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***Articles***

# A Preliminary Review of Neotropical Primates in the Subsistence and Symbolism of Indigenous Lowland South American Peoples

Loretta Cormier[1]

**ABSTRACT**

*This article provides a review of selected literature of nonhuman primates in the subsistence and symbolism of indigenous lowland South American groups. While few works have focused specifically on the relationship between human and nonhuman primates in Amazonia and the surrounding areas, a number of ethnographic works do incorporate information about the roles of monkeys in varied groups. The section on subsistence focuses on the use of primates as food, including preferences, avoidances, and taboos. The section on symbolism focuses on the role of monkeys in myths, folklore, and in delineating the humanity/animality divide.*

**KEYWORDS**: Ethnoprimatology, Neotropical Monkeys, Amazonia

## INTRODUCTION

Ethnoprimatology is a relatively new subdiscipline which bridges cultural anthropology and primatology, exploring the interface between human and nonhuman primates. The term was coined by Sponsel in 1997 in a chapter contributed to Kinzey's edited volume on New World primates. Sponsel called for the development of an "ethnoprimatology[1]," identifying six key areas of potential research: comparative ecology, predation ecology, symbiotic ecology, cultural ecology, ethnoecology, and conservation ecology. According to Sponsel (1997:144-145), these should not be considered mutually exclusive areas of research, but heuristic categories to guide analysis. The aims of this review are modest and will only address limited aspects of the role of Neotropical primates in subsistence and symbolism.

To date, few ethnographic studies have focused specifically on the relationship between humans and monkeys in Amazonia, with the exception of Lizarralde (2002), Shepard (2002), and Cormier (2003a). A number of ethnographic works, however, do incorporate information about nonhuman primates in the cultures of varied Amazonian groups. Here, a preliminary review of is offered of selected ethnographic literature in order to reveal potential trends in cultural uses of nonhuman primates in Amazonia and adjacent habitats of South American primate species. The sources derive from an ongoing database the author has been developing on ethnographic references to human-nonhuman primate interactions in Amazonia. The review includes seventy groups[2], but is qualified as "preliminary," for it is not yet exhaustive. Although subsistence and symbolism do overlap to some degree, the discussion of subsistence activities will focus on the use of nonhuman primates as food, including preferences, avoidances, and taboos. The section on symbolism will focus on the role of monkeys in myth and folklore with attention to the place of nonhuman primates at the nature/culture divide in Amazonian thought.

### Neotropical Monkey Hunting

The most commonly available source of information about human and nonhuman primate interactions in Amazonia derives from studies of subsistence and hunting behavior. Such studies do not typically focus exclusively on hunting of monkeys, but include the category as part of analyses including

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general dietary inventory, subsistence activities, and hunting strategies. Species are identified in some of these studies; in others, monkeys are identified as a block category contrasted with other broad categories such as birds, fish, and rodents. Table 1 provides a list of ethnographic references to monkey hunting in Amazonia.

**Table 1: Ethnographic References to Primate Hunting**

| Group | Language Family[3] | Location | Primate Species Hunted | References |
|---|---|---|---|---|
| Aché | Tupi | Paraguay | *Alouatta caraja, Cebus apella* | Hill and Hawkes 1983 |
| Aguaruna | Jivaroan | Peru | *Alouatta seniculus, Aotus trivirgatus Ateles* sp., *Callicebus moloch,Cebus albifrons* | Brown 1984, Berlin and Berlin 1983 |
| Akwe-Shavante | Macro-Ge | Mato Grosso, Brazil | Unspecified | Maybury-Lewis 1967 |
| Amahuaca | Panoan | Peru | *Ateles* sp. and unspecified | Carneiro 1970 |
| Arara | Carib | Pará, Brazil | *Cebus apella* | Milton 1991 |
| Araweté | Tupi | Pará, Brazil | Unspecified | Milton 1991, Viveiros de Castro 1992 |
| Bajo Urubamba River Community | Arawakan-dominant | Peru | Unspecified | Gow 1989 |
| Barí | Chibchan or Arawakan | Venezuela | *Alouatta seniculus, Aotus trivirgatus,Ateles belzebuth hybridus,Cebus albifrons* | Lizarralde 2002 |
| Bororo | Macro-Ge | Mato Grosso, Brazil | Unspecified | Crocker 1985 |
| Camayura | Tupi | Mato Grosso, Brazil | Unspecified | Meggers 1971 |
| Campa | Arawakan | Peru | *Alouatta* sp., *Cebus* sp., *Lagothrix* sp. | Denevan 1971, Weiss 1974 |
| Cashinahua | Panoan | Peru | *Ateles* sp., *Cebus* sp. | Kensinger et al. 1975 |
| Guajá | Tupi | Maranhão, Brazil | *Alouatta belzebul, Aotus infulatus, Cebus apella, Cebus kaapori, Chiropotes satanas, Saguinus midas, Saimiri sciureus* | Cormier 2003a; Forline 1997; Queiroz and Kipnis 1991 |
| Huambisa | Jivaroan | Peru | *Ateles* sp., *Callicebus moloch, Pithecia monachus, Saimiri sciureus* | Berlin and Berlin 1983 |
| Huaorani | Unclassified | Ecuador | *Alouatta seniculus, Ateles belzebuth, Callicebus moloch, Cebus albifrons, Lagothrix lagothricha, Pithecia monachus, Saguinus fascicollis, Saimiri sciureus* | Yost and Kelley 1983 |
| Juruna (Yudjá) | Tupi | Mato Grosso, Brazil | *Ateles* sp., *Cebus* sp. | Lima 2000 |
| Kalapalo | Carib | Mato Grosso, Brazil | Unspecified | Basso 1973 |
| Kayapo, Mekranoti | Macro-Ge | Mato Grosso, Brazil | Unspecified | Werner 1984 |
| Ka'apor | Tupi | Maranhão, Brazil | *Cebus* sp., unspecified | Balée 1984 |

