



Tapir Conservation

The Newsletter of the IUCN/SSC Tapir Specialist Group

Number 7, October 1997

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The views in *Tapir Conservation* do not necessarily reflect those of the IUCN nor the entire IUCN/SSC Tapir Specialist Group (TSG). The objective of *Tapir Conservation* is to offer the members of the IUCN/SSC Tapir Specialist Group and others concerned with the family Tapiridae, news, briefs, opinions, and general information about this threatened mammalian genus. Anyone wishing to contribute to *Tapir Conservation*, please send materials to:

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Issue #7 of *Tapir Conservation* offers new avenues of information

For the first time since the formation of the Tapir Specialist Group, increased communications have added exciting new avenues of information for everyone interested in tapirs.

The Tapir Specialist Group is fortunate to have the enthusiastic participation of Sheryl Todd. For over twenty years, Sheryl has held a strong interest in tapirs. She was instrumental in founding the Tapir Research Institute located in California, where she successfully raised both *T. venustus* and *T. bairdii* young. Life changed, Sheryl found herself in a world different than one dominated by tapirs, but her enthusiasm for these animals never faded. Today, she is back on line to assist with tapir conservation. She accepted the position of Deputy Chair of the TSG in early September.

Besides creating a world wide web site for tapirs, "The Tapir Gallery," <http://www.tapirbank.com/tapirgl>, Sheryl has brought to life a unique communications network through Tapir Talk. Access to Tapir Talk is easy; through e-mail. Write to Sheryl Todd at tapir@tapirbank.com; include the words, "Tapir Talk" in the subject line. That's all one needs to do to key into compelling conversations about the latest research, and a variety of topics which address all species of tapir.

Some highlights of recent Tapir Talk e-mailings are included in this issue.

On the downside of communications, frequently no response is received from people who consider themselves "tapirologists," when their suggestions and advice or

comments are requested.

It is our hope that the tapir communication network will continue to grow stronger and more productive. Thanks to all who have been active in the TSG, providing valuable information and ideas.

Action Plan

The Tapir Action Plan is being finalized in IUCN headquarters, Gland, Switzerland and will soon be published.

Symposium

A symposium regarding Field Research in Meso-America is in planning stages. The venue is the Tropical Education Center at the Belize Zoo and the tentative date is August 1998. See enclosed flyer for complete information. A sub-meeting of the TSG will be held.

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There are several organizations involved in tapir conservation, both *in-situ* and *ex-situ*. Wildlife Conservation Society (WCS), Wildlife Preservation Trust, Internacional (WPTI). IUCN has provided funding to assist with the publications of the Tapir Action Plan.

Three projects involving tapirs which were conducted using radio collars were those of Joe Fragoso, Charles Foerster and Craig DeWner.

(Ed. note: In 1987 in Santa Rosa National Park, Costa Rica, Keith Hillman radio-collared and accompanied field work on T. bairdii; see also other stories in this newsletter.)

Edited from Tapir Talk; Vol. 1, No. 5

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Anesthetics and behavioral changes

Dr. Francisco Galindo of Mexico communicated that colleagues have told him that while doing field work and capturing sea lions and tapirs, an after-effect from anesthesia (specific drugs not mentioned), was that maternal and social behavior noticeably changed. He queries if anyone has had similar experiences, or has any more information about this.

Edited from Tapir Talk; Vol. 1, No. 37

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How do you say it?

An interesting question has arisen about the Spanish word for "tapir." A familiar usage is "la dama." Is this the correct reference to "both male and female tapirs?" "Damas"? Leo Salas believes that "Damas" is derived from the Portuguese, "Ana." However, when referring to the male, the Spanish "el dante" is correct.

Edited from Tapir Talk; Vol. 1, No. 19

Spelling of "bairdii"

The scientific name of Baird's tapir has been spelled variously *T. bairdii* and *T. bairdi* in the literature. The question arose as to which was correct.

