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THE MAYA MEDICINAL TURTLE, *XKOKAK*, AND A SUGGESTED ALTERNATE READING OF TWO YUCATEC ETHNOMEDICAL TEXTS

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ABSTRACT.—According to Maya informants in northern Belize, the plastron of a type of turtle called ***xkokak*** is used in the treatment of respiratory ailments. This use is recorded in northern Yucatan as well. This turtle's salient characteristic is a hinged, moveable plastron that can close up the shell; the folk taxon may include both mud turtles *(Kinosternon* spp.) and the box turtle *(Terrapene carolina).* Based on the ethnographic evidence, it is suggested that the ***kokak*** mentioned in two published Colonial Period medical texts with the translation "asthma grass" may be plausibly reinterpreted as a reference to this turtle.

RESUMEN.—Según informantes mayas en el norte de Belice, el peto de un tipo de tortuga llamada ***xkokak*** se usa en el tratamiento de enfermedades respiratorias. Tal uso está documentado también en el norte de Yucatán. La característica sobresaliente de esta tortuga es el peto movible, a manera de bisagra, que puede cerrar el caparazón; es posible que el taxón maya ***xkokak*** incluya tanto a las especies de *Kinosternon* como a la *Terrapene carolina.* En base a la evidencia etnográfica, sugiero que el ***kokak*** mencionado en dos textos médicos de la época colonial, y traducido como "hierba del asma," es plausible reinterpretarlo como una referencia a esta tortuga.

RÉSUMÉ.—Selon des informants Mayas au nord du Bélize, le plastron d'une sorte de tortue appelée ***xkokak*** est utilisé dans le traitement des maladies respiratoires. Cet usage se retrouve aussi au nord du Yucatan. La caractêristique très particulière de cette tortue est un plastron mobile à charnière qui peut refermer la carapace; la catégorie taxonomique ***xkokak*** inclut peut-être les espèces de *Kinosternon* et la *Terrapene carolina.* A la base des preuves éthnographiques, je propose que le ***kokak*** mentionné et traduit comme "herbe d'asthme" dans deux textes médicaux de l'époque coloniale puisse être réinterprété comme une référence à cette tortue.

INTRODUCTION

As an adjunct to a zooarchaeological study in Corozal District, northern Belize, I conducted interviews with Maya archaeological workers from the villages of Chunox and Copper Bank concerning the animals available in the area and their utilization. Among the animals discussed were several that have medicinal uses. One of these, described by two informants, is a turtle called ***xkokak.***[1] The ***xkokak*** is described as having a closable plastron and three ridges on the carapace. It inhabits cool, moist forest areas but can also be found in seasonal ponds, or *aguadas,* and near settlements.

IDENTIFICATION AND USES OF THE *XKOKAK* IN NORTHERN BELIZE

Xkokak specimens were not observed in the course of my fieldwork; identification of this turtle in terms of scientific taxonomy had to be based on the brief description provided in the interviews. Its most distinctive characteristic is the closable shell. Two types of turtles in the Maya lowlands exhibit this characteristic: the mud turtles *(Kinosternon* spp.) and the box turtle *(Terrapene carolina yucatana* Boulenger).

The distribution of the box turtle, according to Lee (1977:34, 163), is far to the north of Belize, mainly in the Mexican state of Yucatan. Neill (1965:125) lists it as a questionable record in Belize.

Mud turtles definitely occur in Belize, and one form, *Kinosternon scorpioides* L. (cited in some sources as *K. cruentatum),* has three ridges on its shell (Iverson 1976:260; Neill 1965:119). On this basis, I have tentatively identified the ***xkokak*** as *K. scorpioides.* Complicating this identification, however, is the fact that the Maya recognize another small three-ridged turtle called ***xtuk'is,*** which is known for its foul odor. This has also been identified as a mud turtle, since the related musk turtles or stinkpots are not recorded in the region. In the folk zoological system a clear distinction is made between the two turtles, only one of which is utilized. Their exact equivalents in the western taxonomic system have yet to be clarified. All mud turtles can produce an unpleasant odor, but their propensity to do so may vary individually. It is possible that the Maya classification makes a finer distinction within a single scientifically recognized species.

The ***xkokak*** is used as a source of medicine to combat colds and asthma in babies. The chest area of the plastron is scraped to form a powder, which is mixed with water and given to the sick baby to drink. In contrast to most turtles, the meat is not eaten, except occasionally by elderly people. Even then the meat is more than an ordinary food, serving as a tonic to improve health.

