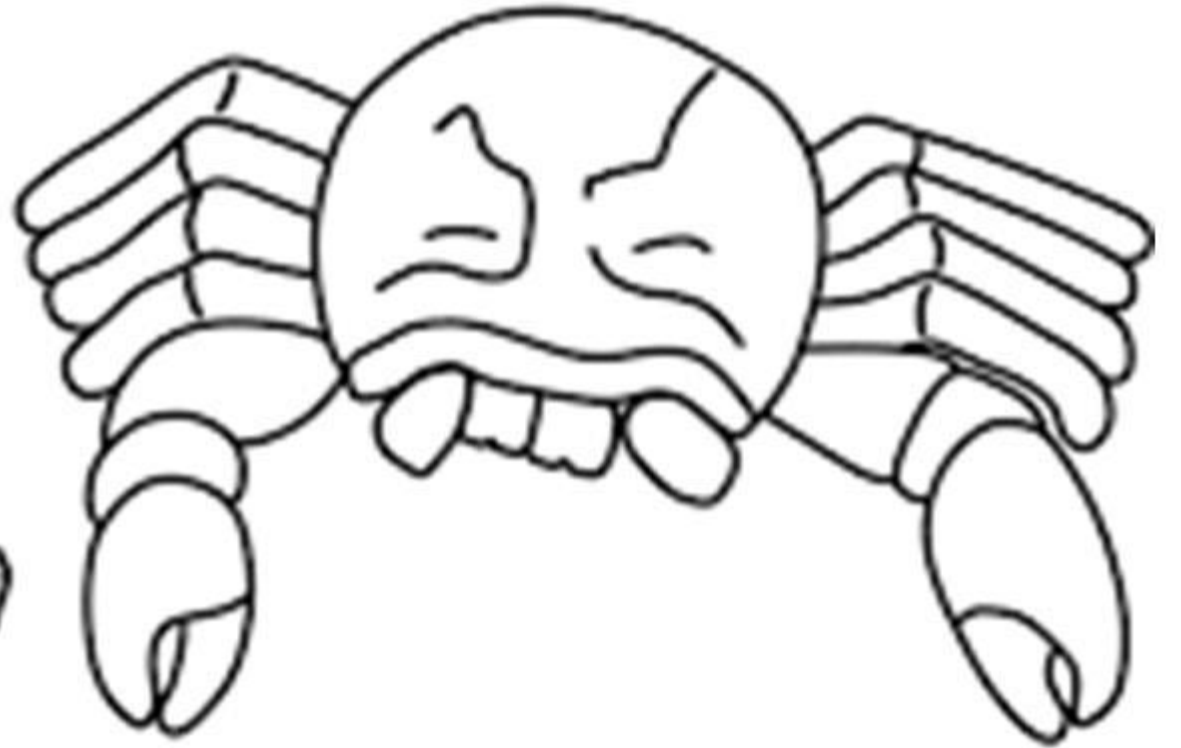
Monument 1 Crab headdress Cotzumalhuapa Bilbao
41 Bilbao crab headdress



El Baúl monument 7: Crab emergence (FAMSI copyright 1988:
Oswaldo Chinchilla Mazariegos)



(a)



(b)

a). Palo Verde Monument 4 with crab headdress

b). close up of the crab headdress from Bilbao Monument 1



(a)



(b)



(c)



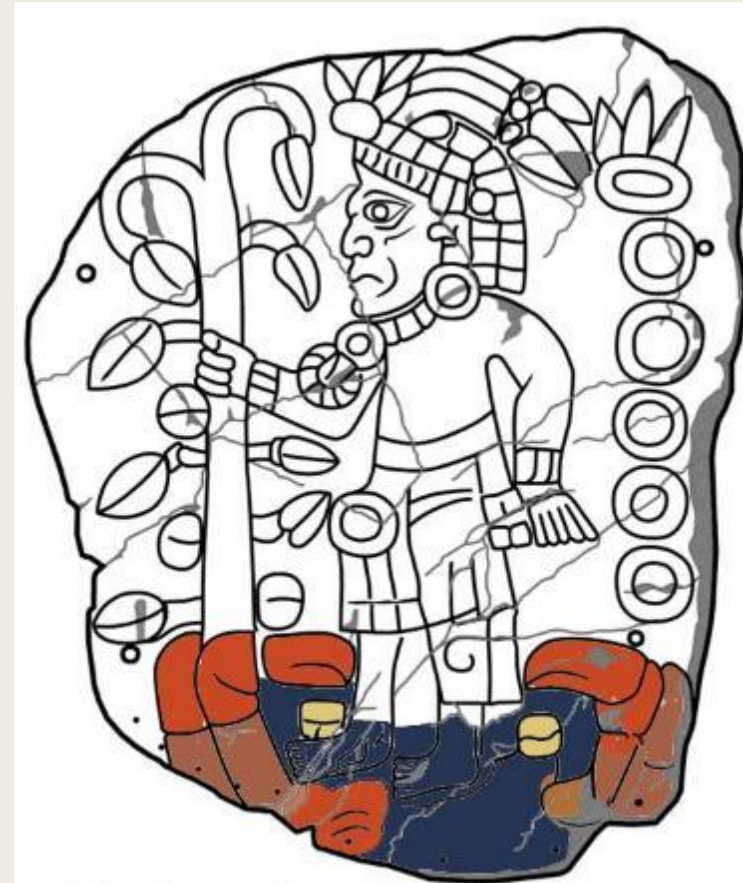
(d)

THE CRAB AS COSMIC
YUX: A SYMBOL OF
POWER AND
CREATION IN
COTZUMALHUAPA
Ancient Mesoamerica ,
Volume 31 , Issue 2 , Fall
2020 , pp. 308 - 318

- a). Bilbao Monument 18
- b). Bilbao Monument 1
- c). Bilbao Monument 7



Jadeite Plaque (Great Cenote Chichén Itzá)



Jadeite Plaque (Great Cenote Chichén Itzá)

Plaque, A.D. 700–1100. Mexico, Yucatan, Chichén Itzá,
Sacred Cenote.

Photos © President and Fellows of Harvard College

Charles Zidar, Chichen Itza, Great Cenote



Karte 1. Allgemeine Karte von Mesoamerika; Einflußbereich der olmekischen Kultur; Fundplätze der präklassischen Periode.

Map 1. General map of ancient Mesoamerica showing areas of Olmec influence and Preclassic sites.



Charles Zidar website

Crab painted on polychrome Copador plate. Late Classic. Repainted at least across the breaks but otherwise not much repainting noticeable.

Cajete tripode polí-
hucos y decorac
de pseudo-glifos.
Procedencia: S
Joya de Cerén
San Juan Op
Periodo clás



Crab dancer in musical ritual, Late Classic Maya, Bonampak murals.

Since the headdress of the personage in front is *Nymphaea ampla*, white water lily of fresh water, this raises the question of whether the crab is from the ocean or a river or lake or terrestrial



DECAPODA Cangrejos Tapon Creek, Taponcito Creek, Playa Aldea Buena Vista
David Arrivillaga, Alejandra Gutierrez, Roxana Leal



GECARCINIDAE *Cardisoma guanhumi* Latreille. Cangrejo azul
Tapon Creek, Taponcito Creek, Playa Aldea Buena Vista Nicholas
Hellmuth, David Arrivillaga, Alejandra Gutierrez, Roxana Leal



GECARCINIDAE *Cardisoma guanhumi* Latreille. Cangrejo azul Tapon Creek, Taponcito Creek, Playa Aldea Buena Vista, Nicholas Hellmuth David Arrivillaga, Alejandra Gutierrez, Roxana Leal



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GECARCINIDAE *Cardisoma guanhumi* Latreille. Cangrejo azul Playa Blanca Nicholas Hellmuth



GECARCINIDAE *Cardisoma guanhumi* Latreille. Cangrejo azul Playa Blanca Nicholas Hellmuth



Tupac Kapitah website

Pintura mural del Templo de los Guerreros de Chichén Itzá, México. La imagen muestra hombres de piel clara preparándose para retirarse por mar mientras otros defienden un poblado o son hechos prisioneros. **Crédito: The Plumed Conch**



Tupac Kapitah website



Mural del Templo de los Guerreros de Chichén Itzá. **Fuente.**



Pre-columbian nanotechnology:
Reconciling the mysteries of the
maya blue pigment. January 2008
Applied Physics A 90(1):3-7

Frontal crab from above,
Cacaxtla murals, Late Classic.

Foto: Nicholas Hellmuth, Cacaxtla murals



Foto: Nicholas Hellmuth,
Cacaxtla murals



Foto: Nicholas Hellmuth, Cacaxtla murals





Figura 3.20. Edificio A, vistas general. Se puede observar la complejidad de este recinto. Al fondo, el cuarto que tiene pintura sobre muros de lodo. La entrada la componen los murales norte y sur, cuyos laterales o jambas también tienen pintura. (Foto: R. Alvarado, 2008.)

TOTALIDAD C

TOTALIDAD A

TOTALIDAD B

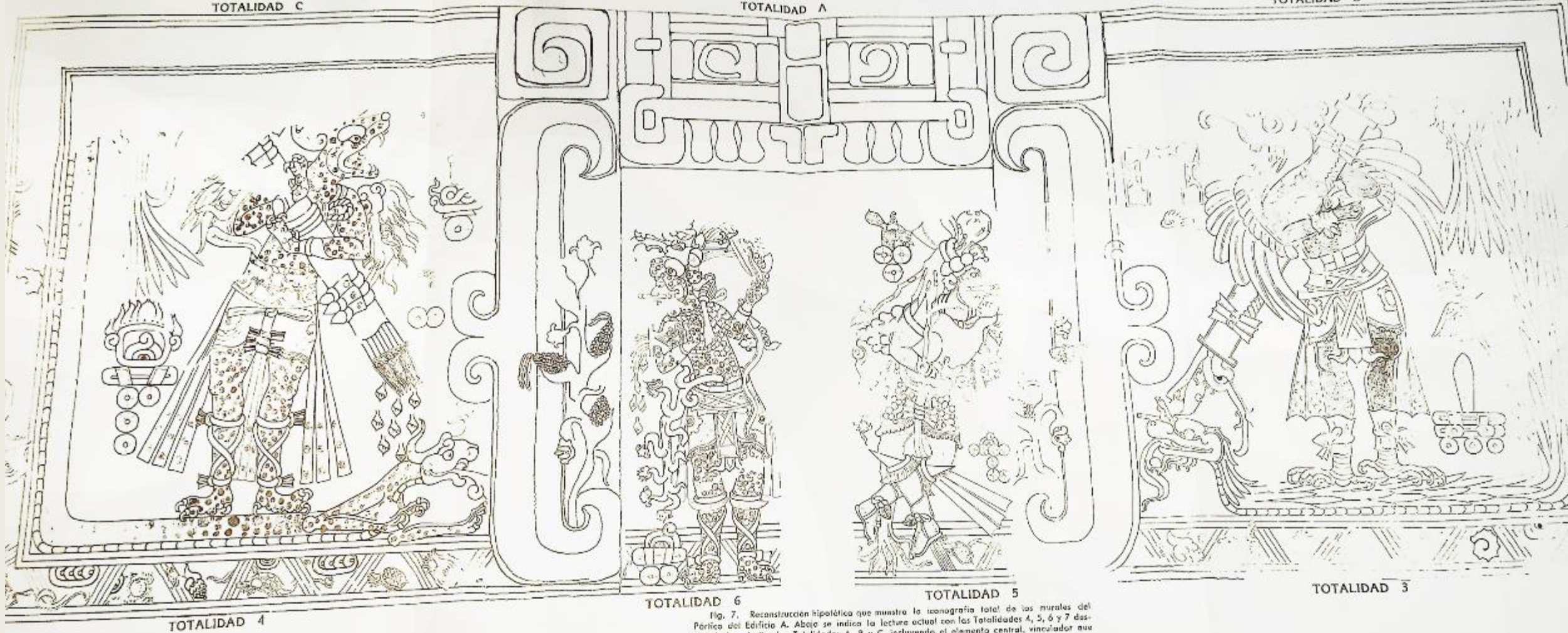


Fig. 7. Reconstrucción hipotética que muestra la iconografía total de las murales del Paríca del Edificio A. Abajo se indica la lectura actual con las Totalidades A, 5, 6 y 7 desvinculados. Arriba las Totalidades A, B y C, incluyendo el elemento central, vinculador que debió tejer y que ya se ha desvanecido.



Cacaxtla, El Lugar donde muere la lluvia en la tierra (1986)



Images that could potentially be
inspired by starfish
in the murals of Cacaxtla, Central
Mexico

Starfish (in murals of Cacaxtla)



Foto: Nicholas Hellmuth, Cacaxtla murals

Figura 5.3. Templo de venus:

a) pilar sur;

b) pilar norte;

(Foto: R. Alvarado, P. Peña. 2008.)



**Eels, Snake Eels or Water Snakes?
Pictured in Cacaxtla Murals,
Tlaxcala, Mexico**

Foto: Nicholas Hellmuth, Cacaxtla murals



**Tabulation of Snake-like Eels in Caribbean area of Mesoamerica
Snake-like Eels along Pacific Coast of Mexico, Guatemala and El Salvador**

Seahorse

Pacific Ocean	Caribbean	Far southern Central America	Common name
-	<i>Hippocampus reidi</i>		Caballito de Mar de Hocico Largo
<i>Hippocampus ingens</i>	-	<i>Hippocampus ingens</i>	Caballito del Pacífico
	<i>Hippocampus erectus</i>	-	Caballito de Mar Estriado
-	<i>Hippocampus zosterae</i>	-	Caballito de Mar Enano

2: Sea Turtles

Giant Turtles as Resurrection Area for Maize God
Is this for sure a marine turtle?

- Turtles splitting to allow Maize God to Emerge (often assisted by Hero Twins)
- Turtles frequently pictured in aquatic bands bordering the murals of Cacaxtla
- Turtles in rare instances as home of God N (usually he is in a conch-like shell)

Sea Turtles

Sea turtles are a fundamental link with marine ecosystems. Help maintain the health of seagrass beds and coral reefs, which benefit species with commercial value, such as shrimp, lobster and tuna. Sea turtles are living representatives of a group of reptiles that have existed on Planet Earth and have roamed our mares for the last 100 million years. Turtles have a very important cultural significance and considerable tourist value. Sea turtles can lay more than 150 eggs per nest and can nest multiple times each season, offsetting high mortality rates that prevent most sea turtles from reaching maturity.

Pacific Ocean turtles	Caribbean turtles Quintana Roo, Belize, Honduras	Sea turtles: Veracruz, Tabasco, Campeche,	Common name
<i>Lepidochelys olivacea</i>	-	-	Tortuga Prlama
<i>Chelonia mydas</i>	<i>Chelonia mydas</i>	<i>Chelonia mydas</i>	Tortuga verde
<i>Eretmochelys imbricata</i>	<i>Eretmochelys imbricata</i>	<i>Eretmochelys imbricata</i>	Tortuga carey
-	-	<i>Lepidochelys kempii</i>	Tortuga lora
<i>Caretta caretta</i>	<i>Caretta caretta</i>	<i>Caretta caretta</i>	Tortuga caguama
<i>Dermochelys coriacea</i>	<i>Dermochelys coriacea</i>	<i>Dermochelys coriacea</i>	Tortuga Baula o laud



A



B



439











Cacaxtla, El Lugar donde muere la lluvia en la tierra (1986)

Foto: Nicholas Hellmuth, Cacaxtla murals



Foto: Nicholas Hellmuth, Cacaxtla murals



Foto: Nicholas Hellmuth, Cacaxtla murals



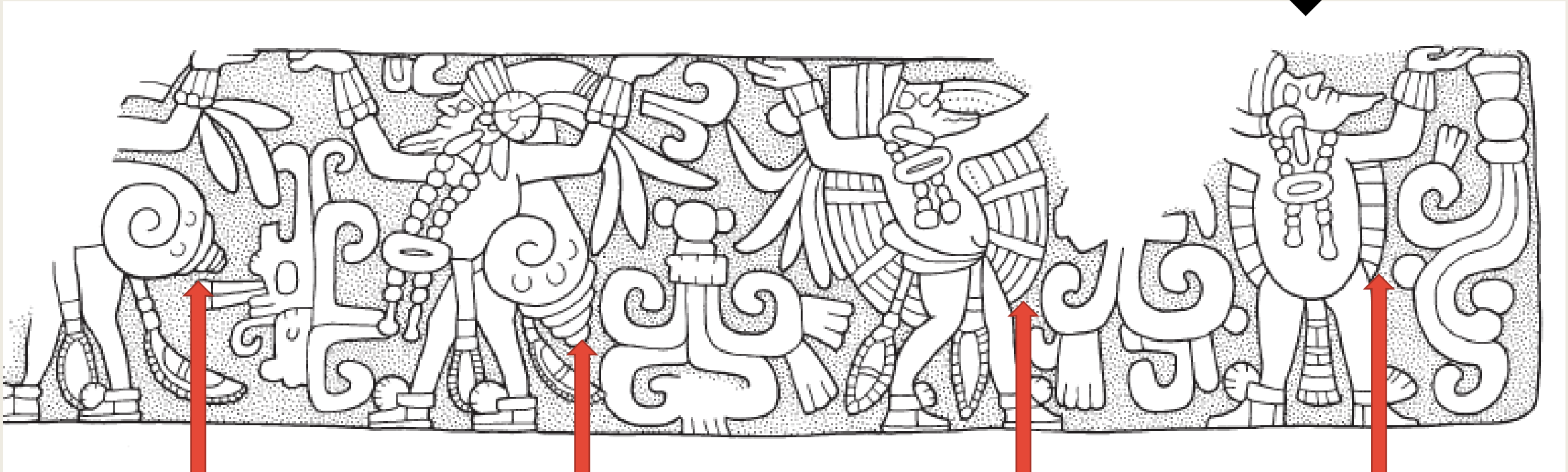
Foto: Nicholas Hellmuth, Cacaxtla murals



Figura 5.52. Templo Rojo, muro poniente, parte superior de la escalera. Obra del Pintor de las Garras Rojas



God N, Dios N, Chichen Itza, Yucatan, Mexico

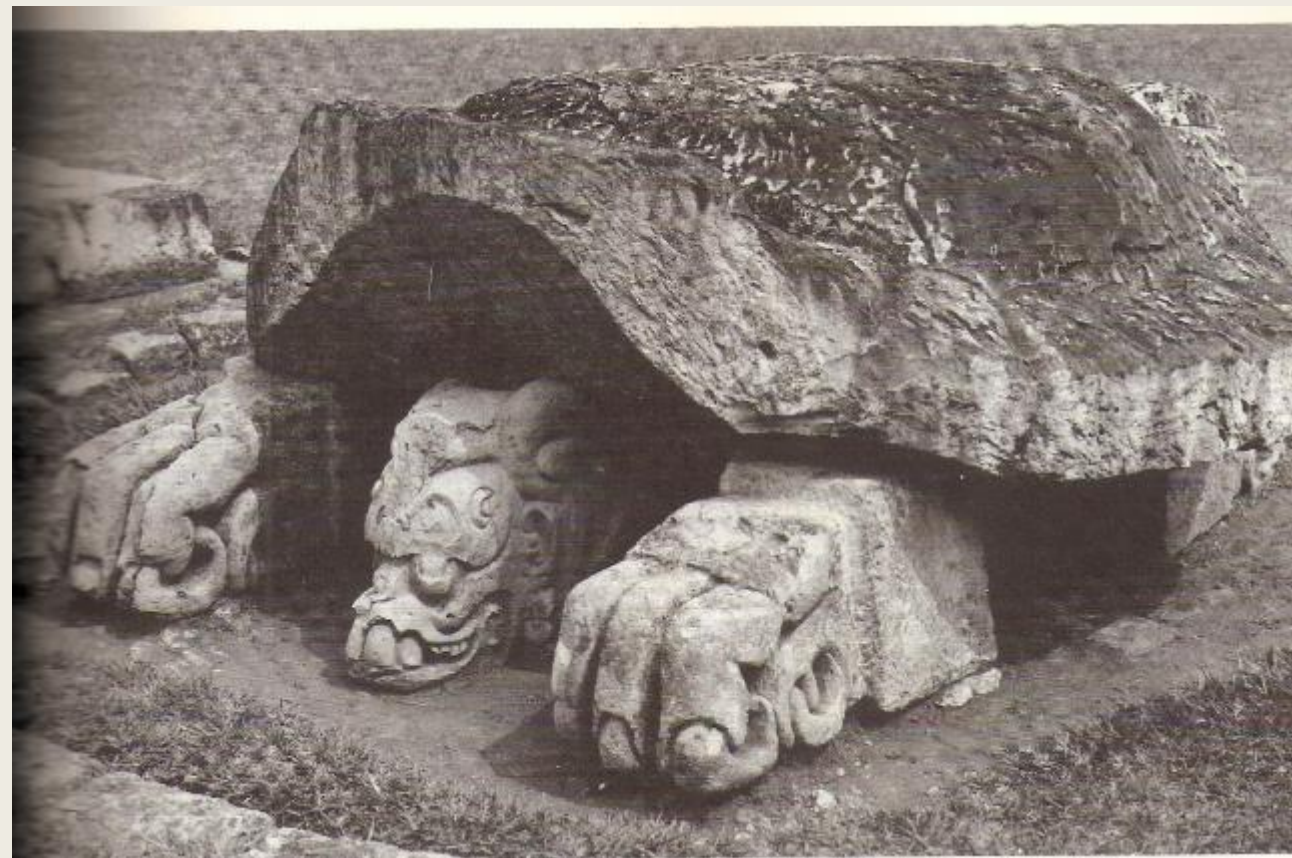
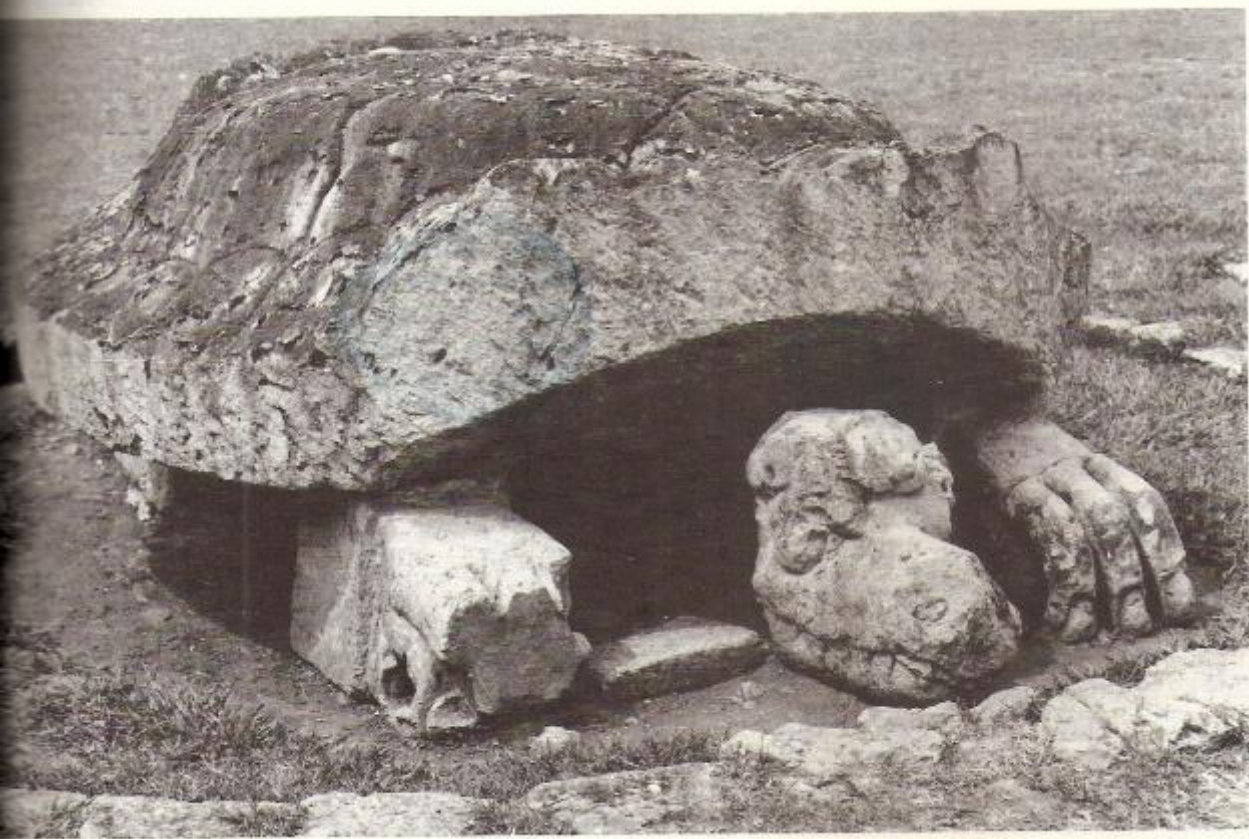


Concha

Concha

Tela de araña

Tortuga





Turtle Copan, turtle carapace design
Foto: Nicholas Hellmuth

Turtle 3D bowl VIGUA 36 tortuga cuenco 177

Foto: Nicholas Hellmuth





Our studies are focused on turtles in Maya mythology, iconography, and epigraphy.

The importance of turtles in Maya diet is best discussed by nutritionists and biologists.







Coastal Crocodiles, *Crocodylus acutus*

In the Maya areas of Guatemala, Belize, Honduras, and Mexico you can find both crocodiles and alligators (caiman, not the Florida alligator). There are three species of crocodilians:

- *Crocodylus moreletii*, Morelet's Crocodile
- *Crocodylus acutus*, American Crocodile
- *Caiman crocodilus*, Spectacled Caiman (a relative of alligators).


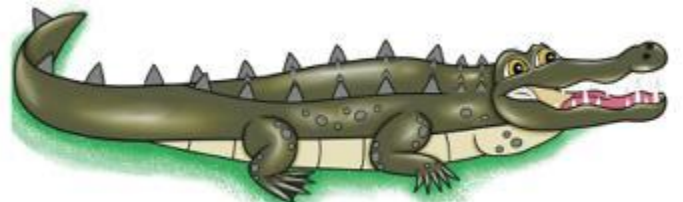

Crocodylus acutus

Crocodylus acutus is coastal (sea water and brackish water a bit inland). *Crocodylus acutus* can be found from the USA south through Mexico and Guatemala, so would have been known to many Mesoamerican cultures.

Caiman crocodilus is primarily on the Oaxaca and Chiapas and adjacent Costa Sur area of Guatemala (so not on the Caribbean coast except for Honduras to the south; probably does not survive well near *Crocodylus acutus*). In Florida is invasive (so not native). Lives in wetlands, inland, so is not a marine creature.

The salt-water and brackish water crocodile, *Crocodylus acutus*, is in Caribbean areas of Mexico and Belize; so not common in Guatemala other than a bit in the Caribbean coastal area of Izabal (Amatique Bay and its tributaries, most noticeable, Rio Sarstun). But the marine crocodile has a head in more narrow-triangular shape. So need a lot of study to learn whether any of the crocodiles in Classic Maya art are the marine species.

Most crocodiles pictured in Maya art are probably fresh water, not marine crocodiles

Head or body, from above looking down	Head or body, from above looking down	Head or body, from above looking down
<i>Crocodylus moreletii</i> , fresh water crocodile, Peten, etc.	<i>Crocodylus acutus</i> , coastal areas and brackish water inland.	<i>Caiman crocodilus</i> , inland, not out in the ocean.
		
Drawing by Josefina Sequen	Drawing by Josefina Sequen	Drawing by Josefina Sequen

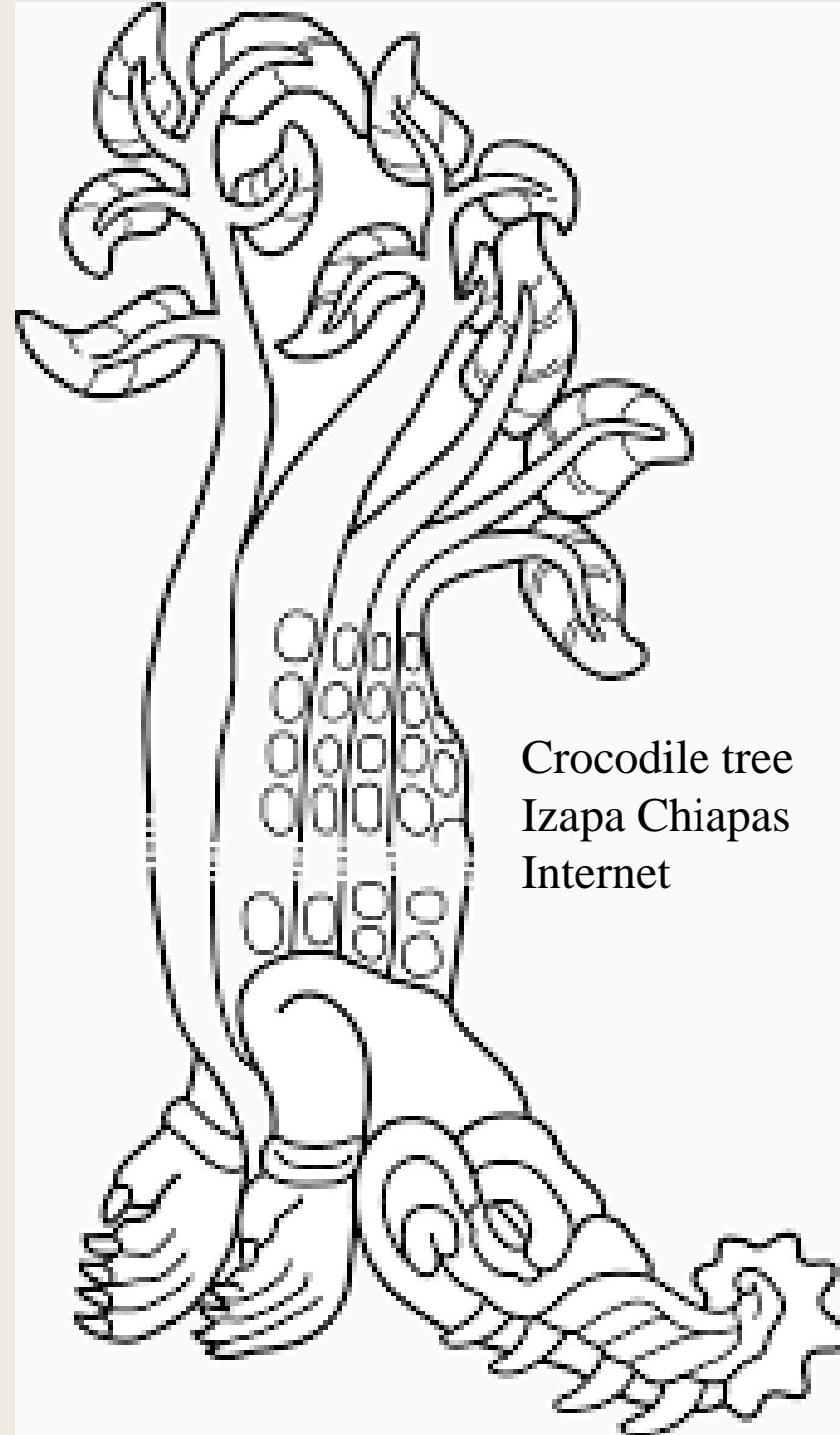
I estimate most crocodiles in Maya art are the fresh-water species. Thus I would feature crocodiles in any discussion of water creatures in Maya art; but not in marine or brackish water creatures. Nonetheless, it is important to mention crocodiles because most discussions of crocodiles in the art of the Olmec, Maya, Aztec and other civilizations do not mention the three species nor identify which species is in the art being discussed and illustrated.



Cosmic Monster of the Earth carved in shell. Photo K8750 © Justin Kerr.