Les Skobov (1964) used the "ii" spelling in his major review of the tapir family. The question was originally posed on "tapir" talk by Dr. Werner Haber, a shrew expert, who had encountered the same spelling discrepancy in papers on Baird's shrew. A few days later, he reported that he had consulted a leading mammalogist (name not given), who had said, "The rule is that the name should be spelled according to the first species description, no matter what the current spelling is..." According to Latin grammar, the single "i" ending would be correct. However, in the case of the tapir, the first description was by Gill (1862) who called the species *Esomys bairdi*. In 1872, Selous used the name "tapirus bairdi". Sneath (1882) seems to have been the first to use the single "i" (*Tapirus bairdi*). Following the "first" rule, "bairdi" seems to be the correct, though grammatically incorrect, spelling.

From Tapir Talk; Vol. 1, Nos. 4, 6, 21

Dr. Werner Haber

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Root canals and tooth care

The Audubon Park Zoo has performed numerous root canals (periapical) on their Baird's and Brazilian tapirs

utilizing "standard technique." "The only problem was anesthesia, which required narcotics. The require have held well for over four years and the animals have ceased to have problems since we changed our feeding and husbandry practices." Males are now separated from cycling females to discourage fence biting.

Edited from Tapir Talk; Vol. 1, No. 31

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'Tapirs and big cats

Thought-provoking points were brought up in a discussion between Dan Brooks and Leo Salas about tapir predation by big cats. Can a large cat kill a healthy adult tapir or are tapir remains that appear in cat feces due to scavenging or killing of young or compromised animals?

● Craig DeWner examined 11 puma scats, of which 2 (18%) contained tapir remains.

● Lowland tapirs were found to be the sixth most important prey item (measured as contributing to at least 5% of biomass and 2% of prey items taken) for jaguars (23 taxa taken total), verified from 106 scats. Source: Fisher, A.B., A.J. Novaro, N. Neris, and H.H. Coiman. 1997. The food habits of sympatric jaguar and puma in the Paraguayan Chaco, *Biotropica* 29:204-213.

● Better and more accurate data needs to be collected. For instance, if tapirs represent 2% of the prey items taken, and on average there are, say, 15 different items per scat, then three remains of tapirs were found. Are these from the same or different tapirs?

● Although large cats prey on cattle, which are larger and heavier than tapirs, cattle do not have the defense mechanisms tapirs do (running through brush, diving into water).

● Literature does not contain many reports of large cats attacking tapirs.

● Cats that prey on cattle may be substantially larger than cats whose

cattle do not exist. (Rabinowitz and Fuller in conversation with Solis).

- Purmas and jaguars seem to eat their prey differently, which can be helpful in identifying which animal either killed or scavenged a tapir.

- It would be a significant finding to prove that a healthy adult tapir was killed by a cat.

- DNA and PCR testing, though very expensive, can determine individual prey and predators, sexes, diseases in predators and even home ranges. (Keken, Michael; Wayne, Bob; *Trends in Ecology and Evolution*, 1997, 12(5):223-227).

- Research such as the long-term project of Charles Foster in Costa Rica, may help determine age-specific or stage-specific mortality rates.

Edited from several numbers of Tapir Talk
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Earthwatch grants, 1998-99

The Center for Field Research invites proposals for 1998-99 field grants funded by its affiliate, Earthwatch. Earthwatch is an international, non-profit organization dedicated to sponsoring field research and promoting public education in the sciences and humanities. Past projects have included, but are not limited to: animal behavior, biodiversity, ecology, endangered species, and resource and wildlife management. Interdisciplinary projects are especially encouraged as is multinational collaboration. Information can be found at <http://www.earthwatch.org/info/cfr.html>, or contact:

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Letters from Chiapas



During this past year, Dr. Miguel Alvarez del Toro passed away. For many years he had been Director of the Instituto de Historia Natural, Departamento de Zoología, the zoo in Tuxtla Gutiérrez, Chiapas, México. Dr. Alvarez del Toro was also an outstanding conservationist. In our next issue we will present a tribute to his life and work, along with a discussion of the Baird's tapir breeding program he started at his zoo in the 1950s and carried on for decades. In this issue, however, I would like to share with the tapir community excerpts from two letters from him that I've measured for many years. Both indicate a man observant and questioning. I always appreciated the time he was willing to take to talk about these animals.