| | | | | |
|---|---|---|---|---|
| Maku | Maku | Northwest Amazon | *Callicebus torquatus, Lagothrix lagothricha* | Milton and Nessimian 1984; Milton 1984 |
| Makuna | Tukanoan | Northwest Amazon | *Ateles* sp., *Callicebus* sp., *Lagothrix* sp. | Århem 1981; Kaplan, Hillard, and Kopischke 1992 |
| Matis | Panoan | Amazonas, Brazil | *Alouatta seniculus Aotus* sp., *Ateles paniscus, Callicebus molochcupreus Cebus apella, Lagothrix lagothricha, Saguinus mystax, Saimiri sciureus* | Erikson 1997, 2001 |
| Matses (Mayoruna) | Panoan | Amazonas, Brazil and Peru | *Ateles chamek, Lagothrix lagothricha, Pithecia monachus* | Fleck, Voss, and Patton 1999; Milton 1991 |
| Matsigenka | Arawakan | Peru | *Aotus trivirgatus, Ateles paniscus, Alouatta seniculus Lagothrix lagothricha, Cebus albifrons, Cebus apella, Pithecia monachus, Callicebus moloch, Saguinus fuscicollis, Saguinus imperator, Saimiri sciureus* | Shepard 2002 |
| Mehinaku | Arawakan | Mato Grosso, Brazil | Unspecified | Gregor 1977 |
| Mundurucú | Tupi | Pará, Amazonas, and Mato Grosso Brazil | Unspecified | Murphy 1960 |
| Nambiquara | Nambiquaran | Rondônia | Unspecified | Price 1981 |
| Parintintin | Tupi | Amazonas, Brazil | Unspecified | Kracke 1978 |
| Piaroa | Salivan | Venezuela | *Cebus* sp. | Zent 1998 |
| Piro | Arawakan | Peru | *Alouatta seniculus, Aotus* sp., *Ateles paniscus, Callicebus moloch, Cebus albifrons, Cebus apella, Lagothrix lagothricha, Saguinus nigricollus, Saimiri sciureus* | Alvard 1995 |
| Sharanahua | Panoan | Peru | Unspecified | Ross 1978 |
| Shipibo | Panoan | Peru | *Cebus albifrons* | Behrens 1986 |
| Shuar | Jivaroan | Ecuador | Unspecified | Harner 1972 |
| Siona-Secoya | | Ecuador | *Alouatta seniculus, Lagothrix lagothricha* | Hames and Vickers 1982; Vickers 1988 |
| Sirionó | Tupi | Bolivia | *Alouatta* sp., *Aotus* sp., *Ateles* sp., *Cebus* sp., *Saimiri* sp. | Holmberg 1985 |
| Tapirapé | Tupi | Tocantins and Mato Grosso, Brazil | *Alouatta* sp., *Cebus* sp. | Wagley 1983 [1977] |
| Tenetehara (Guajájara/Tembe) | Tupi | Maranhão, Brazil | Unspecified | Ross 1978 |
| Trumaí | Isolate | Mato Grosso, Brazil | Unspecified | Murphy and Quain 1966 |
| Tukano | Tukanoan | Columbia | *Alouatta seniculus, Ateles belzebuth, Ichacha chucuto(Cacajao), Aotus* sp., *Callicebus torquatus, Cebus albifrons* | Reichel-Dolmatoff 1976, 1978 |
| Urarina | Unclassified | Peru | Unspecified | Dean 1994 |

| | | | | |
|---|---|---|---|---|
| Waimiri Atroari | Carib | Central Brazil | *Alouatta seniculus, Ateles paniscus, Cebus apella, Chirpotes satanas* | De Souza-Mazurek et al. 2000 |
| Warí (Pakaa Nova) | Chapacura-Wanham | Rondônia, Brazil | Unspecified | Conklin 2001; Von Graeve 1989 |
| Wapishana | Arawakan | Guyana and Roraima, Brazil | *Alouatta seniculus, Ateles paniscus, Cebus apella, Cebus olivaceus, Chiropotes satanas, Pithecia pithecia, Saguinus midas, Saimiri sciureus* | Henfry 2002 |
| Wayana | Carib | Surinam, French Guiana, and Pará, Brazil | Unspecified | Ross 1978 |
| Wayãpi | Tupi | French Guiana and Amapá, Brazil | Unspecified | Campbell 1989 |
| Xavante | Macro-Ge | Mato Grosso, Brazil | Unspecified | Maybury-Lewis 1967 |
| Yagua/Ribereño | Peba-Yaguan | Peru | *Alouatta seniculus, Aotus* sp., *Callicebus* sp., *Cebus albifrons, Cebus apella, Lagothrix lagothricha, Pithecia monachus, Saguinus fuscicollis, Saguinus mystax Saimiri sciureus* | Claggett 1998 |
| Yanomami | Yanomam | Venezuela and Roraima and Amazonas, Brazil | Cebids, unspecified | Hames and Vickers 1992; Montgomery 1970; Smole 1976 |
| Ye'kwana | Carib | Venezuela and Roraima, Brazil | Cebids, unspecified | Hames and Vickers 1992 |
| Yuquí | Tupi | Bolivia | Unspecified | Stearman 1994 |

Several problems exist in attempting to apply a meaningful statistical analysis to the ethnographic references listed in this survey. One of the most serious limitations is that the ethnographic references are not uniform in the types of data provided. They range from quantitative studies on the intensity of hunting to those that merely indicate that monkeys are hunted by a group. In some cases, neither the species nor the genus are identified. Another difficulty is that environmental conditions are variable among the groups. Deforestation and development are clear factors affecting primate densities and distributions, and consequently, their exploitation. In addition, the distributions of primate species also vary considerably. For example, the distribution for the large-bodied *Brachyteles* is highly circumscribed in the Southeastern coastal forests while members of the genus *Cebus* are widely distributed throughout Amazonia (Emmons and Feer 1997).

Given those caveats, a few trends emerging from these studies will be described. One is a general tendency for larger-bodied primates to be exploited over smaller bodied-primates. Hunting of cebid monkeys occurs more frequently than hunting of smaller callitrichid monkeys. Among the twenty-nine groups where identifying information was provided on the type of monkey hunted, 76% reported hunting of only cebid monkeys, 24% hunted both cebid and callitrichid monkeys, and none hunted callitrichid monkeys exclusively. Among the Guajá, larger monkeys were typically the intended aim of the hunt with smaller monkeys taken opportunistically when encountered (Cormier 2003b). This may not be true for all groups. For example, among the Matis, tamarins (*Saguinus*) and smaller cebid squirrel monkeys monkeys (*Saguinus*) and titi monkeys (*Callicebus*) are highly sought after when hunting, but primarily to obtain their teeth to make necklaces and armbands (Erikson 2001).

In some studies, seasonal differences existed in the exploitation of monkeys. Preferences were reported for hunting monkeys when trees from which they feed are fruiting, often during the wet season, when they develop a layer of fat. Examples of groups which describe a preference for these fatted monkeys are the Aguaruna (Brown 1984), the Huaorani (Rival 1993), the Guajá (Forline 1997), and the Waimiri Atroari (De Souza-Mazurek et al. 2000). Further studies may reveal this to be a generalized pattern of seasonal hunting of primates in Amazonia.

Food preferences, avoidances, and taboos intersect the domains of subsistence activities and symbolic life. While monkeys remain a widely available source of food in Amazonia, availability alone is not a complete predictor of the degree to which a given species will be utilized. Although larger-bodied primates are more likely to be exploited for food, they were also more likely to be avoided or have a taboo (See Table 2). Taboos or avoidances were identified in nineteen groups. In twelve of the groups, the genus or species was identified. Only one of them included a callitrichid monkey. Howler monkeys (*Alouatta*) had a taboo or avoidance in seven of twelve groups (58%) where the genus was identified. The next most commonly occurring genera were *Aotus* and *Cebus* with avoidances or taboos in three groups (25%). Among the Matsigenka, howler monkeys are the most abundant mammal in the Manu National Park, but the similarly sized spider monkeys and woolly monkeys are taken at a rate ten times higher than howlers (Shepard 2002). According to Shepard, the Matsigenka report that howlers do not taste as good as other monkeys, which he attributes to their highly folivorous diet. Among the Guajá of Maranhão, Brazil, however, howler monkeys (*Alouatta belzebul*) are taken at a higher rate than any other primate species (Cormier 2003a). It should be noted that no other monkeys in its size range (such as spider and woolly monkeys) are present in the Guajá indigenous area (Cormier 2003a).