Crocodile tree Codex Schele



Crocodile tree
Izapa Chiapas
Internet



Found at Santa Rita Corazal, Belize

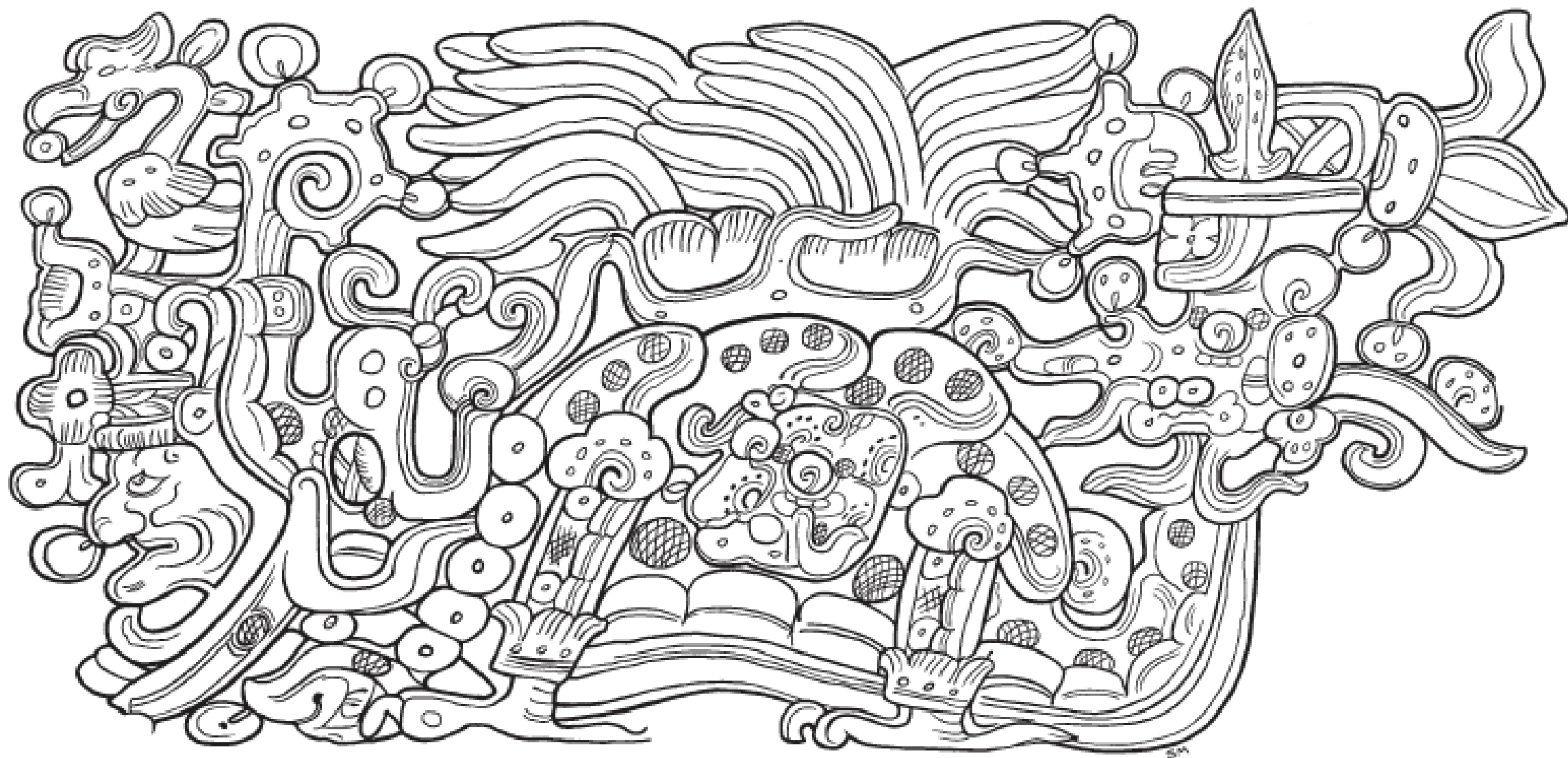


Figure 38. The Old Man combined with multiple supernatural beings: detail from rollout of unprovenanced vessel (photo K6626 © Justin Kerr) and drawing of detail.



Crocodile Cosmic Monste







Crocodylus moreletii, Morelet's Crocodile

Crocodylus moreletii, Morelet's Crocodile, is a fresh-water crocodile. We see these every time to cruise the Rio San Pedro (sometimes every several hundred meters). We found a dozen baby crocodiles in a pool of water in PNLT Savanna #13 (Parque Nacional Laguna del Tigre). Lots in Rio Sacluc of PNLT.

This fresh-water crocodile is found at Tikal and in many areas of Parque Nacional Yaxha, Nakum and Naranjo (PNYNN):

- Lake Yaxha and nearby lagoons
- Probably in Rio Ixtinto also (tributary to southwest part of Lake Yaxha)
- Rio Holmul

We see crocodiles along Arroyo Petexbatun, upriver from Rio la Pasion, Sayaxche, Peten. I estimate that most rivers, creeks, lagoons, and other wetlands of Peten have this fresh-water crocodile.







4: Sharks

Caribbean Sea and Pacific Ocean
and in Mesoamerican Art:

Olmec, Teotihuacan, Maya, Cacaxtla, Mixtec, Aztec

Shark Teeth as frontal fang for Maya Deity G1

Bat Nose as comparable shape (turned 180-degrees)

Sharks in Olmec art

Sharks

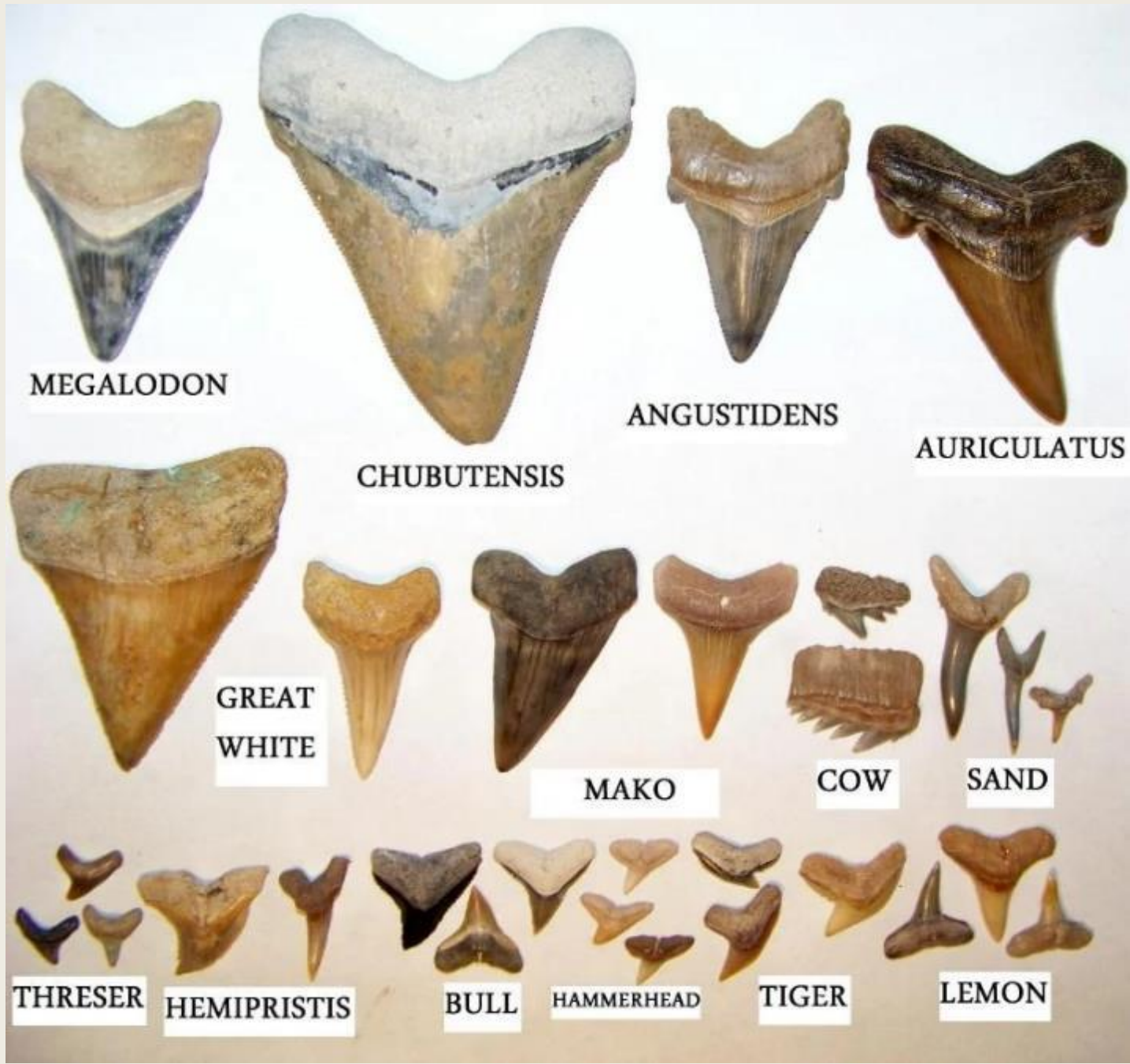
Sharks are a group of cartilaginous fish (that is, without a bony skeleton) popularly known as sharks or sharks and scientifically as selachimorphs or selacimorphs (that is, belonging to the superorder Selachimorpha). It is one of the most popular and feared marine animals by humanity, due to its role as a fierce marine predator.

Sharks make up a very diverse set of animals, which includes large fish and others of small size, in fresh waters or mostly in salt waters, present in practically all geographies of the world.

They emerged evolutionarily along with the rays and chimaeras, with whom they share the class Chondrichthyes, 400 million years ago, in the Devonian period. Since then they have evolved and changed to give rise to the current 360 species of modern sharks, about 100 million years ago.

Despite their fame as ferocious animals, many species of sharks are currently in danger of extinction due to selective hunting by humans. They are fished for sport, or as a source of fins for certain gastronomic dishes, and their rough skin was once used as sandpaper.

Pacific Ocean sharks	Caribbean sharks Belize, Honduras	Sharks that swim up Canyon Rio Dulce and El Golfete	Sharks: Veracruz, Tabasco, Yucatan,	Common name
<i>Rhincodon typus</i>	<i>Rhincodon typus</i>	-	<i>Rhincodon typus</i>	Tiburón ballena
<i>Ginglymostoma cirratum</i>	<i>Ginglymostoma cirratum</i>	Maybe	<i>Ginglymostoma cirratum</i>	Tiburón gato
<i>Carcharhinus leucas</i>	<i>Carcharhinus leucas</i>	-	<i>Carcharhinus leucas</i>	Tiburón Toro
<i>Sphyrna zygaena</i>	<i>Sphyrna zygaena</i>	-	<i>Sphyrna zygaena</i>	Tiburón cornudo
<i>Sphyrna lewini</i>	<i>Sphyrna lewini</i>	Maybe	<i>Sphyrna lewini</i>	Tiburón martillo común
<i>Sphyrna tiburo</i>	<i>Sphyrna tiburo</i>	Maybe	<i>Sphyrna tiburo</i>	Tiburón cabeza de pala
<i>Sphyrna mokarran</i>	<i>Sphyrna mokarran</i>	-	<i>Sphyrna mokarran</i>	Tiburón cornudi gigante

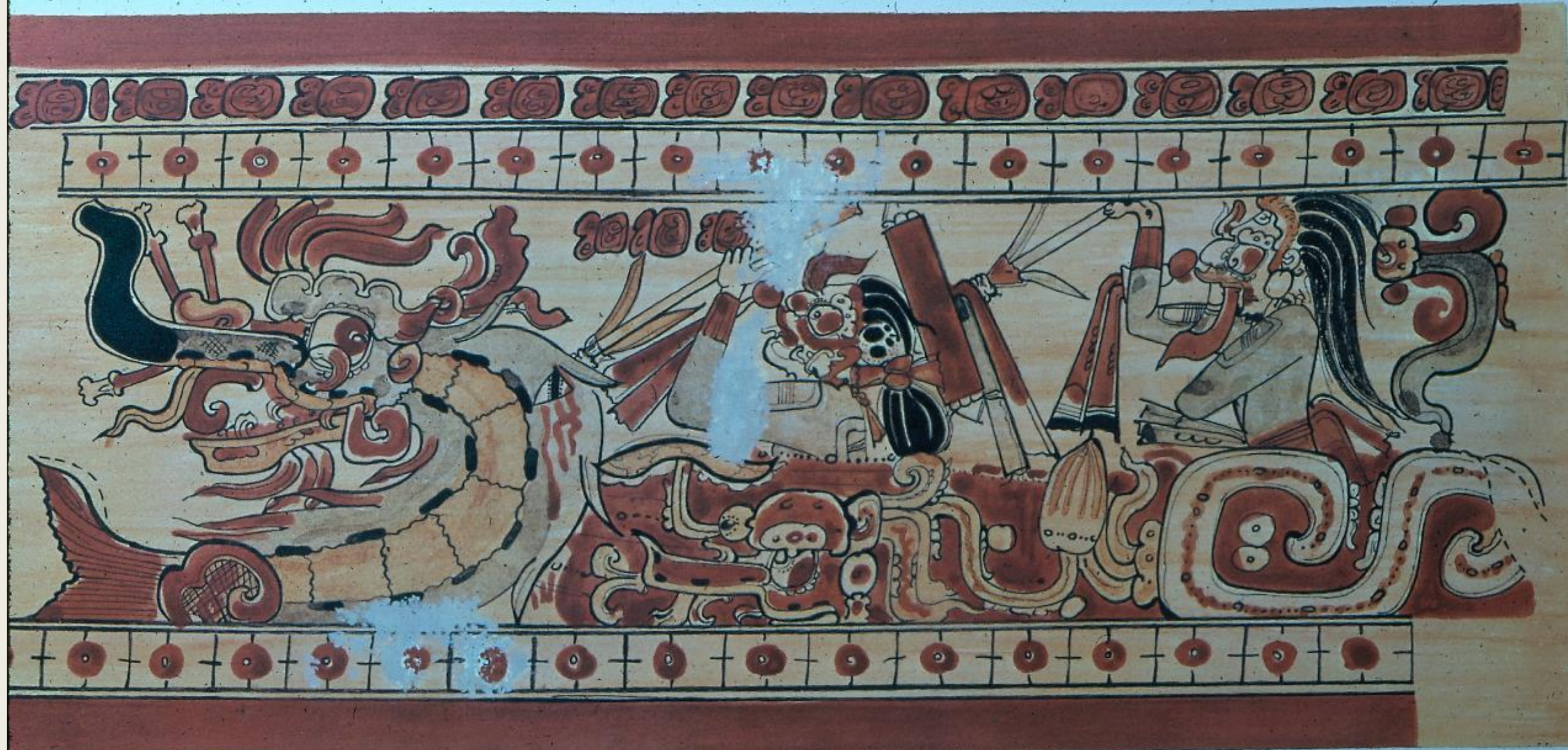




Carcharocles angustidens teeth 1 credit museums victoria



Figure 5. Monument 63 from La Venta, showing an Olmec version of the story involving a mythical human vs sea monster battle (after Clark et al. 2010: fig. 1.7c).

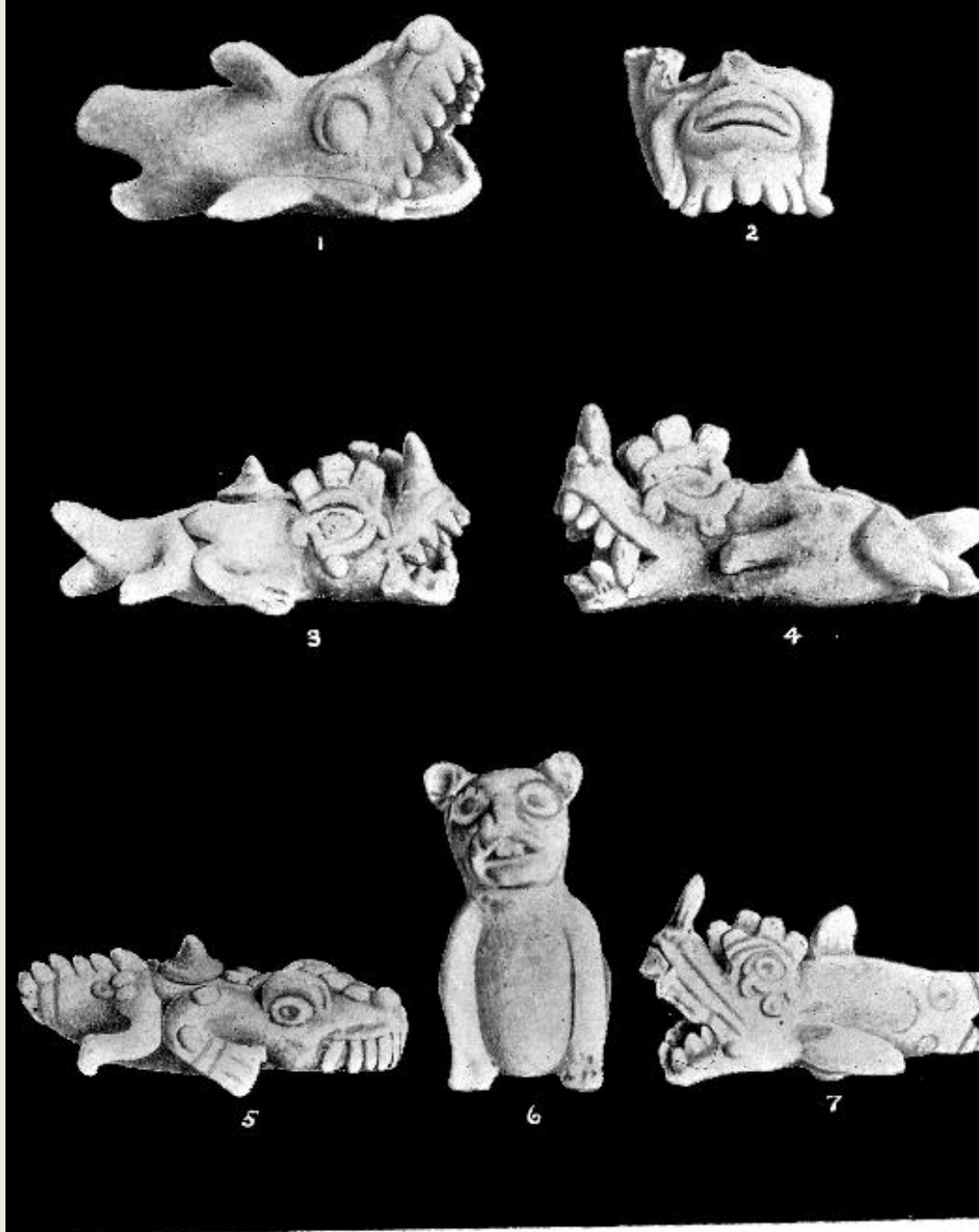


shark rollout drawing Bull shark M Coe book

Diane Driffing Peck



Shark maybe SCAN 18 1 Copan Glyph Throne



Sharks crocodile Santa Rita 35tk Santa Rita
animal effigies

ANIMAL EFFIGIES AND IDOL'S HEAD FROM MOUNDS 2 AND 6, SANTA RITA

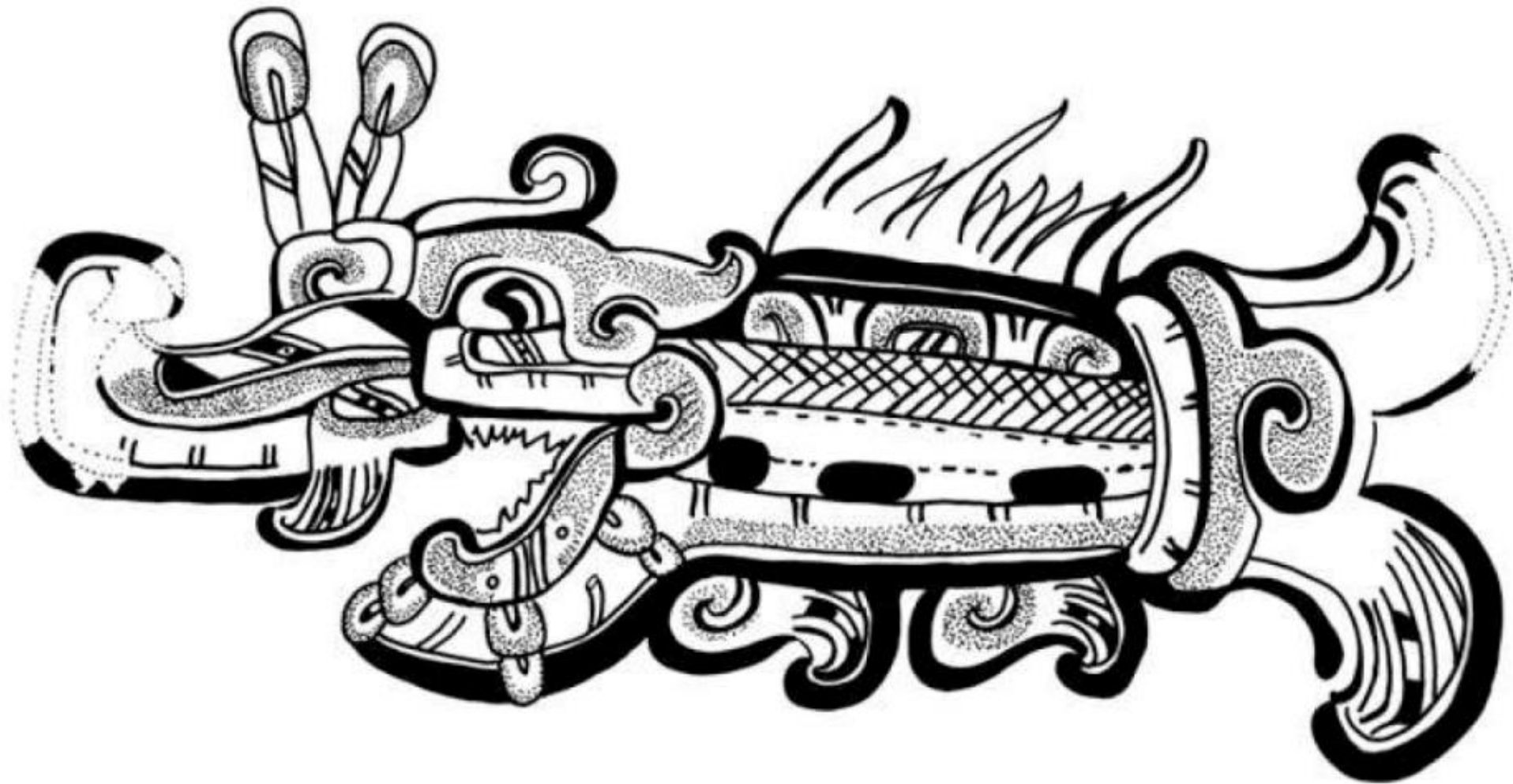
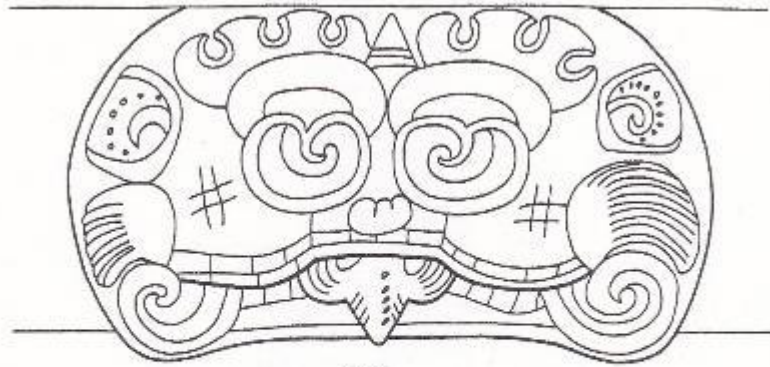


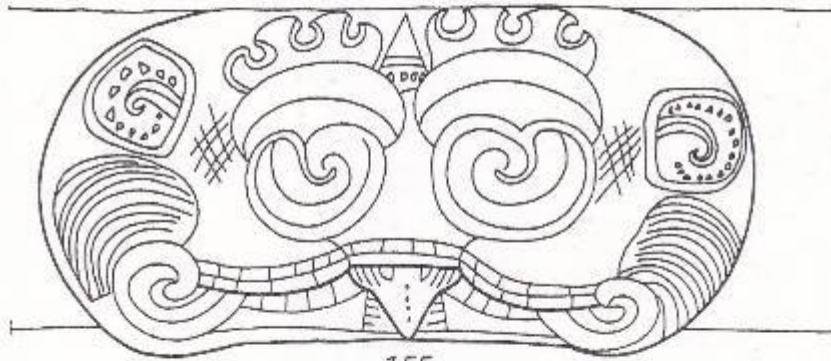
Figure 8. An Early Classic tetrapod plate shows a highly stylised version of a shark, emphasising a single, central tooth. Drawing by James Doyle.

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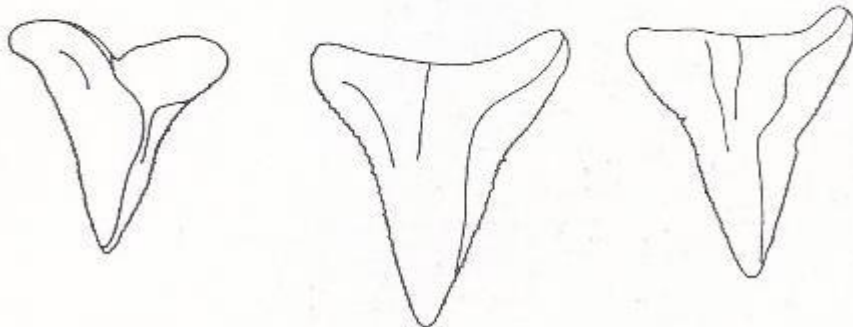
Figs. 154-160. Maya artists' elaboration of a shark's tooth. 154-155, Tzakol bowl. 156, Drawings of actual shark's teeth from the Caribbean. 157, Shark's tooth on murals of Rio Azul Tomb 1. 158, Perforator fang as hieroglyph, Yaxchilan, Lintel 37, Tzakol. 159, Fish monster with both fangs and fins which mimic shark's teeth. Holmul I/Tzakol 1 polychrome tetrapod. 160, More than thirteen monsters on Tikal Stela 31 have shark's tooth as frontal fang.



154



155



156



157



158A



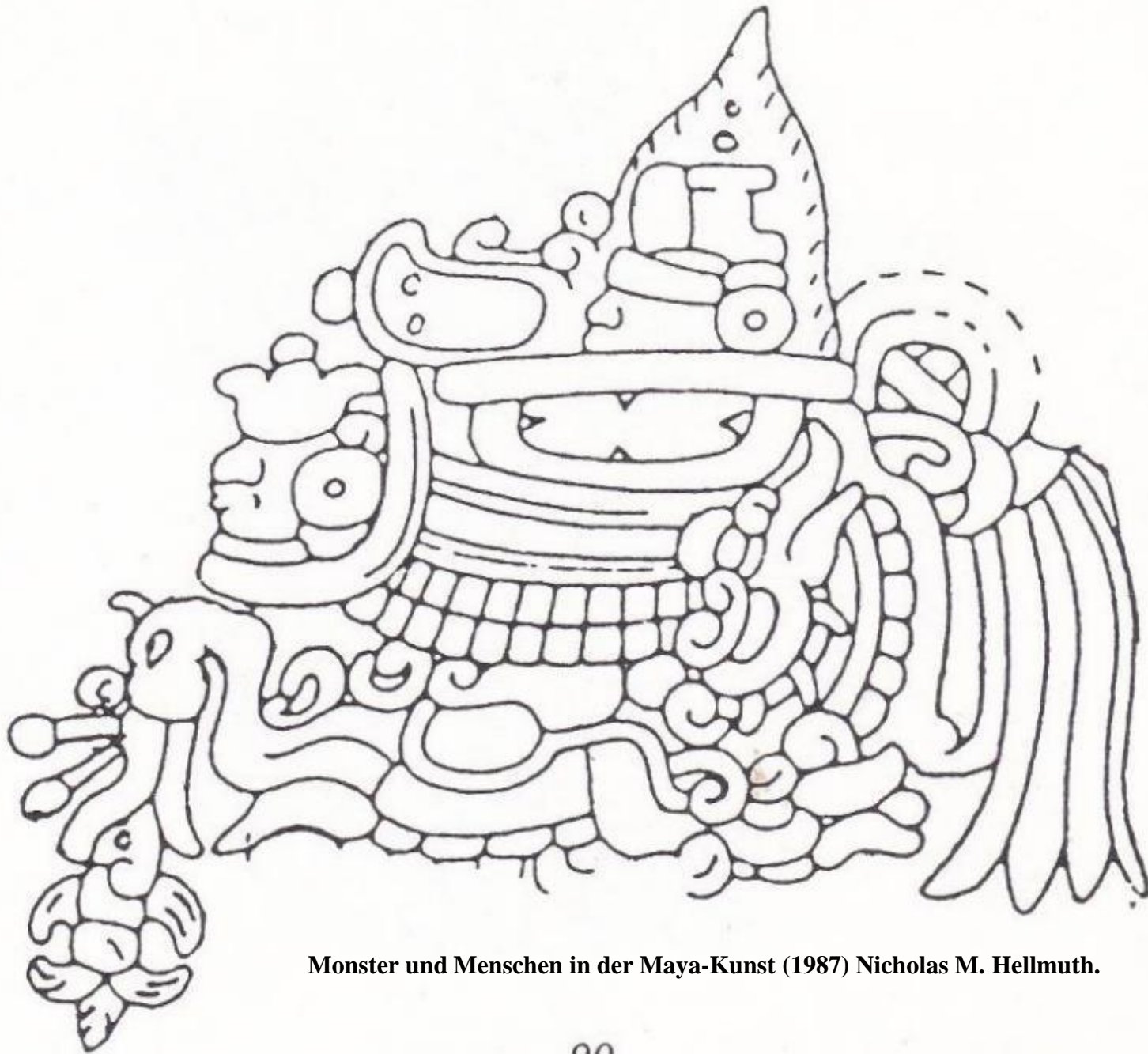
158B



159



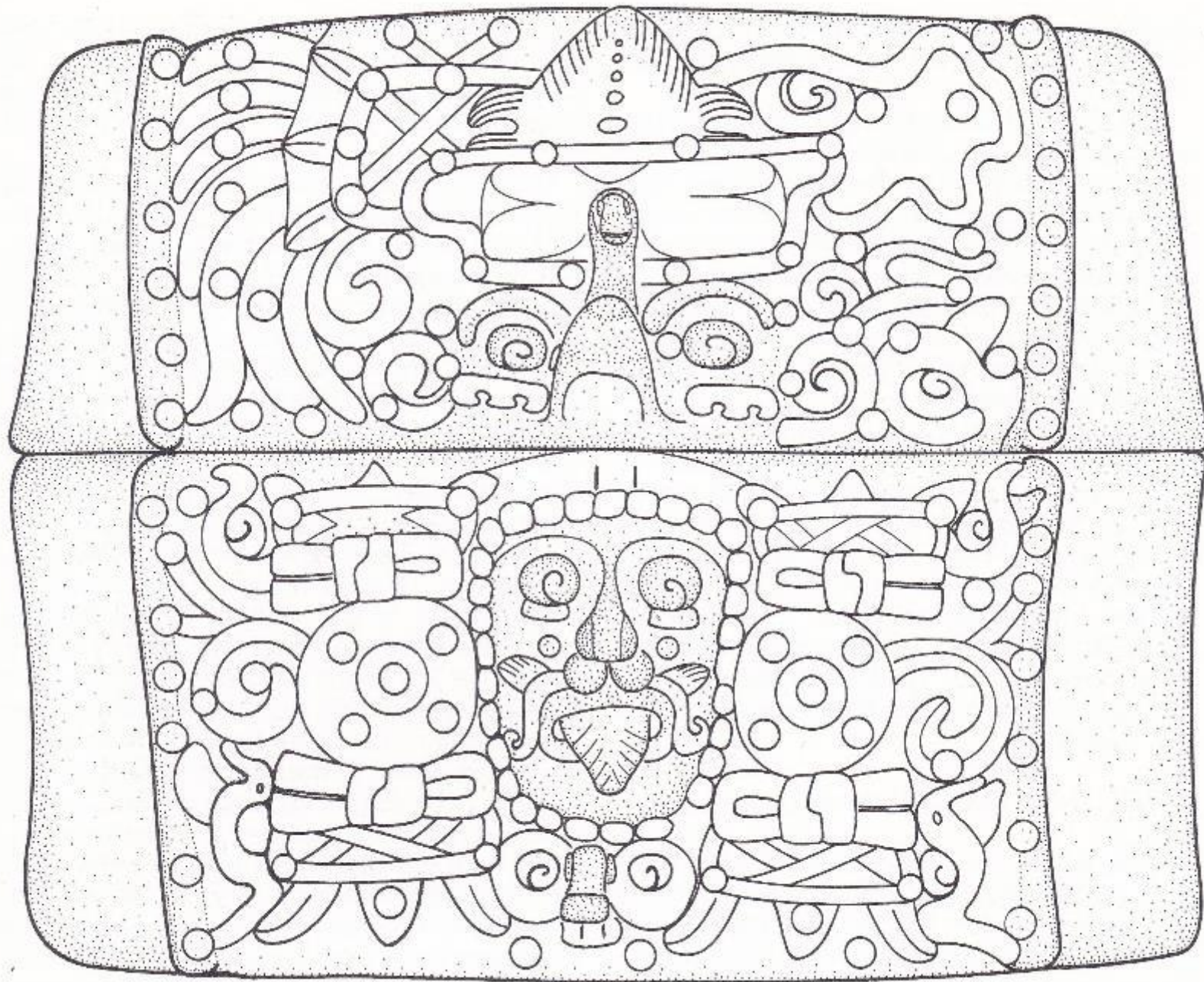
Figs. 154-160. Maya artists' elaboration of a shark's tooth. 154-155, Tzakol bowl. 156, Drawings of actual shark's teeth from the Caribbean. 157, Shark's tooth on murals of Rio Azul Tomb 1. 158, Perforator fang as hieroglyph, Yaxchilan, Lintel 37, Tzakol. 159, Fish monster with both fangs and fins which mimic shark's teeth. Holmul I/Tzakol 1 polychrome tetrapod. 160, More than thirteen monsters on Tikal Stela 31 have shark's tooth as frontal fang.