February 8, 1973

"Last year, in May, I had an experience with tapirs in the wild. One night one pair of big ones rushed our camp, scooped out the fire, crushed many things, bit at the tents, etc. When we finally crawled out of the tents, they remained some few meters distant in the full light of the lamps, whistling and stamping their feet on the ground. At last they walked slowly back to the forest and left us wondering why they behaved that way."

July 24, 1973

"The outbreak of *Leishmania* epidemics that swept this state some years ago killed five of the seven tapirs we had. They showed more or less the same symptoms as leucos with such diseases; they kept walking in short circles and sometimes rushed headlong against

fences, bit wires, poles, etc. Actually, in this way they were unlike horses; that is, the tapirs got somewhat fatigued. Finally, they became weaker and weaker until death arrived; at the end, the skin turned deep red.

"One interesting thing is the fact that as soon as they got sick, the two that would survive went into the deep mud of the meads, sticking out only their nostrils. They stayed this way for twelve days all day and night, not feeding. I thought they were at the point of death, but I was surprised. During the thirteenth day, they came out very weak and shaking, but started to feed on fallen leaves. So they started to live again and to this day are strong and normal. I always thought the cold of the mud must have kept down the fever, and so they recovered. However, the veterinarians said 'No, no, no.' So:

"Six months later, the female gave birth, a stillbirth, and the male looked impotent for some time. Eventually, they both recovered; they had a baby male, born this January."

Submitted by
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Requests

Anyone knowing of captive *T. bairdii* anywhere in Nicaragua, please contact Sharon Matola (see contact info on front page).

Dr. Francisco Galindo Lequecua information on anesthetics and tapir behavior. See description and contact info. on page 2.

Sheryl Todd requests two types of photos. These can be good source copiers.

1. Photos of any *T. bairdii* adults for which location in the wild (or capture location) is known. If the tapir is captive, location of capture or of wild ancestors should be obtainable.

2. Photos of juveniles (up to about 4 months) of all species where location of origin or country of captured ancestor is known.

See contact info. on front page.

Publications

- Ashley MV, Norman JE, Stress L.
Phylogenetic analysis of the perissodactylan family Tapiridae using mitochondrial cytochrome oxidase (COII) sequences. *Journal of Mammalian Evolution* 1996; 3(4):315-326.**
- Barnes R. Husbandry and conservation of tapirs. *In: Zoo Yearbook: The Zoological Society of London*. 1982 32: 7-15.A
- Prague JMV. Diplo-generated seed shadow: seed-dependent patchiness in the Amazon rain forest. *Journal of Ecology* 35: 1997.
- Jensen DL, Nicholas S, compiler. Bibliography for Tapiridae. San Diego: Zoo. 1994.*
- March Biliou JF. *Sauces for Asato del Tapir en Merida*. Centro de Investigaciones Etnológicas del Yucatán. Serie Monografía No. 1.
- March S. Wildlife Survey of the Naparuto River, Belize, Central America. *December* 1994. Report to the Forestry Dept., Government of Belize.*
- Nunzio, et al. Available from Eduardo Nunzio, see pages 6-7 for address and contact info.
- Saba L, Peller TC. Diet of the lowland tapir (*Tapirus terrestris* L.) in the Tabaco River Valley, southern Venezuela. *Canadian Journal of Zoology*. 1996; 74(5):1444-1451.**
- Saba, L. Habitat use by lowland tapirs (*Tapirus terrestris* L.) in the Tabaco River Valley, southern Venezuela. *Canadian Journal of Zoology* 1996; 74(5):1452-1458.**
- *Available from Sharon Manley, please send US\$25.00 for foreign postage/handling.
**Available from Sharp Tail.

Tapir portraits in wood and wool

by Kay Wilson

In response to interest from the United States, several Ecuadorian artisans are now producing tapir-themed art. Tapirs have been newly featured in woven wall hangings, modeled figures, paintings, and sculptures from the state of Tungurahua and the Amazon region.

Salsacan weavers

The Jerez family, weavers of Salsacan, near Ambato, Ecuador, has traditionally made woven wall hangings. These hangings, ranging from pillow size to wall size, are created on hand-powered looms from wool the Jerez family weaves and dyes.

