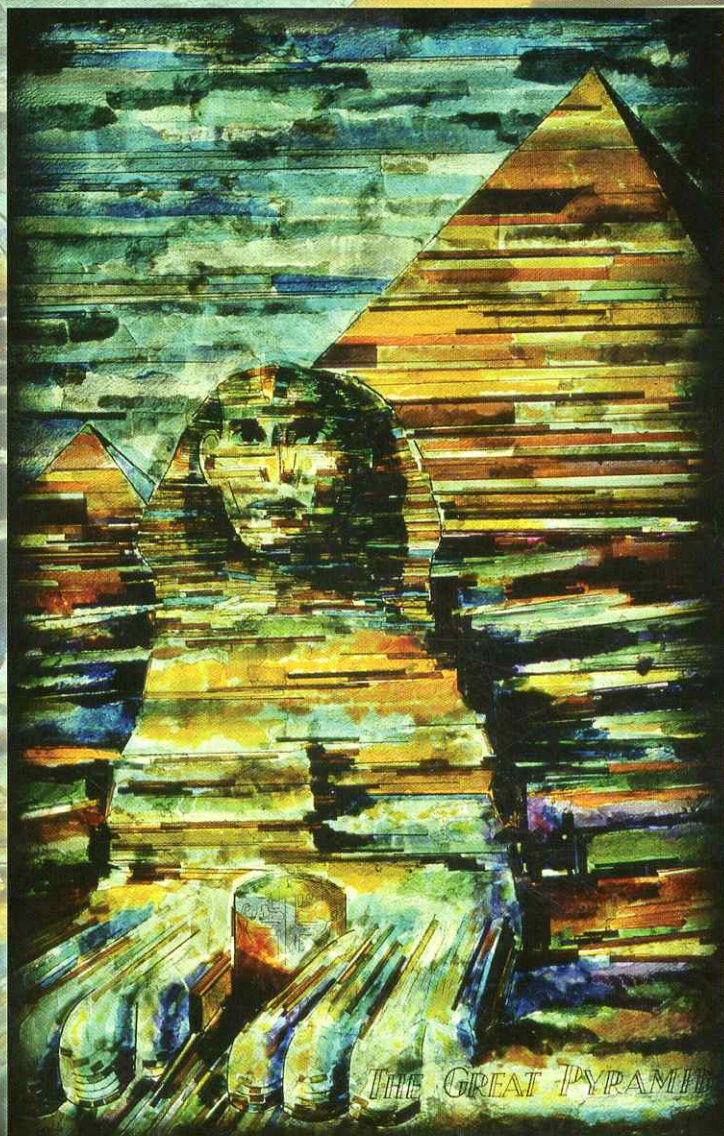




GRIFFITH OBSERVER

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THE GREAT PYRAMID

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Catch a Scorpion by the Tail

Uguku Usdi and Evelyn Calvillo

The In Lak'ech Study Group

CALIFORNIA SUBSTANCE ABUSE

TREATMENT FACILITY AND STATE PRISON

CORCORAN, CALIFORNIA

There are no circumstances in which misidentifying a scorpion is a good idea, but the consequences are far greater when the arachnid is underfoot than when it is in the sky. We are tempted, of course, to equate anyone's celestial scorpion with Scorpius, the Classical scorpion constellation that belongs to the zodiac. That starry scorpion actually resembles a scorpion, although others have called it Maui's Fish Hook, a palm tree, a snake, a heavenly cross, and more. Recognition of a starry scorpion in the Paris Codex, one of only four pre-Conquest Maya screenfold documents known, has naturally prompted some to see it as the Scorpius we know so well. Here, however, Uguku Usdi and Evelyn Calvillo extend the cautionary argument first advanced by archaeologist Dr. Bruce Love: That scorpion the Maya saw in the sky may very well be a totally different pattern of stars in a completely different part of the sky. Those who make astronomical assumptions may get stung.

-ECK

There is almost unanimous agreement among Maya researchers that the scorpion in ancient Maya astronomy and astrology corresponds to the Western scorpion constellation Scorpius. David Kelley (1976:50), an early pioneer in

deciphering Maya hieroglyphs, in a chapter on Maya astronomy, matches the Maya scorpion constellation with the Western zodiac constellation Scorpius, as do Harvey and Victoria Bricker in their "Zodiacal References in the Maya

Codices" (1992:169-172) and David Friedel, Linda Schele, and Joy Parker in their *Maya Cosmos* (1993:75-76).