THE *XKOKAK* IN THE YUCATAN

The taxonomic term ***kokak*** is also recorded in the Yucatan. It is listed in the *Diccionario Maya Cordemex* (Barrera Vásquez et al. 1980:330) and tentatively identified as the box turtle, *Terrapene.* This identification is likely to be correct in the Yucatan, which is within the known range of this turtle (Lee 1977:163). Nevertheless, a mud turtle observed at Chichén Itzá, Yucatan, in 1986 was identified by local Maya archaeological workers as a ***xkokak.*** It may well be that the term covers both turtles where their ranges overlap. Although differing in other ways, the two are united by their possession of a closable plastron. I believe that this is the key criterion by which the taxon is defined.

The Cordemex dictionary (Barrera Vásquez et al. 1980:330) mentions the medicinal use of the ***kokak*** as well. It states that this turtle is used to cure asthma and persistent coughs. Details of the treatment are not provided.

Similar medicinal uses, then, are associated with this turtle over a wide area. There are exceptions, however. The informants who identified the ***xkokak*** at

Chichén Itzá, when questioned about medicinal uses, denied that the turtle had such a function. Nor is a turtle mentioned in the asthma treatment recorded by Redfield and Redfield (1940:67) in Dzitás, Yucatan.

Some other statements in the Yucatec ethnographic literature may refer to this turtle. Redfield and Villa Rojas (1962:177) mention that an amulet made from a "tortoise" plastron is used in Chan Kom, Yucatan, to guard against respiratory ailments in children. The plastron can also be boiled and the water drunk as a treatment. Although the preparation is different, the anatomical part used and the illness for which it is the chosen treatment are the same as in Belize. The plastron itself is called ***kokak*** by Redfield and Villa Rojas. The tortoise is said to be considered sacred for reasons beyond its effectiveness against asthma: during droughts, it is seen walking along with tears of sympathy in its eyes for the drought-stricken farmers; its tears help to draw the needed rain. Moreover, it carries the sign of the cross on its plastron (Redfield and Villa Rojas 1962:177, 207).

THE MEANING OF THE TERM *KOKAK* AND ITS ASSOCIATION WITH ASTHMA

Kokak is a compound term consisting of the elements ***kok*** and ***ak,*** the latter meaning "turtle."

Barrera Vásquez et al. (1980:329) provide several definitions of ***kok,*** three of which appear relevant here: "asthma," "dry or rotten gourd," and "terrestrial turtle." That the third definition is not simply an abbreviated version of ***kokak*** is suggested by the fact that the word ***kok*** for "turtle" is used mainly in Guatemala, whereas ***ak*** is more common in Yucatan (Seler 1923:654).[2] The term ***kokak,*** then, could literally mean "turtle turtle." An alternative meaning, "asthma turtle," is indicated by one of the definitions presented by Barrera Vásquez et al. (1980:330): *"tortuguita del asma."* A third possible meaning is "dry gourd turtle," as implied by Roys (1931:329). According to this interpretation, the term was probably based on the similarity of the ovoid closed-up shell to a gourd.[3]

The frequency of homonyms in the Yucatec Maya language, which complicates efforts to understand the etymology of specific terms (cf., Roys 1965:xxv), also provides a variety of pathways by which a particular animal or plant could have come to be associated with a particular disease. If the original meaning of the term ***kokak*** was something other than "asthma turtle," the medicinal use could have followed as a consequence of the homonym ***kok.*** Homonyms are known to play a role in traditional Maya symbolism (Roys 1965:xix-xx).[4]

If, on the other hand, "asthma turtle" is the original meaning of the term, we are left with the question of how the animal became associated with the disease in the first place. Such associations sometimes arise from physical similarities between the symptoms of a disease and the curative item—for instance, "blood-vomit" is treated with red feathers (Roys 1931:63). Perhaps in the case of ***kokak*** an analogy was seen between the closure of the turtle's shell and the blockage of breathing in an asthma attack. Box turtles can close up so tightly that "a person who did not know that a reptile in a state of repose uses very little oxygen might wonder why a tightly closed box turtle would not soon suffocate" (Pope 1955:68).

Another line of reasoning, more applicable to the mud turtle than to the terrestrial box turtle, involves the former's amphibious nature. That the Maya may have likened asthma to a sensation of drowning is suggested by frequent references to water in incantations to cure this disease (Roys 1965:xviii). Amphibious turtles in general can give the impression of being immune to this problem. Further ethnozoological inquiry may ultimately clarify the origin of the ***kokak***'s name and the reason for its connection with asthma, questions that are of interest with regard to general patterns of nomenclature as well as Maya medical epistemology.

AN ALTERNATIVE INTERPRETATION OF TWO YUCATEC MEDICAL TEXTS: "ASTHMA GRASS" OR "ASTHMA TURTLE"?

