Insects are frequent elements of art and religion in American southwestern cultures (Capinera 1993) and have been used for food and medicine. However, the cultural significance of insects among indigenous peoples is poorly known and seldom appreciated by entomologists and anthropologists.

Anthropomorphic art often is linked to religion, and it is not surprising that various animals are identifiable in the context of religious ceremony. Indigenous Americans hold a balanced nature in reverence; thus, all elements of their environment are held in high regard. Also, the interconversion of humans and animals is a common tenet of southwestern American religions, and animal antecedents are frequent in their creation mythology. (The most comprehensive treatment of southwestern cultural entomology is a treatise of Navajo ethnoentomology by Wyman and Bailey [1964], but useful discussions are also provided by Fewkes [1910], Hitchcock [1962], Wright [1977], Kevan [1979, 1980], Hogue [1987], and Cherry [1993]).

The iconography of indigenous American southwestern cultures contains a fascinating array of anthropomorphic and entomomorphic figures. Much of what has been written about these figures is solely descriptive, and the serious attempts that have been made to analyze the symbolism have rarely taken an entomological perspective. Two common entomomorphic figures, the humpbacked flute player and Kokopelli, have attracted particular attention due to their appearance in several cultures over a long expanse of time. In recent years, archeological and anthropological publications generally have distinguished between these two related figures, but older publications and current popular publications often use these names interchangeably.

**Humpbacked Flute Player**

The humpbacked flute player is the human form of the cicada (Carr 1979), an important insect in American southwestern mythology. Why should the cicada be particularly significant among the many insects and
Humpbacked flute player petroglyphs from northern New Mexico (after Renaud 1948). This fertility symbol is one of the most popular subjects for artistic expression among several southwestern cultures.

other animals inhabiting the southwestern environments? Perhaps the attributes of cicadas are the key to their significance.

Cicadas spend most of their lives as nymphs in the soil, feeding on the roots of trees and shrubs. Nymphs are well-equipped with fossorial prothoracic legs for digging in their subterranean habitat. As they approach maturity, they emerge from the soil, climb vegetation and other vertical surfaces, and anchor themselves to a substrate (usually the bark of trees) with their tarsal claws. After swallowing air and pumping blood to the thoracic region of the body, the nymphal integument splits along the back, and the adult crawls out from the old cuticle. Initially, the adult is pale or white, but gradually turns brown. Cicadas often emerge synchronously from the soil, becoming abundant for brief periods of time. The adults are strong fliers. The general humpbacked appearance caused by the enlarged prothorax, so evident in the nymph, is only slightly diminished in the adult. The fossorial prothoracic legs are replaced by slender legs in the adult, but the long tubular mouthparts suitable for piercing vascular tissue of plants and extracting plantsap remain evident. In the adult stage, male cicadas produce a loud buzzing sound. The frequency of sound production is directly related to temperature. Adults are especially vocal on hot days.

The inhabitants of the American southwest were clearly aware of cicada morphology and life history. There is a fairly precise correspondence between their mythology and cicada natural history. Although mythology varies slightly from tribe to tribe, and even among storytellers within tribes, certain common patterns are evident, and cicadas routinely have significant roles.

In the Navajo creation (emergence) myth (Locke 1976; see Capinera 1993 for a summary), the cicada had a central role in attainment by Navajos of the presently inhabited world. This story probably is an account of the exploration and invasion of the Southwest by ancestors of the present-day tribes, possibly even tracing their dispersal from Asia. In appropriate recognition of the strong flying ability of cicadas, the ancestors of the modern-day Navajo reportedly sent cicadas out to explore their new environment as they moved from world to world seeking a permanent home. Both regular and white (teneral?) forms of cicadas routinely performed the function of scout in the Navajo journey from world to world. The cicada also was the animal that successfully burrowed through soil to help the Navajo attain the current world. In the creation myth, the ancient peoples were trapped in another world and even formidable animals such as the badger were unable to dig into the new world. As already noted, cicada nymphs are well equipped for digging and were able to prove their worth by leading the way to a new land. Finally, but equally important, the current world once belonged to grebes, and the cicada had to prove itself as a precondition of winning the world for the Navajos by withstanding a challenge of being impaled with arrows. Insects, including cicadas, are surprisingly difficult to kill by impaling. Many an insect collector who has pinned a "dead" insect has returned days later to find the insect rejuvenated. It is noteworthy, perhaps, that cicadas have pronounced lateral spiracles, which resemble puncture wounds.

In virtually all anthropological accounts, cicada is called locust. However, locust is an old-world term applied to grasshoppers that tend to aggregate into swarms and migrate, forming damaging plagues. Confusion of the terms has long been a problem (Kevan 1980). Nevertheless, Navajos easily distinguished between grasshoppers and locusts (nabacagi) and cicadas (wonistisid) (Wyman & Bailey 1964, Kevan 1979); cicadas, not locusts or grasshoppers, played the essential role in the creation myth.