**Table 2: Ethnographic References to Primate Taboos or Avoidances**

| Group | Language Family | Location | Primate Species | References |
|---|---|---|---|---|
| Achuar[2] | Jivaroan | Peru | *Cebus capucinus* | Colding and Folke 1997 |
| Cashinahua[2] | Panoan | Peru | *Alouatta* sp., *Aotus* sp., *Saimiri* sp. | Kensinger et al. 1975 |
| Desana[2,3,a,b] | Tukanoan | Northwest Amazon | *Alouatta* sp., *Aotus* sp. | McDonald 1977 |
| Guajá[2,3,a] | Tupi | Maranhão, Brazil | *Saguinus midas* | Cormier 2003a |
| Huaorani[2,3,c] | Unclassified | Ecuador | *Alouatta* sp., *Lagothrix* sp. | Rival 1998 |
| Matis[2,3,a] | Panoan | Amazonas, Brazil | *Callicebus molochcupreus, Saguinus mystax, Saimiri sciureus* | Erikson 2001 |
| Matses[2,3,a] (Mayoruna) | Panoan | Amazonas, Brazil | *Aloutta* sp., *Cacajao* sp., *Cebus* sp. | Milton 1991 |
| Mekronoti Kayapo[2,3,b] | Macro-Ge | Mato Grosso, Brazil | Unspecified | Werner 1984 |
| Parakanã[1] | Tupi | Pará, Brazil | Unspecified | Milton 1991 |
| Parintintin[1] | Tupi | Amazonas, Brazil | Unspecified | Kracke 1978 |
| Shipibo[2,3,c] | Panoan | Peru | *Cebus albifrons* | Behrens 1986 |
| Sirionó[2,3,a,b,c] | Tupi | Bolivia | *Alouatta* sp., *Aotus* sp. | Holmberg 1985, McDonald 1977 |
| Suyá[2,3,d] | Macro-Ge | Mato Grosso, Brazil | *Alouatta* sp. | Seeger 1981 |
| Tapirapé[2,3,a,b,c] | Tupi | Tocantins and Mato Grosso, Brazil | *Alouatta* sp. | McDonald 1977; Wagley 1983 [1977] |

| | | | | |
|---|---|---|---|---|
| Tukano[3,c] | Tukanoan | Columbia | Unspecified | Reichel-Dolmatoff 1976, 1997 |
| Urarina[2] | Unclassified | Peru | Unspecified | Dean 1994 |
| Wapishana[2,3,c] | Arawakan | Guyana and Roraima, Brazil | *Ateles paniscus* | Henfry 2002 |
| Xavante[3,b,c] | Macro-Ge | Mato Grosso, Brazil | Unspecified | Maybury-Lewis 1967; McDonald 1977 |
| Yanomami[3,c] | Yanomam | Venezuela and Roraima and Amazonas, Brazil | Unspecified | McDonald 1977 |

Type of Avoidance or Taboo: 1) all species for all group members, 2) species-specific, 3) association with ritual or social status; a) Age-related, b) Gender-related, c) Reproductive status related, d) unspecified

Taboos and avoidances may involve all monkey species for all group members, those applying to some monkey species, but not others, and those applying to persons related to a particular ritual or social status. The least commonly occurring is a taboo on or avoidance of all species of monkeys, which occurred in two of the nineteen groups (10.5%): the Parakanã and the Parintintin. The Parintintin do not have a specific taboo on monkeys, but they report that they avoid eating them due to their physical similarity to human beings (Kracke 1978). Interestingly, the Kalapalo consider land animals[4] disgusting to eat with the exception of monkeys (and sometimes coatis) *because* of their similarity to human beings (Basso 1973). Similarly, the Guajá value howler monkeys as food because they are considered to be the most similar to humans of the monkeys in their area (Cormier 2003a).

The most commonly occurring avoidance (eleven of the nineteen cases, 58%) applied to both a specific species and to a specific social or ritual status of group members. In three of the groups, only specific primate species were avoided. For example, the Cashinahua hunt capuchins (*Cebus*) and spider monkeys (*Ateles*), but consider howler monkeys (*Alouatta*) and squirrel monkeys (*Saimiri*) to be inedible (Kensinger 1975). In the three cases (Tukano, Xavante, and Yanomami) where the avoidance applied to a ritual or social status, the references refer to avoiding monkeys, but it is not entirely clear if these apply to all monkeys or to specific species (Maybury-Lewis 1967; McDonald 1977; Reichel Dolmatoff 1976).

Three general types of avoidances associated with ritual or social status found in the literature reviewed were those related to age, gender, and reproductive status. Age-related taboos or avoidances were identified in six groups: three applied to children, one applied to adults, and two applied to both children and adults. Among the Sirionó, owl monkeys and howler monkeys can only be eaten by the older adults (Holmberg 1985). The Tapirapé have a taboo on howler monkeys for adolescents (Wagley 1983, McDonald 1977) while among the Mayoruna, adults do not eat howlers, but children do (Milton 1991). Avoidances associated with age may also be linked to gender. For example, among the Desana (McDonald 1977) and the Guajá (Cormier 2003a), certain species of monkey are avoided by pre-adolescent males; the Xavante have a taboo on adolescent females at menses for twelve months (Maybury-Lewis 1967, McDonald 1977). The Kayapo were the only group among those reviewed that had a taboo on monkeys for all women (McDonald 1977).

Of the twelve groups where a social or ritual restriction was involved on eating monkeys, seven of them involved some form of the couvade. Many Amazonian groups have the couvade (Rivière 1974) which often links to the widespread folk belief of partible paternity (Beckerman and Valentine 2002). Partible paternity is the belief that fetuses are created from the build-up of semen from one or more men and the couvade involves ritual restrictions surrounding a pregnancy or post-partum period which apply to both the mother and the father(s)[5] of a child. For example, among the Yanomami, monkeys are eaten neither by pregnant females nor their spouses (McDonald 1977). The Tapirapé have a taboo on the howler monkey for adolescents, females, and fathers of children two years old and less (Wagley 1983 [1977],

McDonald 1977). Among the Shipibo, *Cebus albifrons* is commonly eaten, but there is a post-partum taboo for both parents (Behrens 1986: 648-649).

**The Symbolic Role of Neotropical Monkeys**

Viveiros de Castro (1998) has used the term "perspectival multinaturalism" to describe Amazonian animistic beliefs whereby human and nonhuman beings share a common spiritual and social nature, but their subjective perceptions of reality differ due to their varied bodily forms. As such, humans and nonhumans are described as "persons." Personhood might be thought of as an anthropomorphism of animality, but it is equally a zoomorphism of humanity. While monkeys assume varied roles in Amazonian folklore, myth, and ritual (see Table 3), one discernible theme is that monkeyness, so to speak, often serves as a reference point for defining humanity. In Amazonian mythology, this may take two polar forms. Monkeys are often a means of either accentuating the continuity between humanity and animality, or conversely, monkeys may be used to define the line between nature and culture.