In his monumental work *The Ethno-botany of the Maya,* Ralph Roys (1931:9–10) presents two Colonial Period medical prescriptions for treating respiratory ailments with a material called ***kokak.*** This is translated as "asthma grass" and tentatively identified as a type of moss (Roys 1931:225). Although Roys points out in both his plant and animal lists that the term also refers to a certain small turtle, he clearly believes that it is the plant that is referred to in the medical texts (Roys 1931:225, 329). The words for "grass" and "turtle" ***(ak)*** are homonyms in Yucatec Maya.

Although it is true that more plants than animals are used medicinally, I propose on the basis of the ethnographic evidence presented here that "asthma (or gourd) turtle" is a plausible alternative translation for the ***kokak*** mentioned in these texts. Indeed, this interpretation renders the otherwise puzzling wording of the prescriptions more understandable. Key phrases are the following (spelling as in original):

Cħa cocaac, hunxeth u boxel ... ca a huc̄ħ tulacal catun a ɔa yuke ...
Take the coc-ac, a piece of the husk or outside ... Mash them all and give it to drink ... (text no. 18, p. 9)

... tocbil u boxel cocac, hunppel cuchara u may bin ɔabac ichil uabal uklil ...
... burn the exterior of the coc-ac (asthma-grass). One spoonful of the fine ashes is to be put into whatever the patient drinks. (text no. 19, pp. 9–10)

The word ***boxel,*** translated as "husk" or "exterior," also refers to the shell of a turtle (Barrera Vásquez et al. 1980:66). Whereas it is difficult to picture what is meant by the "husk" of a moss, except on an almost microscopic level, the word makes perfect sense if the text refers to a turtle. Substituting this interpretation, these Colonial Period medical prescriptions fall in line with the treatments recorded more recently in both the Yucatan and Belize.[5]

CONCLUSIONS

Ethnographic evidence in the Maya lowlands points to the widespread recognition of a taxon ***xkokak*** which may encompass both mud turtles and the

box turtle. These otherwise rather different turtles are united by the characteristic of a hinged plastron which allows the shell to close up. The use of the plastron to treat respiratory problems may be either a cause or a consequence (through homonymy) of the name applied to this turtle. Such a use occurs in various parts of the Yucatan Peninsula at present. I suggest that it was recorded in Colonial times as well.

NOTES

[1]I have followed the spelling of the *Diccionario Maya Cordemex* (Barrera Vásquez et al. 1980), a slightly modified version of the traditional Spanish-based orthography of Yucatec Maya. The ***k*** as used here is equivalent to ***c*** in most earlier publications. The ***x*** is an optional prefix; I use ***xkokak*** or ***kokak*** following the source cited or informant usage.

[2]***Kok*** as a term for "turtle" occurs in dialects of Tzeltal, Tzotzil, Chol, Ixil, Kekchi, Cakchiquel, Quiche, Pocomchi, and Pocomam in addition to Yucatec, and there is phonological evidence that the term is widely diffused (Cecil H. Brown, personal communication 1991). Brown suggests that the term could, in fact, have arisen from "asthma turtle" in Yucatec and diffused in a truncated form.

[3]Since ***kok*** alone can mean "turtle," it can also be argued that the semantic extension worked the other way around, from the turtle to the similarly hard-shelled gourd.

[4]Indeed, Kelley (1976:122) provides an example involving the word ***kok.*** Yet another meaning of ***kok*** is "miserable" or "scarce;" Kelley argues that this concept is symbolized by turtles pictured in the Maya codices.

[5]Further doubt is cast on the "asthma grass" interpretation by the fact that two major later ethnobotanical works have not recorded a plant by this name (Barrera Marín et al. 1976; Mendieta and del Amo 1981).

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BOOK REVIEW

Phytoarchaeology. Robert R. Brooks and Dieter Johannes. Portland, Oregon: Dioscorides Press, 1990. Pp. 268. 20 color and 32 b/w photos. $39.95. ISBN 0-931146-16-X.

The two authors of this book—both outstanding specialists in archaeoethnobotany—approached phytoarchaeology from different fields of research. The first, a New Zealander, is an expert who was intrigued with results from studying two different sites thousands of miles apart, in Corsica and in Zaire. The second conducted research based on vegetational studies in mineralized areas in Germany. "It was," as the authors confess in their preface, "a difficult book to write because of the wide range of disciplines covered and the wide dissemination of the literature in several languages." They have, this confession notwithstanding, done a magnificent piece of writing and have produced a volume which will long stand as an example of superb research.

The volume is arranged under two parts: Part I, General Principles, with nine chapters; and Part II, Aerial Phytoarchaeology, with seven chapters. The extraordinary coverage—technological and geographical—are evident in these parts. There follows a glossary of terms, a botanical index, a geographical index, and a subject index.

The book is superbly produced by Dioscorides Press which must be congratulated for publishing a jewel at such a reasonable price. The authors are to be thanked for their multidisciplianry treatment, much to be desired in this period of extreme compartmentalization.

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