

SOCIAL WASPS AMONG THE BRIBRI OF COSTA RICA

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Social insects comprise four large groups: the social wasps, the social bees, all ants, and all termites. Although the particular ethnobiology of social insects has just barely begun, it is already apparent that these animals attract considerable attention in pre-industrial societies. The patent reason for this is that they live in organized groups with a strong superficial similarity to human societies and thus stand as ready-made symbols of humanity. This is likely to be especially so in tropical regions, where social insects are very abundant and diverse. In the most extensive examination to date of social insect beliefs and customs of an aboriginal people, the Kayapó of the Amazon, Posey (1977, 1978, 1981, 1983) has shown an intimate knowledge of these. This is particularly noted for the social wasps, which are closely associated with the very folk identity of the Kayapó.

The Bribri are native to Limón and Puntarenas provinces in southern Costa Rica. They presently number about 3500, mainly small farmers. Although they are by no means isolated from mainstream Costarican society (most are now Christians) and have undergone significant acculturation, the Bribri language and many customs remain (Bozzoli 1975, 1979).

Initial conversations about social insects with native Bribri speakers indicated an extensive nomenclature and several legends. Among our preliminary findings are about 29 different names for ants. About three or four of these refer to higher categories, the rest to ethnospecies. Of the 81 species of social wasps known from Costa Rica (Starr and Snelling, in prep.), perhaps 20-25% are known to the Bribri. In the present paper, we report Bribri names and folk beliefs regarding social wasps in general, six relatively conspicuous species in particular, and one ant species which the Bribri associate with wasps.

MATERIALS AND METHODS

The basic information reported here was taken in early 1979 in tape-recorded conversations at or near the village of Amubre in the Talamanca Valley of Limón province. This was supplemented with an interview with

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Mario Nercis (see below) in early 1989 and occasional conversation with others in the intervening period. Our standard format was to show the informant a specimen and ask its name and whether there was a story associated with it. Follow-up questions about its nest and habits served to elicit further information and to ensure that the informant had correctly matched the single dead specimen in hand with the living social species. Special care was taken in this regard where the wasp was a member of a mimetic complex of two or three very similar-looking species. Identifications of wasps are the responsibility of CKS; translation and linguistic interpretation are the responsibility of MEBW. Orthography of words in Bribri follows Bozzoli (1975, 1979).

We had three principal informants, all natives of Amubre. Clara Oliver is an elderly woman regarded in the community as exceptionally knowledgeable. Arturo Morales is a middle-aged farmer and a leading shamanistic medicine-man in the Amubre area. Mario Nercis is a young farmer. We have also taken advantage of remarks added by four people aged about 25-40 who were present during principal interviews. Mrs. Oliver speaks only Bribri. Spanish summaries of her responses by her daughter allowed the interviewer (CKS) to proceed. All other interviews were conducted in Spanish, in which the informants are fluent.

RESULTS

1. Social wasps in general. *BukuLa'* or *bkuLa'*.

Most bribri names for social wasp ethnospecies end in *-bukuLa'*, *-bkuLa'*, *-bukuLe* or *-bkuLe*. We confirmed that *bukuLa'*, or its variant *bkuLa'*, is a generic term for social wasps. The suffix *-bukuLe* (= *-bkule*), on the other hand, is found in the names of particular ethnospecies, although the generic form is occasionally found in its place.

There was repeated reference to wasps as originally human or like humans, which evidently accounts for their present human-like qualities. Among these are their labor, nest-building ability, the hunting activities of many, and the fierceness of most in defending the colony. For the Bribri, the fixed residency of social wasps may be more significant than their group-living in making them human-like. Mr. Nercis called attention to the tiered nests and very large colonies of some species as likening them to foreigners and claimed that this same resemblance had struck his people when they first contacted Spanish settlements and, later, the camps of the foreign agribusiness concerns. In comparing the species, our informants made repeated analogy with differences between human races.

According to one custom related by Mr. Nercis, the Bribri encourage wasp-like personality traits in their children. "[The elders] bind up a wasp in cotton and tie it on the back of a pregnant woman. It is left there during one night and removed the next day. The baby which is later born grows up to like to work at building and builds his house well. He is also fierce, and the people fear him. Any wasp is good for transmitting these traits to the baby."