None of these authors, however, present empirical evidence from the pre-Columbian past to support identification of Scorpius as the ancient Maya scorpion constellation. They sources they do cite rely either on dictionaries written well after European contact or from modern Maya informants who may have been referencing the European zodiac.

Linda Schele, in her 1997 collaboration with Nikolai Grube on the *Notebook for the XXIst Maya Hieroglyphic Workshop*, recounted a relevant experience, several years earlier, while at San Juan Chamula in Chiapas, México. When drawing the constellation Scorpius, a man pointed at her drawing and said *tzek*, a Maya word for "scorpion" (Schele and Grube 1997:213). She also said that she and Grube had data from Tix Kakal Guardia [sic] and Yaxuna from "religious specialists" that indicated Scorpius is Sinaan Ek', or "Scorpion Star" (ibid.). Schele described this as her "eureka moment" because she realized that when modern Maya informants recognized the constellation Scorpius as a scorpion, she concluded their ancient forebearers should have done the same.

At the time of Schele's and Grube's 1997 collaboration, R. Jon McGee and F. Kent Reilly III published a paper in the *Journal of Latin American Lore* (20:1, 125-142) in which they gathered ethnographic data on Lacandon astronomy and cosmology. It offered, however, no new evidence, empirical or otherwise, to confirm Scorpius is the ancient Maya scorpion constellation. Rather, they referred to Friedel *et al.* (1993), the Brickers (1992), and Dennis and Barbara Tedlock (1993) on the importance of the constellation Scorpius in contemporary Maya life and the identification of ancient Maya constellations with their modern Western equivalents (McGee and Reilly 1997:127, 130-131). These sources prompted McGee and Reilly to

apply the Lacandon word for "scorpion," *ah looch*, to the constellation Scorpius (Ibid.:133).

McGee's and Reilly's constellation identifications, both ancient and modern, came, however, with stated caveats. They said "[t]he Lacandon still use many of the same star names that their ancient ancestors employed, although they do not correspond to exactly the same celestial bodies" (Ibid.:131, emphasis added). In their conclusion, they also stated, "although there was general consensus about the names of objects in the sky, it was difficult to determine the precise referent of the name. So few persons remembered the names of celestial bodies, or had good enough vision to see them, that we considered ourselves lucky to get two matching identifications for the same object" (Ibid.:140).

The Brickers presented a zodiacal model for how the pages of the Paris Codex, one of the few Maya pre-Conquest documents to survive, are to be read, and they argued the identification of the ancient Maya scorpion constellation with our own zodiacal Scorpius should not be dismissed out-of-hand "just because it seems too obvious" (Bricker and Bricker 1992:157). Earlier in the same paragraph the Brickers acknowledged that even though "Scorpion" is *sinaan* in Yucatecan Maya, and the same word is used for [the] constellation Scorpio [sic] in the Motul Dictionary, this does not necessarily mean that the Maya scorpion constellation corresponded exactly with the Western constellation named Scorpio



According to Bruce Love's interpretation of the Paris Codex, the scorpion constellation, suspended from a skyband on page 24 of the codex, is left (east) of the turtle constellation (Orion) and the rattlesnake constellation (the Pleiades). (color facsimile of Paris Codex accompanying Anders, 1968).

[sic],” but added “but it may mean just that.” Throughout the remainder of the paper, the ancient Maya scorpion constellation is presented as corresponding to Scorpius, and indeed, their model of the Paris Codex star almanac is dependent on such a correspondence (Bricker and Bricker 1992:167-178).

It appears to us that the match-up of the ancient, pre-Hispanic Maya scorpion constellation to the Western Scorpius is an *a priori* assumption without backup data to support it.