Until now the Salsacan hangings have not featured tapirs. Possibly this is because tapirs are shy and elusive. The hangings focus on what the weavers see frequently, including llamas, birds, flowers, scenes such as "snapshots" of women on their way to market, ancient symbols and geometric designs, and full-length views of Salsacan dancers in traditional dress.

These intricate designs are woven in, rather than painted onto flat, finished pieces of cloth. Despite the demands of this method of creation, the hangings are so detailed that they include the individual fronds of flowers, and cloths in the feet of llamas.

Now, the Jerez family has begun to include tapirs in their weavings, in response to interest from Craig Downer (story, page 14) and the Tapir Gallery (story, page 1).

The hangings feature the adult mountain tapir, complete with white-edged ears and white-rimmed mouth. The tapir itself is based on a drawing by Kevin Burkhill. The weavers have added the horned rind of the tapir's habits in the foreground, and a snow-capped Sangay volcano (a prominent feature of Sangay National Park) in the background.

The tapir is represented in its natural browns, blacks, and whites, but the weavers have offset these somber tones with brilliant blues in the sky (sometimes complete with large orange-yellow sun rays), and red and orange flowers by the tapir's feet. And the detail in these new hangings is as precise as in the traditional ones; the tapir's eyes have reflections of the sunlight in them, and when the tapir is portrayed with one foot raised, individual hoar hairs have woven.

These weavings are sold in the United States by the Tapir Gallery, and in Ecuador by the Jerez family, starting a new tradition.

Nuñez artists and painters in Tungurahua

In contrast to the large and elaborate wall hangings from Salsacan, the painted embroideries from Bames are fairly small.

The works, which measure about 4 x 5 inches, are done on cloth stretched in an embroidery hoop. They show either an adult mountain tapir or a striped youngster. The tapir is embroidered, while the background is painted. These realistic portraits are mounted in oval mats of handmade recycled paper.

The artisans are members of CAMFA, Centro Alternativo de la Mujer y la Familia (Alternative Center for Women and the Family). CAMFA is an enrichment center for women and children of Ecuador.

A volunteer, Felicit Wilhelmy, wanted to help the CAMFA women become self-sufficient; a native Ecuadorian, Ruben Nunzio (story, page 13), hoped to teach his fellow Ecuadorians about conservation. Downer, Wilhelmy and Nunzio collaborated, and tapir art is the result.

Nuñez makes regular educational rounds, including the CAMFA center. There he teaches the women and children about conservation, including the endangered status of the tapir. Nunzio and Downer pass out pamphlets, show pictures, and explain the tapir's part in the health and ecology of the region. Wilhelmy then encourages the women so they clutch and model tapirs (a sculpture made of soap, recycled paper is a prototype).

CAMFA's goal is to help these artisans generate income for both themselves and CAMFA programs. Nunzio hopes that small, attractive portrayals of the tapir, combined with other conservation education he is spearheading, will foster a sense of responsibility in Ecuadorians for this animal.

Sculptures of the Amazon

Rubén Nunzio is also commissioning artisans from the Amazon region to carve tapirs in balsa wood. Because Nunzio is still finalizing these arrangements, few details are available. He writes that he hopes the result will be

'an affective image of the tapir and its habitat.'

The Salascan weavers, the Bafoa artisans, and the Amazon sculptors have begun portraying the tapirs of their own country. This upsurge in tapir-themed merchandise from indigenous artisans is caused largely by an upsurge of interest in tapirs from consumers outside South America. The artisans' sponsors hope that art, combined with an increase in environmental education, will create protective interest in tapirs on the part of the Ecuadorian public as well.

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Report from Brazil

T. terrestris in the Northern Mata Atlantica

by Kevin Fisher, October 7, 1997

On a recent trip away from our study site in the Itaobera area of Bahia, Brazil, we were excited to find tapir tracks in a lowland rain forest only 12 km west of the beach town of Poço Seguro. The following is information I gathered while visiting the forest.