The following is Mrs. Oliver's summary of the Creation, with special reference to ants and social wasps. "When God made the Earth, it was His sister's daughter. He took His sister's daughter and transformed it into the Earth. At that time He had still not made us, and the world remained in darkness. When the sun was about to rise, He went far away to bring a *muLe*³ of the Spaniards. The seed of the Bribri had already appeared before this time. God brought the *muLe*' of the Spaniards and put it on a trash heap beside a house, and the Spaniards then came into being like us. The *muLe*' also became certain ants and wasps; that of the big, red-haired people became wasps. When God created the Earth for us and we appeared, they appeared at the same time." There follows an unclear passage in which a distinction is drawn between those insects which bite or sting and those which do not, and reference is made to "that time when Our Father sent an evil animal to punish us." To judge from the foregoing, the "evil animal" was the original beings whose earthly reflection is stinging and biting animals.

2. *Polistes erythrocephalus*. *SikwabkuLe* (wasp of the Spaniards or foreigners).

The names *kchù* and *shörrö* were also mentioned for this species. The former is of uncertain derivation, while the latter refers to the large size of this species.

P. erythrocephalus is a large black wasp with a red head. Of the six treated here, it is the only independent-foundingspecies (see Jeanne 1980), with small colonies and an uncovered, single-comb nest (West-Eberhard 1969, 1983). It is also the only one which often nests on or around buildings. There is some indication that the Bribri regard the other, swarm-founding social wasps as a "family" to which *P. erythrocephalus* does not belong, though we found no nomenclatural division.

This wasp is unmistakably associated with the Spanish conquest. Mrs. Oliver's testimony about *P. erythrocephalus* includes the following: "The Spaniards were created in the place of *SuLa*⁴ and then brought here by our Father. Thus, they have an origin similar to those of ants and wasps. When God created the world, He divided the humans, ants and wasps into separate groups. At the same time there appeared another group, the metals, such as

³ For the various meanings of this term, see Bozzoli (1975, 1979). In speaking Spanish, the Bribri usually call it "polvo", and in this context we can render it approximately as "original substance". The Bribri insist upon its mysterious nature. According to Mr. Nercis, *sikwa muLe*', the *muLe*' of the Spaniards or foreigners, connotes a danger originating in a foreign land or people. He and his wife gave the following illustration: "There are illnesses that come out of the weapons and tools of the Spaniards. For example, they kill people in Vietnam with their weapons, and because of this winds come over here bearing contagious diseases, which the people contract." The Bribri appear to observe certain rules in order to avoid the effect of *sikwa muLe*'.

⁴ A layer of the underworld where living beings originate. It also refers to the deity in that layer who looks after souls (Bozzoli 1975, 1979).

iron. These were later used by the Spaniards to make devices to fly in the air and to move on land and on the sea."

Other informants made the association yet more explicit, emphasizing that this wasp was created along with the Spaniards and came over with them, that it likewise has a red head, is similarly hard-working and pugnacious, with a painful sting, and that it is found in settled areas rather than in the forested hills. Although they did not say so outright to us "Spaniards", the Bribri plainly have little affection or admiration for *P. erythrocephalus*, whose colonies they often destroy with fire. The implication from this account is that it is a bothersome, ill-mannered interloper with an unwholesome love of work for its own sake. For a similar perceived correspondence between white people and a social insect -- leafcutter ants of the genus *Atta* -- see Mayorga et al (1988).

3. *Polybia simillima*. *AkbukuLe*, *ánbkuLe* or *ámkuLe* (stone wasp).

This is a black, pugnacious wasp of intermediate size, though large for its genus. The name evidently refers to the nest, which in our limited experience is medium gray and roughly spherical. It was characterized as a hard worker, good at nest construction, and also a hunter. One of our informants called it intelligent, and the Bribri seem generally to think well of *P. simillima*. At least one other dark, relatively large *Polybia* -- *P. flavitincta* - is also found around Amubre and may belong to the same ethnospecies.

Another name for *P. simillima*, *compaña-bkuLe* (company wasp), is evidently more recent and may be more in the nature of a colloquialism. One informant explained that the wasp's large, busy colonies resembled the relatively densely populated camps of the United Fruit Company.