Figs. 88-95. Profile from of the avian Quadripartite Badge headdress from pottery vessels (88-89, 91-92, 94-95) used to reconstruct the eroded headdress of Tikal Stela 2 (90) and Stela 6 (93).

Monster und Menschen in der Maya-Kunst (1987) Nicholas M. Hellmuth.

Figs. 269A-C. Xoc Monster on Early Classic cache vessels from Peten. The upturned snout is typical of this mythical shark-like fish monster. The GI also includes his typical Quadripartite Badge headdress in its Tzakol version as a stylized bird. The current location of vessel 269A and B is unknown. For an additional side view of 269A see the black-and white photograph, Fig. 70; an additional side view of 269C is presented in full page size in Fig. 71.



269 A

Figs. 270-276. Xoc Monster on Tzakol vessels and on the Hauberg Stela (273-274). The upturned nose is typical. Compare frontal views (270-272, 275) with contemporary profile view (276) and 277-282.

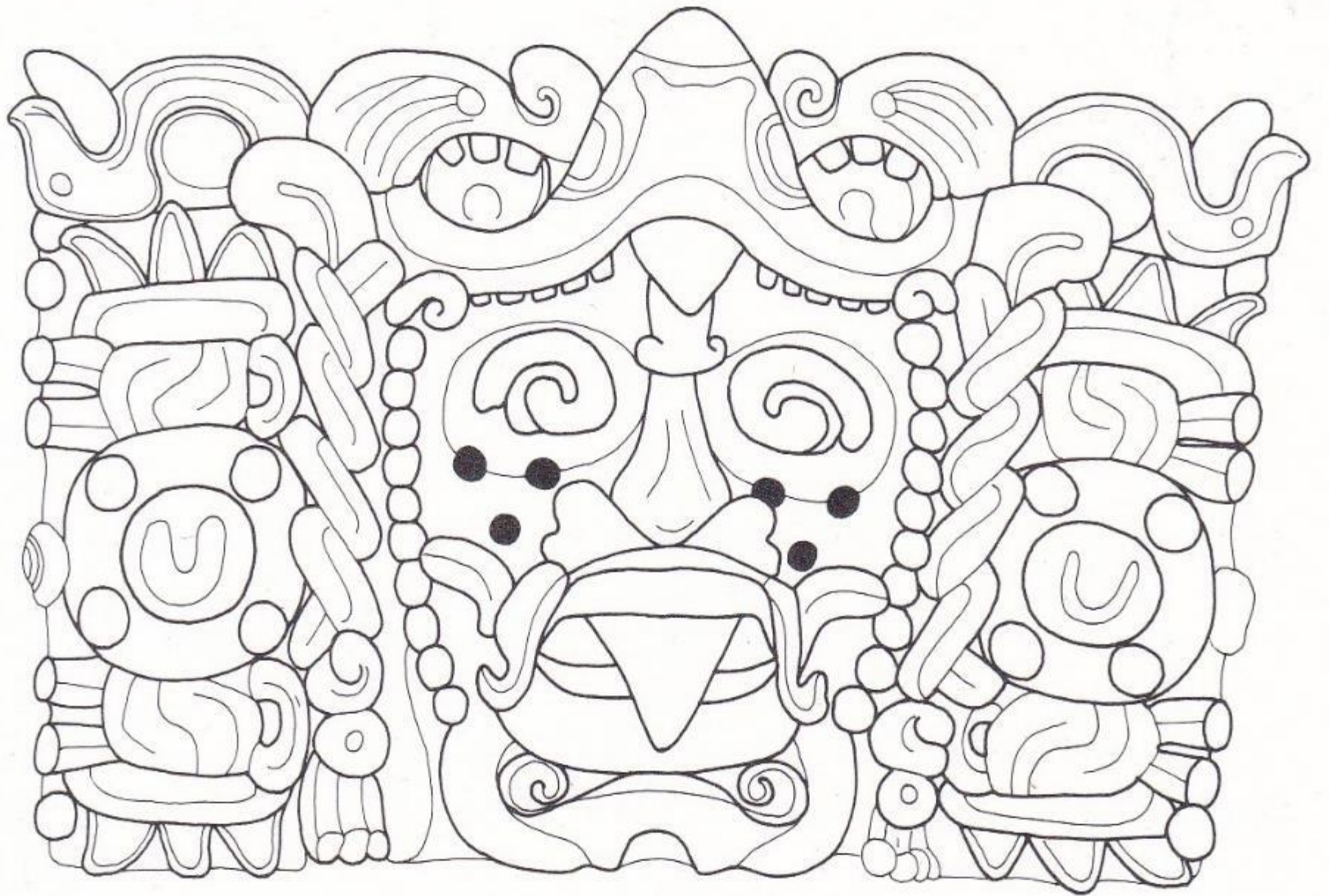


270



271

Figs. 270-276. Xoc Monster on Tzakol vessels and on the Hauberg Stela (273-274). The upturned nose is typical. Compare frontal views (270-272, 275) with contemporary profile view (276) and 277-282.



272



77

Figs. 75-79, 81-82. GI with bird form of
Quadripartite Badge headdress,
container, Tzakol.



78

Figs. 75-79, 81-82. GI with bird form of Quadripartite Badge headdress, container, Tzakol.



75

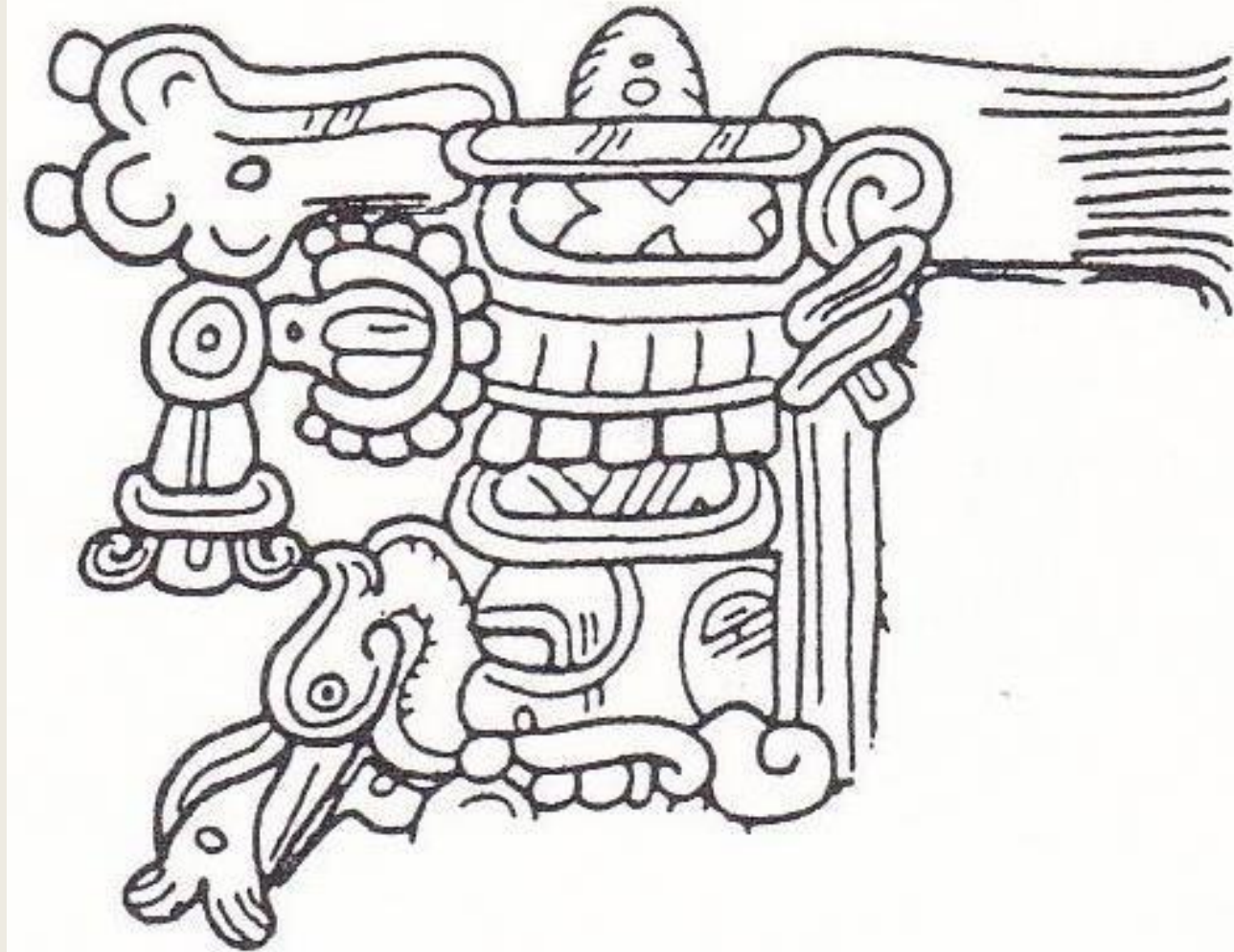


76

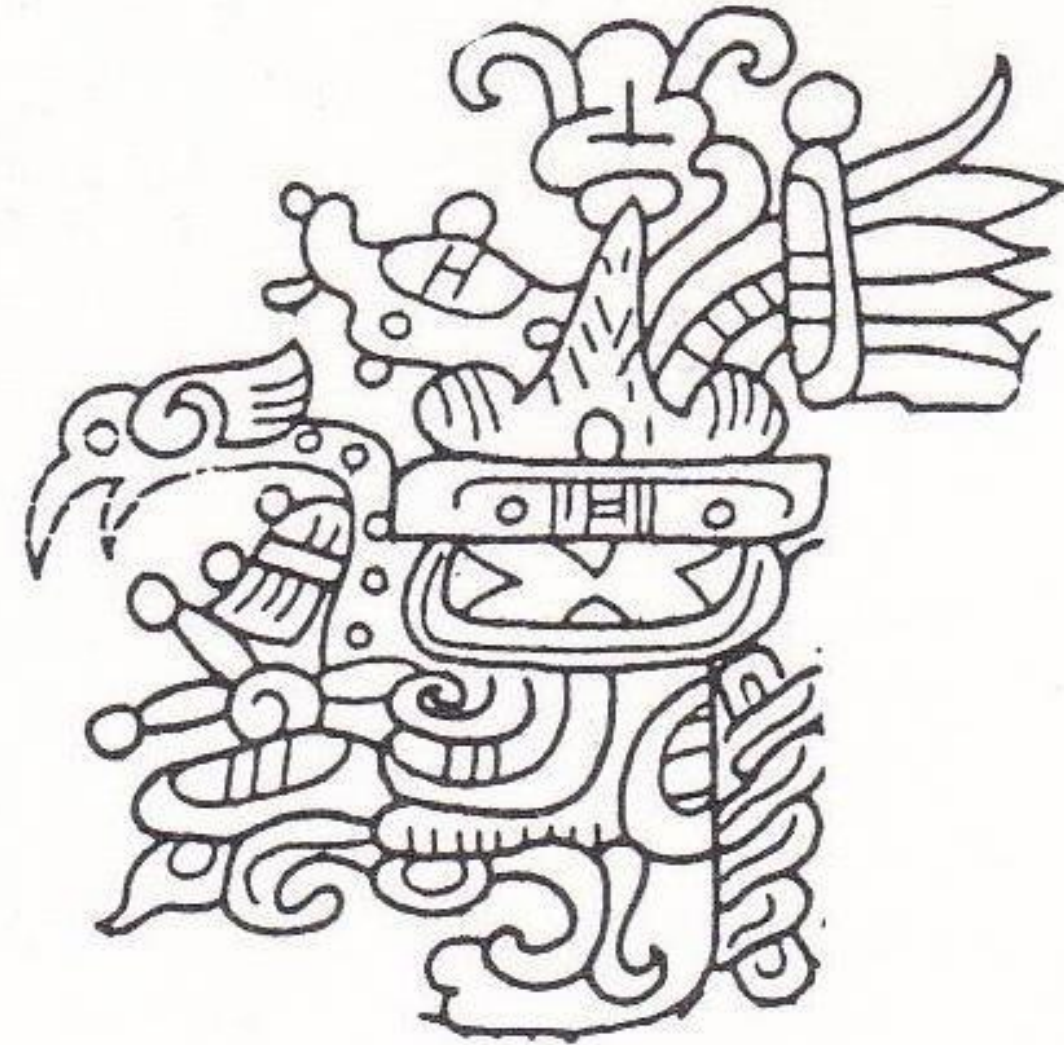
Figs. 86-87. Orange frontal modeled cache vessel with GI form of Quadripartite badge as headdress. In the frontal view the bird is hard to see - it issues from the snout of the headdress monster.



Figs. 88-95. Profile from of the avian Quadripartite Badge headdress from pottery vessels (88-89, 91-92, 94-95) used to reconstruct the eroded headdress of Tikal Stela 2 (90) and Stela 6 (93).



92



94

Figs. 75-79, 81-82. GI with bird form of Quadripartite Badge headdress, container, Tzakol.



81

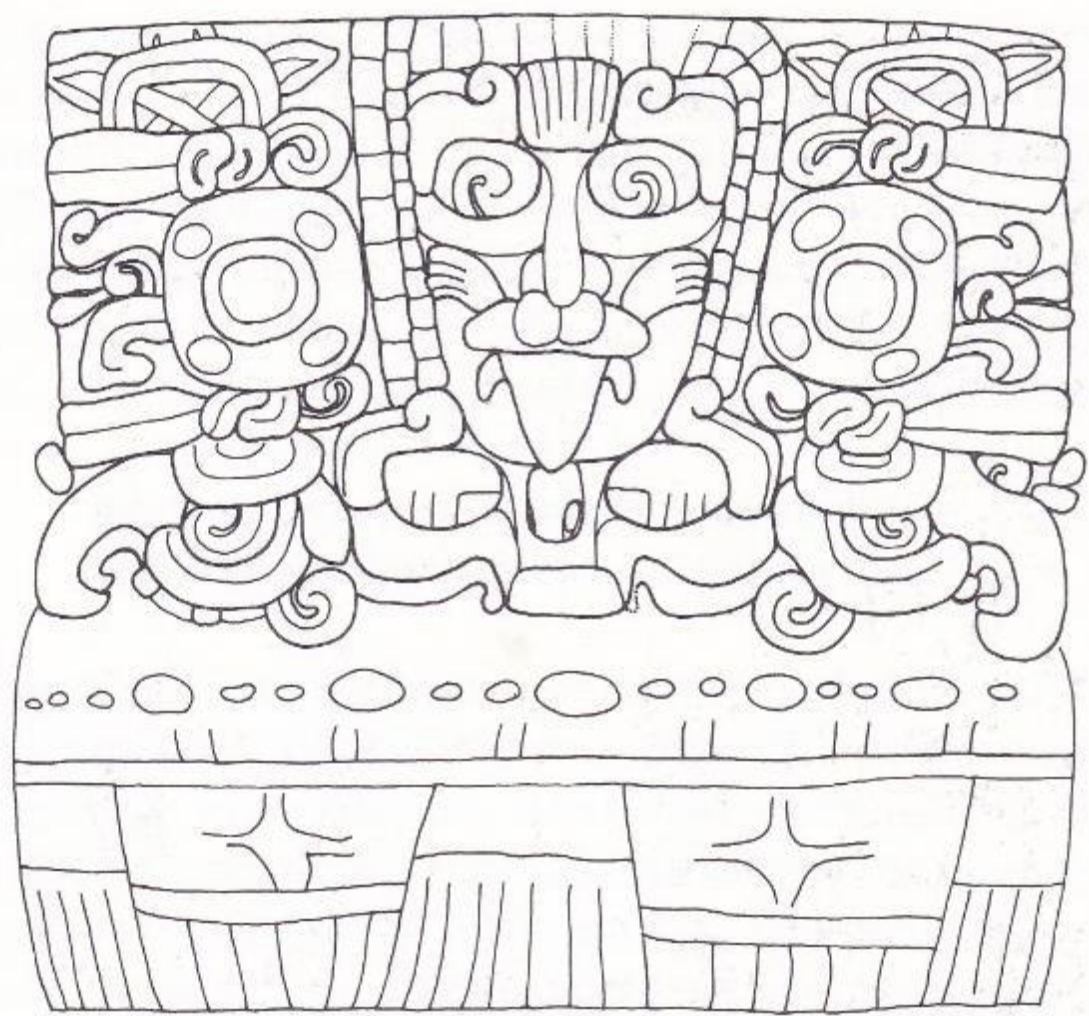


82

Figs. 112-115. GI and its zoomorphic variant, Chac Xib Chac, associated with the Surface of the Underwaterworld.



116



115



332



333

Figs. 328-337. Lily Pad Headdress creature as Tun Monster 328 and 329. 328, Yaxchilan, Lintel 48, B7, Tzakol. 329, Tikal Stela 6, A4, Tzakol. 330-331, Carved bowl, Yucatan peninsula, Late Classic. 332-333, Two similar orange/red cache vessels (Figs. 109, 111). 334-335, Full figure monster, Tepeu 1 bowl with text related to Pss. 336-337, Monster holding water lily. Current location unknown.



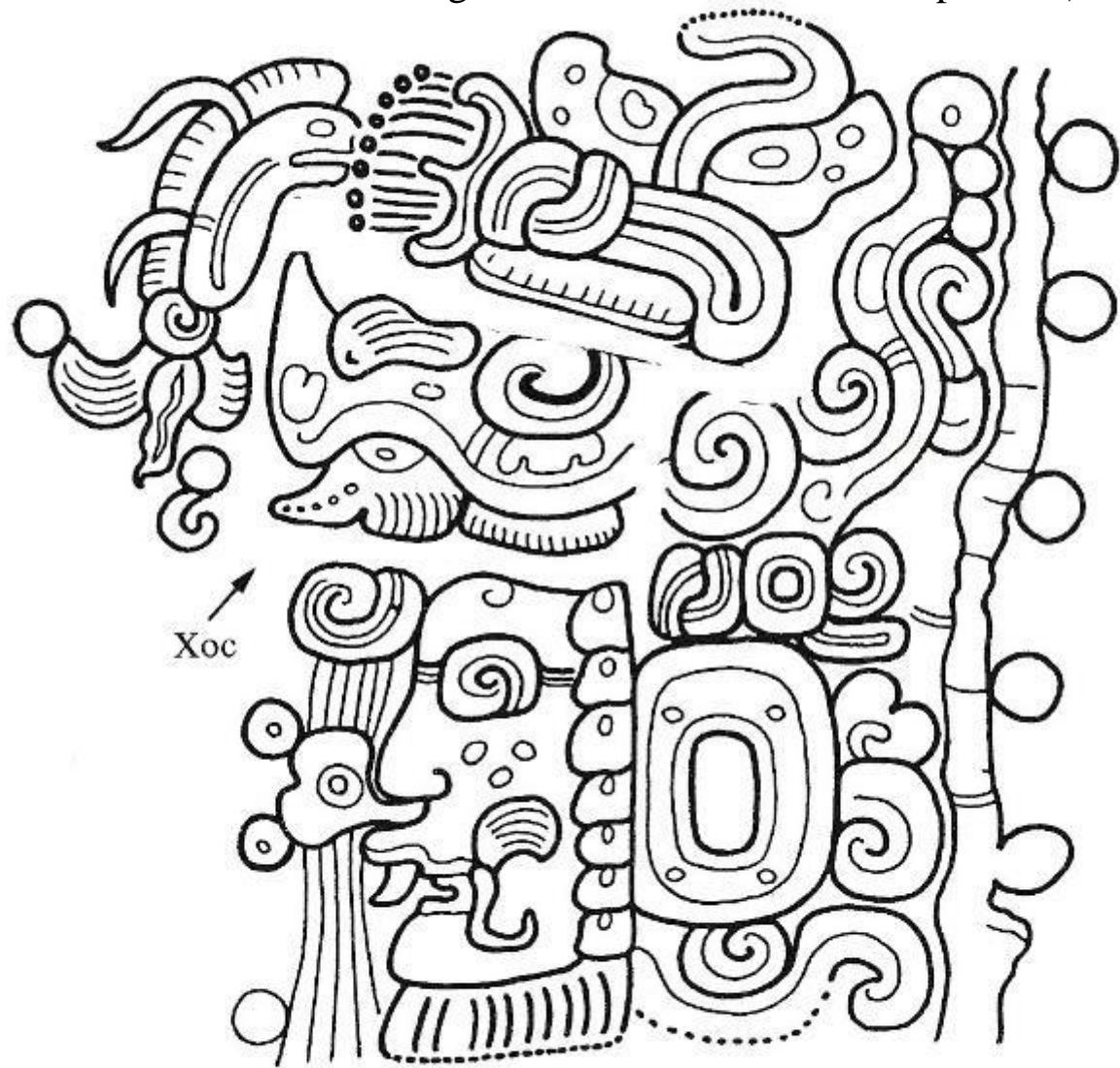
275



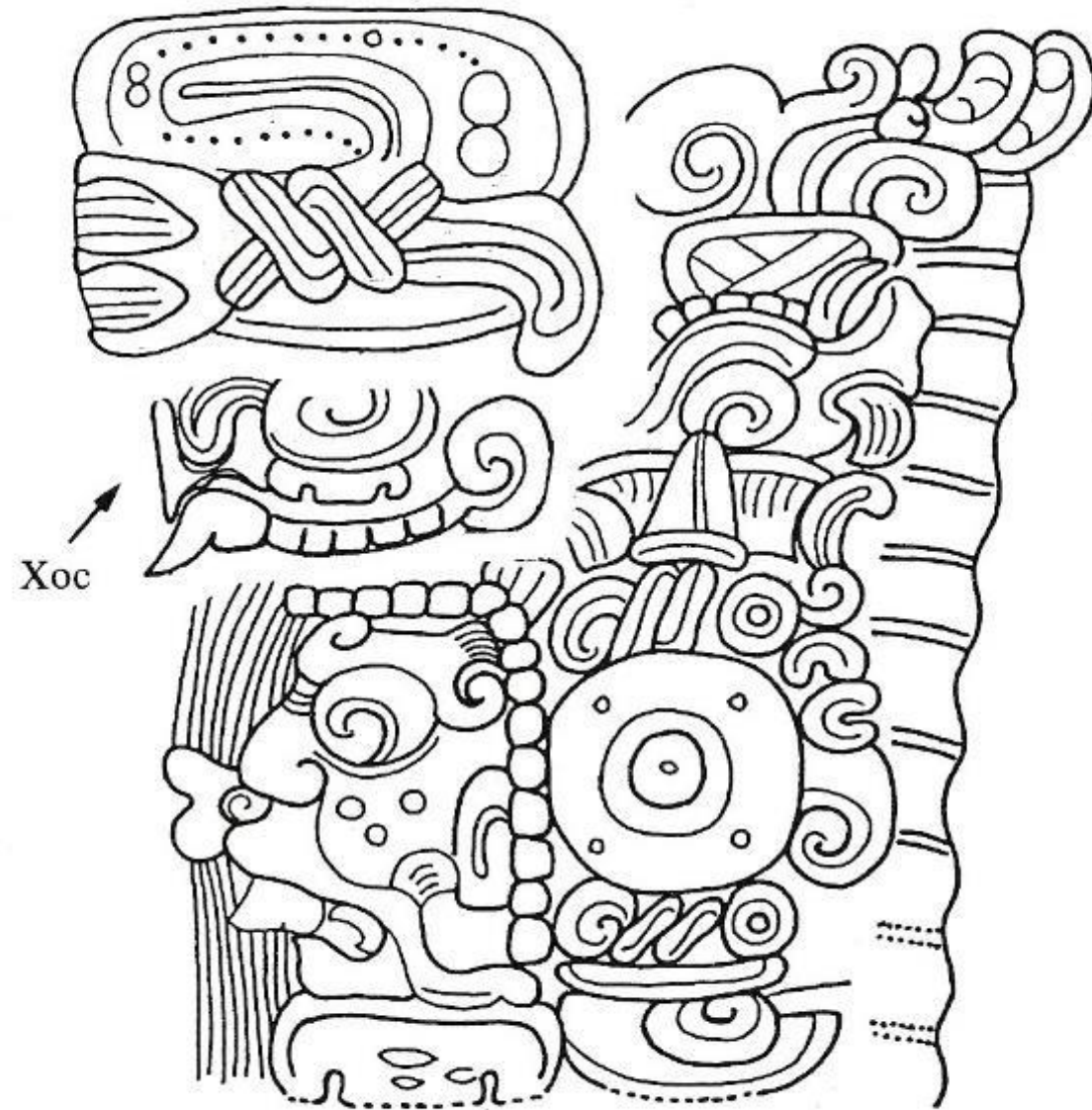
276

Figs. 270-276. Xoc Monster on Tzakol vessels and on the Hauberg Stela (273-274). The upturned nose is typical. Compare frontal views (270-272, 275) with contemporary profile view (276) and 277-282.

Figs. 281-282. Xoc Monster in profile (under Lily Pad Headdress), Tzakol vessels.



281



282

Fig. 17-18. 17, GI with fish fin on face and a stylized shell as earring.



17



18

5: Stingray Spines

Stingray Spines as Penis Perforators

Stingray shown in Sea Mural of Chichen Itza

Stingrays

The batoids (Batoidea) or hypotremates are a superorder of cartilaginous fish that contains more than 500 species in thirteen families. They are known by the common name of rays or mantas, although these terms more specifically designate the batoids of the order Rajiformes.

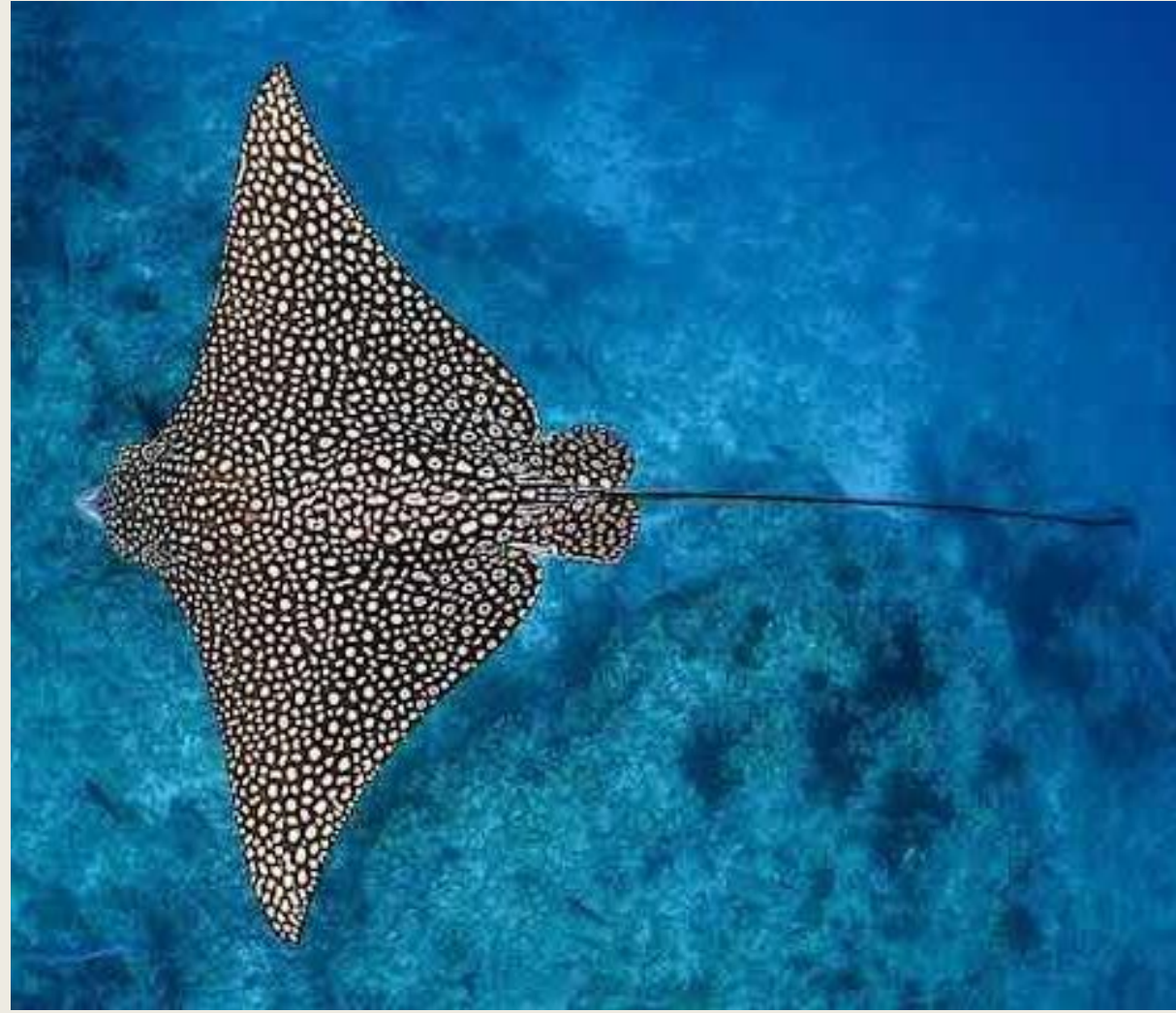
Batoids are very closely related to sharks; in fact, according to recent DNA analysis, the dogfish (cat shark) is closer to batoids than to other sharks. The young batoids are very similar to sharks and their relationship is obvious.

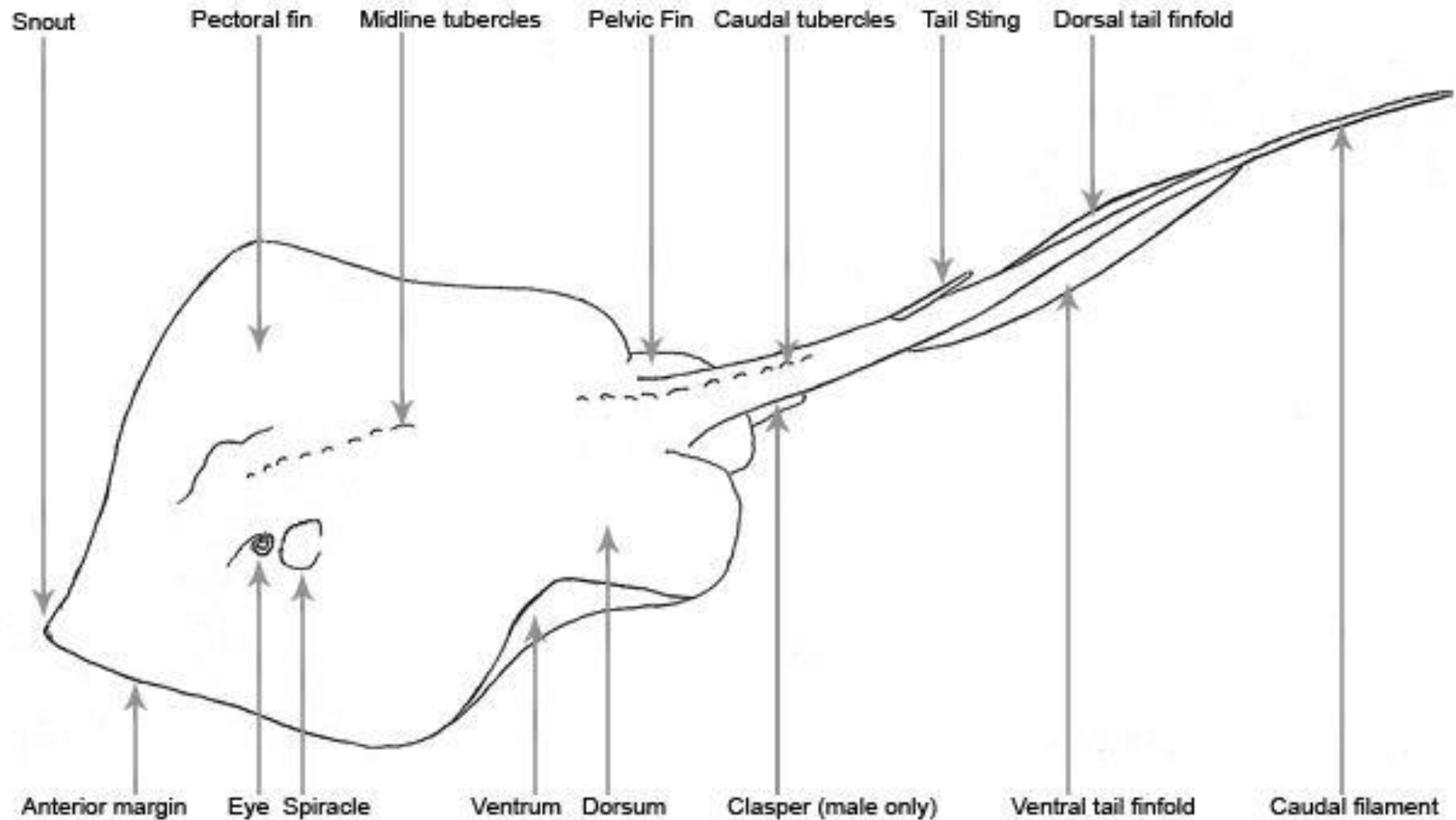
They live in the oceans. Unlike sharks, they have gills on the bottom of their bodies. They have scales and a cartilaginous skeleton. Its fertilization system is characterized by having some protections on the inside of the pelvis of the male fish. The batoids are divided into 17 families and approximately 480 known species.