Location and geography. Estação Veraneio is a private reserve owned by the Odobrecht Corporation. It is located just north of the Eunapolis-Porto Seguro highway in southern Bahia. The reserve consists of 6,067 hectares of lowland Atlantic rain forest (a big forest block for this severely endangered ecosystem) of which approximately 70% is an incredibly beautiful climax forest with the upper canopy reaching 30-40 m. The reserve lies on a flat, sandy plain with "canyons" created along the streams and rivers by the action of clear swift water cutting through the soft earth. At least five major streams course through the forest. Outside the reserve, the landscape is a depressing example of the misuse of land, evoking images of what the earth might look like after a

nuclear holocaust. In this case the reality is the complete replacement of high biodiversity rain forest with very low biodiversity degraded cattle pasture. Most of the forests were destroyed between 1960 and 1975.

Tapirs. Although we did not see tapirs on our two-day visit, people who work in the park see them occasionally and our guide got a picture of one running ahead of him on a park road. Tapir numbers are unknown and estimates varied from 5-20 animals for the reserve. The guide (who seemed the most knowledgeable person we spoke with) believes there are 5-6 tapirs living here. He claims there are two types of tapir (a claim many people made in northeastern Honduras as well): *anta agutina* = a big variety; *anta minia* = small variety. He says the pelage is the same in both "species."

Hunting. Although hunting is prohibited throughout Brazil (a few exceptions exist), it is rampant in Bahia and has led to the extirpation of many species of wildlife. In our study area, tapirs are reported to have become extinct 20-30 years ago. The presence of tapirs in the Veraneio reserve is quite amazing, really. Enforced protection only began with the Odobrecht acquisition in 1991. We were told that before this time, the forest was heavily hunted by both subsistence and commercial hunters. White-tipped parrots, brown howler monkeys, and muriqui (*Brachyteles arachnoides*) were all extirpated from the area 20-30 years ago and the scarcity of wildlife today indicates that populations have yet to recover. So, how did these tapirs survive? An intriguing question I cannot answer. The good news is that the reserve is well protected now and we saw no evidence of hunting in our hikes through the core area. A little bit of hunting still goes on in the southeastern corner, but with guards patrolling and educational outreach, this is being eliminated. Tapirs have been seen within 1 km of the highway, so it appears they feel safe enough to venture out of the forest core.

Tapir tracks. We found one set of tapir tracks along a stream in the central part of the reserve. The tapir

had been using the area recently as the tracks only looked a few days old.

There were many tracks in the moister earth, all the same size, so it looked like the bear was traveling alone. Print size was 16cm wide about 14cm long. The guide said this was a big animal, and yet the track size is small compared to the Baird's tapir tracks I found in Belize and Honduras. Is this track size normal for a large *T. terrestris*?

Habitat. The tracks were found along a swift clear stream 2-3 m wide and up to 30 cm deep. In lush lowland wetland plants were abundant as were tree ferns and epiphytic philodendrons. The slopes on both sides of the stream were steep, and we followed several tapir trails which led into the old growth forest of the uplands. Abundant tree fall gaps in the uplands probably provide excellent foraging habitat allowing the tapirs to exploit forest resources away from the waterways.

Conservation status. Almost all the fauna of the northern Mata Atlantica is highly endangered, and the tapirs are on the brink of extinction. This small population is special in that it has survived intensive hunting pressure and landscape alterations, but it is so small that it may not be viable in the long run. As with many species in this threatened ecosystem, "sharding" individuals in an attempt to simulate dispersal and maintain genetic robustness may be the only way to manage the tapirs in the long run. Reforestation is a complex and expensive procedure and it will be a long time before forest remnants are linked through "biodiversity corridors." From our own research and the information we have from others, we believe this is the northernmost tapir population in the Mata Atlantica.

Visiting the reserve. Visitors are required to be accompanied by guides while hiking. There is usually someone at the Visitor Center to make arrangements; the managers enjoy conversing with other researchers.

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NEWS FROM THE FIELD

All countries where tigers are known or presumed to exist are listed. The arrangement is generally north to south, beginning with the Americas and continuing to Asia. Countries are listed whether recent reports are available or not. Populations (given per country) are roughly such where research is needed. Reports are welcomed by the editors.