4. *Agelaia areata*. *KaköbukuLe* (leaf wasp).

This small wasp is bright yellow with contrasting dark markings. It develops very large colonies (Jeanne 1973, 1975), but in our experience it nests high in trees. The Bribri therefore probably have little direct contact with colonies, and the name may not be strictly specific. The wasp's tendency to nest out toward the end of branches, in among leaves, may account for the name, or it may be because the nest has a roughly leaf-shaped profile. Our informants said that this wasp, like humans, is fond of meat and that its sting is painful but had little else to say about it.

5. *Agelaia myrmecophila*. *Bö-bukuLe* or *ákböbukuLe* (fire wasp).

This species is somewhat larger than *A. areata*, with the body mainly dull yellow, and quite pugnacious. Like the majority of *Agelaia*, but unlike *A. areata*, *A. myrmecophila* appears consistently to nest in ready-made cavities and to build no envelope around the combs (Richards 1978). One of our informants attributed the Bribri name of this wasp to the intense, burning pain of its sting, to which one of us (CKS) can attest.

There is some suggestion that this wasp is especially favored for inducing strong personality traits in unborn children. Mr. Morales characterized it as human-like, noting that it likes meat and goes hunting. However, Mrs. Oliver drew a much closer association, identifying this as the wasp counterpart of the Bribri themselves: "They were created together with us, and therefore we brought them here to guard over us." And according to her daughter, "When Christ created us, he also brought into being these wasps. This is as a help to us, as a protection."

6. *Metapolybia* spp. *KàlbukuLe* (tree or tree-trunk wasp).

The only *Metapolybia* we found around Amubre was an apparently undescribed species close to *M. docilis*. It is likely, however, that there are others and that they all belong to one ethnospecies. This is a very small, docile, black wasp with pale markings. Its nest is characteristic of the genus, and from the outside appears as a low disk with abrupt borders, flat against a tree trunk or large branch. As we were told, the Bribri name refers to this placement of the nest. Mr. Nercis characterized *kàlbukule* as a "sluggard" which attacks other animals and usurps their burrows and nests. If there is no misunderstanding here, this would suggest that the ethnospecies comprises more than just *Metapolybia*, for which these features are very unlikely.

According to Mr. Morales, this wasp had its origin in another world above this one. On arriving here, it was commanded by God to work on its own at constructing nests, where it multiplies. Originally it was a water-gatherer, but it came to gather nectar. The implication seems to be that it stores honey in the nest, which can then be harvested from it. As far as we are aware, though, no *Metapolybia* has been reported to significantly store honey. This is another suggestion that *kàlbukule* is a relatively broad taxon, if it has not been confused here with another wasp or with stingless bees.

7. *Synoeca septentrionalis*. *TswfbkuLe* (armadillo wasp).

This large, metallic blue wasp has a very painful sting (Starr 1985). The name "armadillo wasp" clearly refers to its domed, pale brown nest-envelope, with ridges running across it, which resembles the back of an armadillo.

This particular species is said to have originally been human and is now associated with the shaman profession. Mr. Morales characterized it as human-like, almost a doctor, and said it knows the whereabouts and uses of medicinal plants. For this reason, apprentice shamans pay close attention to *Synoeca*, and Mr. Morales implied that the firewood used in the initiation ceremony is taken from a tree in which the wasp is nesting. When Mr. Nercis's brother, a young shaman, was being initiated, he was brought a nest of this wasp, as a mark of his new authority and the respect due him and his house. We were unable to learn exactly how or why *Synoeca* was transformed from a human into a wasp or whether there are particular procedures by which apprentice shamans acquire its medicinal knowledge.

Mrs. Oliver spoke of a wasp called *ruchù*, which may refer to this same species. Among its characteristics are a tendency to fly long distances, industrious nest-building, intelligence, and a blue head, as if tied up in a blue handkerchief. In the beginning it resembled a human being and could think rationally.