Pacific Ocean Stingrays	Caribbean Stingrays Belize, Honduras	Stingrays: Veracruz, Tabasco, Yucatan,	Common name
<i>Rostroraja velezi</i>	-	-	Raya chillona
-	-	<i>Rostroraja texana</i>	Raya tigre
<i>Rhinoptera steindachneri</i>	-	-	Taya tecolote
<i>Mobula munkiana</i>	-	-	Mantraya del diablo
<i>Mobula birostris</i>	<i>Mobula birostris</i>	-	Mantaraya gigante
-	<i>Mobula hypostoma</i>	<i>Mobula hypostoma</i>	Mantaraya del Atlántico
-	<i>Urobatis jamaicensis</i>	<i>Urobatis jamaicensis</i>	Raya redonda de estero
-	<i>Hypanus americanus</i>	<i>Hypanus americanus</i>	Raya látigo
-	<i>Aetobatus narinari</i>	<i>Aetobatus narinari</i>	Raya Aguila pardo
<i>Urobatis concentricus</i>	-	-	Raya redonda de arrecife
	<i>Styracura schmardae</i>	<i>Styracura schmardae</i>	Lavisa
<i>Urobatis halleri</i>	-	-	Raya redonda común
<i>Urobatis maculatus</i>	-	-	Raya redonda de Cortez
<i>Aetobatus laticeps</i>	-	-	Raya águila del Pacífico Oriental
<i>Narcine entemedor</i>	-	-	Raya Eléctrica
-	-	<i>Hypanus sabinus</i>	Raya látigo de espina
<i>Gymnura crebripunctata</i>	-	-	Raya mariposa
	<i>Hypanus guttatus</i>	<i>Hypanus guttatus</i>	Raya látigo del Golfo



90





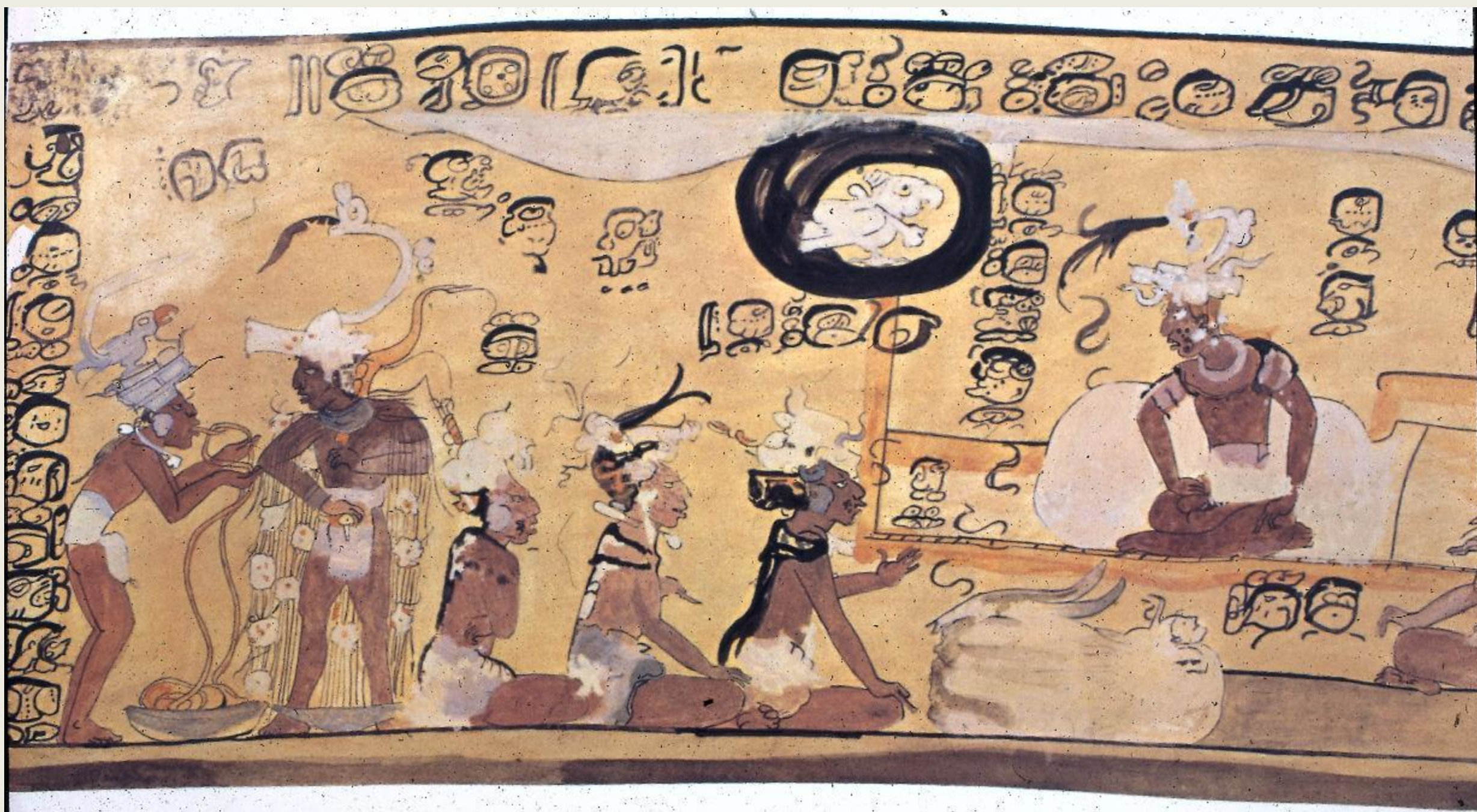
Body plan of a Whiptail Stingray (Family Dasyatidae)

© Andy Murch

Diagram of a Whiptail Stingray by Andy Murch

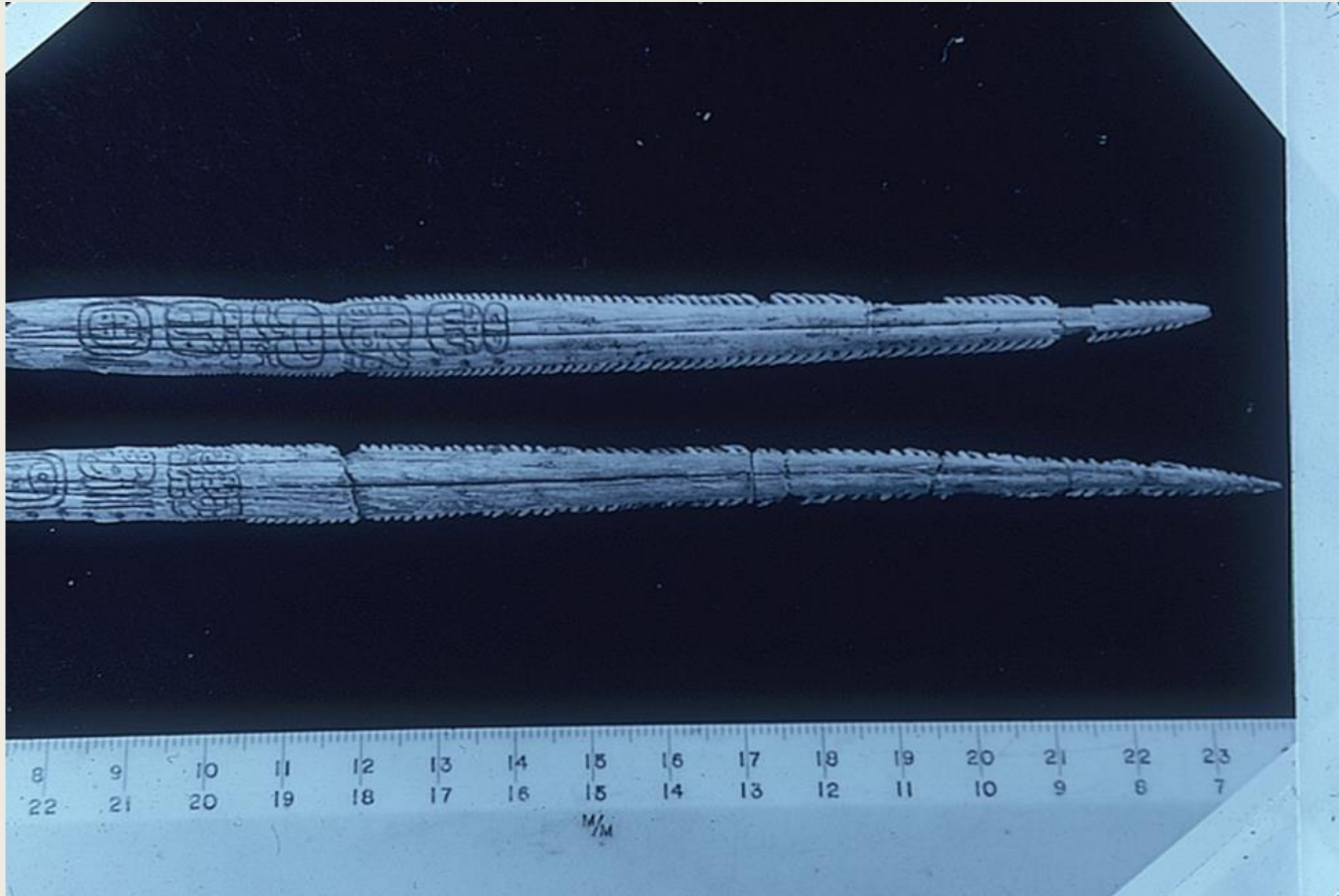




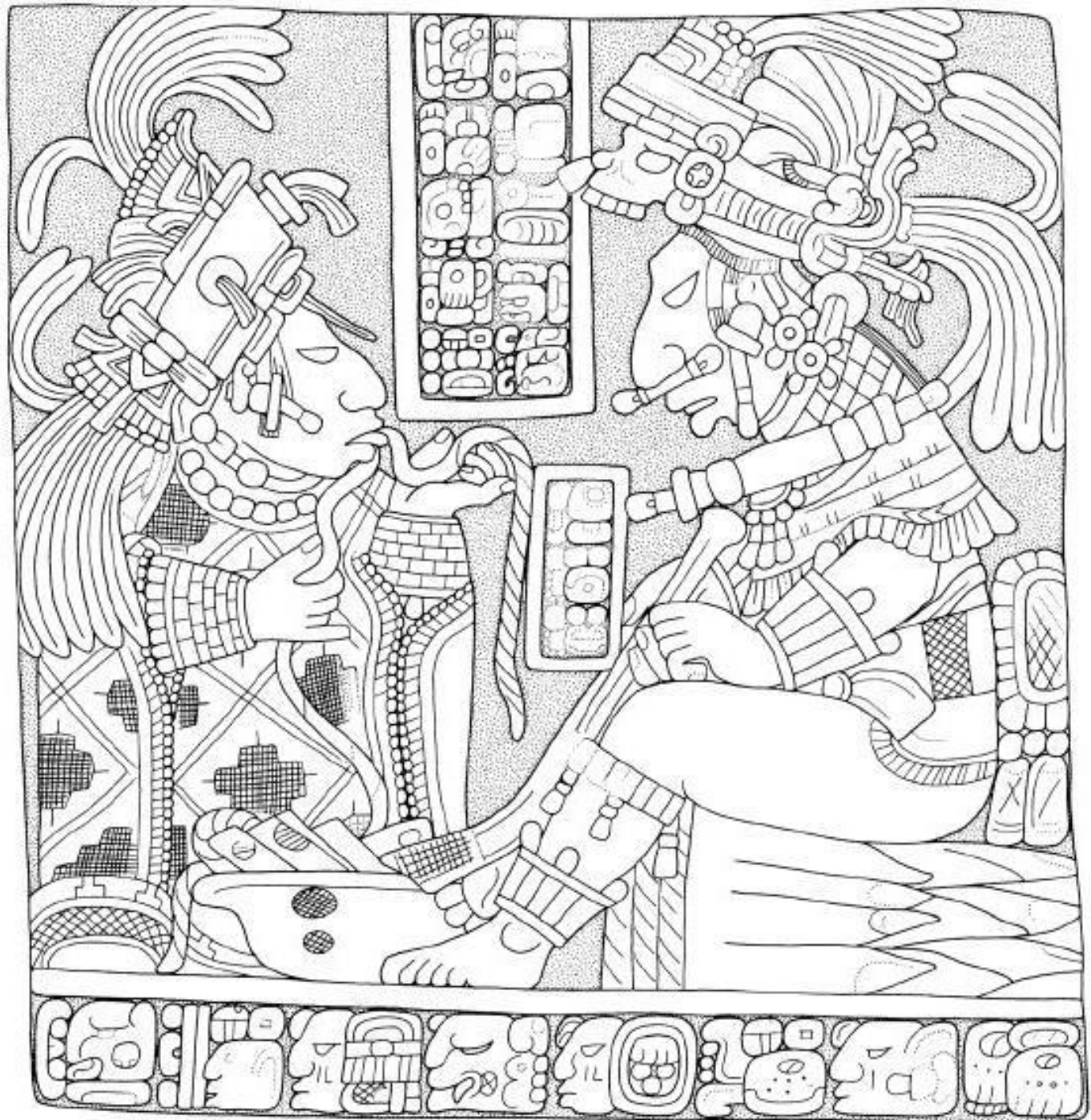


Spondylus shells penis perforation stingray spine AutoTone 35tk SRX Sites 60 Dumbarton Oaks spondylus perforation

Aquí están las espinas de Sting Raw en el laboratorio



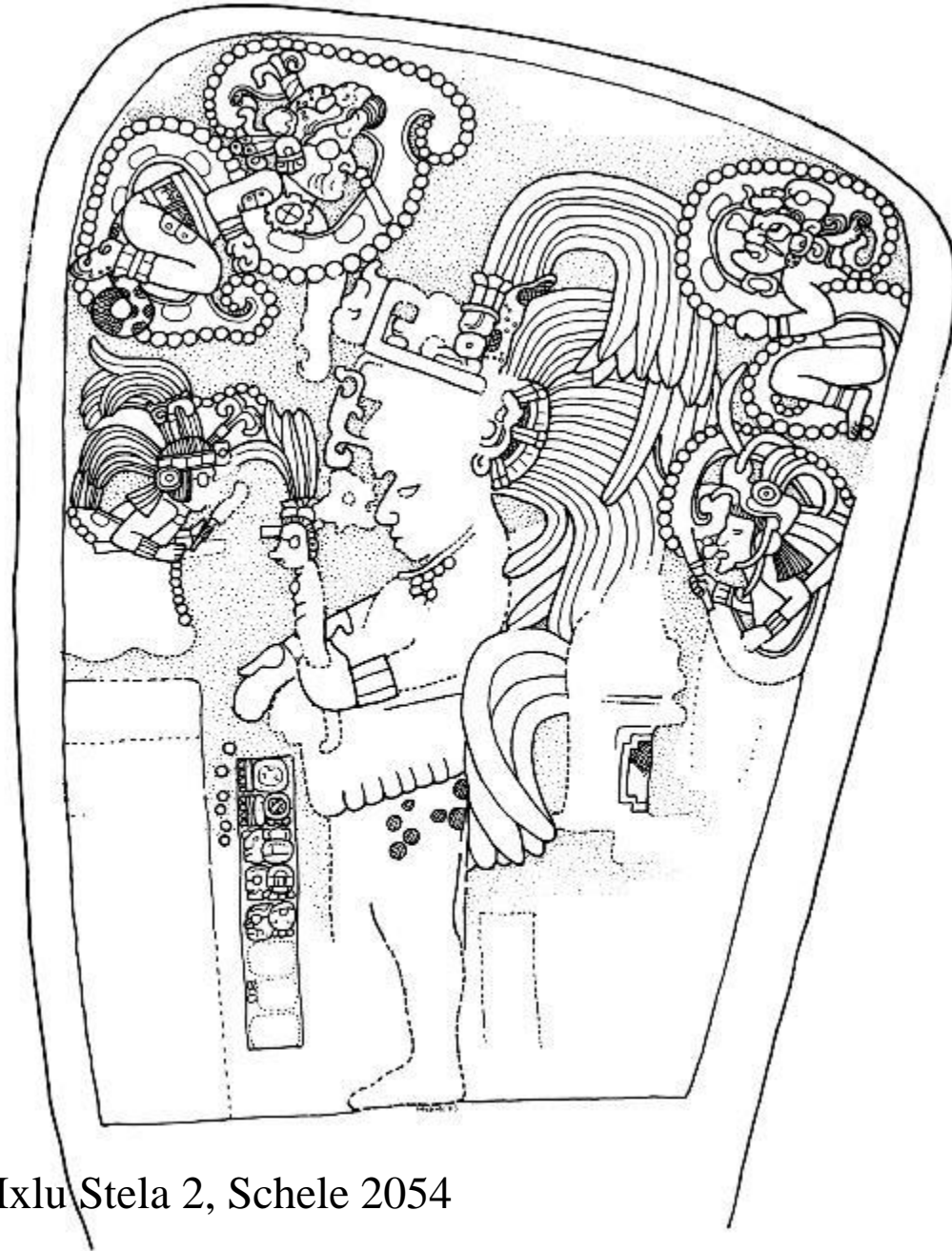
Stingray spine Bloodletting scene
from Yaxchilan Lintel 17 This image
of Classic Maya bloodletting





Paddler Gods:

- Stingray spine Paddler,
- JGU (Jaguar God of the Underworld)



Ixl'u Stela 2, Schele 2054

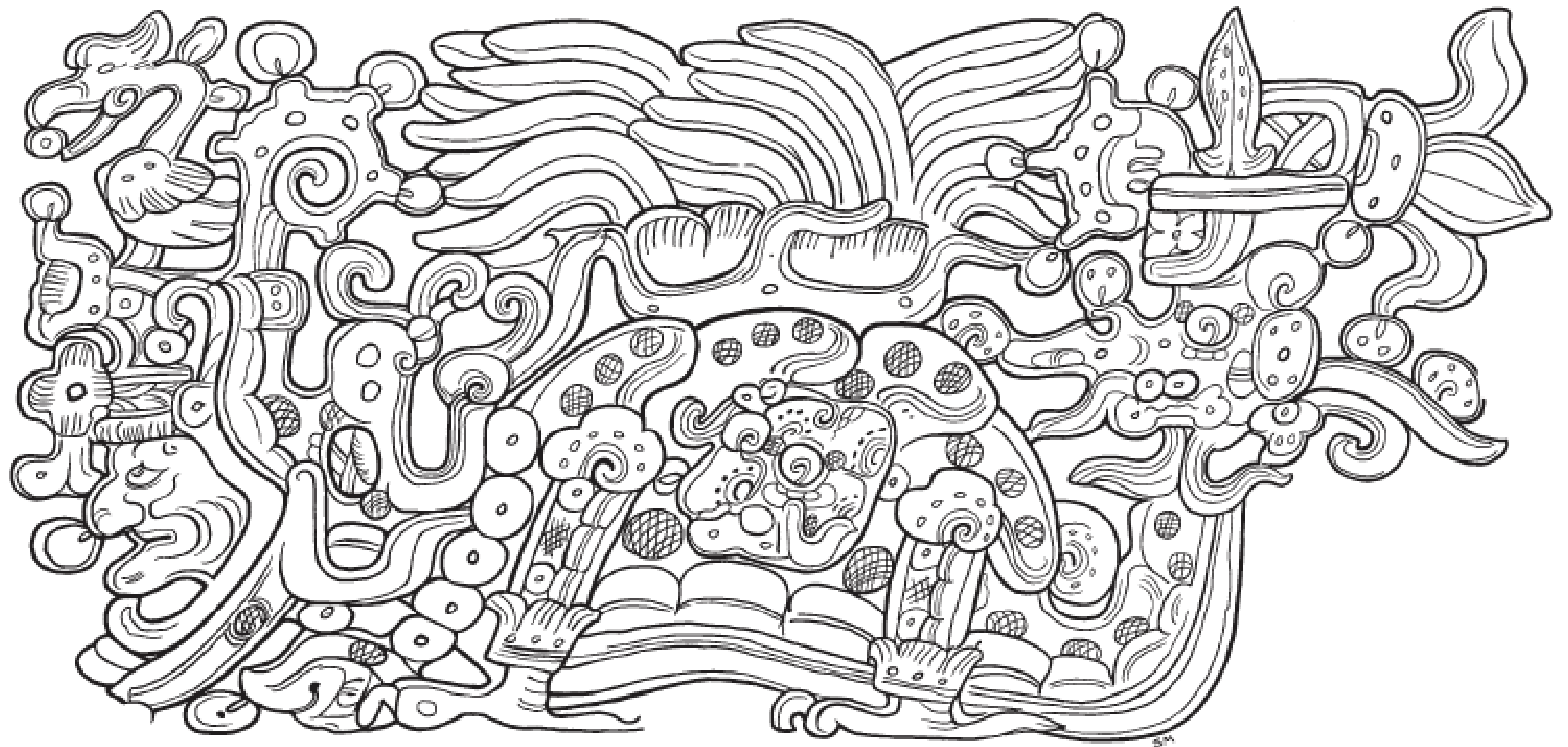


Figure 38. The Old Man combined with multiple supernatural beings: detail from rollout of unprovenanced vessel (photo K6626 © Justin Kerr) and drawing of detail.



Figs. 283-287. Iconography of the two-part effigy container from Tikal Burial 10. 283, Petal-like eye decoration, Hauberg Stela (283), the Tikaleffigy (284), and Kaminaljuyu Stela 10 (285). This is a totally different eye form than the zig-zag Cauac Monster eye (Fig. 609-613). 286 and 287, Xoc Monster with three-part jagged mouth drool, Tikal effigy and Caracol Stela 6, back.

6: Spondylus Shells

Spondylus shells in Maya burials

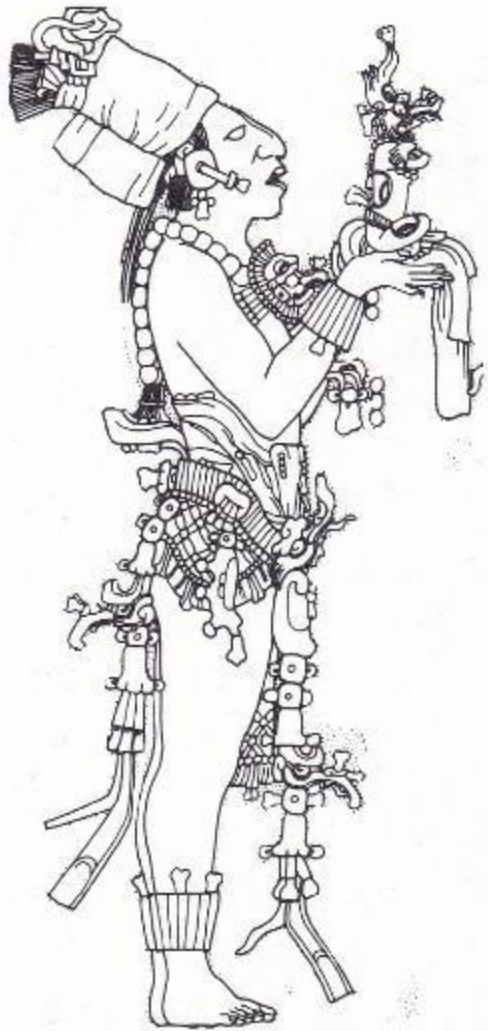
Spondylus shells as featured part of ritual clothing for penis perforation

Spondylus

It is a bivalve or pelicypod that is characterized by its strong shell, its outer spines and its coloration that ranges from white to deep purple. It clings to rocky substrates and its inner muscle is usually edible. Shells of the genus *Spondylus* were used as prestige goods by numerous ancient societies throughout the world. Particularly in America, the genus *Spondylus* is found both in the Panamáica malacological region in the Pacific Ocean and in the Caribbean region.

Pacific Ocean	Caribbean	Far southern Central America	Panama and south	Common name
<i>Spondylus limbatus</i>	-	<i>Spondylus limbatus</i>	-	Almeja Burra
-	<i>Spondylus tenuis</i>	-	-	Ostra Espinosa
-	<i>Spondylus americanus</i>	-	-	Ostra Espinosa

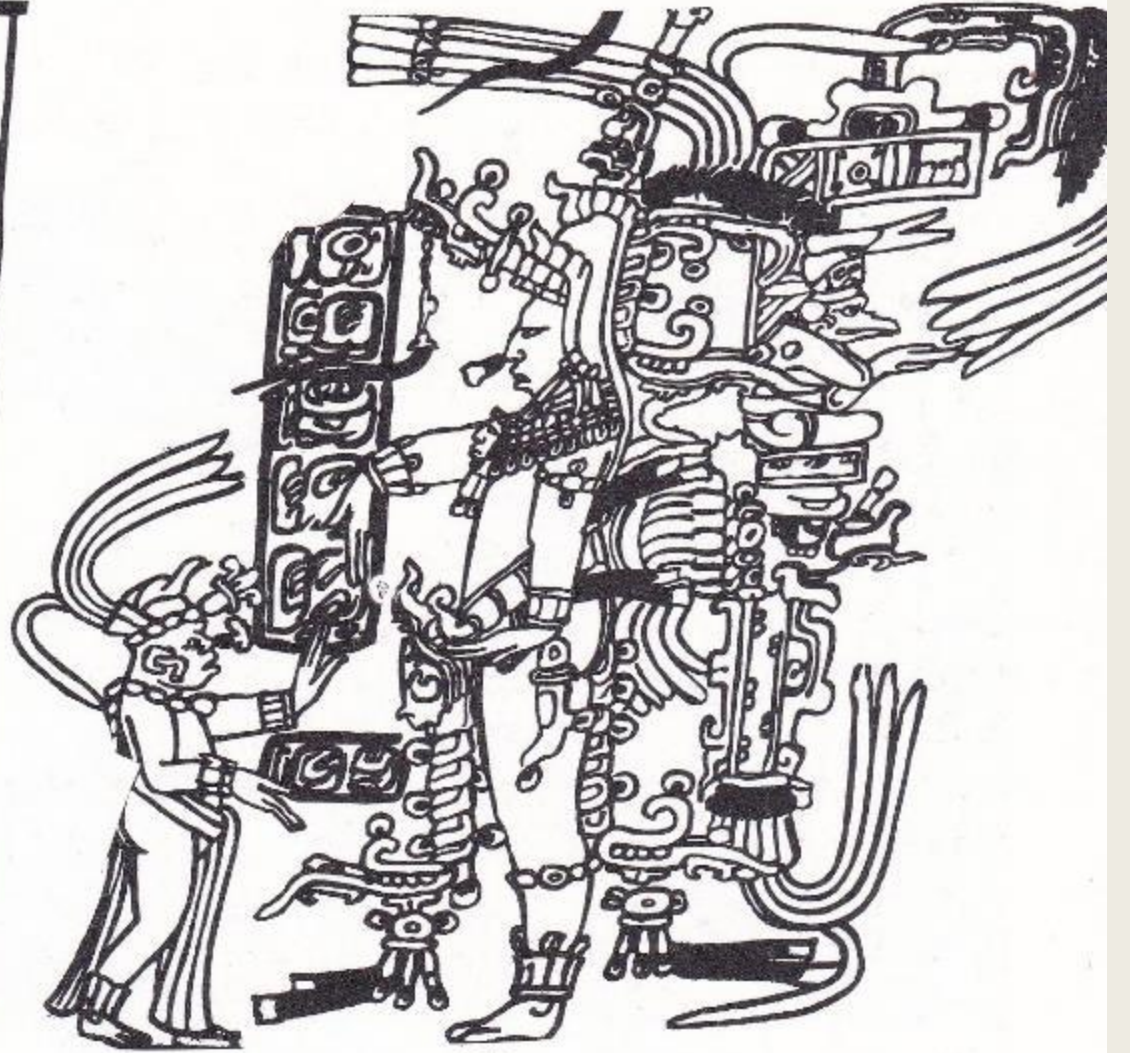




267



268



269

Figs. 263-268. Xoc Monster belt. 263, El Zapote, Peten, Stela 5, Tzakol.
264, The El Peru Stela, Cleveland, Late Classic. 268, Grolier 21,
condition not known; not reported in publication. 269, Holmul Dancer,
Late Classic, private collection, Belgium.



Spondylus seashell Burial 196 seashell 02 spondylus





Bilbao Cotzumalhuapa 35TK bilbao 37 seashell



Bilbao 03 seashell Cotzumalhuapa

7: Conch Shells

Conch shells as musical instruments

Conch shells as containers for paint or colorants for scribes

Conch shells as home for God N

All other “shelters” for God N as shown in Yucatan



Conch shells

Conch or marine snail refers by metonymy to the group of marine molluscs characterized by their shell. The shell of marine snails is also called conch, especially those of medium size belonging to several species.

Marine snails or snails are aquatic gastropod molluscs adapted to live in the marine environment. They are not closely related to each other, since they are the largest group and the first to emerge, from which the other groups of gastropods adapted to the terrestrial and freshwater environment come. Marine snails are highly specialized and diversified organisms. Although all snails share the same basic characteristics, they may differ due to adaptation to different ecological niches.