The humpbacked flute player is represented in many forms, but usually is seen as an anthropomorph with two arms, two legs, two antennae, a humped back, and an end-blown flute. Common variants include presence of a penis, substitution of a prayer or planting stick for the flute, or variation in antennal number. Good examples of humpbacked flute player representations can be found in Grant (1978), Schaafsma (1980), Cole (1990), and Young (1985, 1990). However, the most complete collection of images is found in Renaud (1948). Humpbacked flute player motifs are found on Hohokam and Mimbres pottery (Grant 1978) and petroglyphs and murals from numerous cultures (Renaud 1948, Young 1985). Occasionally, they comprise the subject of pottery and stone figurines (Lambert 1957, 1967).

The humpbacked flute player is reputed to be a fertility symbol, which may account for its popularity. Many depictions are decidedly phallic, but also important is the presence of seed, harbinger of new plant life, in his hump. The flute player creates warmth, so necessary in the temperate climate populated
by the Pueblo peoples of the Southwest, by playing his flute. The Anasazi petroglyphs illustrated by Grant (1978) show this beautifully: illustrated are planting sticks, sprouting seed, and anthropomorphic (entomomorphic) figures with flute and planting stick.

Cicadas serve as good models for the attributes of the humpbacked flute player. Cicadas, like most insects, are highly fecund, sometimes attaining alarmingly high and damaging numbers. Cicadas are decidedly humpbacked in form, appear in the warm months, and produce loud, acoustic displays. The amount of vocalization is positively correlated with temperature. When examined from below, the long tubular mouthparts of the cicada extend from the base of the head down between the legs. A dead cicada or nymphal exuvium truly appears to be playing an end-blown flute when examined in this manner. The Anasazi flute player effigy pitcher illustrated by Lambert (1967) resembles nothing so much as a cicada exuvium.

The lack of exact correspondence between insect morphology or insect life history attributes, and the mythology or physical manifestations of mythical characters should not serve as a basis for entomologists or anthropologists to dismiss the possible importance of entomofauna in native American culture. Rather, the mythology is vital testimony to the high degree of familiarity that early peoples had with their environment, including seemingly trivial elements. It cannot be overemphasized that the mythological characters in these stories were not insects as we know them today; they were large insect people, possessing characteristics of both humans and insects. For example, the Zuni report that "all the animals and bugs used to speak way back then" (Young 1985). Obviously, it is foolish to attempt to interpret mythology too literally, and entomologists and anthropologists should keep in mind that petroglyphs and other ancient artistry will not be scientifically correct illustrations of insects. At best, we should expect to see an artist's interpretation of insect and human hybrids.

**Kokopelli**

Among the Hopi and related Pueblo tribes, kachina characters figure prominently in religious ceremonies. There are hundreds of different kachinas; one that is important in Hopi ceremonials and should be of particular interest to entomologists is Kokopelli. The kachina Kokopelli is the Hopi interpretation of the humpbacked flute player. Despite parallels in symbolism, Kokopelli and the humpbacked flute player are not completely equivalent (Parsons 1938, Cole 1990). Whereas the humpbacked flute player is equated with the cicada, Kokopelli is derived from a robber fly model (Fewkes 1903).

In many ways, cicadas and robber flies are very different insects. Robber flies (also called assassin flies or bee catchers) are predators, not plant feeders. Their immature (maggot) stages are not modified for digging and are rarely observed except by specialists. Most significantly, adults do not sing. Evidence that the Hopi distinguish between the insects is apparent from the fact that a cicada...
Adult robber fly, insect model for the Hopi kachina Kokopelli.

In Hopi mythology, kachinas were benevolent, anthropomorphic spirits who accompanied the ancient Hopi from the underworld. They no longer exist, having been killed by the Hopi's enemies. However, the Hopi believe that many of the benefits formerly provided by the kachina spirits can be acquired by donning the appropriate kachina costumes and performing certain ceremonies. For sedentary agrarians, such as the Hopi, the good weather and abundant rainfall formerly guaranteed by the kachina spirits are of paramount importance. The kachina cult is best developed among the western Pueblos (including the Hopi), but occurs to some degree among all Pueblos.

The Hopi appear to have carefully modeled Kokopelli after robber flies. The mask, including the alternating white and dark pattern and gray or black background, accurately portrays the general appearance of robber flies. Unlike the humpbacked flute player, and most other insect kachinas (e.g., bee, wasp, cricket, and cicada), Kokopelli figures lack large, paired antennae; antennae in robber flies and many other flies are greatly reduced in size. Most importantly, however, is the presence of a pronounced beak or snout. Hawley (1937) suggested that this might signify a small end-blown flute or nose-whistle stick. It is not necessary to explain the beak in this manner; the aggressive robber flies are well endowed with enlarged and protruding mouthparts in the form of a beak with which they rapidly subdue their prey. The beak, therefore, may be a touch of realism, helping to identify Kokopelli as a robber fly mimic. Robber flies have a very pronounced hump, much like cicadas, and this is a diagnostic feature of Kokopelli.