**Table 3: Ethnographic References to Primates in Myth, Folklore, Magic, Religion, and Ritual**

| Group | Language Family | Location | Primate Species | References |
|---|---|---|---|---|
| Aguaruna | Jivaroan | Peru | *Alouatta* sp. | Brown 1984 |
| Amahuaca | Panoan | Peru | *Ateles* sp. and unspecified | Carneiro 1970 |
| Apinayé | Macro-Ge | Tocantins, Brazil | Unspecified | Wilbert 1978 |
| Ayoreo | Zamucoan | Paraguay | *Alouatta* sp. and unspecified | Wilbert and Simoneau 1989a |
| Baniwa | Arawakan | NW Amazon | Unspecified | Wright 1992 |
| Barí | Chibchan or Arawakan | Venezuela | *Ateles* sp. | Lizarralde 2002 |
| Bororo | Macro-Ge | Mato Grosso | Unspecified | Wilbert and Simoneau 1983 |
| Canelos Quichua | Quechuan | Ecuador | Unspecified | Whitten 1978 |
| Cuiva | Guahiban | Columbia | *Alouatta* and unspecified | Wilbert and Simoneau 1991 |
| Guajá | Tupi | Maranhão, Brazil | *Alouatta belzebul, Aotus infulatus, Cebus apella, Cebus kaapori, Chiropotes satanas, Saguinus midas, Saimiri sciureus* | Cormier 2003a |
| Huaorani | Unclassified | Ecuador | Unspecified | Rival 1996 |
| Juruna (Yudjá) | Tupi | Mato Grosso, Brazil | *Alouatta* sp., *Aotus* sp. | Lima 2000 |
| Kadiwéu | Mataco-Guaicuru | Mato Grosso do Sul, Brazil | Unspecified | Wilbert and Simoneau 1989b |
| Kalapalo | Carib | Mato Grosso, Brazil | *Cebus* sp. | Basso 1973 |
| Kayapo | Macro-Ge | Mato Grosso, Brazil | Unspecified | Turner 1995, Wilbert 1978 |
| Kraho | Macro-Ge | Maranhão, Brazil | Unspecified | Wilbert 1978 |
| Lokono-Arawak | Arawakan | Surinam, Guyana, French Guiana | *Alouatta* sp. | Drummond 1977 |
| Makuna | Tukanoan | Northwest Amazon | Cebus | Rheum 1996 |

| | | | | |
|---|---|---|---|---|
| Matsigenka | Arawakan | Peru | *Ateles paniscus, Alouatta seniculus Cebuella pygmaea, Cebus* sp. | Shepard 2002 |
| Mehinaku | Arawakan | Mato Grosso, Brazil | *Cebus* sp. | Gregor 1977 |
| Mekranoti Kayapo | Macro-Ge | Mato Grosso, Brazil | Unspecified | Werner 1984 |
| Mocoví | Mataco-Guaicuru | Argentina | *Alouatta* sp. and unspecified | Wilbert and Simoneau 1988 |
| Mundurucu | Tupi | Pará, Amazonas, and Mato Grosso Brazil | *Alouatt*a sp. | Drummond 1977 |
| Sikuani (Guahibo) | Guahiban | Columbia | *Alouatta* sp., *Callicebus* sp. | Wilbert and Simoneau 1992 |
| Sirionó | Tupi | Bolivia | *Alouatta* sp., *Ateles* sp. | Holmberg 1985, Priest 1966 |
| Suyá | Macro-Ge | Mato-Grosso | Unspecified | Seeger 1981 |
| Toba | Mataco-Guaicuru | Argentina | *Alouatta* sp. and unspecified | Wilbert and Simoneau 1982, 1989c |
| Tukano | Tukanoan | Columbia | Unspecified | Reichel-Dolmatoff 1978, 1996 |
| Warao | Isolate | Venezuela, Guyana, and Suriname | *Alouatta* sp. and unspecified | Wilbert 1980 |
| Warí (Pakaa Nova) | Chapacura-Wanham | Rondônia, Brazil | *Ateles* sp., *Cebus* sp. | Conklin 2001, Vilaça |
| Wapishana | Arawakan | Guyana | *Ateles paniscus* | Henfry 2002 |
| Xavante | Macro-Ge | Mato Grosso, Brazil | Unspecified | Wilbert and Simoneau 1984 |
| Xerente | Macro-Ge | Tocantins, Brazil | Unspecified | Wilbert and Simoneau 1984 |
| Xikrin | Macro-Ge | Mato Grosso and Pará, Brazil | *Alouatta* sp. | Wilbert and Simoneau 1984 |
| Yanomami | Yanomam | Venezuela and Roraima and Amazonas, Brazil | *Alouatta seniculus*, *Ateles belzebuth*, *Callilcebus torquatus*, *Cebus albifrons*, and *Chiropotes chiropotes* | Montgomery 1970, Wilbert and Simoneau 1990a |
| Yaruro | Unclassified | Venezuela | *Alouatta* sp. | Wilbert and Simoneau 1990b |

Continuities are often found in creation myths where nonhuman beings share a common origin with humans. Shepard (2002) has contrasted this belief among the Matsigenka with Western thought as a kind of devolution. In other words, rather than humanity representing an evolutionary stage following an earlier, less differentiated nonhuman primate stage, contemporary monkeys are transformed beings who were human in a prior form of their existence. More broadly, Viveiros de Castro (1998, 1999) has described a common Amazonian theme that animals in general are former human beings who have been transformed. Monkeys often appear as predominant figures in such transformations.

Two forms of these human to animal transformations are the outright change of human beings into monkeys, and contemporary monkeys as hybridizations from the union of human beings and monkeys. In the first type, humans are transformed into monkeys, often through the work of a creator

divinity. For example, in Barí mythology (Lizarralde 2002) a time is referred to when there were no monkeys. The creator divinity, Sabasebaa, was with another Barí searching for food in the forest when they encountered other Barí eating fruit in a tree. They asked them to toss down fruit, but they tossed down only the peels. In anger, the creator divinity transformed them into spider monkeys and instructed the Barí to eat them. The Guajá have a similar myth (Cormier 2003a) in which several Guajá were searching for food in the forest and came upon another group of Guajá in a tree eating fruit. The creator divinity transformed the Guajá in the trees into howler monkeys and instructed the Guajá to eat them.

The similarity between these two myths is striking because the Barí and Guajá are geographically distant and linguistically distinct from one another, suggesting that these myths may be local versions of a narrative of great antiquity in Amazonia. One difference is that the Barí myth provides a stronger sense of serving as a cautionary tale than the Guajá version. Reichel-Domaltoff (1976) has described animals in myths as metaphors for survival when they are punished for not obeying prescribed rules of adaptive significance. Rival (1996) has made a similar argument for the Huaorani in describing many myths as involving social catastrophes caused by monkeys who overstep their boundaries in either trying to be too close to human beings or too distant from human beings.

Matsigenka beliefs regarding monkeys as former human beings also have an element of cautionary tale where humans who are not measuring up to cultural expectations are transformed into monkeys (Shepard 2002). Here, Yavireri, the first shaman, transformed humans into all of the existing forms of animals. Yaniri, the howler monkey, and Osheto, the spider monkey, were brothers-in-law. Yaniri was lazy and borrowed beans from Osheto rather than raising his own crops. After Yaniri borrowed beans several times from Osheto and ate them rather than planting them, Osheto became angry and punched Yaniri in the throat, creating the enlarged larynx characteristic of howler monkeys. A similar Matsigenka myth coupling the cautionary element with explanation for physical features involves the two species of capuchins living in their area. These monkeys were at one time shamans who both made failed attempts to steal fire-making technology from an all female-tribe. One had the hair singed off his face and was turned into the brown capuchin. The other became drunk and fell into the women's toilet, becoming the white-fronted capuchin with its dark brown cap. In another tale, two impolite guests at a party were transformed into the woolly and the spider monkey.