Given in the IUCN Red List 1996:

Tigrius indus: Vulnerable (VU)
Tigrius pincas: Endangered (EN)
Tigrius ussurif: Vulnerable (VU)
Tigrius amuric: Lower Risk (LR)

North America

México

Birds: tiger (Asian band)
Estimated population: Unknown

Eduardo Naranjo's work moves to México

Having completed his Master's thesis on work done with tigers in Costa Rica, Eduardo Naranjo began a study on tigers and other ungulates in the Lacandon forest of Chiapas (Montes Azuels Biosphere Reserve), México, in 1997. This study will be the first part of Naranjo's doctoral dissertation. His advisor is Richard Balmori of the University of Florida.

Naranjo, E.J. and E. Cruz. Ecología del tigre en la Reserva de la Biosfera La Serranía, Chiapas. *Acta Zoológica Mexicana* (in press).

For additional publications, see under Costa Rica.

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Central America

Guatemala

Birds: tiger (Asian band)
Estimated population: 1,000-2,500

No report.

Belize

Birds: tiger (Asian band)
Estimated population: 2,000-3,000

One of the obstacles Sharon Mizota had to overcome in teaching tiger conservation in Belize was the widely-held belief that a tiger would skin a human or dog alive with its nose. That

education has turned a feared creature into the beloved national animal of Belize. Conservation problems and successes in that country are discussed on the zoo's new web site:

<http://belizezoo.com/belizezoo.html>

The Belize Audubon Society's web site (<http://www.belizeaudubon.org>) has information on protected areas and park systems of Belize.

El Salvador

Birds: tiger (Asian band)
Estimated population: 0

Although it is believed that no tigers remain in El Salvador, there has been some discussion of reintroduction in the future.



Honduras

Large Tapir (Aples tapir)
Estimated population: 1,000-2,000

A frontier model for landscape ecology: the tapir in Honduras

Fleisher, K.M., and E. Ley. 1996. A Frontier Model for Landscape Ecology: The Tapir in Honduras. *Fluctuating and Fragmented Societies*, 3: 119-125.

This work, using statistical methods from the econometrics literature, makes inferences about the tolerance of the tapir to human settlements.

The study was undertaken in 1994 in northeast Honduras, in the Departments of Olancho and Colon. This is a rugged, mountainous area, 10,000-11,500 sq. kilometers of contiguous tropical evergreen rainforest.

However, over the last twenty years, subsistence farmers facing environmental degradation in other parts of Honduras, have been colonizing this study area, and this is threatening to fragment the forest into disconnected patches. For the tapir, this means a larger, connected population, shattered into smaller, isolated ones.

This then brings the risk of inbreeding depression, genetic drift, and stochastic events which reduce their chance of long term persistence.

Fleisher and Ley maintain that the key to the long term survival of this population in northeastern Honduras, is to protect it as a single unit, and avoid the negative affects of isolation. Doing this requires maintaining links between the forest reserves which would allow tapirs to pass from one reserve to another.

The interesting approach to continued human colonization in this forested area is to manage further settlement in a way in which both humans and wildlife can be accommodated. Fleisher and Ley then set out to accomplish learning how human settlements affect tapir movement.



Map of Honduras. Dotted areas indicate remaining fragments of rainforest, according to *Levine & Russo, Neotropical Rain Forest Mammals - A Field Guide, 1997.*

Borrowing a frontier model from the econometrics literature, they used this to interpret their data set. This paper has important implications for all forest areas where human settlements and wildlife co-exist. It provides a sound and pragmatic approach which could be a model suggesting that the spatial management of human land use practices can be managed in a way which could well determine the future for wildlife in this region.

Kevin Fleisher is preparing two additional papers on this work, giving fragmentation trends and making suggestions for corridor preservation and placement.

Questions on field research:
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Statistical questions:
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Nicaragua

Large Tapir (Tobaco tapir)
Estimated population: 500-1,000

No request.

Costa Rica

Large Tapir (Spots tapir)
Estimated population: 1,000

Naranjo: publications and research

Eduardo Naranjo wrote his Master's Thesis on *T. bairdii* in Costa Rica.