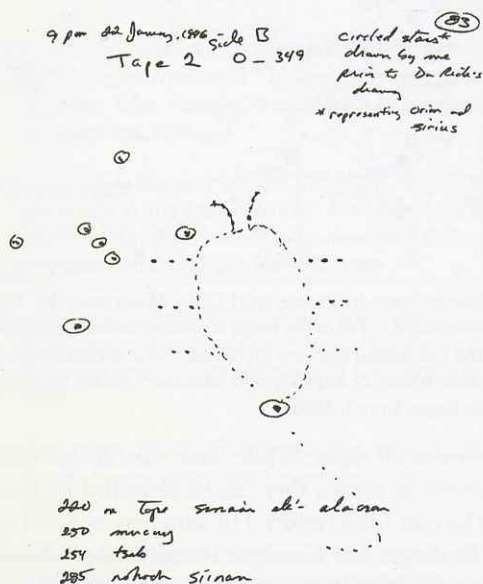
In *Paris Codex: Handbook for a Maya Priest* (Love 1994:97-98), Bruce Love suggested that the scorpion constellation in the Paris Codex is probably not the Western Scorpius and that it could be a “scorpion star” identified by anthropologist John Sosa, who worked in eastern Yucatan, as a constellation of stars “from Orion to Sirius” (Sosa 1985:431). Love subsequently found and published ethnographic evidence, based on fieldwork

done in 1995, in which a modern, contemporary scorpion constellation identified by Maya villagers, consists at the very least, of a constellation comprising stars of the modern constellations Canis Major the Great Dog and Lepus the Hare. In this article, Love includes, from his field notes a sketch in which he drew the constellation Orion and the star Sirius after which his informant, Damiano Dzib, drew in the stars representing the scorpion constellation.

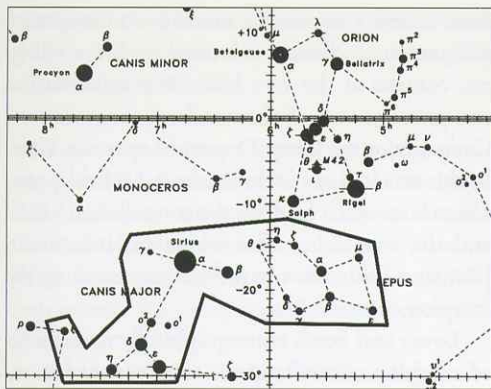
Love’s and Sosa’s ethnographically documented scorpion constellation is southeast of Orion, and Love proposed, in his Paris Codex book, that three constellations shown side-by-side in the Paris Codex represent three constellations in the real night sky that are also side-by-side in the sky. This is a sequential model, as opposed to a zodiacal model, because the constellations appear in a sequence from west to east.

In two currently unpublished papers produced by The In Lak’ech Study Group, we have presented arguments and empirical evidence supporting Love’s identification of the Maya scorpion constellation as stars of Canis Major and Lepus (“Denizens of the Night: The Star Almanac of the Paris Codex” and “Venus and the Scorpion.” In a footnote to one of those papers, we note, “Damiano’s drawing has the tail extending southeast (if one is looking toward the south) from Sirius in a long line before making a short curve northward. Though there is no scale to Damiano’s drawing it seems quite possible that the tail could incorporate some of the stars of Puppis, the constellation immediately southeast of Canis Major” (“Denizens of the Night: The Star Almanac of the Paris Codex,” footnote 4). That possibility is discussed below.

For astronomical observation by the unaided eye, the magnitude (brightness) of a star is the limiting factor that determines a star’s visibility. The brighter the star, the easier it is to see. On average, it is very hard to see a star fainter than a magnitude of about 6.5. In Dzib’s drawing, the star Sirius (visual magnitude of -1.44) represents the base of the scorpion’s tail. A sec-



Damiano Dzib’s drawing of *siina’an eek’*, “scorpion star,” appears in Bruce Love’s 1995 field notes taken near the town of Xuilub, Yucatán, México. The seven principal stars of Orion and the star Sirius were first drawn and circled by Love. Then Dzib, a resident of Xuilub, drew in the scorpion constellation. (Love 2002: 45-46).

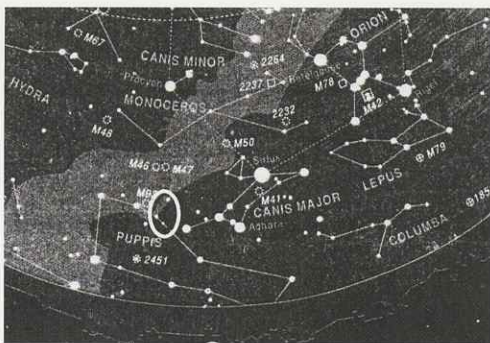


The stars of Canis Major the Great Dog and Lepus the Hare (framed here by an irregular polygon) match the position of the scorpion stars drawn by Damiano Dzib. Dzib explained to Love (more than once) that Sirius is *u chuun u nej*, "the base of the tail" of the scorpion. (chart from Sky Publishing Corporation, 1980).