Holmberg (1985) recounted a creation myth of monkeys among the Sirionó which also involved an element of punishment for inappropriate behavior. The mythical Jaguar was delousing the son of the creator divinity/Moon (Yási), and bit him in the head and killed them. The Moon questioned all the animals about who had killed his son and they replied that they did not know. The mythical Spider Monkey (Erubát) and the mythical Howler Monkey (Tendí) subsequently were at a drinking festival, where Erubát declared that he wanted to have a red coat like the Howler Monkey. In anger, the Moon declared that the Spider Monkey would be black. The Moon then grabbed the Howler Monkey by the neck and pulled his throat into its contemporary shape, becoming the explanation for why howlers howl. In two groups, the creator hero/divinity is a monkey. Among the Jivaroan-speaking Aguaruna of Peru, a primordial spider monkey, Tsewa, is responsible for transforming a human being into the contemporary spider monkey (Brown 1984). The Macro-Ge speaking Bororo of Brazil have a similar figure. Júkorámo-dogédu is a mythical monkey who created people and the forest (Wilbert and Simoneau 1983).

In some myths where humans are transformed into monkeys, no clear social message exists regarding human behavior. A number recount humans being changed into monkeys merely because they were in a tree or the forest. Several of these myths occur among the Kayapo (Wilbert 1978). In one, a great flood occurs and a man who escapes in a tree is changed into a monkey. In another, several wives flee from their husbands into the forest and are changed into monkeys. The Xikrin and the Kayapo both have a myth involving a girl who is picking genipapo fruit in a tree and is changed into a monkey (Wilbert 1978, Wilbert and Simoneau 1984).

Contemporary monkeys as human/monkey hybrids also appear in several Amazonian myths. The Wari' believe that spider monkeys have partial human origins, being descended from the union of a Wari' woman and a male spider monkey (all original spider monkeys, in their belief, were male) (Conklin 2001). In the Mundurucú Monkey Woman Myth (Drummond 1977), a Mundurucú man marries a howler monkey who has taken the form of a woman. When the couple visits her relatives, she makes her husband promise not to laugh at them. But when the howlers sing, he laughs, and they abandon him in a tree. Aided by bees and wasps, he is helped down, and kills all the howlers except for his former wife. His wife gives birth to a son with whom she has an incestuous relationship. Their offspring become the contemporary howlers.

Drummond (1977) describes a very similar myth among the Lokono-Arawak, although the groups are linguistically distinct and geographically distant. This myth also involves a human male and a female howler monkey. A hunter shoots a female howler monkey, roasts her, eats her tail, and leaves the remaining carcass in his hammock. When he returns, a woman appears in his hammock instead of the monkey. She becomes his wife. One day, she hears monkeys in the forest and tells her husband that it is her uncles drinking cassiri (cassava beer) and that they should join them. When the monkey uncles question the man about the tribe of his wife, it is revealed that she is a howler and he is abandoned in the top of a tree. He is helped down by a bunia bird and a hummingbird guides him back to his village.

The Warao have several versions of a myth where a monkey impersonates a human being, marries a human being, and gives birth to a hybrid son (Wilbert 1980). In one version, when the humans are away, a pet monkey takes off her skin, dresses up like a woman, and bakes and eats all of the cassava. She is transformed into human being when a young man catches her eating the cassava bread. They marry and have a son. After a quarrel with his family, she retreats back into the forest with her son. Here, the boundary between human and monkey seem rather fluid and easily bridged.

In some groups, the monkey has a trickster role, with the jaguar often being the foil. While there is anthropomorphic behavior on part of the monkey and the jaguar, some of these trickster myths involve the monkey taking on a jaguar-like predatory role. The Warao have several versions of a myth where a monkey escapes from being eaten by convincing the jaguar that he will feel fuller if throws the monkey in the air and swallows it whole; when he escapes, the jaguar dies from hunger (Wilbert 1980). In an Apinayé myth, a monkey deceives and escapes from a jaguar who is holding him in a cage to fatten him; the monkey then eats the jaguar (Wilbert 1978). The Bororo also have a role reversal where a monkey eats a jaguar (Wilbert and Simoneau 1983). Here, a monkey tricks a jaguar into leaving him alone with his fish and the monkey eats the fish. The jaguar returns and eats the monkey. Then the monkey cuts himself out of the jaguar's stomach from within, killing the jaguar.

In several of the monkey and jaguar trickster myths, a third animal species is involved. In another role reversal in a Kadiwéu myth, a jaguar and a monkey both want to marry a deer, and the monkey deceives and then kills the jaguar (Wilbert and Simoneau 1989b). Among the Toba, a monkey tricks a jaguar in order to save the life of a deer (Wilbert and Simoneau 1989c). The Mocoví have a similar myth, but here, a howler monkey deceives the jaguar to save the life of a goat (Wilbert and Simoneau 1988).

Another broad category of belief found in Amazonian cultures involves the attribution of either positive or negative traits to monkeys which can be conferred to human beings through contagion. Crocker (1985) suggests a kind of magical contagion among the Bororo from eating monkeys, which are considered to epitomize speed and grace. Similarly, according to Lizarralde (2002), the Barí keep spider monkeys as pets and believe that the wearing of spider monkey teeth confers manual dexterity to the necklace owner. Howler monkeys, however, are considered to be of low intelligence and slow speed and they are not kept as pets and their teeth are not valued for necklaces. Consistent with the Matsigenka mythology described above, howlers are considered to be lazy and capuchins are considered to be thieves,

and it is believed that these traits can be conferred to a human being by eating these monkeys (Shepard 2002). This is echoed in another example, which bridges the couvade and contagion. Vilaça (2002) reports a Warí shaman telling parents that their child was turning into a monkey because the parents had not followed the appropriate protocol for eating capuchins.

Among some Amazonian groups, monkeys are viewed as having supernatural or shamanic powers which they can intentionally use in human affairs. Among the Matsigenka, pygmy marmosets (*Cebuella pygmaea*) are considered magical and potentially dangerous creatures who may lead a hunter astray in the forest and then vanish (Shepard 2002). Shepard (2002) has also described the belief that adult spider monkeys are among the animal spirits the Matsigenka consider capable of stealing the souls of children and making them ill (2002). Among the Bororo, monkeys are associated with *bope*, a principal of both organic and spiritual transformation (Crocker 1985). Part of becoming a shaman involves being surprised in the forest and spoken to by a monkey, usually a howler monkey. Among the Warí, some animals (including monkeys) are considered to possess spirits and illness can be a manifestation of an attempt by an animal to incorporate a human being into their species (Vilaça 2002).

Finally, monkeys are sometimes used in delineating identities within and among Amazonian groups. Among the Bororo, animal categories, including monkeys, are used as designations of named household groups in their moiety-clan system (Crocker 1985). The Tupi-derived term Kaya-po refers to people who resemble monkeys (Werner 1984). The Mehinaku do not consider non-Xingu Indians to be fully human, and they are called by the negative term *wajaiyu* while monkeys are classified as human with the term *neunéi,* a group including Xinguanos, Brazilians, and other Westerners (Gregor 1977). Among the Desana, howler monkeys are viewed as representing the neighboring Maku (Reichel-Dolmatoff 1996).

## DISCUSSION

In treating the ethnoprimatology of Amazonia as a whole, even when considering limited features of their roles in subsistence and symbolism, great care should be taken in generalizing too broadly to such a culturally diverse and geographically widespread area. While bearing in mind this caveat, it does appear that some commonalities can be detected. Perhaps what is more striking is that particularly in the case of mythology, the themes that emerge to not seem to be strongly associated with a particular geographic region or linguistic family.