1. Naranjo, E.J. 1995. Abundancia y uso de hábitat del tapir (*Tapirus bairdii*) en un bosque tropical humedo de Costa Rica. *Acta Silesiense Neotropical* 4(1): 20-31.
2. Naranjo, E.J. 1995b. Hábitat de alimentación del tapir (*Tapirus bairdii*) en un bosque neotropical humedo de Costa Rica. *Acta Silesiense Neotropical* 4 (1): 32-37.
3. Naranjo, E.J. and C. Vaughan. Notes sobre la ecología del tapir en el paramo Centralamericano. *Revista (in press)*

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Sonia Foerster reports on telemetry project in Corcovado National Park

Charles and I have just returned to the U.S. from Costa Rica, and would like to tell you of our successes and failures.

Charles Foerster began a radio telemetry project with the Baird's tapir (*Tapirus bairdi*) in Corcovado National Park in Costa Rica in 1994. I am his wife and head veterinarian for the project. I have been involved in organizing medical information, coordinating a team of veterinarians to help with captures, taking part in captures myself, and collecting as much biological data as possible.

For the first phase of Charles' study, we immobilized and radio-collared five tapirs (three females, two males) in December, 1994. Charles collected field data towards his Master's degree from January 1995 to June 1996. Specifically, he documented seasonal variation in home range size and location, activity patterns and habitat selection. During this same period, one female tapir was studied intensively through direct observation to collect data on foraging behavior and social interaction.

We collected field data in more than 4100 locations and logged 280 hours of direct observation (results are to be published soon).

After our great success in collaring and data collection, we contacted several funding organizations with a proposal to capture 20 new animals for a ten-year investigation. We want to continue gathering data on habitat use and activity patterns to identify longer term cycles in tapir behavior. More importantly, with more study animals observed over a longer period, we will be able to document survival rates, reproductive rates and dispersal patterns for this species.

In preparing for this goal, we made a trip to Corcovado in February of 1997 to replace the collars of the original five study animals. We managed to recapture two of the original tapirs (one male, one female). Dr. Domico Leandro, veterinarian and Head Curator at the San Jose Zoo,



Costa Rica (upper map) and 43,700-hectare Corcovado National Park (lower map). Two life-zones are represented within the park: tropical premontane wet forest and tropical wet forest. About 94% is natural forest; the rest is a mixture of swamps, yuccal palm grove and secondary forest. Elevation range from sea level to 745 m. The Osa Peninsula has two major climate seasons: rainy (May-November) and dry (December-April) (Vaughan 1991).



Costa Rica, did the immobilizations. The two previously-collared young females had moved their home range far to the north a month or so before we arrived (we believe this was the first documentation of dispersal by juvenile tapirs). Future plans call for

finding them and replacing their collars. Unfortunately, the collar of one male broke and fell off just two weeks before our arrival. We had one bit of luck during that trip: while searching for one of the collared animals, we stumbled upon a healthy

I arrived at "Eracion Sirena" in Cocorodo on 10th July, and was greeted by Charles' wife, Sonia Forster, a veterinarian who assists her husband on the project. Later I met the rest of the crew, including several veterinarians and/or vet techs or vet students. During my stay, there were always seven on the team, though individual participants came and went.

During my 15-day stay at Sirena Ranger Station, I assisted with the traps at hand, which included looking for suitable capture sites, baiting and platform building. The team left camp at about 4:30 p.m. each day for a one-hour walk to the designated capture site. There were usually two people to a platform, the rest of the team pitching a tent about 200-300 meters away from the site along the main trail. We would wait until about 1 a.m. if no animal was caught. Capture sites were changed often, preferred sites were those where recent rains were abundant.

Capture was by Dantijer pistol containing Dithopental and Xylazine. In the previous two years, Immobilon had been used, but this year it was decided that the above combination provided better safety factors for humans.

Once a tapir was captured, first and foremost, the collar was attached, making sure there was space for two fingers between the collar and the tapir's neck. This would allow room for growth; any more space allowed the risk of having the animal scratch it

off while rubbing against trees. Body measurements were then taken, along with blood samples and swabs from vagina and cloaca. The team would check for parasites, mainly ticks.