One of our informants referred to *S. septentrionalis* as *ölöbkuLe* (buzzard wasp), apparently mistakenly. We were later told that *ölöbkuLe* resembles a buzzard in its body color and white wing tips, features not found in *Synoeca*. More likely, the buzzard wasp is *Parachartergus fraternus* and/or *P. apicalis*. However, the nest envelope of *P. fraternus* has regular ridges similar to those of *Synoeca* nests. We cannot now exclude the possibility that there is in fact a special relationship between armadillo wasps and buzzard wasps.

8. *Paraponera clavata*. *Siámña*.

This conspicuous black ant, the largest in Central America (Janzen and Carroll 1983), is outstanding for its sting. No other ant and probably only one wasp (*Synoeca septentrionalis*) known to the Bribri has a comparably painful sting (Starr 1985). Mr. Nercis related the Bribri name to *siáköL*. This is the wood from a certain tree and also a ceremonial musical instrument made from that wood, the sound of which resembles *Paraponera*'s loud warning stridulations. A connection with wood is also seen in the story that "When God was going to fell the tree *DLu'mia*, *Siámña* was the best wood-cutter. He whetted his axe, trying it to see if it was sharp, and that is when the sound was heard."

Paraponera is evidently regarded more as a wasp than an ant, its sting being the decisive feature. One informant explicitly placed it in close relationship to *Polistes erythrocephalus*, pointing to the presence/absence of wings as the difference between them, and another gave *bukuLa'* as one name for the winged virgin queens of *Paraponera*. Regarding the relationship between different ants, Mrs. Oliver told us that "All these were created in the beginning, just as we were, and like us they live today. They are of two groups. The truly bad and harmful ones are the wasps and *siámña*, while the others are harmless. These latter eat leaves, bits of wood, and flowers. *Siámña* also eats flowers, but it bites us." At another time she said that "*siámña* has remained like a wasp; it bites very painfully. These two are evil spirits and of the same family. They were created when all was in darkness, and they have remained on Earth." There is some implication that God created the good insects, while some of the evil ones come from the Devil.

Another informant related the origin of *Paraponera*'s powerful sting as follows: "Siarkwak was the chief of the *siámña*. When God was going to give a party in the region of *SuLayöm*, because the Indians were about to be created from seed, he put Siarkwak in charge of bringing the cocoa pot. It was a big, heavy pot, and Siarkwak did not want to carry it. In fact, it is that big pot-shaped rock that is now found in *SuLayöm*. It was there that God had the cocoa for the party. That cocoa was blood. To encourage Siarkwak

to carry the pot, God offered him a bit of the cocoa. Siarkwak became very merry and wanted still more cocoa, much more, but God would not give it. That is why we become sick when the *siámña* stings us. If God had allowed Siarkwak to drink still more of the cocoa, the sting of the *siámña* would now kill us."

The malicious nature of *Paraponera* is further implied in the Bribri belief that it should not be killed, as it would return one day to sting the person who killed it.

DISCUSSION

There is no indication that social wasps have ever been as prominent in the culture of the Bribri as they are to the Kayapó (Posey 1977-1983). Nonetheless, the names and stories reported here are consistent with the expectation that social insects will be found to occupy a special place in the world-view of any aboriginal tropical people, with the possible exception of those on biotically impoverished islands.

The Bribri evidently have an ambivalent attitude toward both the nest-building and defensive capabilities of social wasps. On the one hand, skillful construction and the ability to defend oneself are to be emulated. On the other hand, the love of work in itself is not admired, and unnecessary aggressiveness is an abomination.

It is not yet clear to what degree the Bribri take special note of the group structure of social wasps. One approach to this question would be a closer examination of the limits of the folk taxon *bukula*'. If group-living is a key factor, then we would expect some social species with very small colonies to be treated as non-*bukula*'. If the taxon is defined by features of the individual wasp, then physically similar solitary species should be included.

Present indications are that the ethnobiology of ants among the Bribri is at least as rich as that concerning wasps.

ABSTRACT: The Bribri of southern Costa Rica have a moderately extensive folk taxonomy of social insects. Attention is given here to their names for social wasps, beliefs regarding particular species, and the relationship of these to the giant ant *Paraponera clavata*.

KEY WORDS: Social wasps, Ants, Social Insects, Hymenoptera, Ethnoentomology, Costa Rica, Bribri Indians.

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