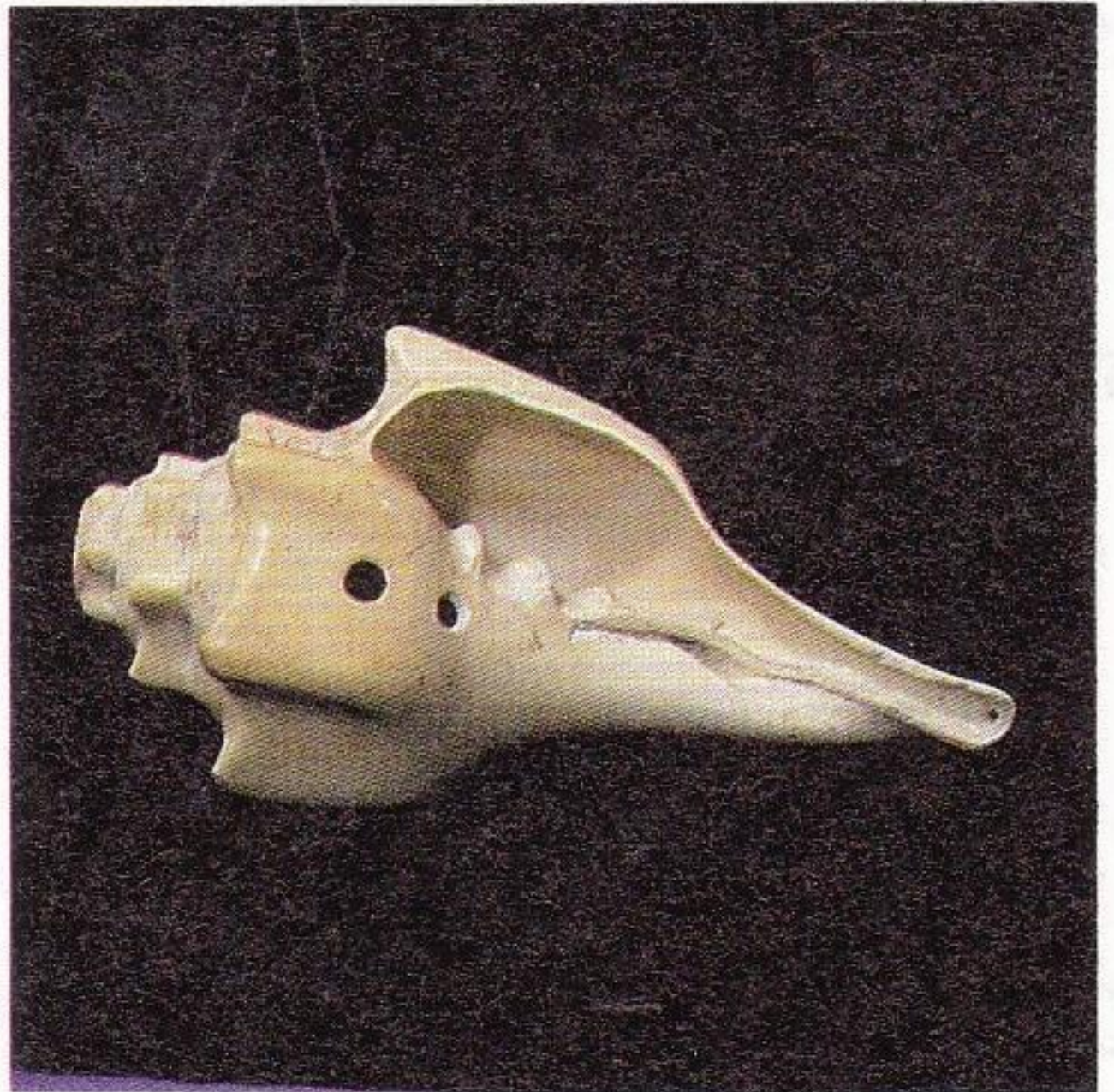
Pacific Ocean	Caribbean	Far southern Central America	Panama and south	Common name
-	<i>Strombus gigas</i>	-	-	Caracola reina
-	<i>Melongena melongena</i>	-	-	Burrito
-	<i>Sinistrofulgur perversum</i>	-	-	Caracola trompeta
<i>Phyllonotus erythrostomus</i>	-	-	-	Caracol rosa
<i>Pseudozonaria arabicula</i>	-	<i>Pseudozonaria arabicula</i>	-	Caracola porcelana del Pacífico
-	<i>Turbinella angulata</i>	-	-	Caracola tomburro
<i>Hexaplex princeps</i>	-	<i>Hexaplex princeps</i>	<i>Hexaplex princeps</i>	Caracol chino
<i>Titanostrombus galeatus</i>	-	<i>Titanostrombus galeatus</i>	<i>Titanostrombus galeatus</i>	Caracol Machachan

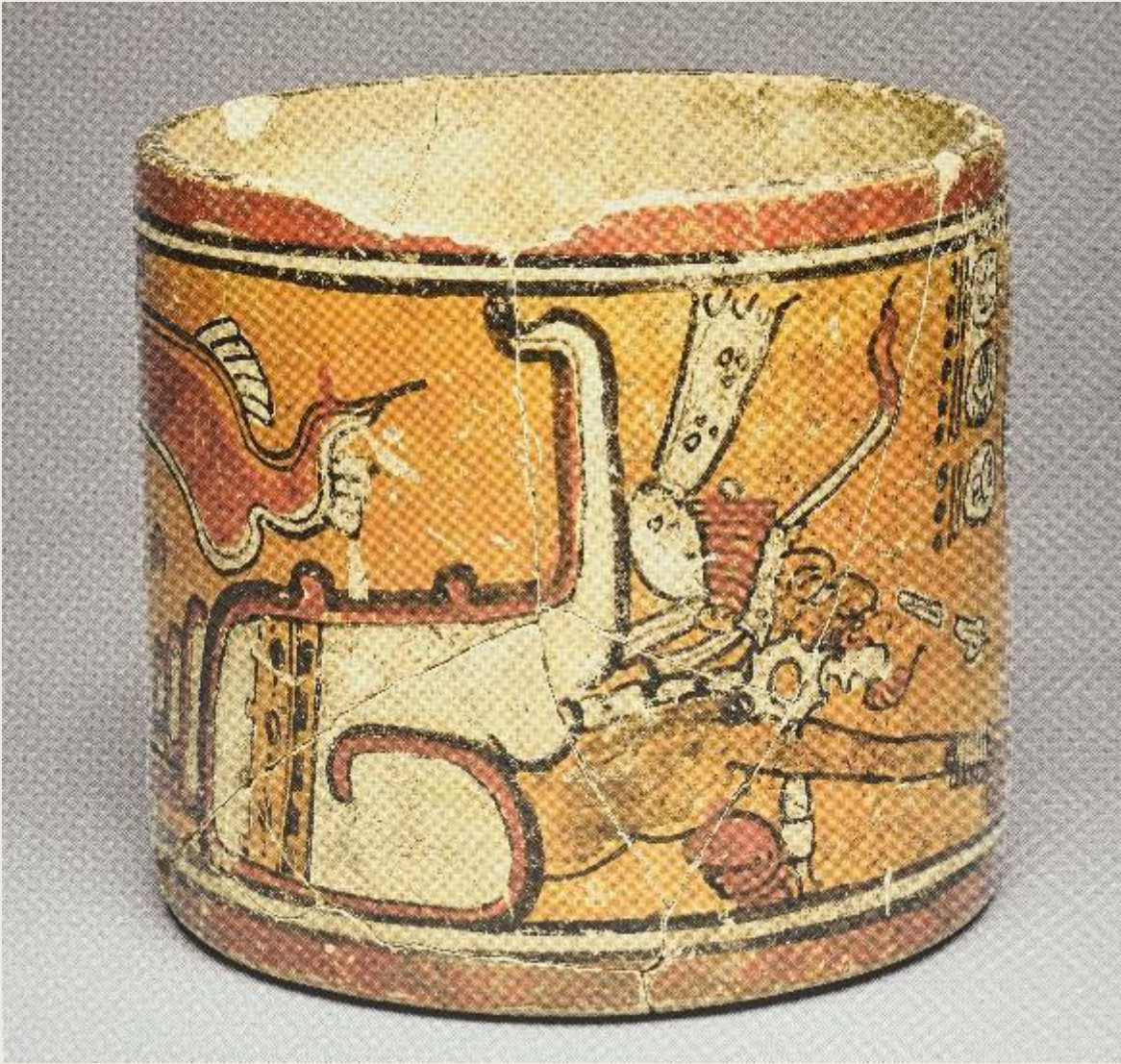


Foto: Nicholas Hellmuth, Cacaxtla murals



Fig. 44. A side of the Pearlman Conch not before published.
Conch shells were musical instruments and evidently buried in the tombs of royalty.





The exhibit, Fiery Sea, shows God N in his shell.

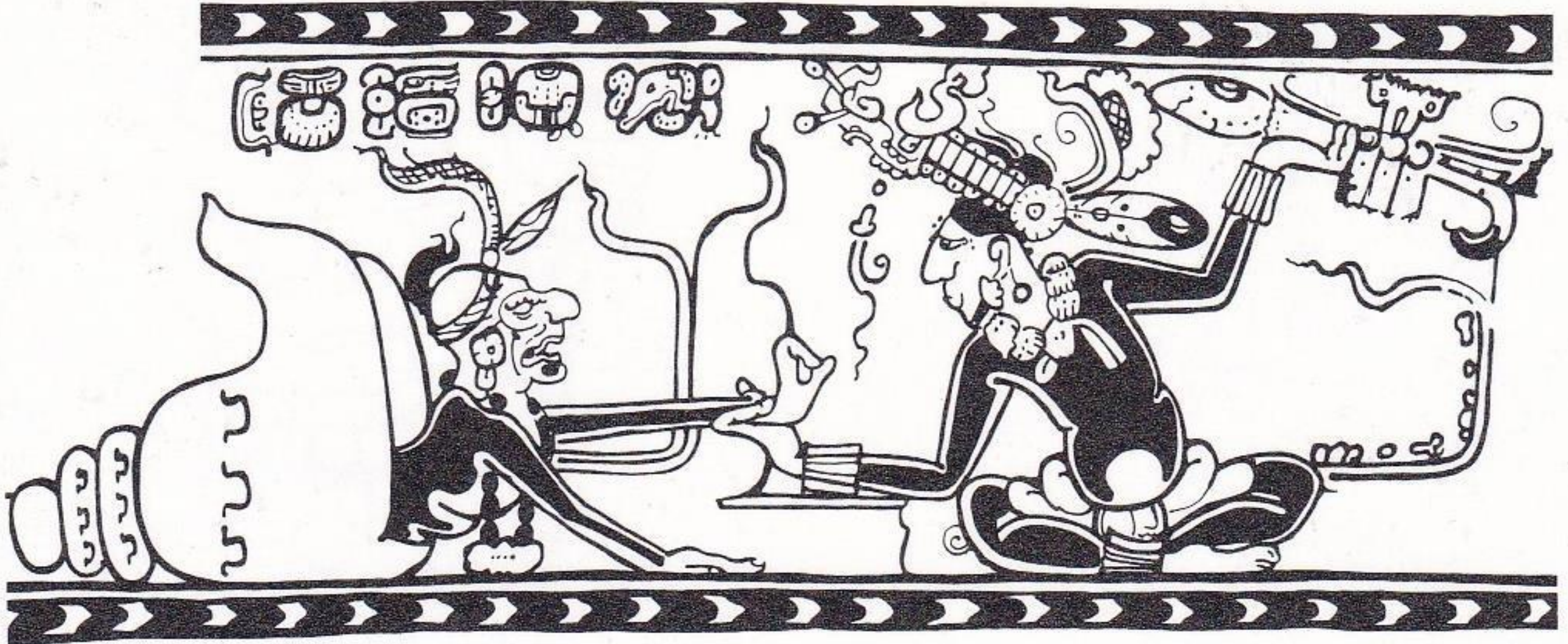
In Maya myths he is often seen being pulled (yanked) out of his shell.

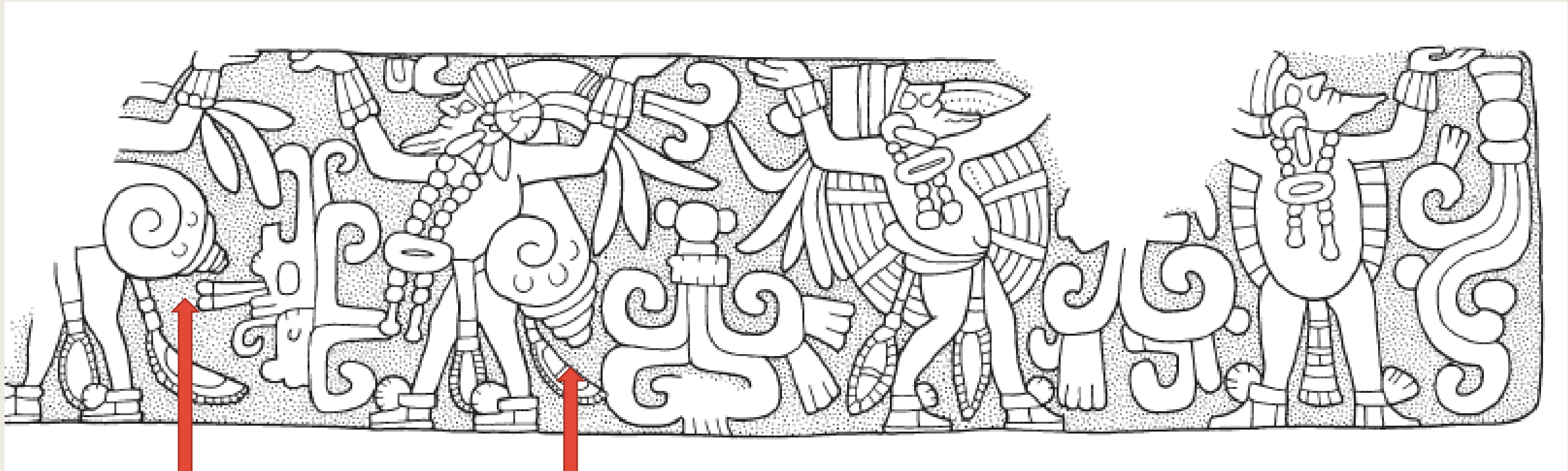
It is assumed these are “SEA”shells (marine shells).



Conch Shell God N

Fig. 103. Triple bow tie knot in direct association with a sacrificial knife.
Chama style, Late Classic.

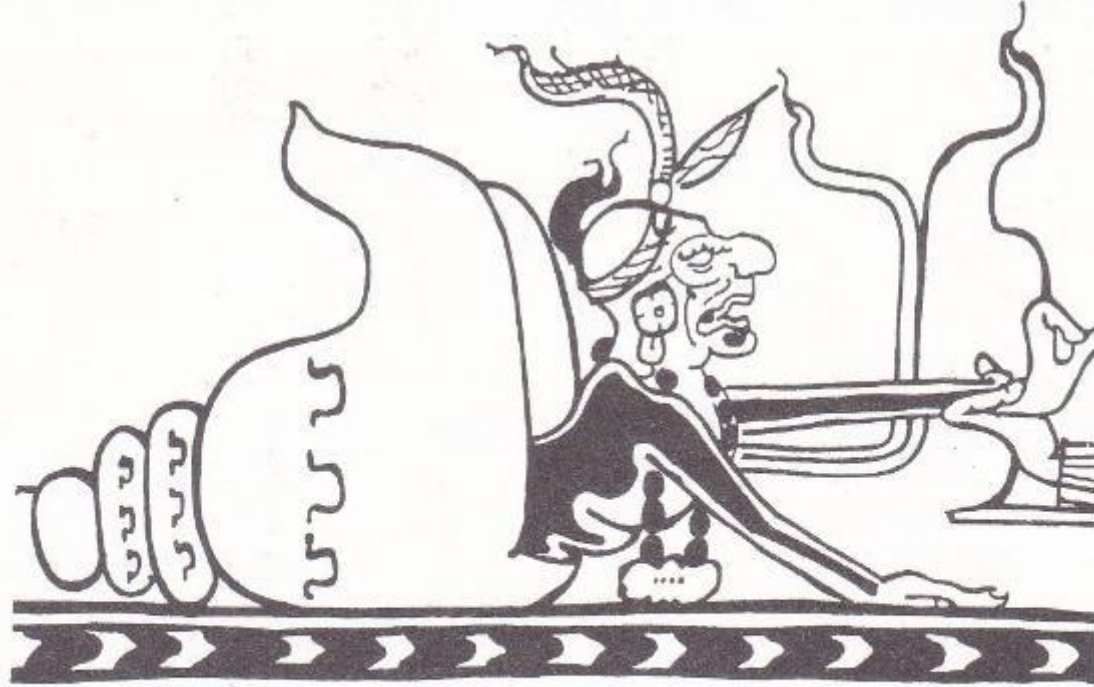




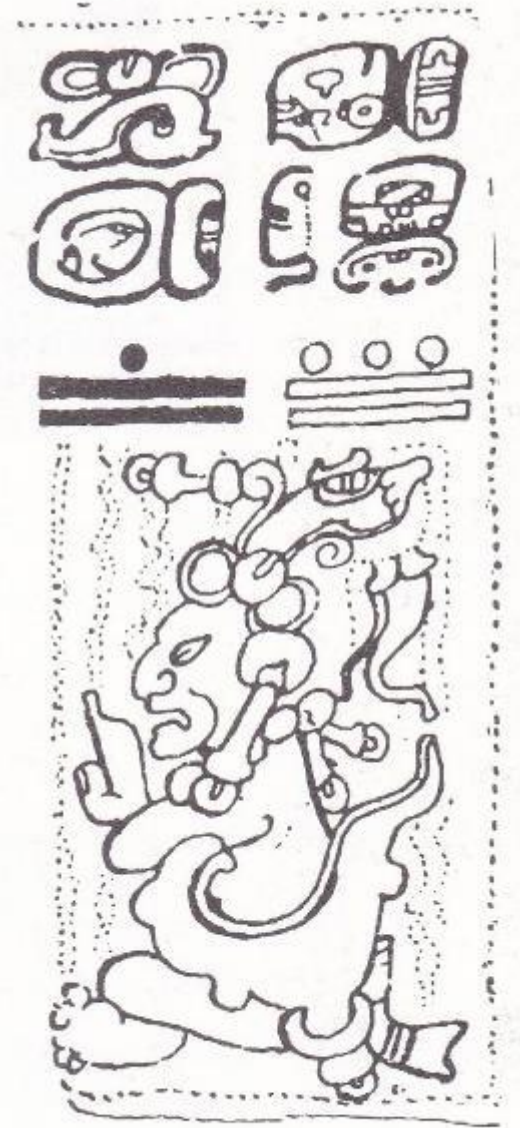
God N Conch Spider web Turtle West Serpent Column El
Castillo Chichen Itza Simon Martin 2015 Fig 3c



694



695

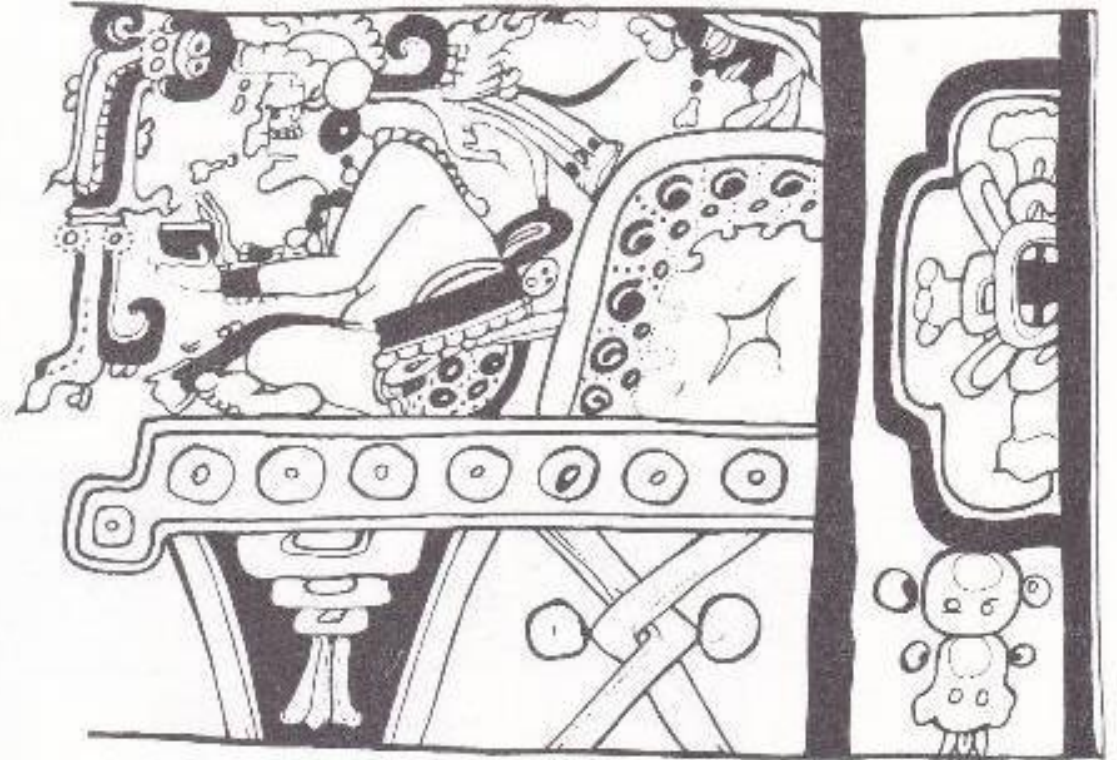


696

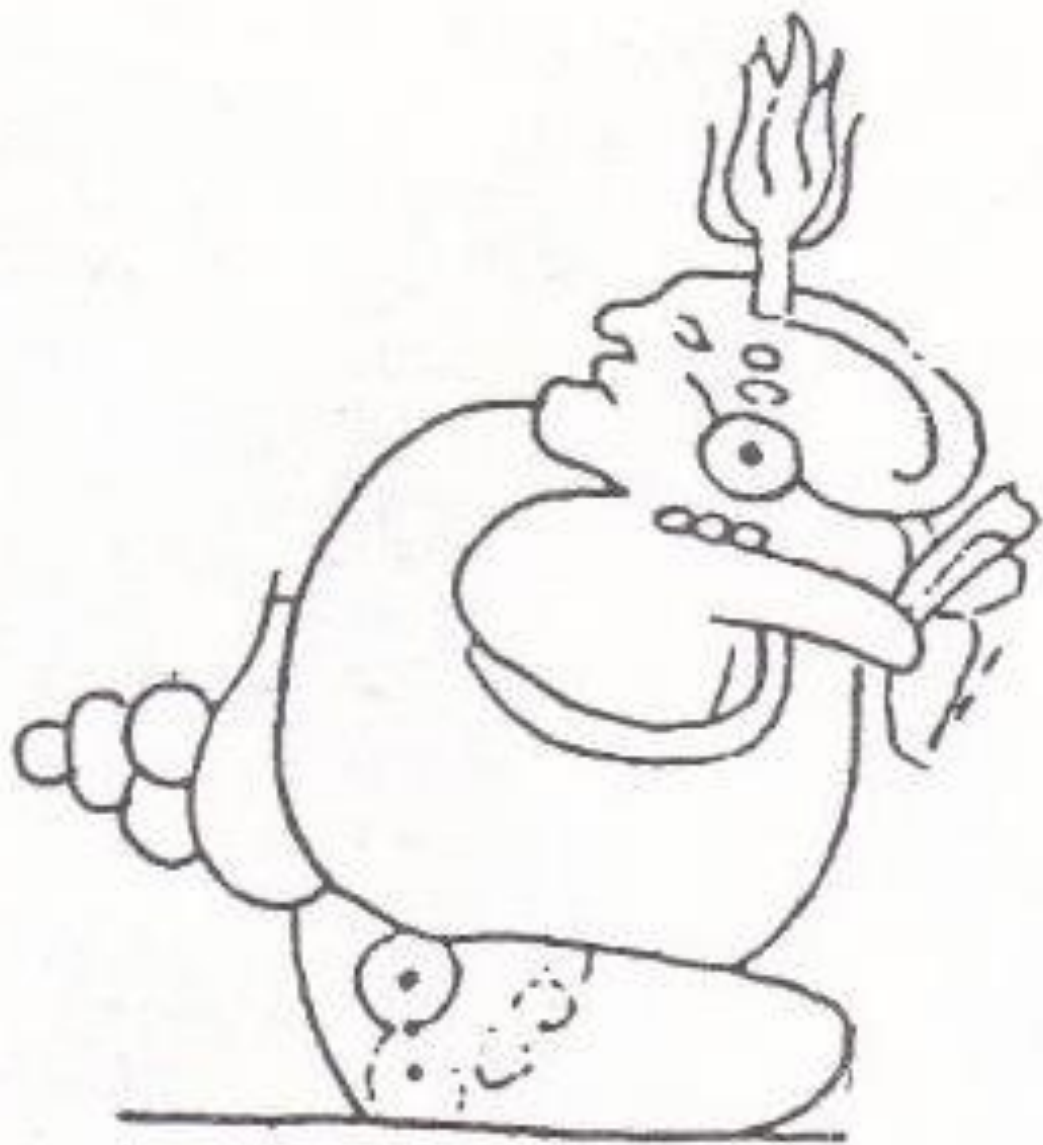
Monster und Menschen in der Maya-Kunst (1987) Nicholas M. Hellmuth.



692



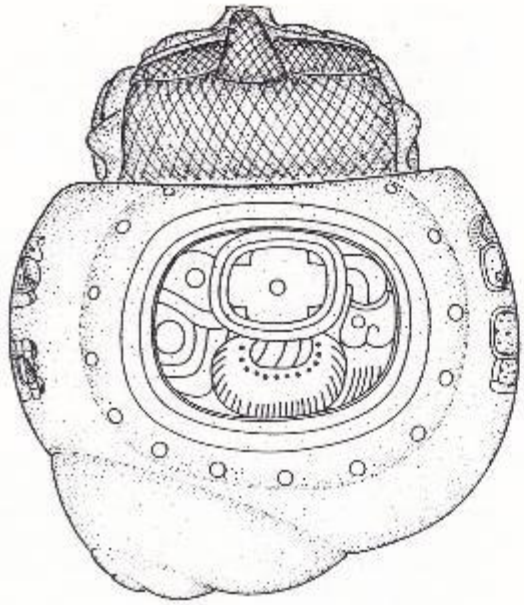
693



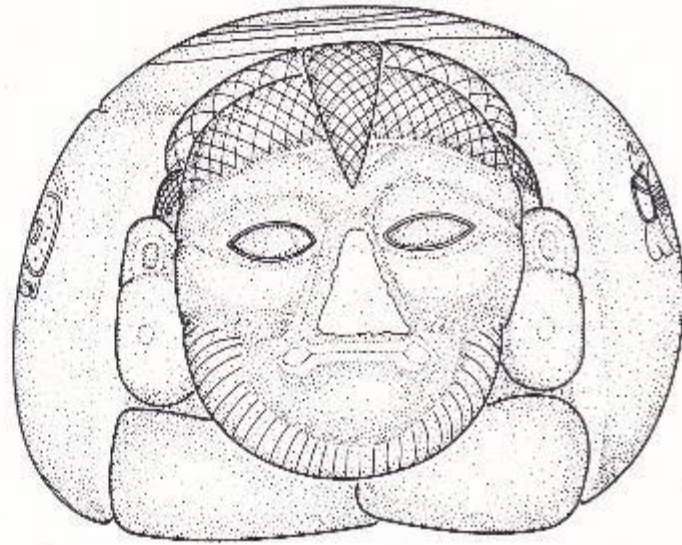
699



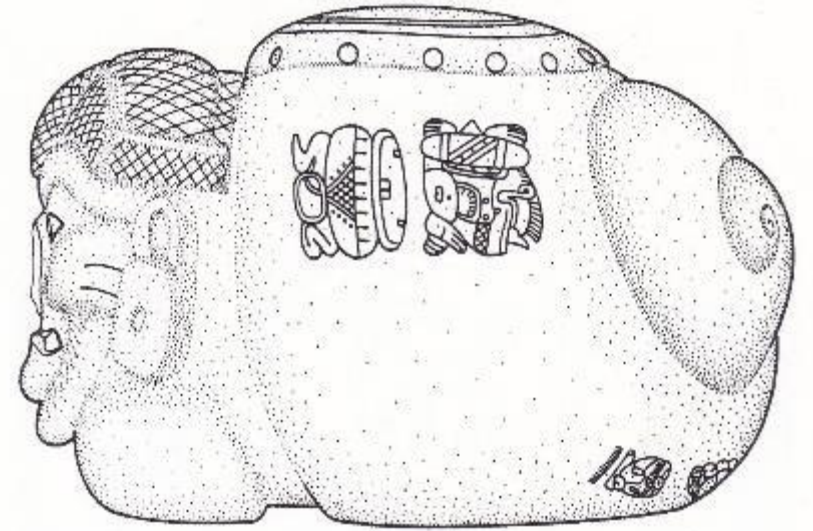
712



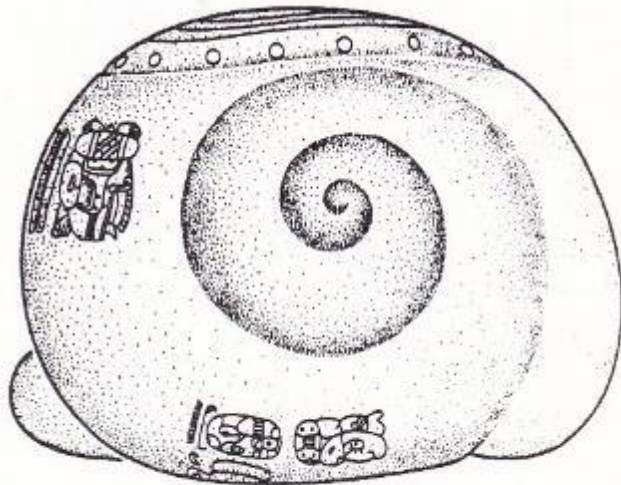
706



707



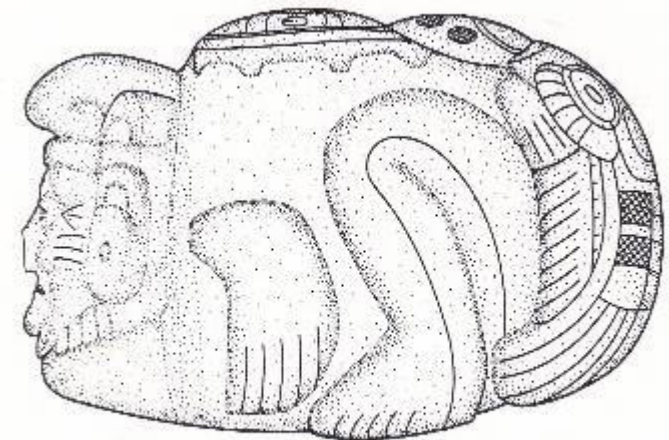
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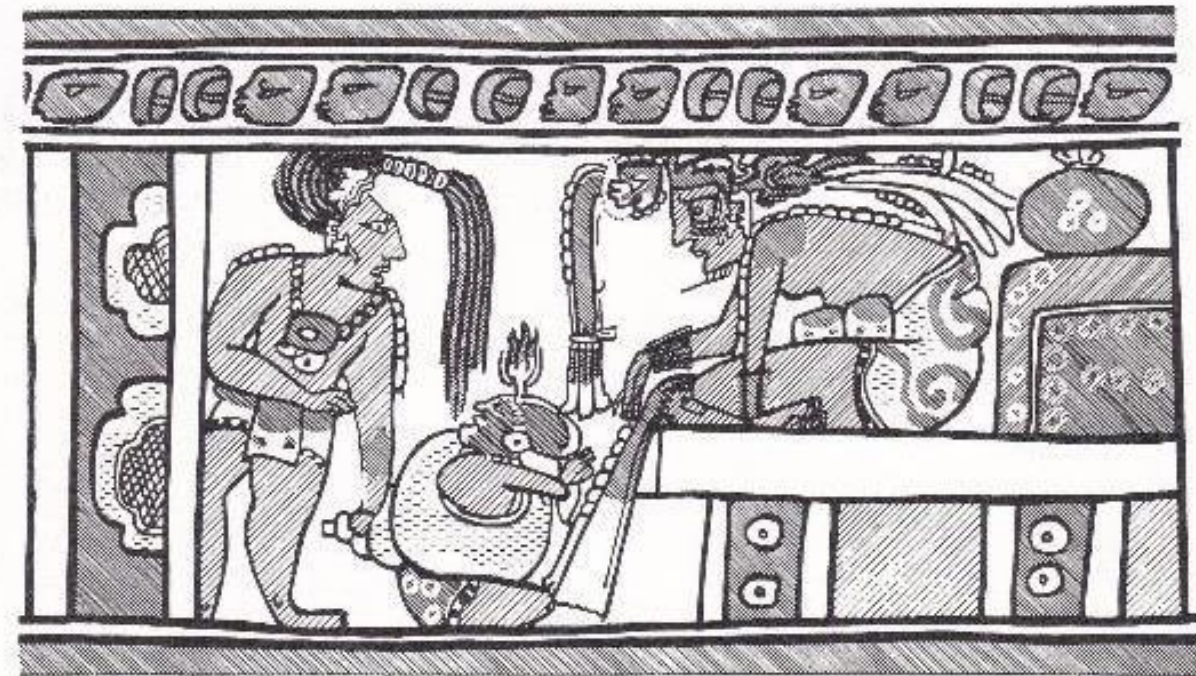
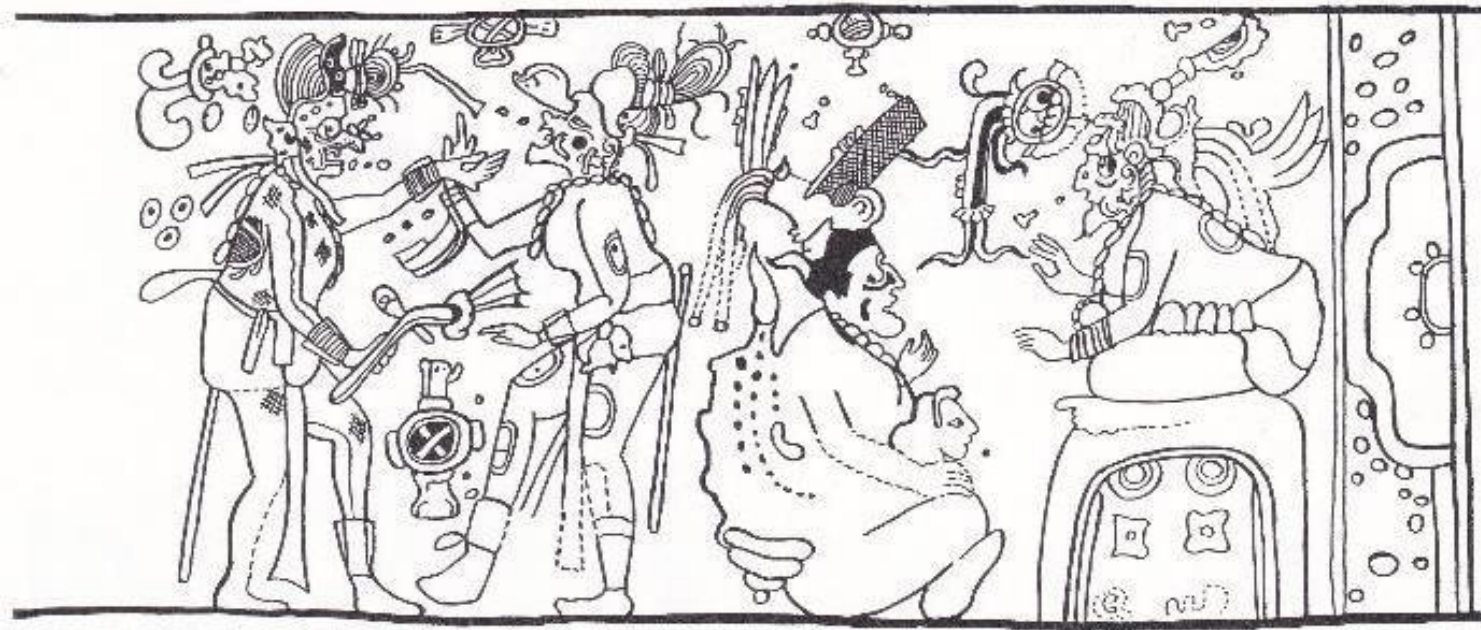
709



710



711



Monster und Menschen in der Maya-Kunst (1987) Nicholas M. Hellmuth.