The absence of a flute in Kokopelli figures has been noted repeatedly (Fewkes 1903, Hawley 1937, Parsons 1938, Wright 1973). Although not all humpbacked flute player figures possess a flute (any more than they have humped backs, antennae, or other "characteristic" features), I interpret the routine absence of a flute from Kokopelli figures as further evidence of a distinction between the humpbacked flute player and Kokopelli. It could be argued that the heat-producing function associated with the flute is less important to the Hopi than to some other cultures. Certainly moisture is a more important factor than heat in limiting crop production for contemporary Hopi. Nevertheless, from an entomological perspective, the presence and absence of a flute corresponds (both morphologically and acoustically) appropriately with cicada and robber fly models for humpbacked flute player and Kokopelli, respectively. Anderson (1955) noted a strong conservatism of general pattern in expressions of the kachina cult among southwestern cultures, but a ready acceptance of small innovations. Certainly, the substitution of robber fly for cicada models conforms to this pattern.

Kokopelli is known to the Hopi principally as a seducer of women, although a corresponding female character, the seductress Kokopelli Mana, also occurs. Titiev (1939) provided an erotic mythical account of Kokopelli's sexual prowess and modern accounts of seduction behavior by both male and female kachinas. Kokopelli and Kokopelli Mana are sources of great amusement to the Hopi and formerly were more common participants in ceremonials. Prudish white observers found the antics lewd and obscene, and government officials suppressed this bawdy tradition (Titiev 1939). This cultural distortion con-
ues; traditional depictions of Kokopelli include a large penis (symbolized by a gourd) strapped to the clothing (Fewkes 1903, Titiev 1939), whereas modern versions lack this feature (Wright 1973). Kokopelli reportedly carried in his hump not only seeds (a carry-over from flute player?), but blankets, belts, and other presents that were presented to each woman successfully seduced (Parsons 1938). In kachina ceremonials, victims of mock seduction are presented with packets of somiwiki (cornmeal cakes) (Titiev 1939). Analogous behavior perhaps can be seen in robber flies, that, when not engaged in copulation, often are observed clutching food (their insect prey). Kokopelli reportedly has functions beyond representing human fertility. Titiev (1939) indicated that Kokopelli was a bringer of rain, and Renaud (1948) suggested an association with successful hunting and multiplication of game animals.

Other Entomomorphs

Technically accurate depictions of insects are unusual in the art of southwestern peoples, who favor highly stylized renderings. Probably the most accurate occur on Mimbres pottery, where many depictions can be recognized to family level. The number and type of legs, wings, and other morphological characters often were drawn precisely by the Mimbrenos (Cosgrove & Cosgrove 1932). However, a characteristic feature of nearly all Mimbres insect figures is large, paired antennae, even if, as in the case of caterpillars and flies, the antennae are reduced in size and not readily discernible. This is not surprising, because antennae are fairly unique to insects and are used almost universally to designate simple drawings as insects.

Sometimes, the Mimbrenos produced drawings of curious mythical creatures. Hybrids of insects and fish (figure 4 in Rodeck 1932), insects and tadpoles (figure 169 in Brody 1977), and insects and humans (plate 7 in Carr 1979) are examples of this unusual artistry. Insect hybrids were provided with prominent antennae, as were humpbacked flute player images from this period. The significance of these insectlike creatures is not definitely known, but Carr’s (1979) thesis that myths are basically the same among the various ancient and extant southwestern cultures is tenable, and, therefore, insight into these drawings can be gained from examination of Zuni, Tewa, Hopi, Navajo, and related peoples. Support for this is provided by Schaafsma and Schaafsma (1974), who documented the spread of the kachina cult from the Jornada region of the Mogollon to the Anasazi and the Pueblo Southwest.

The important role of insects in southwestern mythology and in the creation myth (the Navajo account of Locke [1976] is perhaps the most entomocentric), suggest a religious and historical significance to insects and insect people. What better subject for illustration of such religious items as altars, funerary pottery, and rock outcroppings at sacred sites than the entomomorphs associated with the creation myth? I suggest that portrayal of entomomorphs, and insect people in particular, is a common but overlooked theme, not only in Mimbres artwork, but in the many petroglyphs that span several centuries of human habitation in the Southwest.

Numerous examples of entomomorphs are engraved or painted on rocks in the Southwest. Some are interspersed with humpbacked flute players, but lack the most characteristic features of this popular figure, the humped back or flute (e.g., plate 3 in Renaud 1948; figure 71 in Cole 1990). More common, however, are entomomorphic figures with prominent antennae (e.g., figures 51, 66, 76, 105, and 124 in Schaafsma 1971; figures 4.53, 4.55, and 4.57 in Grant 1978), but bearing no resemblance to, or association with, flute players. These figures are sometimes referred to as horned figures or shamans, but are likely insect people.

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Suggested Readings


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