One commonality is that nonhuman primates are a widely available food source in Amazonia, and perhaps obviously, they therefore frequently appear in the game inventories of Amazonian peoples. The concentration on cebid monkeys over callitrichid monkeys might seem a logical choice in terms of the costs and benefits of hunting. Cebids tend to not only be larger in body size, but generally form larger social groupings than callitrichids[6] (e.g., Fleagle 1998). While this might be a simplification of the many complex ecological conditions affecting the densities of species in the areas of the varied groups discussed, it is at least clear that availability as food is not the only factor involved in determining which species are hunted. When considering the relationship between the symbolic and the material, the symbolic roles of monkeys cannot be considered a mere metaphorical mirror of subsistence activities and resource availability. In fact, in some instances, the avoidance of monkeys seems to derive more from cultural beliefs associated with them than environmental availability. Most notable is the case of the Matsigenka, who were described as avoiding howlers as food although these are the most abundant mammal in their area. In other cases, consumption taboos are applied to monkeys, as a whole or for certain species, according to the social or ritual status of group members.

Rival (2002) has argued that the importance of intentionality in food choice has been underestimated in Amazonia. For the Huaorani, food choice is described as a political statement and

linked to cultural identity on multiple levels. Somewhat similarly, Milton (1991) has argued that food choice is in part related to general inter-ethnic cultural differentiation, similar to differences in features such as body ornamentation. The potential Amazonian pattern described by Milton is similar in its regional perspective to that taken by McDonald (1977) in assessing food taboos as "a primitive environmental protection agency." Through comparative analysis of numerous Amazonia groups, McDonald argued that food taboos served as strategy for managing resources.

In terms of the symbolic role of monkeys in Amazonia, monkeys are often viewed in myths as former human beings. Viveiros de Castro (1998, 1999) has described this frequent Amazonian mythic undifferentiated state as characteristic of humans and all animals. Here, animals and humans are often treated as "persons" who share a common spiritual nature, but differ in their bodily shapes and, therefore, in their respective perception of reality. While myths and folklore involving monkeys often conform to broader animistic beliefs in Amazonia, they also stand apart to a degree in both the frequency of their appearance in narratives and in their tendency to serve specifically to delineate the boundaries of humanity. As such, they often serve as prototypes of the ambiguous divide between human and nonhuman "persons."

It would seem self-evident that monkeys are particularly appropriate for this role due to their close physical and behavioral similarities to human beings. As primates, monkeys and humans share anatomical characteristics with each other that are not shared with other animals, and these are particularly pronounced in infants and juvenile monkeys. Humans and monkeys also share intense and complex social relationships, and these social worlds sometimes merge when monkeys are kept as pets. Although not specifically addressed here, it is very common for Amazonian cultures who hunt monkeys to keep infants and juveniles as pets, often acquiring them when their mothers are killed for food (see Cormier 2003b).

As a final comment, it is important to recognize that what has been presented in this article is largely an ahistorical treatment of some of the material and symbolic roles of primates in Amazonian cultures. While it is a starting place for understanding the ethnoprimatology of Amazonia, the far more challenging and urgent issue lies in understanding how the mosaic of ecological changes consequent to development and deforestation have and will continue to affect the relationships between human cultures and Neotropical primate species. A continued need exists to understand these ecological relationships more fully if we are committed to preserving biocultural diversity. Perhaps Fuentes and Wolfe (2002:1) put it best in describing human and nonhuman primates as sharing "intertwined destinies."

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## NOTES

1. Wheatley (1999) has used the term "cultural primatology" in his work on the human/nonhuman primate interface in Bali. However, "cultural primatology" is now coming into standard usage with a different meaning, referring to the learned behavioral traditions observed in nonhuman primates (e.g. McGrew 1998).

2. With the exception of the Aché, the Huaorani, the Guajá, the Sirionó, and the Maku, all are sedentary horticulturalists. However, the divide between foraging and horticulture is not clear cut. The Huaorani

(Rival 2002) and Sirionó (Balée 1994) use some domesticates and are perhaps more aptly termed trekkers. The Maku trade forest products for domesticated plants with the Tukanoan peoples (Silverwood-Cope 1972). For the Guajá, Balée (1994) has demonstrated that they are adapted to an anthropogenic forest, with their staple babassu palm concentrated heavily in the old fallow fields of food producers.

3. In cases where language family was not available from the ethnographic reference, it was obtained from the *Ethnologue* database (Gordon 2005).

4. Kalapalo ethnobiological categorization distinguishes between furred land animals (*õene*), and water creatures (*kaõa*) (Basso 1973).

5. Partible paternity includes the belief that a child can have more than one "biological" father.

6. It should be noted that *Aotus, Callicebus,* and *Saimiri* are relatively small bodied cebids, weighing less than 1500 grams and that *Aotus* and *Callicebus* also form small social groups (see Fleagle 1998).

**REFERENCE CITED**

Alvard, Michael. 1995. Intraspecific Prey Choice by Amazonian Hunters. Current Anthropology 5:789-818.

Århem, Kaj. 1981. Makuna Social Organization: A Study in Descent, Alliance and the Formation of Corporate Groups in the North-Western Amazon. Stockholm: Almqvist & Wiksell International.

-- 1996. The Makuna: An Amazonian People. SANS, Papers in Social Anthropology. Göteborg University.

Balée, William. 1984. The Persistence of Ka'apor Culture. Ph.D. dissertation. Columbia University. Ann Arbor: Microfilms International.

-- 1994. Footprints of the Forest: Ka'apor Ethnobotany - The Historical Ecology of Plant Utilization by an Amazonian People. New York: Columbia University Press.

Basso, Ellen B. 1973. The Kalapalo Indians of Central Brazil. New York: Holt, Rinehart and Winston. Beckerman, Stephen and Paul Valentine (eds.)

-- 2002. Cultures of Multiple Fathers: The Theory and Practice of Partible Paternity in Lowland South America. Gainesville: University of Florida Press.

Behrens, Clifford A. 1986. Shipibo Food Categorization and Preference: Relationships between Indigenous and Western Dietary Concepts. American Anthropologist 88:647-658.

Berlin, Brent and Elois Ann Berlin. 1983. Adaptation and Ethnozoological Classification: Theoretical Implications of Animal Resources and Diet of the Aguaruna and Huambisa. *In* Adaptive Responses of Native Amazonians. R. B. Hames and W.T. Vickers, eds. Pp. 301-325. New York: Academic Press.

Brown, Michael F. 1984. The Role of Words in Aguaruna Hunting Magic. American Ethnologist 3: 545-558.

Campbell, Alan T. 1989. To Square with Genesis, Causal Statements and Shamanic Ideas in Wayãpí. Edinburgh: Edinburgh University Press.

Carneiro, Robert L. 1970. Hunting and Hunting Magic Among the Amahuaca of the Peruvian Montaña. Ethnology 9:331-341.

Claggett, Peter R. 1998. The Spatial Extent and Composition of Wildlife harvests Among Three Villages in the Peruvian Amazon. Paper presented at the Latin American Studies Association Meetings. Chicago.

Colding, J. and C. Folke. 1997. The Relations Among Threatened Species, Their Protection, and Taboos. ConservationEcology [online]1:6. Available from the Internet. URL: http://www.consecol.org/vol1/iss1/art6/ 1:6

Conklin, Beth A.. 2001. Consuming Grief: Compassionate Cannibalism in an Amazonian Society. Austin: University of Texas Press.