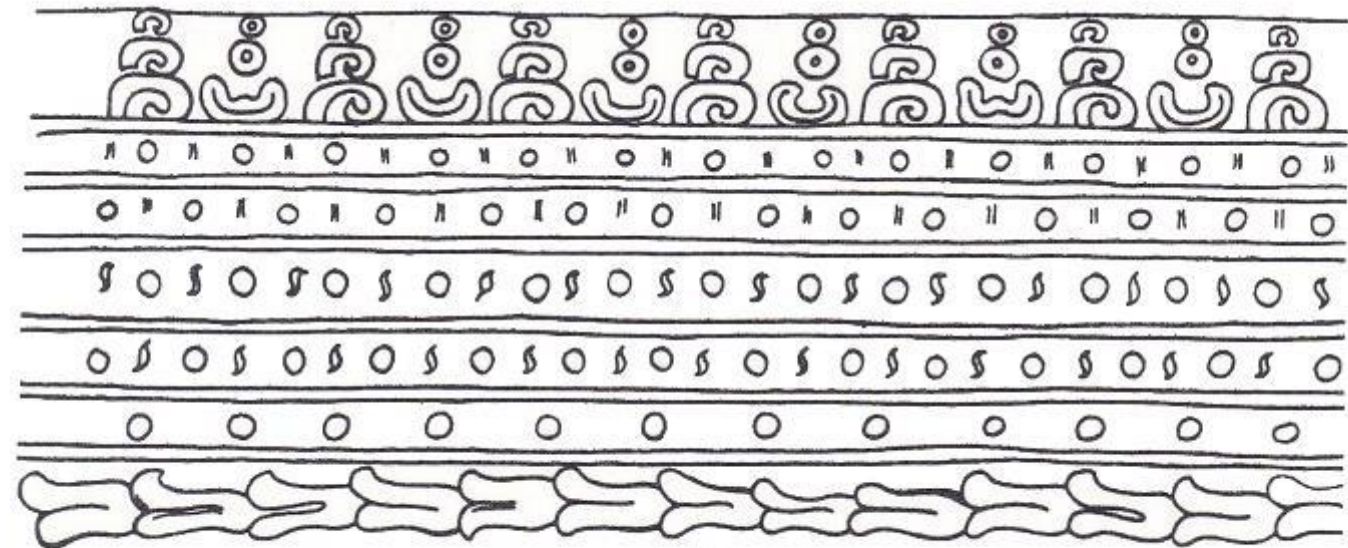
Figs. 209-211 and 214. Surface of the Underwaterworld on the Gann Bowl, The Liverpool Museum, part of The National Museums & Galleries on Merseyside. 210, God N. 211, Unclear, possibly bird or shell wing Dragon (Compare with Shell Wing Dragon on top of Fig. 332). 214, Author's reconstruction of the actual.



210

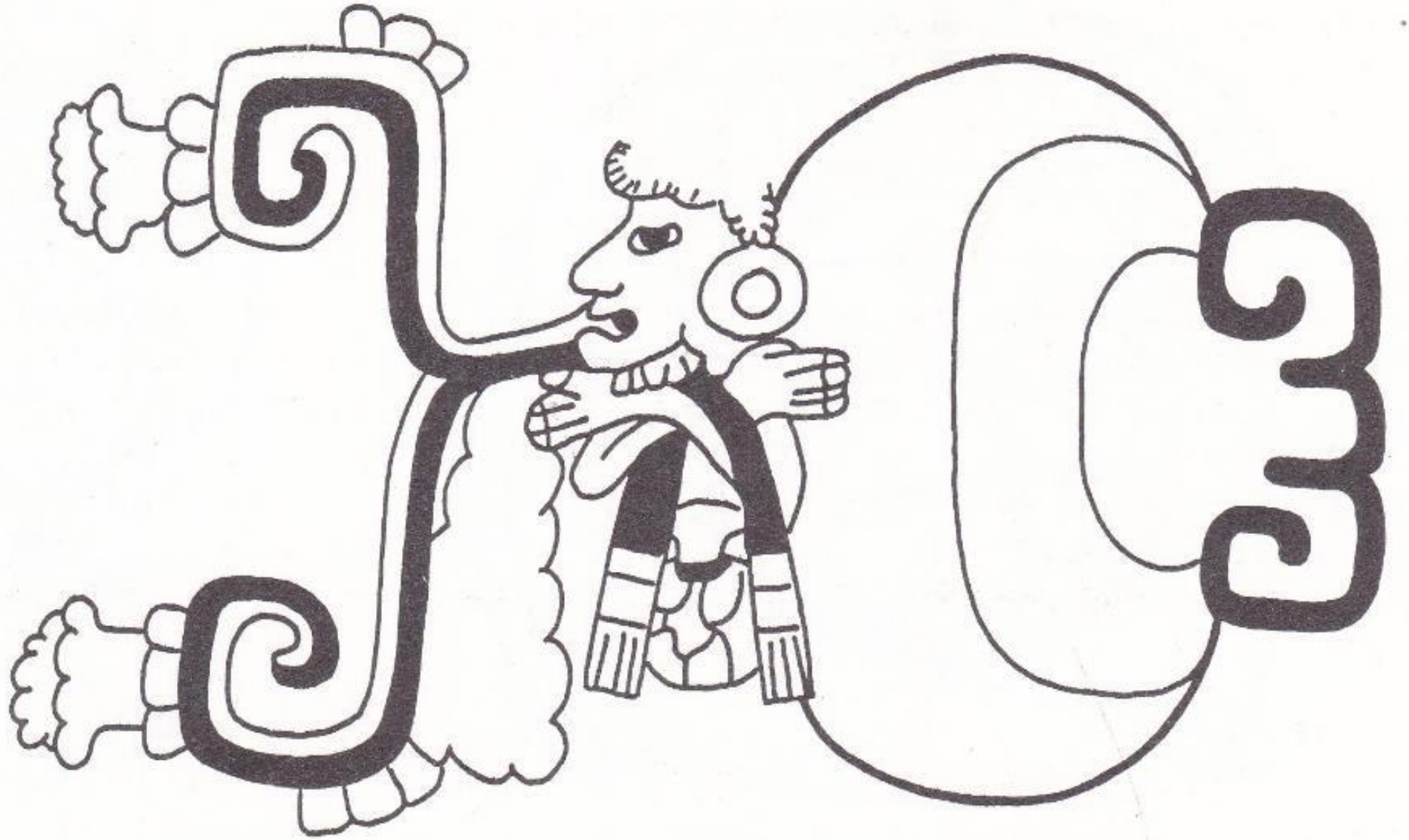


211



214

Occasionally God N
has a bivalve shell
as his home.

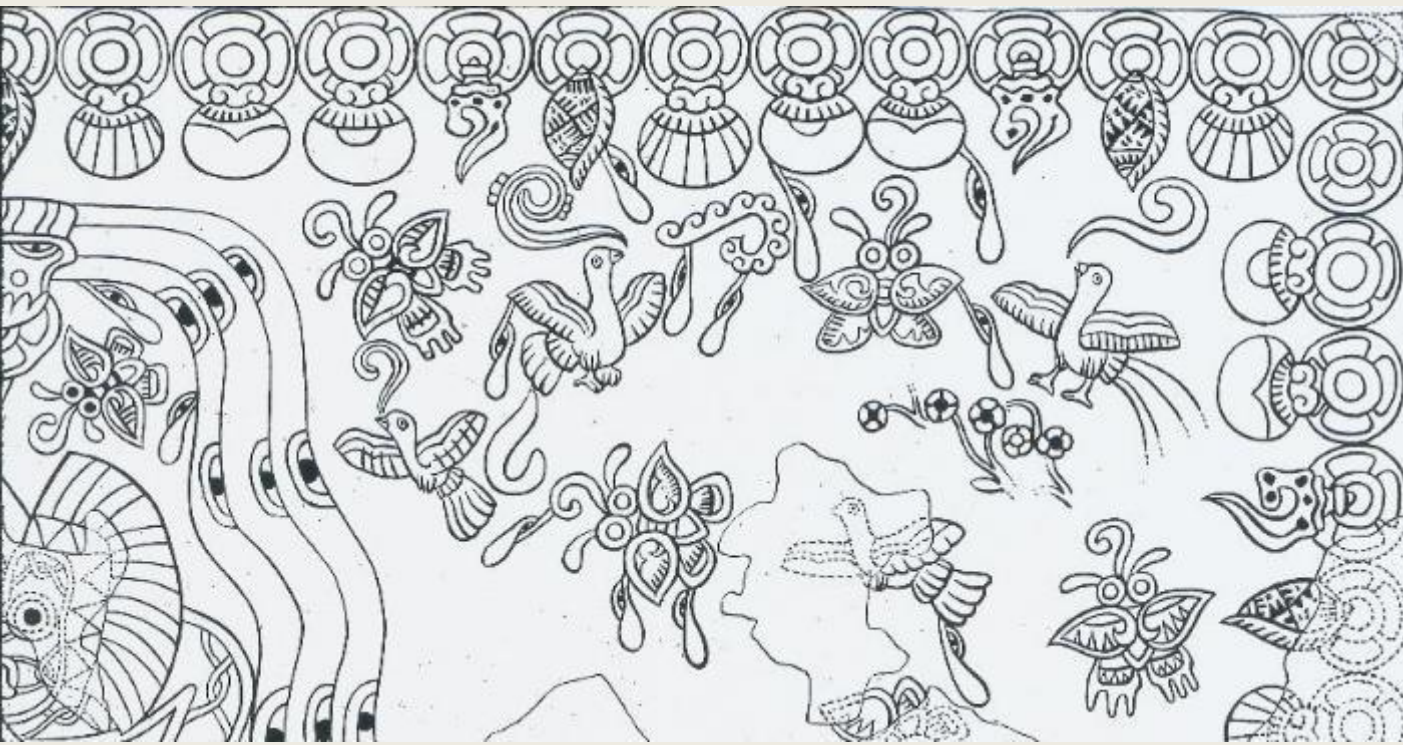


714



Conch Shells are also present at Teotihuacan murals and here on a Teotihuacan colonial Tiquisate Teotihuacan incensario, Costa Sur, Guatemala.

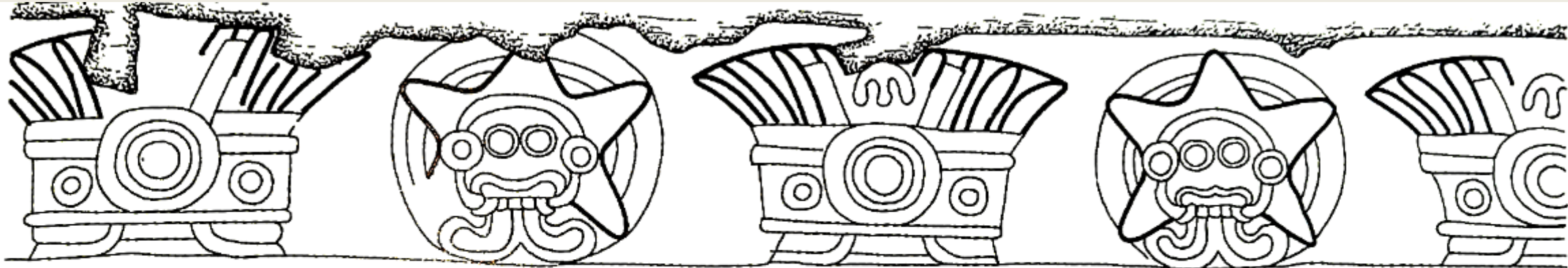
Teotihuacan had trade routes through the Costa Sur to each Costa Rica.



Seashells in murals of Teotihuacan, drawings from many publications and on many websites.

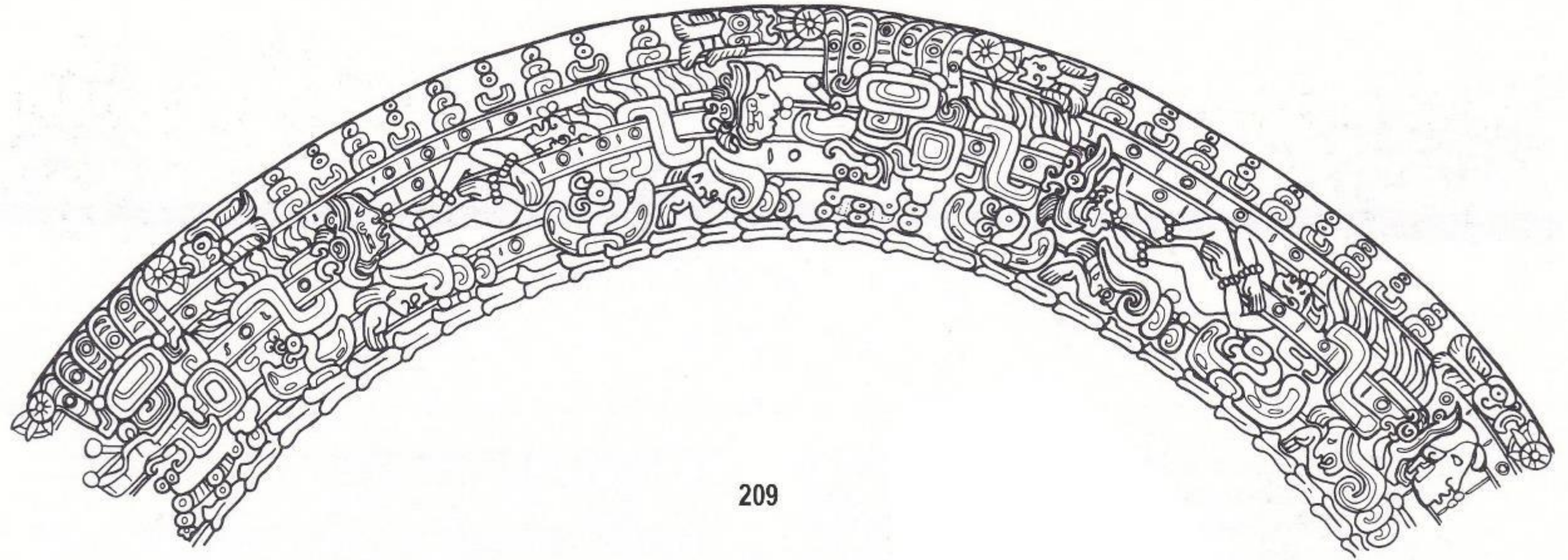
It is notable that above the seashells are the border of the mural. Same at Cacaxtla; the seashells are in a water band surrounding the main scene.





This large feline has short thick tail; no spots (and no snake features). Instead it has seashells in a row along its back and tail; and blows on a conch shell trumpet. With no spots probably a puma, but it's the jaguar that loves to swim.

Figs. 209-211 and 214. Surface of the Underwaterworld on the Gann Bowl, The Liverpool Museum, part of The National Museums & Galleries on Merseyside. 210, God N. 211, Unclear, possibly bird or shell wing Dragon (Compare with Shell Wing Dragon on top of Fig. 332). 214, Author's reconstruction of the actual.



209

8: Other Sea Shells: especially Bivalves

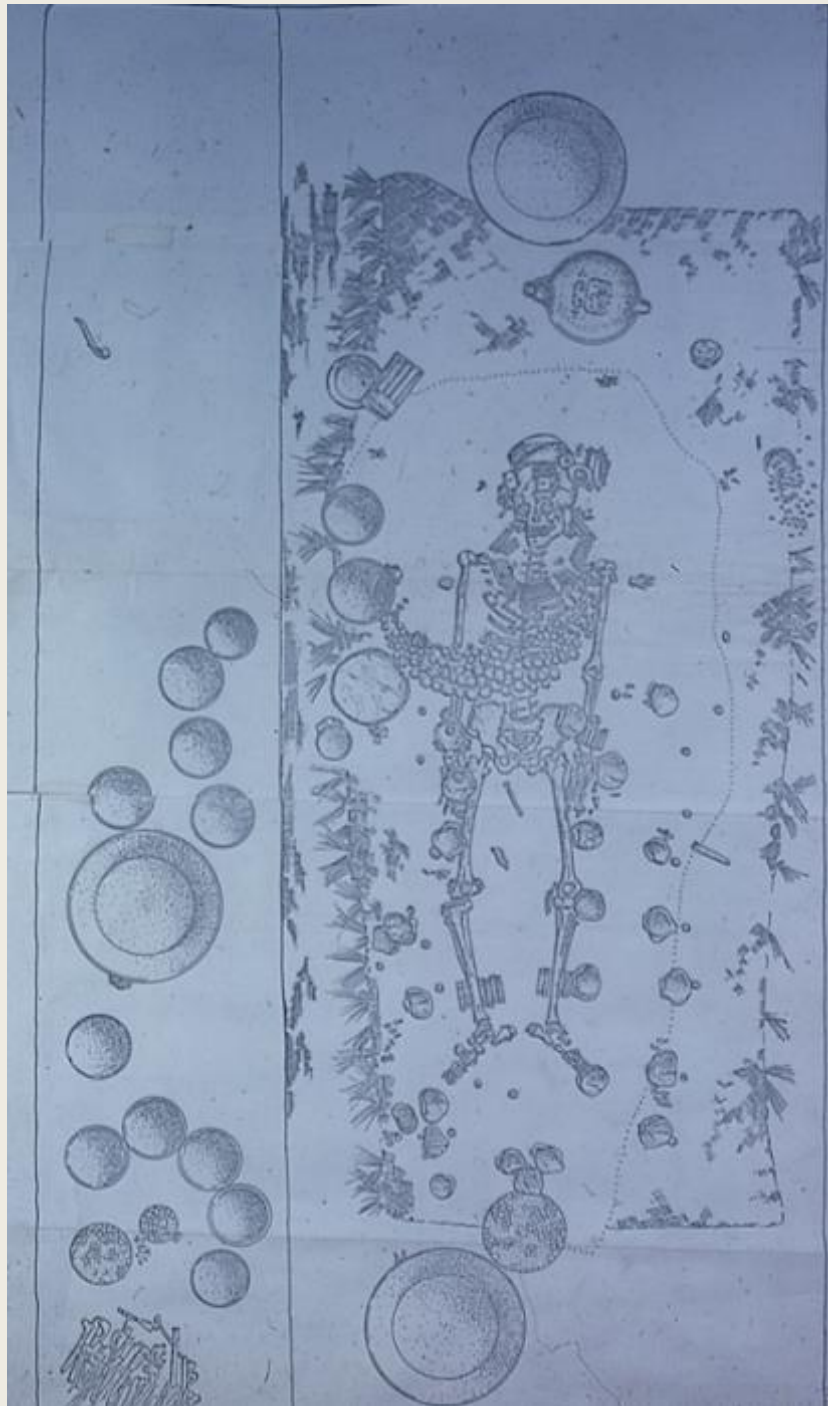


Conchas de Playa Quehueche, Amatique Bay, Municipio de Livingston, Izabal, Guatemala.



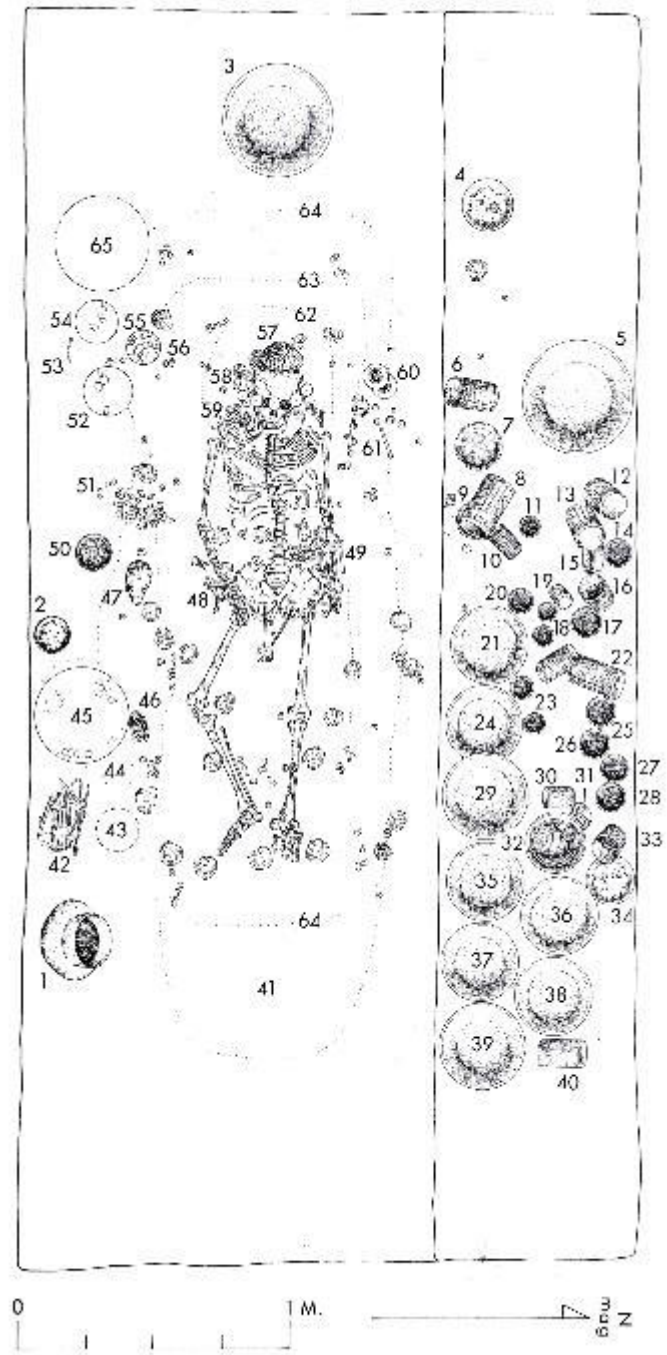


Tikal Burial 116,
Temple I



Tomb of the Jade
Jaguar

Tikal Burial 196
Str. 5D-73





9: Sea Anemones or Tubular Sponges

Sea Anemones or Tubular Sponges as headdress decoration for water-related deity

Sea Anemones

The sea anemone, also known as sea noodles, has two different forms that are clearly differentiated, in external appearance and in habitat: a smaller form, with a diameter of 2 to 5 cm, and which lives preferably on walls well-lit rocky and block bottoms up to 5 m deep; and another, larger form, with a diameter of up to 15 cm and tentacles up to 50 cm, which also lives on well-lit rock walls but at depths between 3 and 25 m.

Pacific Ocean Oaxaca, Chiapas	Pacific Ocean Guatemala	Caribbean Yucatan, Quintana Roo, Belize	Caribbean, Veracruz, Tabasco	Common name
<i>Anthopleura sola</i>	-	-	-	Anémona estrella
-	-	<i>Condylactis gigantea</i>	<i>Condylactis gigantea</i>	Anémona gigante del Caribe
<i>Bunodosoma californica</i>	-	-	-	Anémona Californiana
-	-	<i>Stichodactyla helianthus</i>	<i>Stichodactyla helianthus</i>	Anémona Sol
<i>Actinostella bradleyi</i>	-	-	-	Anémona de Bradley
-	-	<i>Anemonia sargassiensis</i>	<i>Anemonia sargassiensis</i>	Anémona
<i>Telmatactis panamensis</i>	-	-	-	Anémona panameña

Tubular Sponges

Sea sponges are animals with an incredible ability to adapt to a wide variety of conditions and situations, something that would be impossible for other animals. They are capable of living even when the waters they inhabit are contaminated by hydrocarbons, metals or other substances. Sea sponges have few natural predators, as they have a hard skeleton of spicules and are highly toxic. This is why it is possible to find sea sponges in almost all the seas and oceans of the world. Among the best known sites for the large number of porifera present are the Western Mediterranean, the Gulf of Mexico, the Caribbean and the seas of Japan.

Pacific Ocean Oaxaca, Chiapas	Pacific Ocean Guatemala	Caribbean Yucatan, Quintana Roo, Belize	Caribbean, Veracruz, Tabasco	Common name
-	-	Xestospongia muta	-	Esponja gigante
Amphimedon texotli	-	-	-	Esponja azul
-	-	Niphates digitalis	-	Esponja rosa
-	-	Callyspongia aculeata	-	Esponja verde amarilla
-	-	Callyspongia plicifera	-	Esponja vaso
-	-	Aplysina fistularis	-	Esponja amarilla
-	-	Aiolochoiria crassa	Aiolochoiria crassa	Esponja

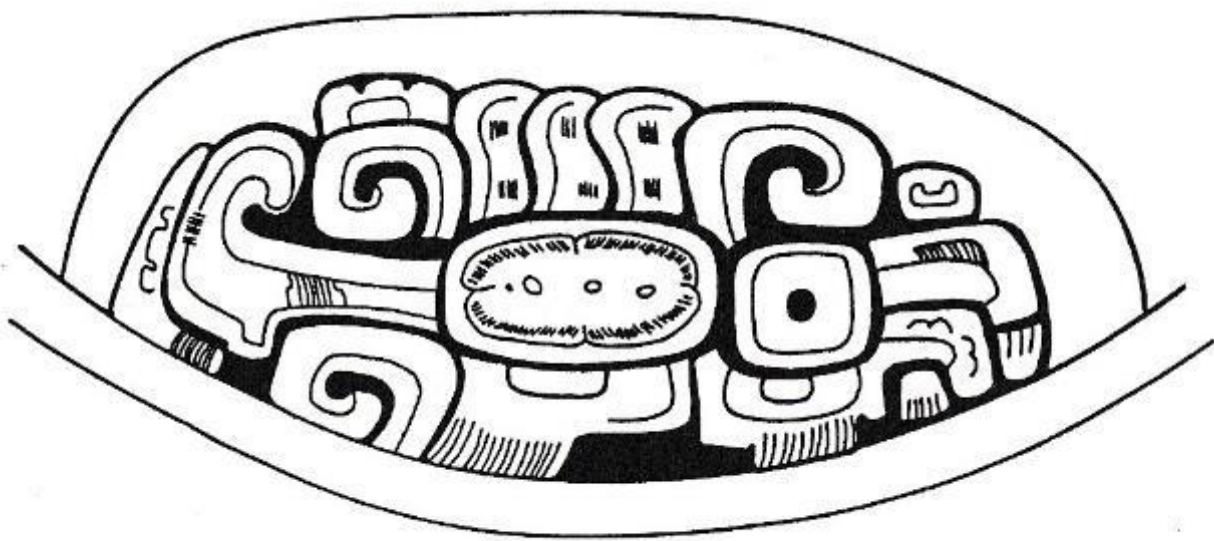
We also need to look at other potential models such as sea squirts, *Clavelina puertosecensis* also have a 3-dimensional form and are in clusters