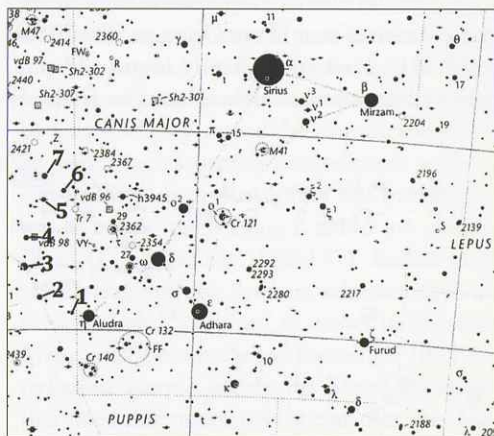
tion of a modern constellation chart here shows Canis Major and Lepus contained within a polygon, which matches the position of the scorpion stars drawn by Dzib. Southeast of Sirius the stars omicron Canis Majoris (magnitude 3.02), Wezen (delta Canis Majoris, magnitude 1.83), and Aludra (eta Canis Majoris, magnitude 2.45) can be seen. It seems plausible, given the brightness of these stars, to conclude they represent most of the tail extending southeast from Sirius in Dzib's drawing. Their positions, however, do not fit the shape of the curve that turns northward in Dzib's drawing.

In a modern constellation and celestial object finder produced by Orion, the line created by the stars mentioned above extend southeast of Sirius (here placed for convenience just over the southern horizon at the bottom of the finder). To the east (left) of Aludra there is a group of four stars in the constellation Puppis. Three of these line up in a way that would constitute a northward curve of a line extended through them from Aludra.

Such star finders, however, generally only plot the brightest stars. In a more detailed sky atlas produced by *Sky & Telescope*, a northward arc of six or seven stars, if extended with lines to Aludra, would definitely take the shape of a



Canis Major and Puppis the Poop Deck skirt the southern horizon in this Orion Star Target: Constellation & Celestial Object Finder chart. The three circled stars in Puppis may be the stars in the northward curve of the Maya scorpion constellation's tail. (Orion Star Target: Constellation & Celestial Object Finder, 2001)



Fainter stars in Puppis and Canis Major may be the northward curve of the Maya scorpion constellation's tail. The numbered stars are identified in the accompanying table. (chart 27 from *Sky and Telescope's Pocket Sky Atlas* by Roger Sinnott, 2006)

northward curve. While these stars do not have common names, they can be identified by their Harvard Observatory HR numbers as listed in *The Bright Star Catalogue* (4th edition) published by the Yale University Observatory. Numbered from south to north, the stars are listed in the table with the HR number, right ascension, declination, and visual magnitude. All of the stars in the table are brighter than the 6.5-magnitude visual limit.

Because Dzib's drawing does not contain anything that looks like the hook of a scorpion's stinger (analogous with Shaula and G Scorpii),

it is unclear whether the star numbered 6 or 7 would constitute the final star of the curve.

Proposed Identities of Stars Comprising the Curve of the Scorpion's Tail as Referenced from
The Bright Star Catalogue (Yale University)

	HR Number	Right Ascension	Declination	Visual Magnitude
1	2863	07 ^h 27 ^m 59.10 ^s	-29° 09' 21.00"	5.54
2	2922	07 35 22.80	-28 22 10.00	4.64
3	2948	07 38 49.30	-26 48 07.00	4.50
4	2944	07 38 17.90	-25 21 54.00	4.70
5	2909	07 34 18.50	-23 28 25.00	5.83
6	2874	07 29 51.40	-23 01 28.00	4.35
7	2906	07 34 03.10	-22 17 46.00	4.45

Conclusion

We have identified the stars we believe represent the northward curve of the scorpion's tail in the drawing, by Damiano Dzib, that was included in Bruce Love's 2002 article. If the stellar identifications be correct, a complete inventory of the stars that represent the Maya scorpion constellation reported to Love by Dzib is available. These could, then, be the stars represented by the Maya scorpion constellation on page 24 of the Paris Codex.

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Maya Scorpion Constellation may not be Scorpius

RIVERSIDE (Bruce Love). There is a constellation in the skies of eastern Yucatan known by modern Maya as *Sina'an Eek'*, or Scorpion Constellation, which is not the constellation commonly referred to as Scorpius in the sign Scorpio of the zodiac. In fact, it lies in the opposite side of the sky from Scorpius, near the constellation Orion.