Cormier, Loretta A. 2003a. Kinship with Monkeys: The Guajá Foragers of Eastern Amazonia. New York: Columbia University Press.

-- 2003b. Animism, Cannibalism, and Pet-keeping Among the Guajá of Eastern Amazonia."Tipití: The Journal for the Society of the Anthropology of Lowland South America 1:71-88.

Crocker, Jon Christopher. 1985. Vital Souls, Bororo Cosmology, Natural Symbolism, and Shamanism. Tuscon: University of Tuscon Press.

Dean, Bartholomew. 1994. Multiple Regimes of Value: Unequal Exchange and the Circulation of Urarina Palm-Fiber Wealth. Museum Anthropology 18:3-20.

Denevan, William M. 1971. Campa Subsistence in the Gran Pajonal, Eastern Peru. Geographical Review 61:496-518.

De Souza-Mazurek, Rosélis R., Temehe Pedrinho, Xinymy Feliciano, Waraié Hilário, Sanapyty Gerôncio and Ewepe Marcelo. 2000. Subsistence Hunting among the Waimiri Atroari Indians in Central Amazonia, Brazil. Biodiversity and Conservation 9:579-596.

Drummond, Lee. 1977. Structure and Process in the Interpretation of South American Myth: The Arawak Dog Spirit People. American Anthropologist 79: 842-868.

Erikson, Philippe. 1997. On Native American Conservation and the Status of Amazonian Pets. Current Anthropology 38: 445-446.

-- 2001. Myth and material Culture: Matis Blowguns, Palm Trees, and Ancestor Spirits. *In* Beyond the Visible and the Material: The Amerindianization of Society in the Work of Peter Rivière. L. M. Rival and N. L. Whitehead, eds. Pp. 101-121. Oxford and New York: Oxford University Press.

Emmons, Louise H. and François Feer. 1997. Neotropical Rain Forest Mammals: A Field Guide, Second Edition. Chicago and London: University of Chicago Press.

Fleagle, John G. 1998. Primate Adapatation and Evolution. New York: Academic Press.

Fleck, David W., Robert S. Voss, and James L. Patton. 1999. Biological Basis of Saki (*Pithecia*) Folk Species Recognized by the Matses Indians of Amazonian Perú. International Journal of Primatology 20:1005-1028.

Forline, Louis C. 1997. The Persistence and Cultural Transformation of the Guajá Indians: Foragers of Maranhão State, Brazil. Ph.D. dissertation. University of Florida. Ann Arbor: UMI Dissertation Services.

Fuentes, Agustín and Linda D. Wolfe. 2002. Introduction. *In* Primates Face to Face: The Conservation Implications of Human-Nonhuman Primate Interconnections. A. Fuentes and L. D. Wolfe (eds.). Cambridge: Cambridge University Press.

Gordon, Raymond G., Jr. (ed.), 2005. Ethnologue: Languages of the World, Fifteenth edition. Dallas, Tex.: SIL International. Online version:http://www.ethnologue.com/.

Gow, Peter. 1989. The Perverse Child: Desire in a Native Amazonian Subsistence Economy. Man 24:567-582.

Gregor, Thomas A. 1977. Mehinaku, The Drama of Daily Life in a Brazilian Indian Village. Chicago: University of Chicago Press.

Hames, Raymond B. and William T. Vickers. 1982. Optimal Diet Breadth Theory as a Model to Explain Variability in Amazonian Hunting. American Ethnologist 9:358-378.

Harner, Michael J. 1972. The Jívaro: People of the Sacred Waterfalls. Berkeley: University of California Press.

Henfrey, Thomas B. 2002. Ethnoecology, Resource Use, Conservation, and Development in a Wapishana Community in South Rupununi, Guyana. Ph.D. dissertation. University of Kent at Canterbury

Hill, Kim and Kristen Hawkes. 1983. Neotropical Hunting among the Aché, of Eastern Paraguay. *In* Adaptive Responses of Native Amazonians. R.B. Hames and W.T. Vickers, eds. Pp. 139-188. New York: Academic Press.

Holmberg, Allan R. 1985 [1950]. Nomads of the Long Bow, The Siriono of Eastern Bolivia. Prospect Heights, Illinois: Waveland Press.

Izawa, Kosei. 1975. Foods and Feeding Behavior of Monkeys in the Upper Amazon Basin. Primates 16: 295-316.

Kaplan, Hillard and Kate Kopischke. 1992. Resource Use, Traditional Technology, and Change Among Native Peoples of Lowland South America. *In* Conservation of Neotropical Forests: Working from Traditional Resource Use. Pp. 83-107. Kent Redford and Christine Padoch, eds. Columbia University Press: New York.

Kensinger, Kenneth M, Phyllis Rabineau, Helen Tanner, Susan G. Ferguson, and Alice Dawson. 1975. The Cashinahua of Eastern Peru. Studies in Anthropology and Material Culture, Volume 1. Jan Powell Dwyer, ed. The Haffenferrer Museum of Anthropology. Brown University.

Kinzey, Warren G. (ed.). 1997. New World Primates: Ecology, Evolution, Behavior. New York: Aldine De Gruyter.

Kracke, Waud H. 1978. Force and Persuasion, Leadership in an Amazonian Society. Chicago: University of Chicago Press.

Lima, Tânia Stolze. 2000. Towards an Ethnographic Theory of the Nature/Culture Distinction in Juruna Cosmology. Revista Brasileira de Ciências Sociais, Special Issue 1: 43-52.

Lizarralde, Manuel. 2002. Ethnoecology of monkeys among the Barí of Venezuela: Perception, Use, and Conservation. *In* Primates Face to Face: The Conservation Implications of Human-Nonhuman Primate Interconnections. A. Fuentes and L. D. Wolfe, eds. Pp. 85-100. Cambridge: Cambridge University Press.

Maybury-Lewis, David. 1967. Akwe-Shavante Society. Oxford: Claredon Press.

McDonald, David R. 1977. Food Taboos: A Primitive Environmental Protection Agency (South America). Anthropos 72:734-748.

McGrew, W.C. 1998. Culture in Nonhuman Primates? Annual Review of Anthropology 27:301-328.

Meirelles Jr., Jose Carlos dos Reis. 1985. Relatório do Reconhecimento da Área da Serra da Desordem. Setembro. Ministério da Justiça, Fundação Nacional do Índio.

Meggers, Betty J. 1971. Aboriginal Adaptation to the Terra Firme. *In* Amazonia: Man and Culture in a Counterfeit Paradise. Pp. 39-96. Aldine: Chicago.

Milton, Katharine. 1984. Protein and Carbohydrate Resources of the Maku Indians of Northwestern Amazonia. American Anthropologist 86:7-27.

-- 1991. Comparative Aspects of Diet in Amazonian Forest-Dwellers. Philosophical Transactions: Biological Sciences 334:253-263.

Milton, Katharine A. and Jorge L. Nessimian. 1984. Evidence for Insectivory in Two Primate Species (*Callicebus torquatus* and *Lagothrix lagothricha lagothricha*) from Northwestern Amazonia. American Journal of Primatology 6:367-371.

Montgomery, Evelyn I. 1970. With the Shiriana in Brazil. Dubuque: Kendall/Hunt Publishing Company.

Murphy, Robert F. 1960. Headhunters Heritage: Social and Economic Change Among the Mundurucú Indians. Berkeley and Los Angeles: University of California Press.