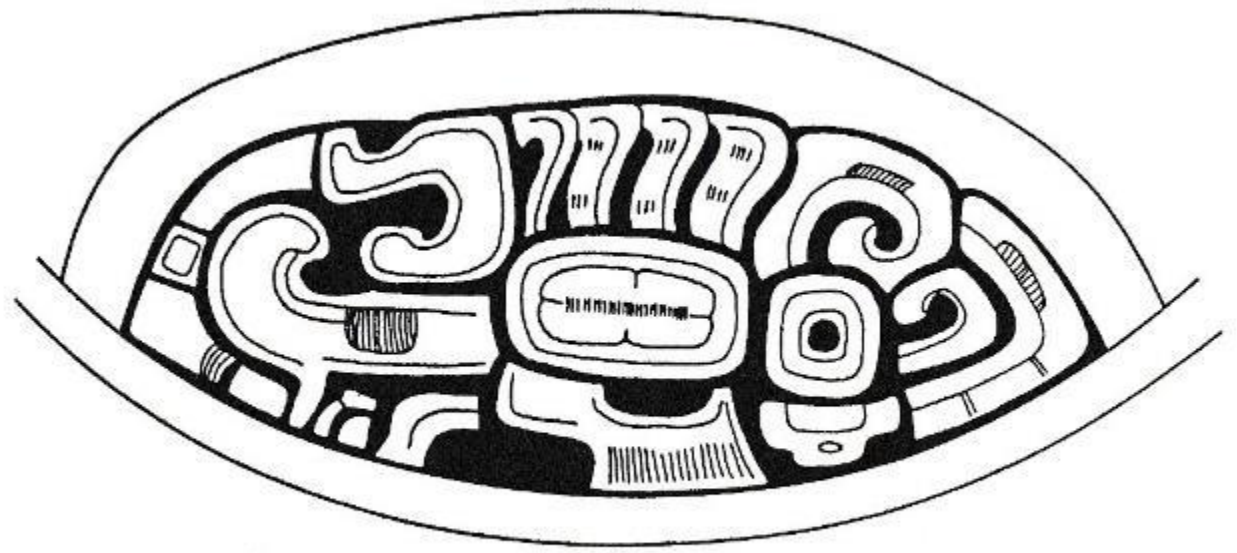
Aiolochoiria crassa
Sitio web



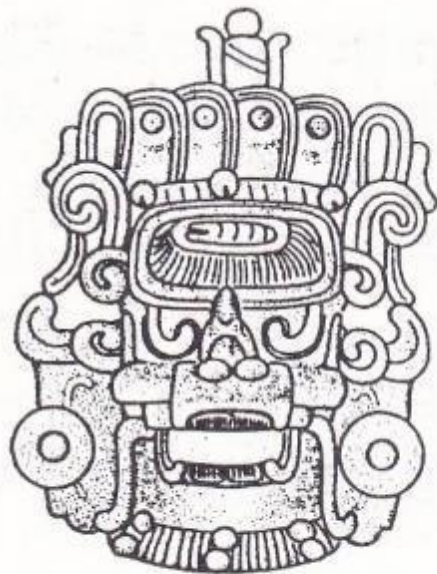
Phylum porífera
Kayla Coloyan



366



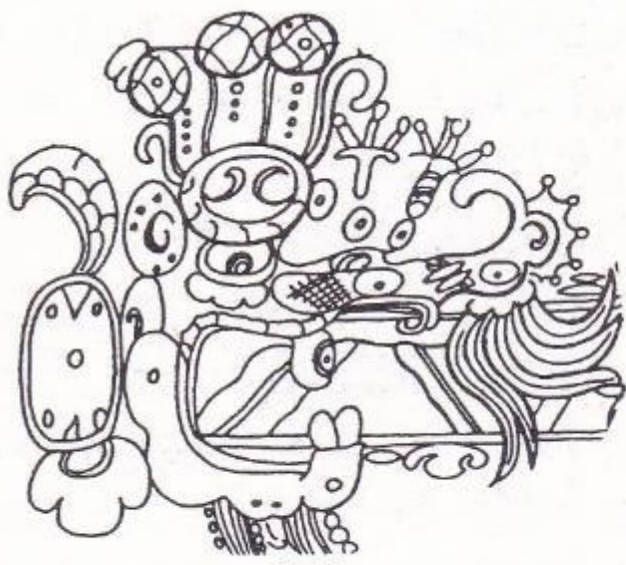
367



368



369



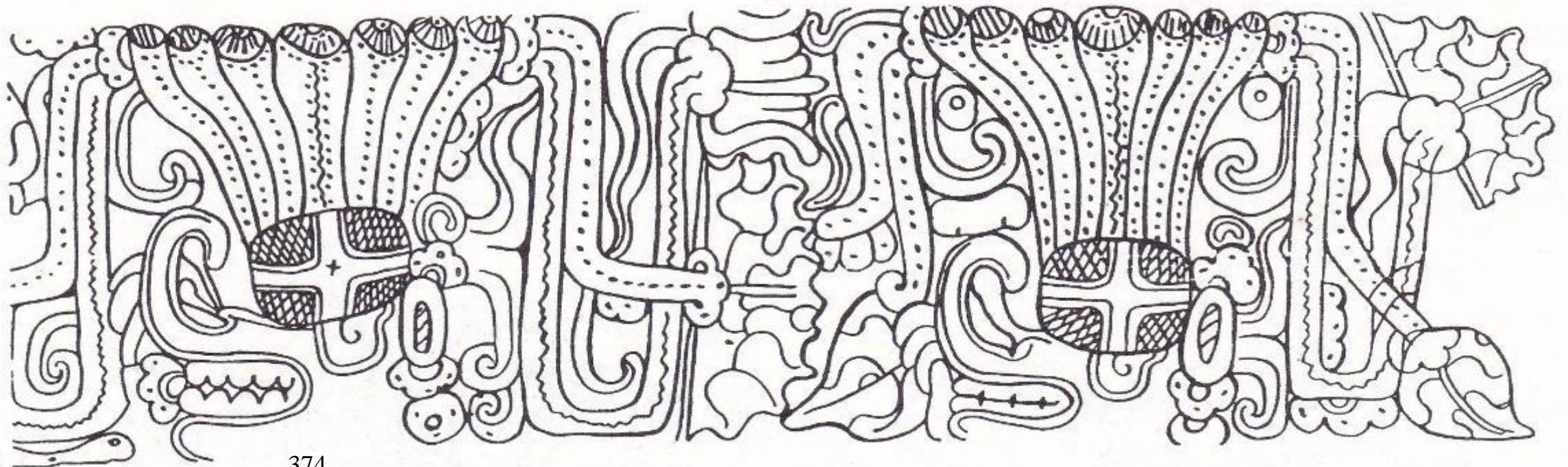
371



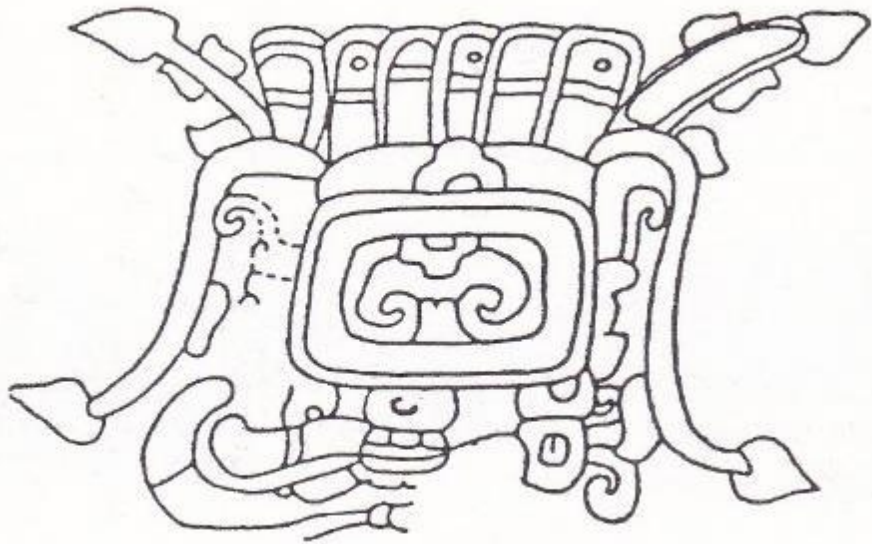
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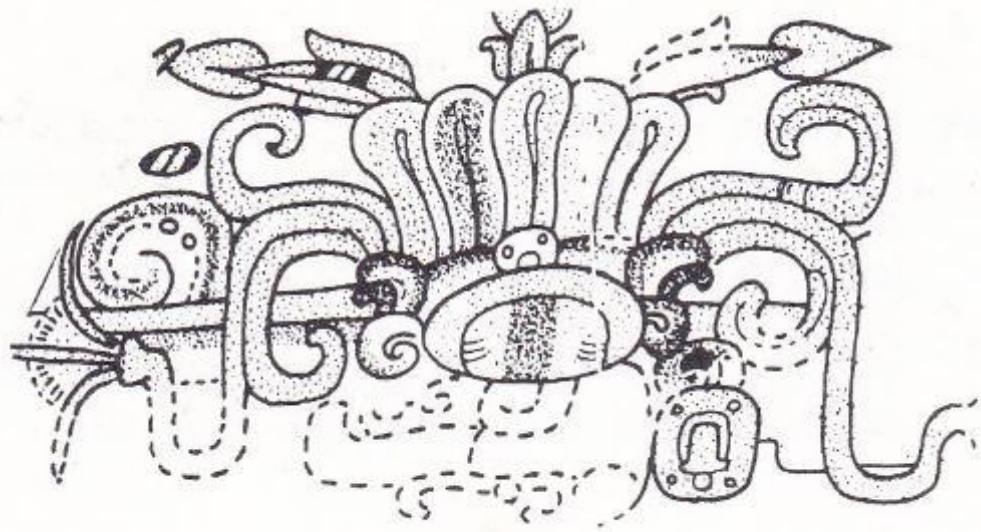
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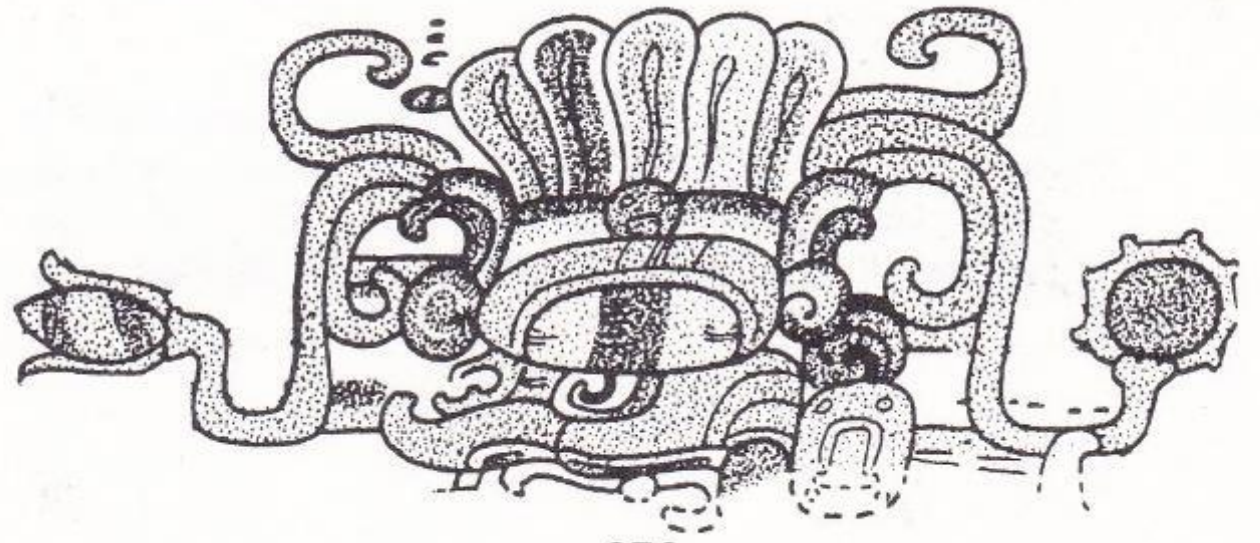
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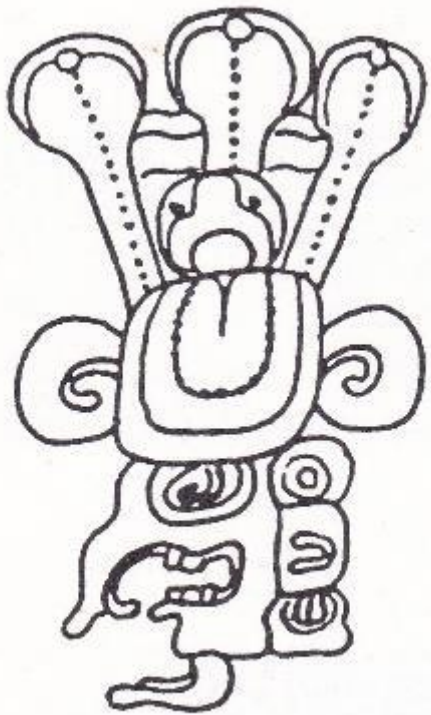
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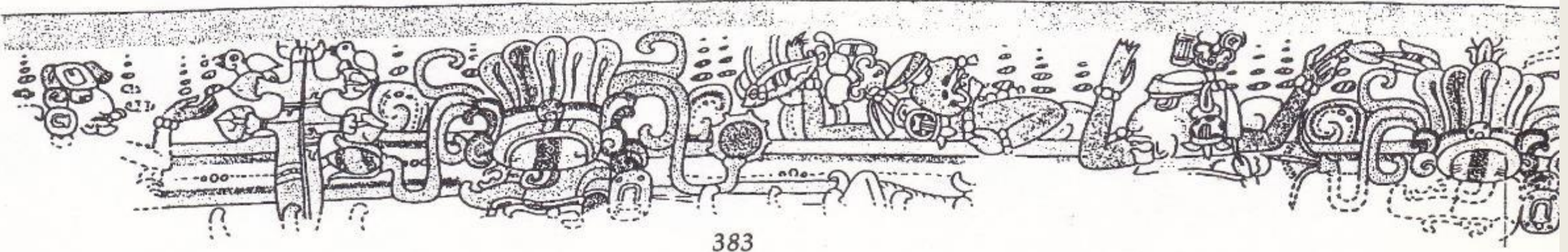


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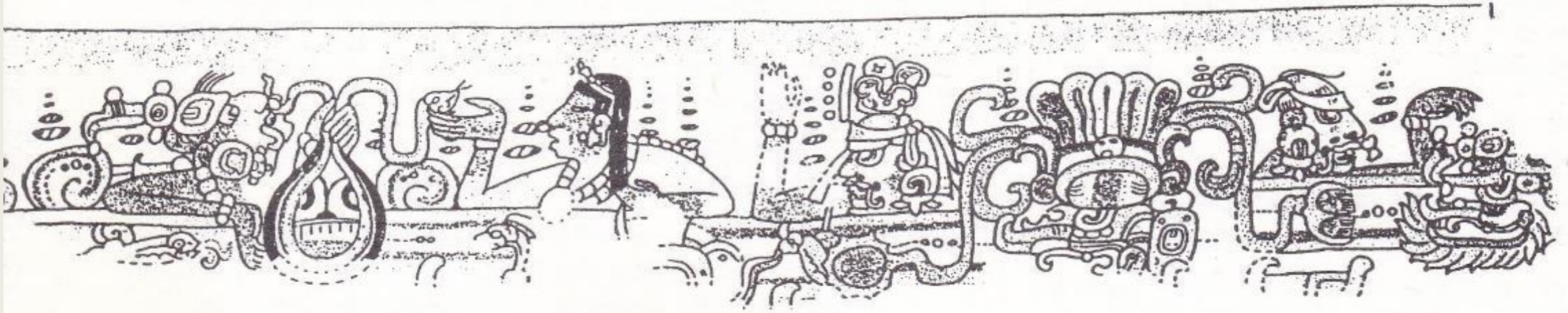
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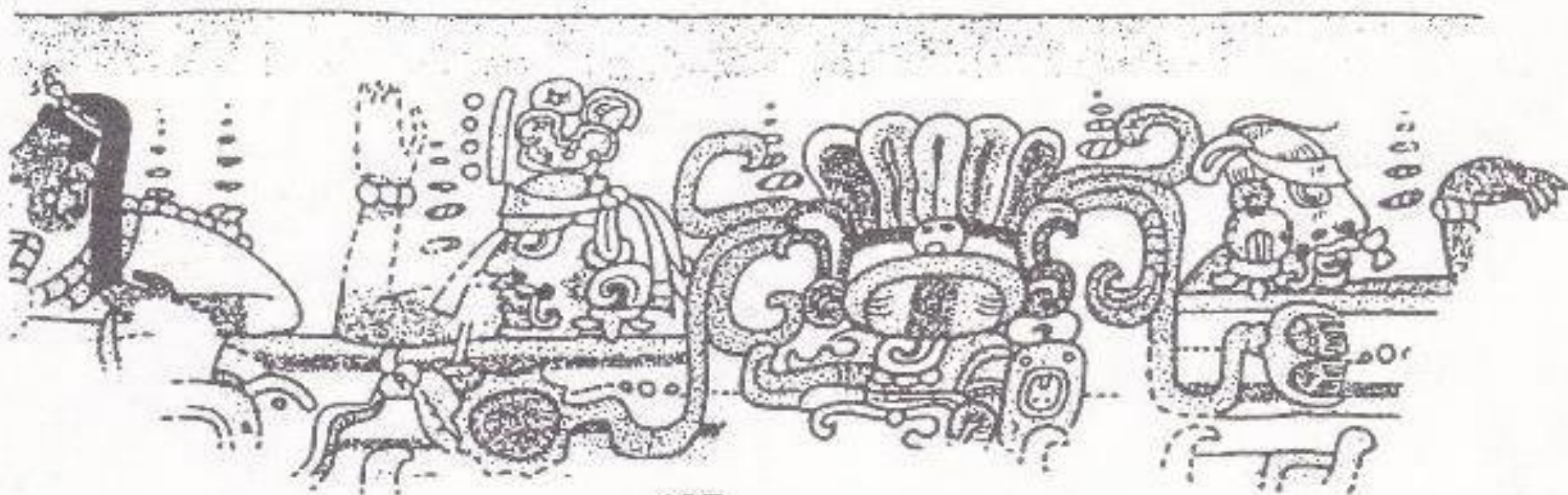
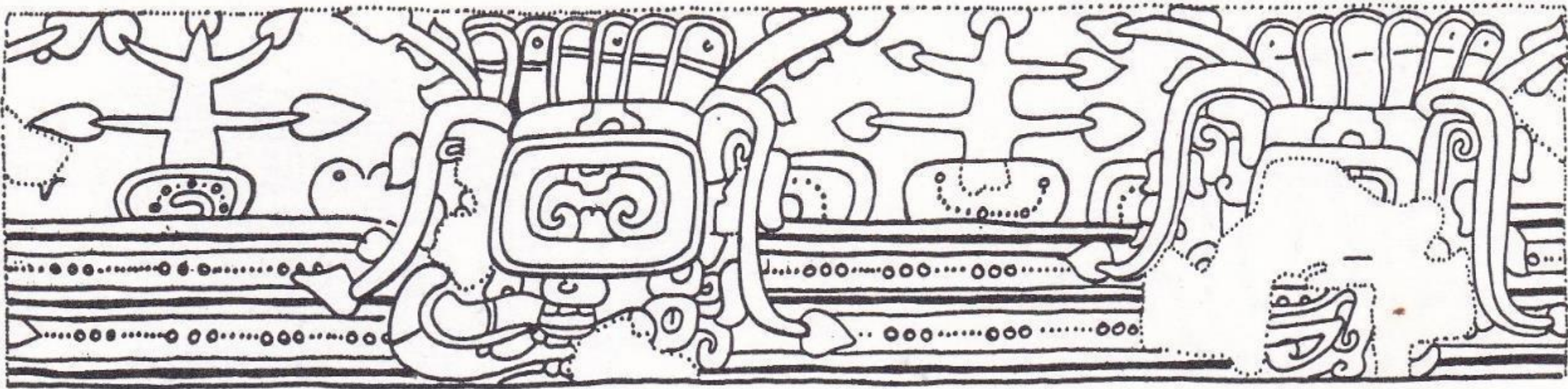
A B C D E F



383

G H I J K L



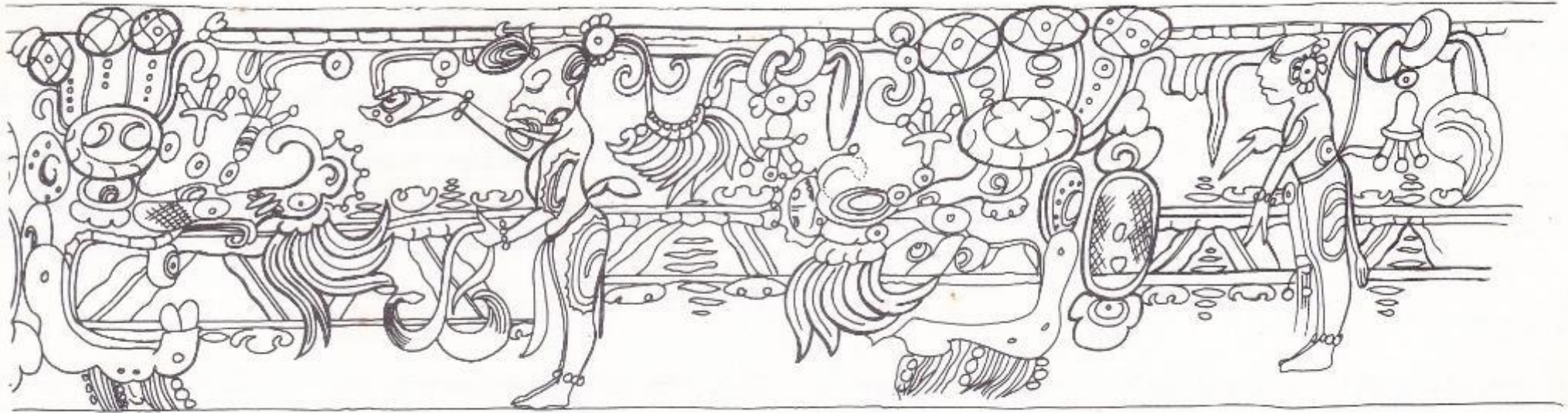




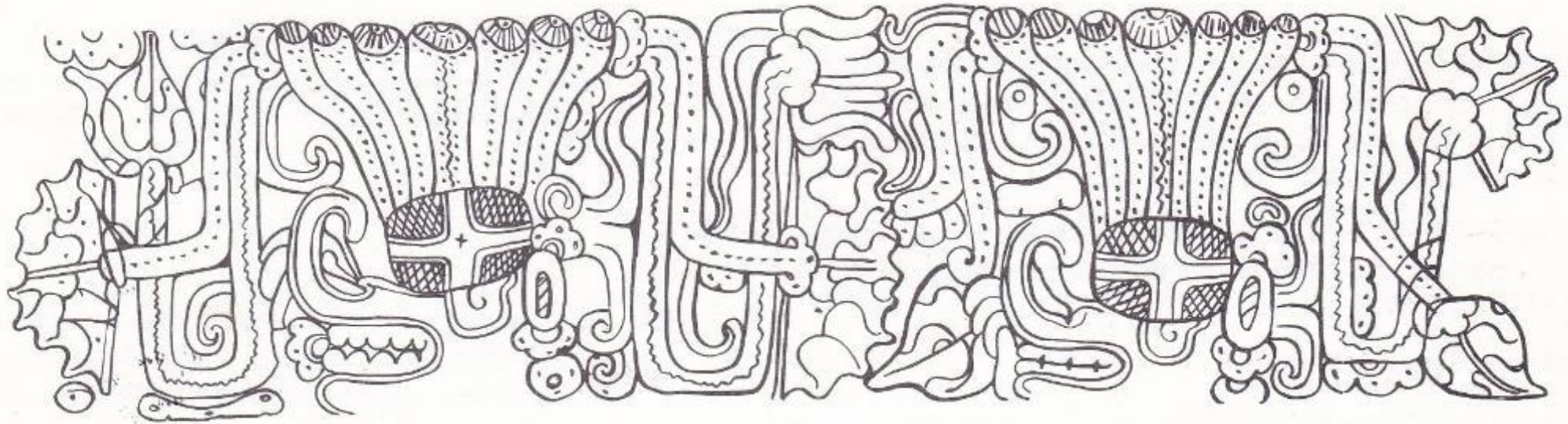
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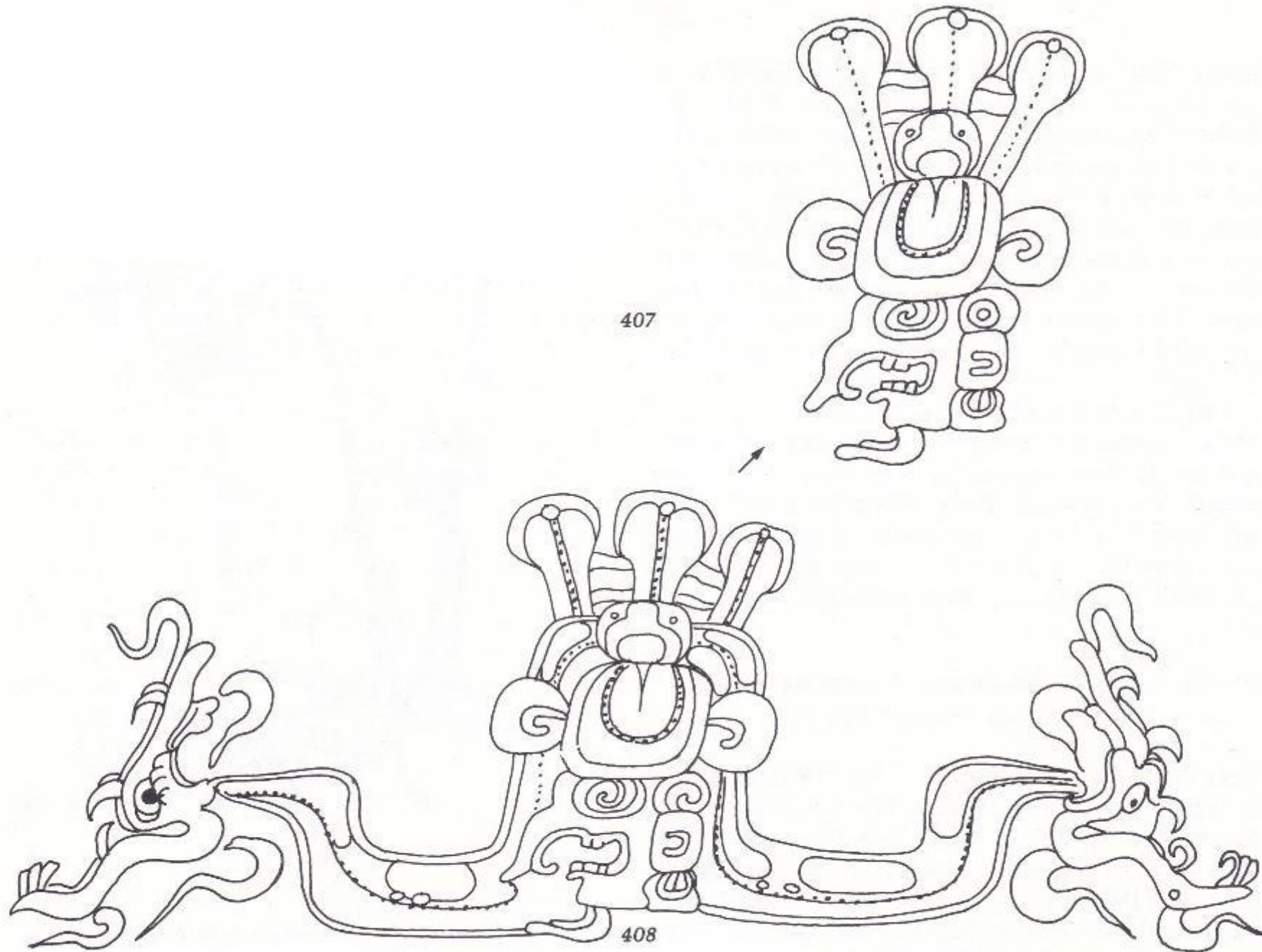
Monster und Menschen in der Maya-Kunst (1987) Nicholas M. Hellmuth.



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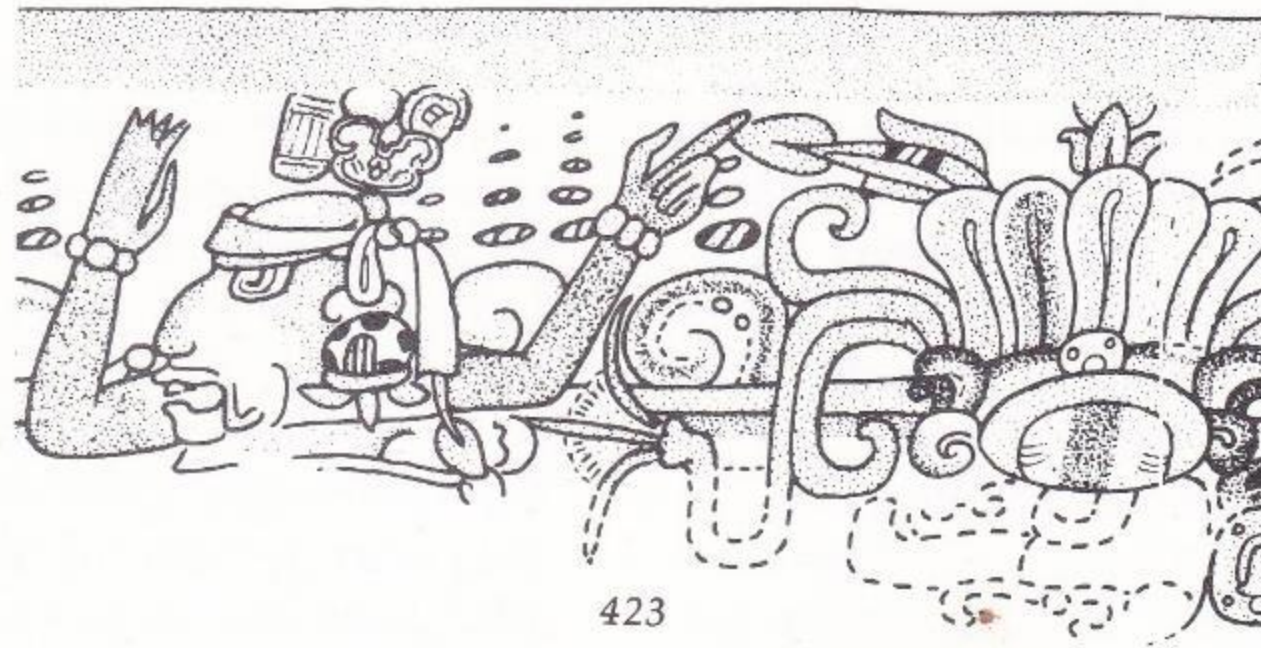
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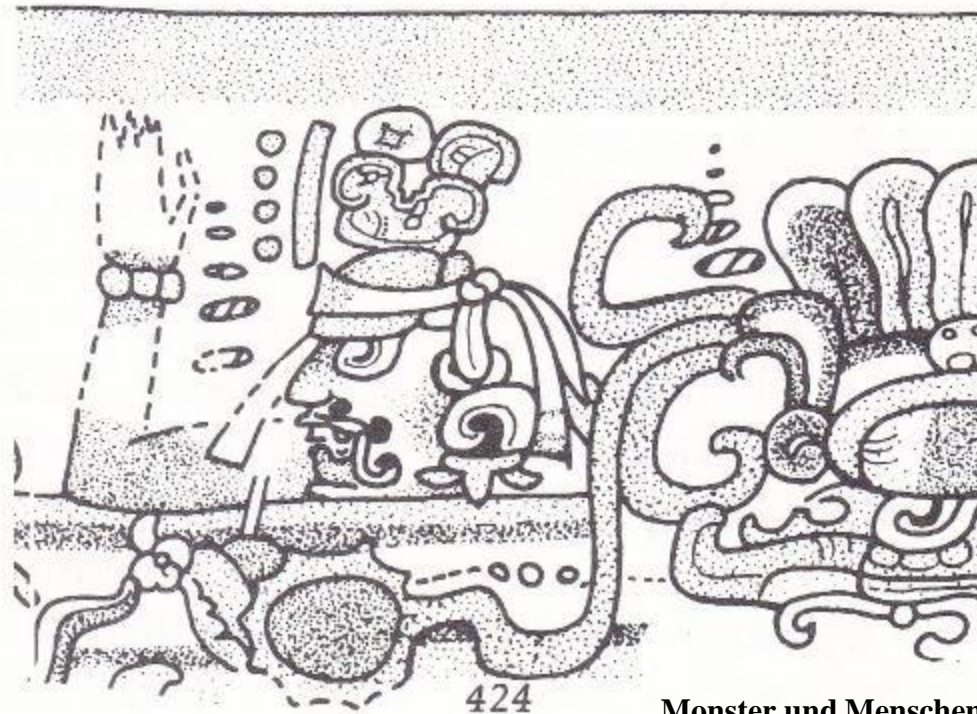
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Sea anemone or columnar sponge Hellmuth PhD MSM Figure 420 page 199



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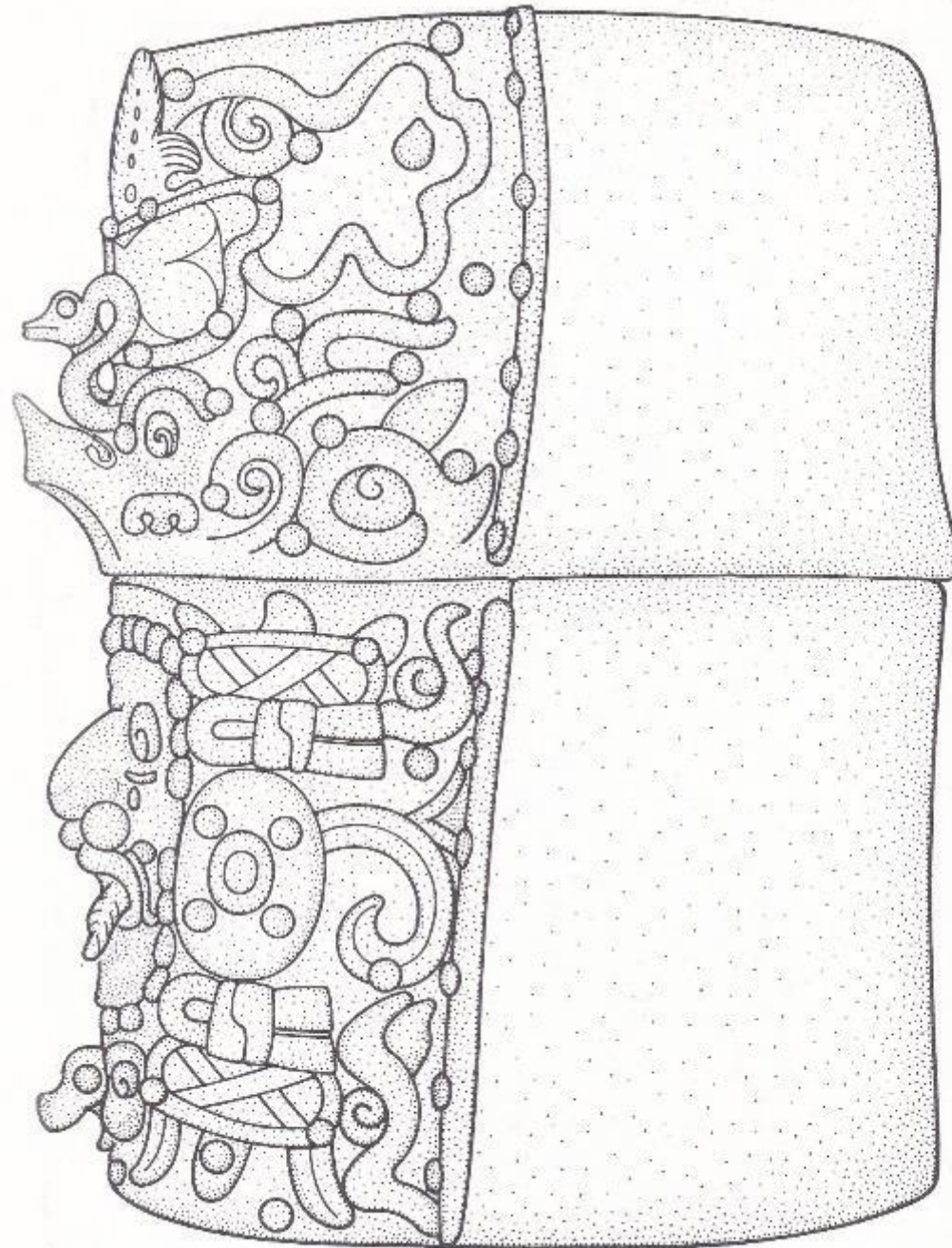
424

Birds and Bird-Serpents with Bivalve Shells as Wing

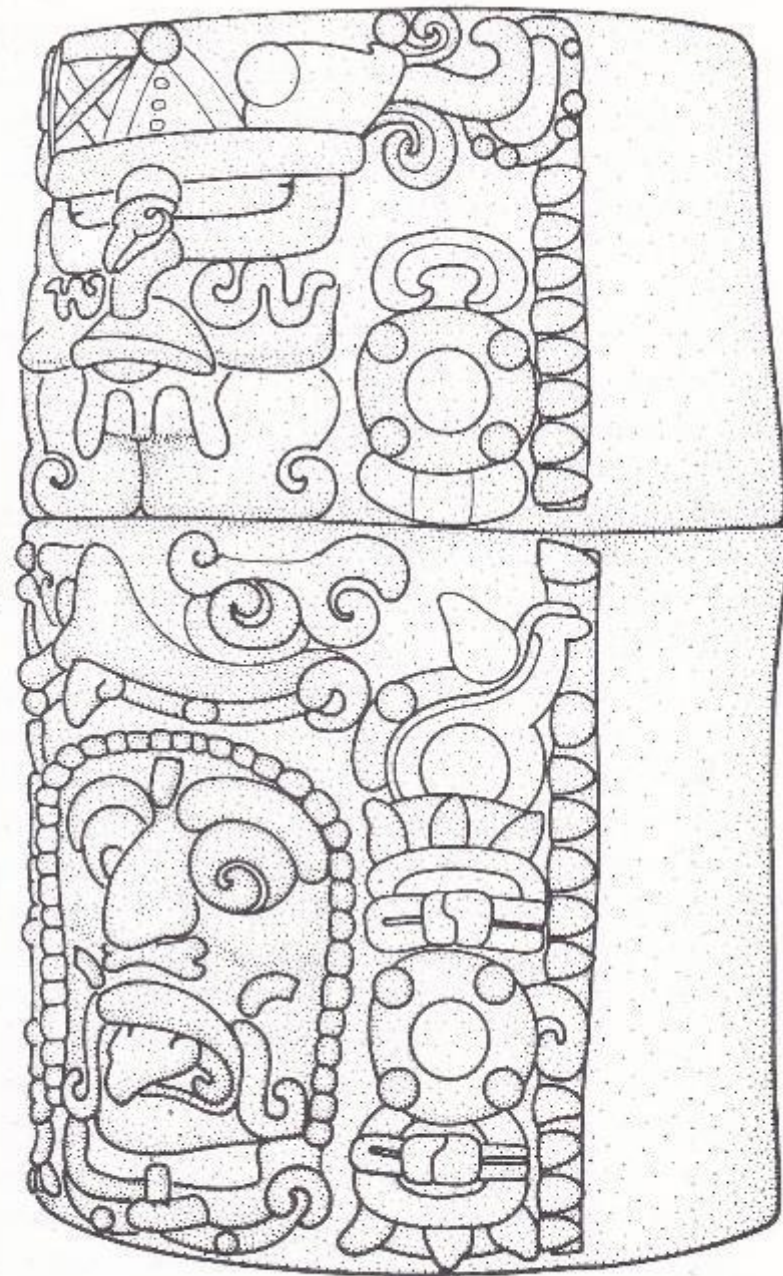


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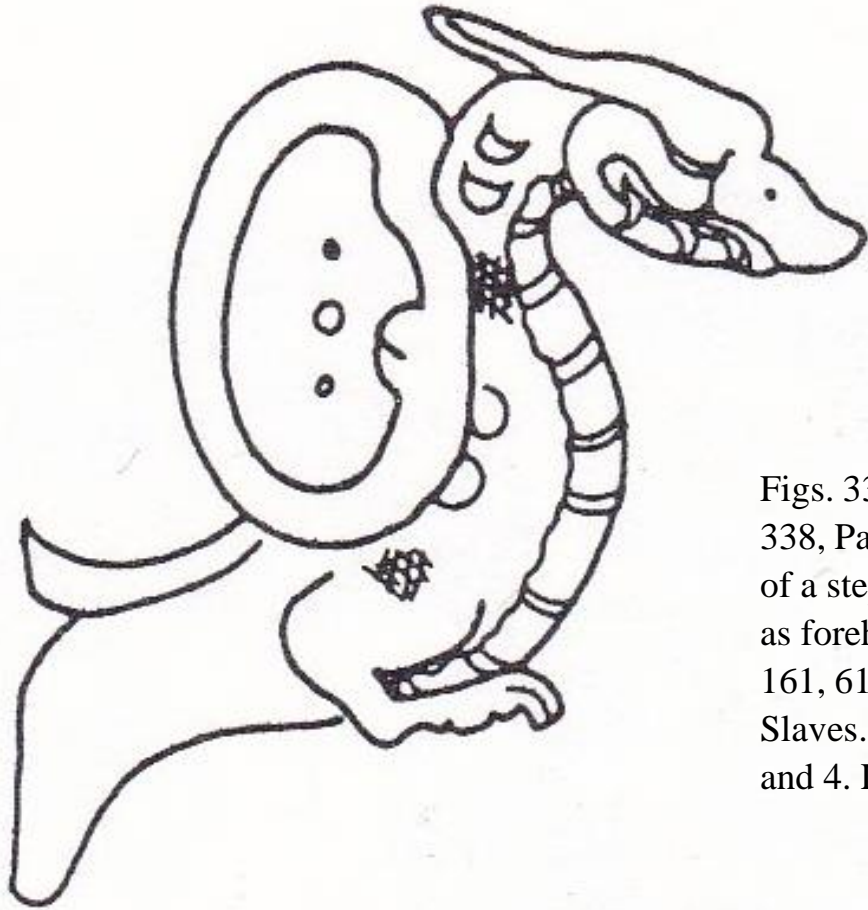
Figs. 269A-C. Xoc Monster on Early Classic cache vessels from Peten. The upturned snout is typical of this mythical shark-like fish monster. The GI also includes his typical Quadripartite Badge headdress in its Tzakol version as a stylized bird. The current location of vessel 269A and B is unknown. For an additional side view of 269A see the black-and white photograph, Fig. 70; an additional side view of 269C is presented in full page size in Fig. 71.