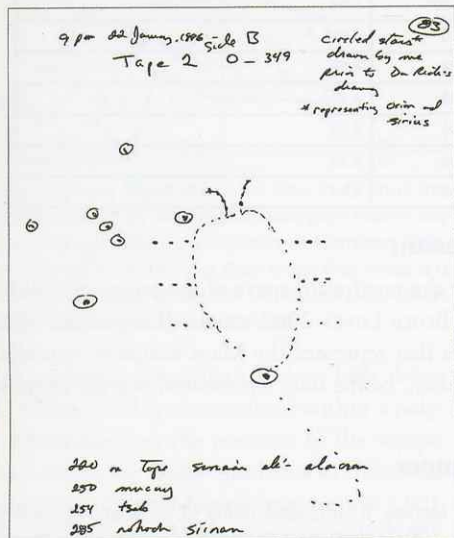


Fig. 4. Page from field notes, January 22, 1996. The stars of Orion and Sirius were first drawn and circled by the author, after which Mr. Dzib drew in the scorpion constellation as he perceived it.

John Sosa reported the presence of this scorpion constellation as part of his dissertation research in Yalcoaba, northeast of Valladolid, Yucatan. He discovered it to be "composed of stars from Orion to Sirius" (Sosa 1985:431), precisely the location later noted by the author during ethnographic fieldwork in Xuilub, southeast of Valladolid.

In 1994, I reported a scorpion constellation reaching from Gemini to Sirius, and proceeded to equate the Scorpion sign in the Paris Codex (p. 24) to the twin stars of Gemini (Love 1994:97–100). Later fieldwork in Xuilub pinpointed the location of the stars to a faint cluster between Orion and Sirius, just as Sosa had reported, with the brilliant Sirius being the base of the tale of the Scorpion.

The specific fieldwork occurred on the evening of January 22, 1996, on a dark back street leading away from the town square. With Damiano "Rich" Dzib Aban, resident of Xuilub, I worked with tape recorder, notebook, and flashlight, marking with dots on a blank page the location of Sirius and the stars of Orion, asking Don Rich to draw in the scorpion. The

results are presented here as Figure 4. Don Rich spoke into the tape recorder, in Mayan, as he carefully pointed out the individual stars making up the scorpion's body, pincers, legs, tail, and stinger, repeatedly referring to the stars as *sina'an eek'*, alacran.

On modern star charts, the constellation Lepus makes up the body and the pincers of the scorpion, while Sirius marks the end of the body and base of the tail (Fig. 5). I was not altogether clear – although Don Rich was – where the curve of the tail and the stinger were, although I believe they are stars in Canis Major.

Finding *Sina'an Eek'* in the southern sky below Orion points out the rich potential for further ethnographic research concerning star lore and cosmology in Yucatan. In particular, there is a constellation known as *Mucuy* or *Chan Mucuy*, a turtle dove, which has been reported but not yet identified to

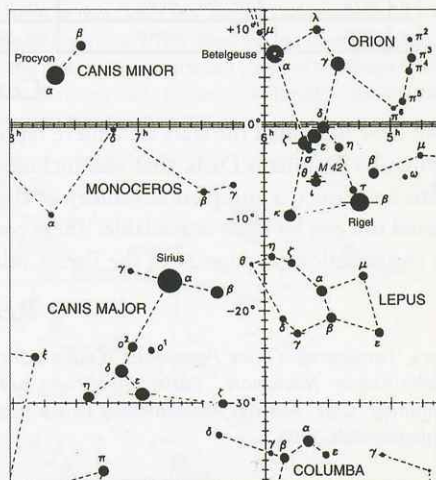


Fig. 5. Portion of constellation chart showing location of Lepus, Sirius and Canis Major, the stars of the Maya scorpion, in relation to the stars of Orion (Sky Publishing Corporation 1980).

location. Future work in this vein will certainly yield important results.

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In 2002, Bruce Love argued the Maya scorpion constellation may involve completely different stars from those in Scorpius the Scorpion and published a drawing of the Maya scorpion constellation informed by a resident of Xuilub, Yucatán. His report appeared in *Mexicon*, volume 23, number 3, pages 45–46 and appears in entirety here with permission. (*Mexicon* 2002)