Murphy, Robert F. and Buell Quain. 1966. The Trumaí Indians of Central Brazil. Monographs of the American Ethnological Society, Number 24. E. S. Goldfrank, ed. Seattle: University of Washington Press.

Price, David. 1981. Nambiquara Leadership. American Ethnologist 8:686-708.

Priest, Perry N. 1966. Provision for the Aged Among the Siriono of Bolivia. American Anthropologist 68:1245-1247.

Queiroz, Helder L. and Renato Kipnis. 1991. Os índios Guajá e os primatas da Amazonia Maranhense. Paper presented at the Congresso Brasileiro de Zoologia, Salvador, Bahía.

Redford, Kent H. and John G. Robinson. 1987. The Game of Choice: Patterns of Indian and Colonist Hunting in the Neotropics. American Anthropologist 89: 650-667.

Reichel-Dolmatoff, Gerardo. 1976. Cosmology as Ecological Analysis: A View from the Rain Forest. Man 11: 307-318.

-- 1978. Desana Animal Categories, Food Restrictions, and the Concept of Colour Energies. Journal of Latin American Lore 4:243-291.

-- 1996. Yuriparí: Studies of an Amazonian Foundation Myth. Cambridge: Harvard University Press.

-- 1997. Essays on the Tukano Indians of the Northwest Amazon. Themis Books. Foxhole, U.K.

Rival, Laura. 1993. The Growth of Family Trees: Understanding Huaorani Perceptions of the Forest. Man 28: 635-652.

-- 1996. Blowpipes and Spears: The Social Significance of Huaorani Technological Choices. *In* Nature and Society: Anthropological Perspectives. P. Descola and G. Pálsson, eds. Pp. 145-164. New York: Routledge.

-- 1998. Androgynous Parents and Guest Children: The Huaorani Couvade. The Journal of the Royal Anthropological Institute 4:619-642.

-- 2002. Trekking Through History: The Huaorani of Amazonian Ecuador. New York: Columbia University Press.

Rivière, Peter. 1974. The Couvade: A Problem Reborn. Man 9:423-435.

Ross, Eric Barry. 1978. Food Taboos, Diet, and Hunting Strategy: The Adaptation to Animals in Amazon Cultural Ecology. Current Anthropology 19:1-36.

Seeger, Anthony. 1981. Nature and Society in Central Brazil, the Suya Indians of Mato Grosso. Cambridge: Harvard University Press.

Shepard, Glenn H. Jr. 2002. Primates in Matsigenka Subsistence and World View. *In* Primates Face to Face: The Conservation Implications of Human-nonhuman Primate Interconnections. A. Fuentes and L. D. Wolfe, eds. Pp. 101-136. Cambridge: Cambridge University Press.

Silverwood-Cope, P. 1972. A Contribution to the Ethnography of the Columbian Maku. Ph.D. Dissertation. Selwyn College: University of Cambridge.

Smole, William J. 1976. The Yanoama Indians: A Cultural Geography. Austin: University of Texas Press.

Sponsel, Leslie E. 1997. The Human Niche in Amazonia: Explorations in Ethnoprimatology. *In* New World Primates: Ecology, Evolution, Behavior. W. G. Kinzey, ed. Pp. 143-165. New York: Aldine De Gruyter.

Stearman, Allyn MacLean. 1994. Revisiting the Myth of the Ecologically Noble Savage in Amazonia: Implications for Indigenous Land Rights. Culture & Agriculture 49:2-6.

Turner, Terrence. 1995. Social Body and Embodied Subject: Bodiliness, Subjectivity, and Sociality among the Kayapo. Cultural Anthropology 10:143-170.

Vickers, William T. 1988. Game Depletion Hypothesis of Amazonian Adaptation: Data from a Native Community. Science 239:1521-1522.

Vilaça, Aparecida. 2002. Making Kin Out of Others in Amazonia. The Journal of the Royal Anthropological Institute 8:347-365.

Von Graeve, Bernard. 1989. The Pacaa Nova, Clash of Cultures on the Brazilian Frontier. Peterborough, Ontario: Broadview Press.

Viveiros de Castro, Eduardo. 1992. From the Enemy's Point of View: Humanity and Divinity in Amazonian Society. Translated by Catherine V. Howard. Chicago: The University of Chicago Press.

-- 1998. Cosmological Deixis and Amerindian Perspectivism. The Journal of the Royal Anthropological Institute 4:469-488.

-- 1999. The transformation of objects into subjects in Amerindian ontogenies. Paper presented at the American Anthropological Association invited session: Re-animating Religion: A Debate on the New Animism, Chicago, November 1999.

Wagley, Charles. 1983 [1977]. Welcome of Tears, the Tapirapé Indians of Central Brazil. Prospect Heights, IL: Waveland Press.

Weiss, Gerald. 1974. Campa Organization. American Ethnologist 1:379-403.

Werner, Dennis. 1984. Amazon Journey: An Anthropologists Year Among Brazil's Mekranoti Indians. New York: Simon and Schuster.

Wheatley, Bruce P. 1999. The Sacred Monkeys of Bali. Prospect Heights, Illinois: Waveland Press.

Whitten, Norman E. 1978. Ecological Imagery and Cultural Adaptability: The Canelos Quichua of Eastern Ecuador. American Anthropologist 80: 836-859.

Wilbert, Johannes. 1978. Folk Literature of the Gê Indians, Volume I. Los Angeles: UCLA Latin American Center Publications.

-- 1980. Folk Literature of the Warao Indians. Los Angeles: UCLA Latin American Center Publications.

Wilbert, Johannes and Karin Simoneau (eds.). 1982. Folk Literature of the Toba Indians, Volume I. Los Angeles: UCLA Latin American Center Publications.

-- 1983. Folk Literature of the Bororo Indians, Volume I. Los Angeles: UCLA Latin American Center Publications.

-- 1984. Folk Literature of the Gê Indians, Volume II. Los Angeles: UCLA Latin American Center Publications.

-- 1988. Folk Literature of the Mocoví Indians. Los Angeles: UCLA Latin American Center Publications.

-- 1989a. Folk Literature of the Ayoreo Indians. Los Angeles: UCLA Latin American Center Publications.

-- 1989b. Folk Literature of the Cadeveo Indians. Los Angeles: UCLA Latin American Center Publications.

-- 1989c. Folk Literature of the Toba Indians, Volume II. Los Angeles: UCLA Latin American Center Publications.

-- 1990a. Folk Literature of the Yanomam Indians. Los Angeles: UCLA Latin American Center Publications.

-- 1990b. Folk Literature of the Yaruro Indians. Los Angeles: UCLA Latin American Center Publications.

-- 1992. Folk Literature of the Sikuani Indians. Los Angeles: UCLA Latin American Center Publications.

Wright, Robin M. 1992. Guardians of the Cosmos: Baniwa Shamans and Prophets, Part I. History of Religions 32:32-58.

Yost, James A. and Patricia M. Kelley. 1983. Shotguns, Blowguns, and Spears: The Analysis of Technological Efficiency. *In* Adaptive Responses of Native Amazonians. R. B. Hames and W. T. Vickers, eds. Pp. 189-224. New York: Academic Press.

Zent, Stanford. 1998. Independent Yet Interdependent "Isode": The Historical Ecology of Traditional Piaroa Settlement Pattern. *In* Advances in Historical Ecology, W. Balée, ed. Pp. 251-286. New York: Columbia University Press.