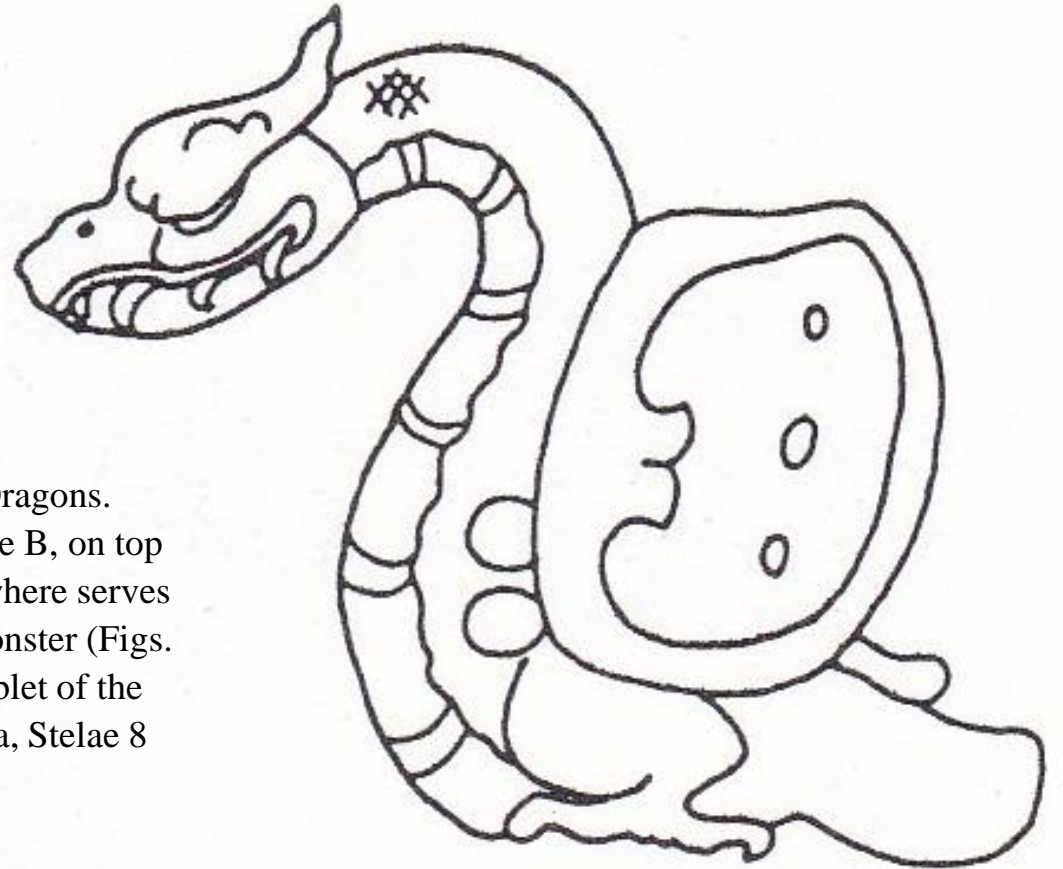
269 B



269 C



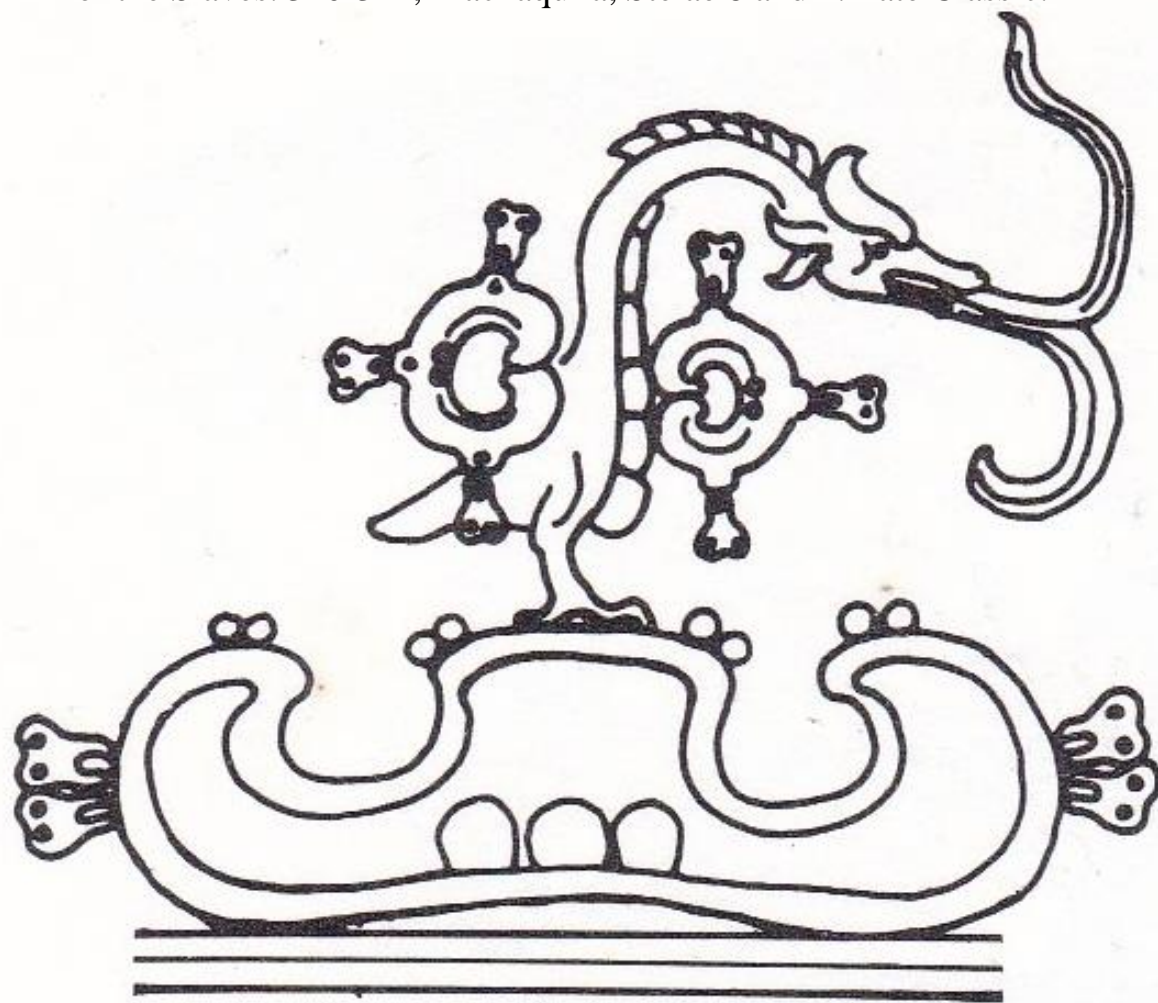
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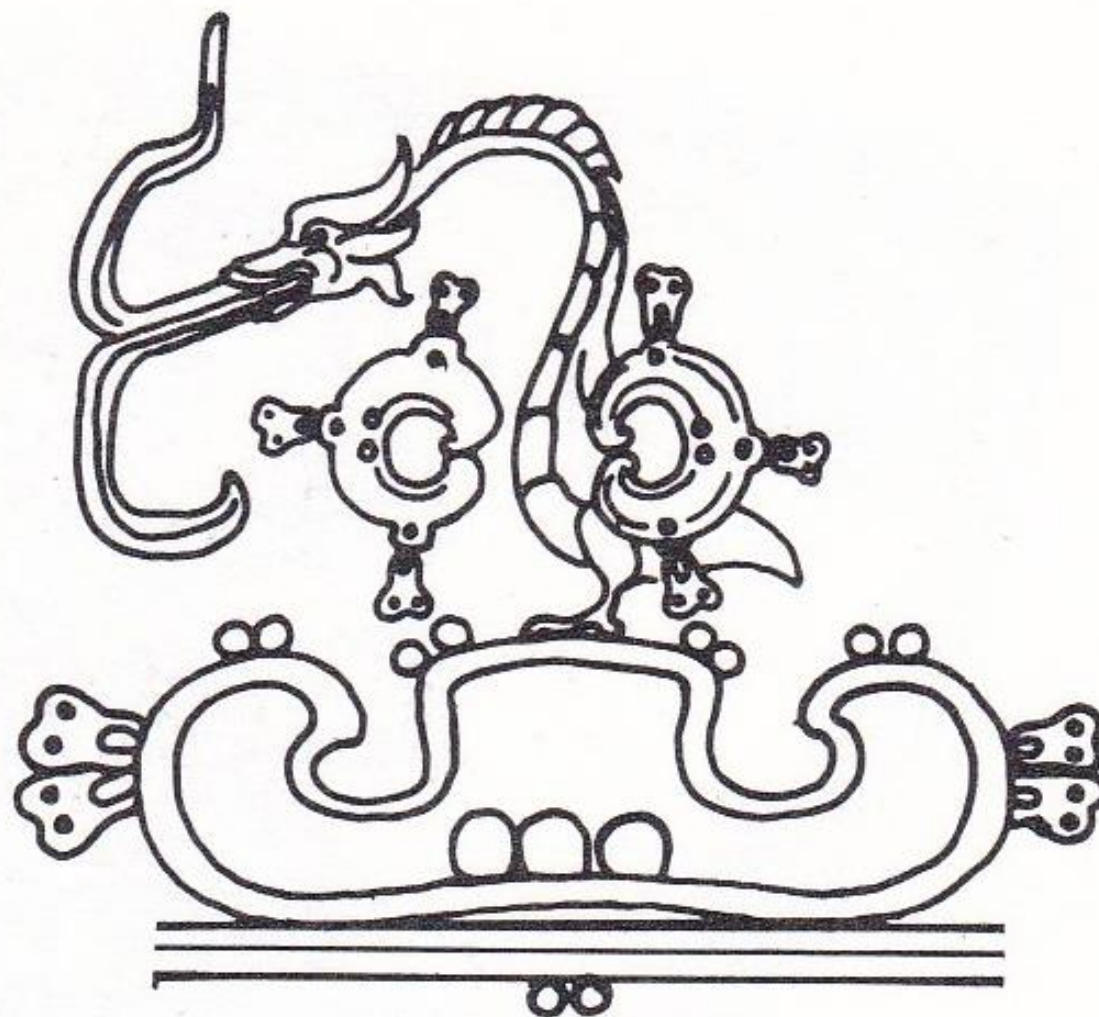
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Figs. 338-341. Shell Wing Dragons.
338, Palenque, Palace, House B, on top
of a stepped motif that elsewhere serves
as forehead of the Cauac Monster (Figs.
161, 612). 339, Palenque Tablet of the
Slaves. 340-341, Machaquila, Stelae 8
and 4. Late Classic.

Figs. 338-341. Shell Wing Dragons. 338, Palenque, Palace, House B, on top of a stepped motif that elsewhere serves as forehead of the Cauac Monster (Figs. 161, 612). 339, Palenque Tablet of the Slaves. 340-341, Machaquila, Stelae 8 and 4. Late Classic.



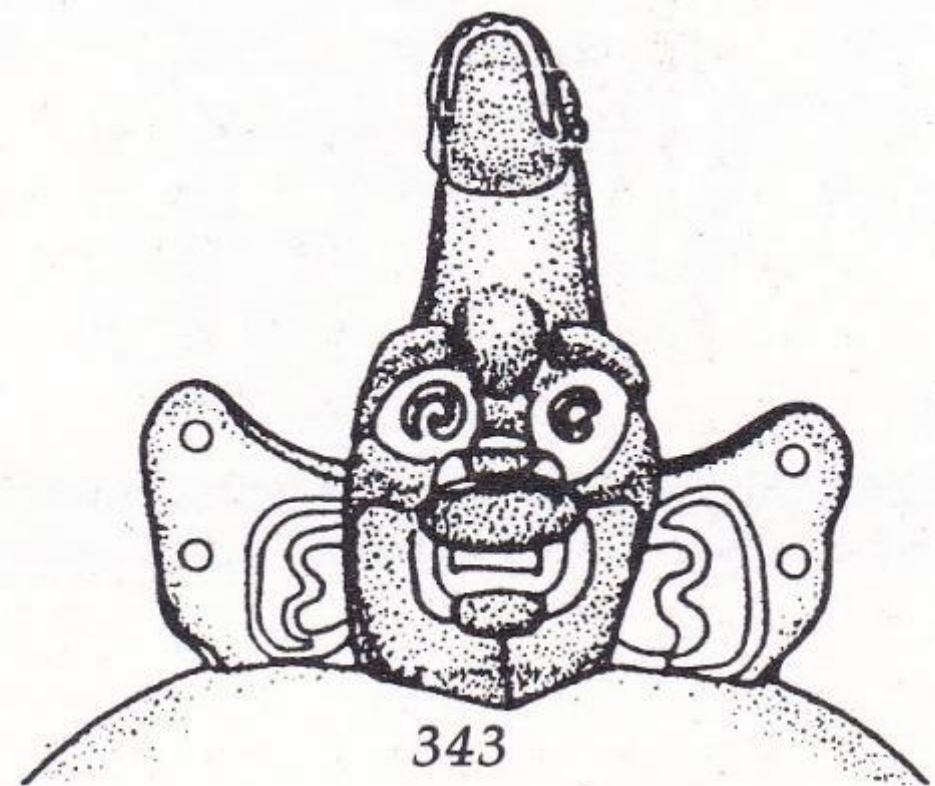
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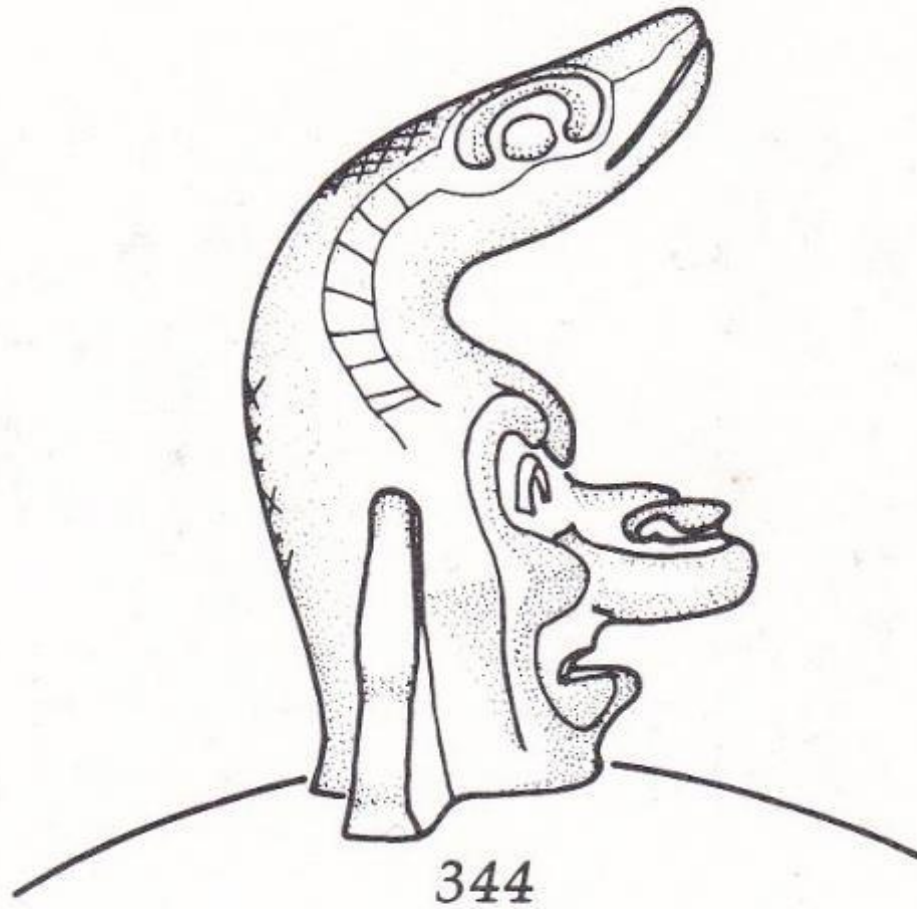


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343

Figs. 342-345. Three-dimencional Shell Wing Dragon in variation where the head of a god serves as the body of the bird-dragon. 342 and 346, Handle of a tetrapod. 343-345, Handle of another black tetrapod tripod. Tzakol, both are in original condition, no restoration.

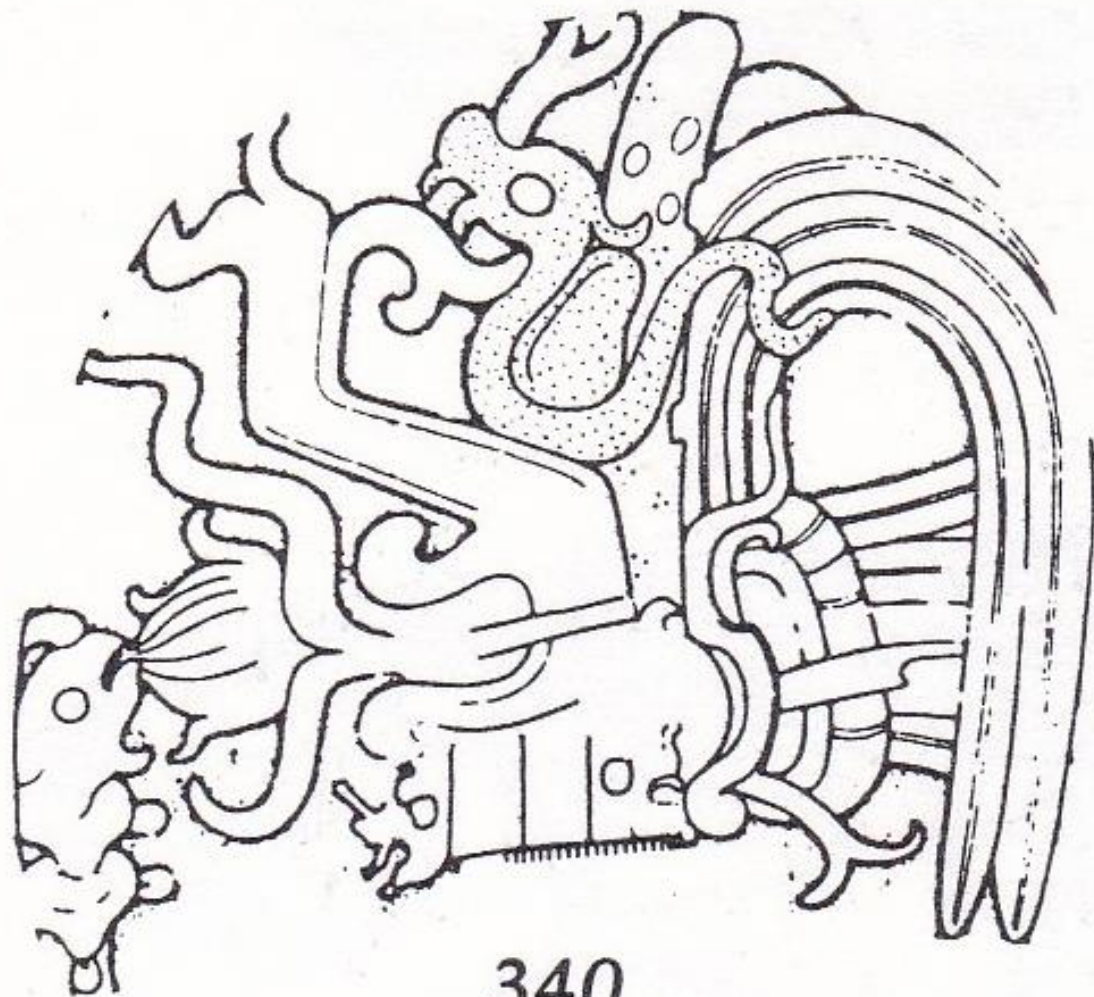


Figs. 342-345. Three-dimencional Shell Wing Dragon in variation where the head of a god serves as the body of the bird-dragon. 342 and 346, Handle of a tetrapod. 343-345, Handle of another black tetrapod tripod. Tzakol, both are in original condition, no restoration.

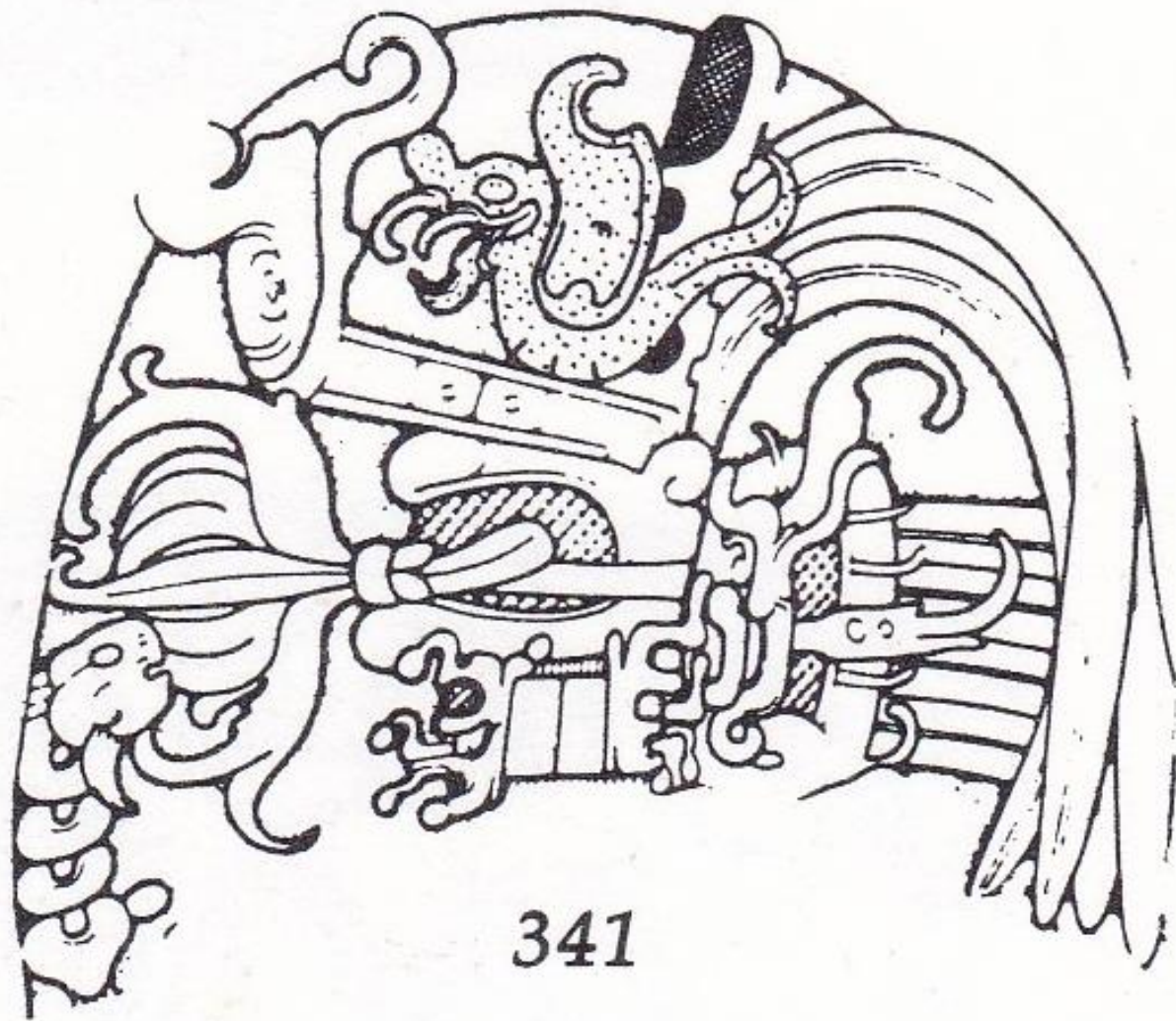
Figs. 346. Shell Wing Dragon in three-dimensional form as lid handle of a tetrapod. Tzakol, no restoration, current location unknown.



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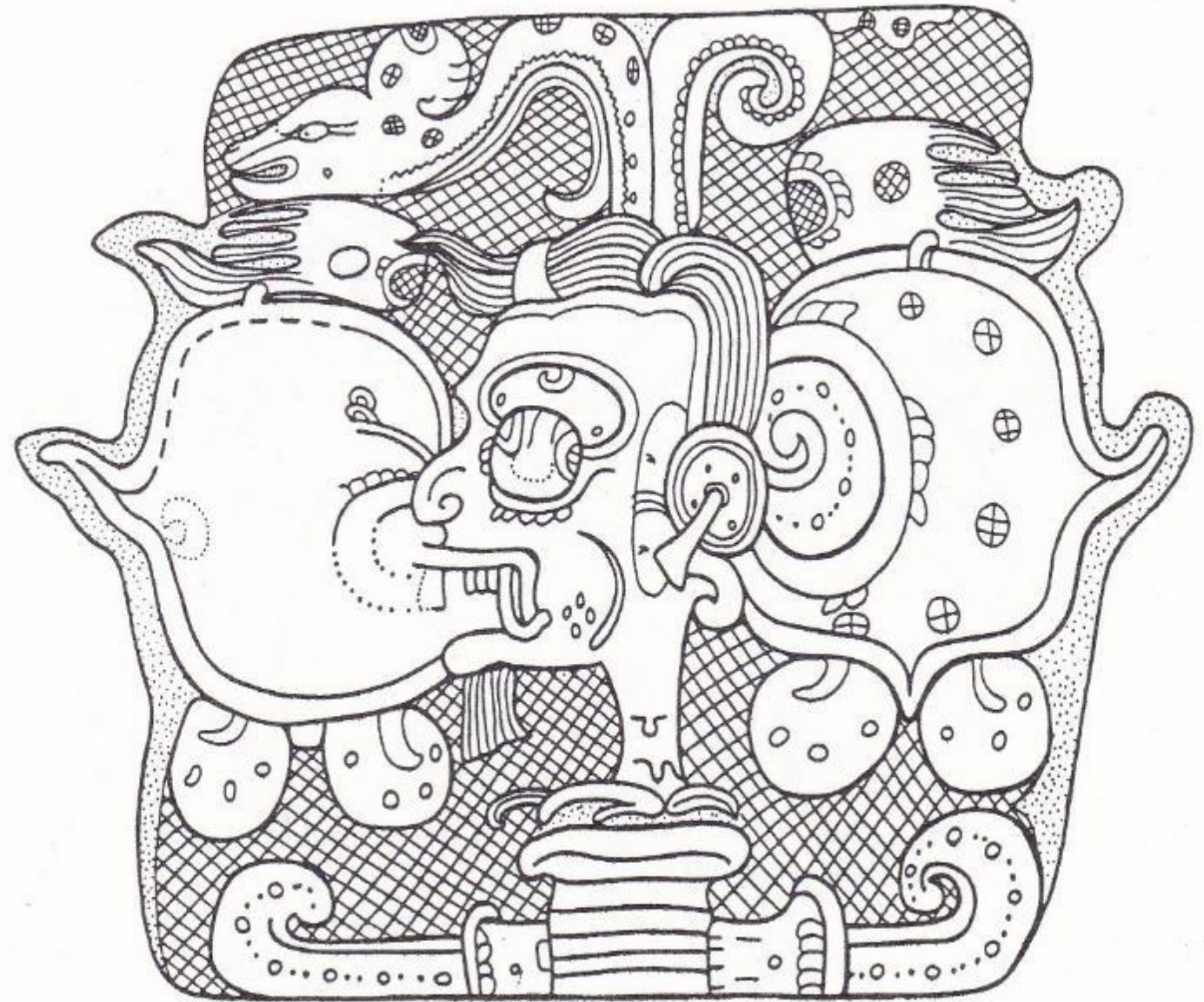


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Figs. 338-341. Shell Wing Dragons. 338, Palenque, Palace, House B, on top of a stepped motif that elsewhere serves as forehead of the Cauac Monster (Figs. 161, 612). 339, Palenque Tablet of the Slaves. 340-341, Machaquila, Stelae 8 and 4. Late Classic.



365B



365C



354C



354D



357



359



a

b

358

c

d

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Unexpected discovery: the "tail feather" is the same as suggested to be a Stingray Spine as headdress element of Quadripartite Badge???



Gratefulness

MSc José Ortiz. Professor of Oceanography and Researcher at the Center for the Study of the Sea and Aquaculture of the University of San Carlos de Guatemala.

Universidad Rafael Landívar. Facultad de Ciencias Ambientales y Agrícolas

Museo del Popol Vuh.

Mayantoons, to the team of illustrations and animators.

FLAAR Mesoamérica, to the research team, designers, editors, web and social networks.