An animal is generally down for 20-45 minutes. During this time, monitoring of temperature, heart rate and pulse is critical. When the tapir showed signs of waking from the anaesthesia, it was given a reversing agent for each of the anaesthetics, which would help to wake the animal quickly and smoothly.

When I left Cocorodo on 24th July, five of the 12 projected captures had taken place, although part one of these occurred during my stay.

There could not have been a better location in which to carry out such an investigation. Cocorodo is a haven, not only for tapirs, but for other wildlife as well. Each morning we were awakened by howler monkeys, Spider monkeys, squirrel monkeys and white-faced capuchins all took turns visiting a *gamba* tree that was located in the center of the Sirena Ranger Station. Wildlife in the park has been strictly protected for years, and many of the species appear nervous for the presence of humans.

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Chris and Sonia Forster and two captured tapirs in Cocorodo National Park. The tapir is kept on its stomach while anesthetized. Photos © copyright 1997 by Charles Sonia Forster



Panama

Baird's Tapir (*Tapirus bairdi*)
Estimated population: 2,000-5,000

"Up to now no extensive tapir studies have been undertaken in Panama with the exception of Timmiller's study on Barro Colorado Island in the late 1970s."

Status and Action Plan of Baird's Tapir (*Tapirus bairdi*)
Shirane Matsui and Heidi Ruben-Torgler
IUCN (in press)

South America

Colombia

Baird's tapir (*Tapirus bairdi*)
Estimated population: Unknown

Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

Mountain tapir (*Tapirus pinchaque*)
Estimated population: 1,200

Study and conservation: *T. pinchaque* in Colombia

Dr. Jaime Cavelier and Diego Lizcano, funded by the Wildlife Conservation Society of New York, continue their program of research and education in Colombia, where approximately half of the world's mountain tigers still survive. Both are affiliated with the Universidad de los Andes in Bogotá.

Education outreach was conducted from March through July of 1996, organizing campsites and colonies of the villages of Corozal, El Bosque and Santa Rosa. They addressed individuals as well as groups, and distributed high quality posters and brochures. They also targeted school children in Tizandá with their conservation message. Working with them, a guide named Neel Manabea contacted local hunters. In all cases, posters and brochures were handed out to lend force to the spoken word.

In 1997 Cavelier and Lizcano have targeted other areas for their program including the Laguna de la Cocha in Narino and Parque Las Orquídeas in the Central Andes. Access here is impeded by narco-guerrilla activity.

This past summer, Diego Lizcano spoke about the mountain tapir at a symposium on Conservation Biology in Cali, Colombia.

The team will also estimate populations of *T. panamensis* based on 'tooth traps' which collect footprints in specially prepared clay. The method is considered to be very accurate, and in many cases can help identify individual animals.

Currently, Lizcano and Dr. Cavelier are using infrared trail cameras to help determine activity patterns of the tapirs in both primary and secondary forest. They study hourly, daily and seasonal patterns, and they have collected data showing the tapirs' use of salt licks.

In response to a question in the 'Tapir Talk' forum, Lizcano volunteered that he and Dr. Cavelier have evidence suggesting that in the 1970s *T. panamensis* moved into the higher mountain rain forests as lower forests were cut to provide land for coffee plantations. He said the tapirs have also moved from the páramos (3500 m to 4200 m) to mountain rain forest (2000 to 3500 m). Cattle grazing has caused many tapirs to move from their former habitats in the Central Andes of Colombia.

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Joost Wilms to begin project with *T. terrestris* in Colombia, 1998

Joost Wilms, a tropical ecologist at the University of Amsterdam, is set to begin a study of *Tapirus terrestris* in



Dotted lines indicate elevations in the Andes of 1,000 m or higher. The mountain tapir has been recorded at elevations between 1,400 and 4,700 m, although it usually frequents elevations of 3,000 to 4,300 m (Lizcano, 1996).

Amazonia, middle Río Caquetá, Colombian Amazon. This project is carried out in collaboration with the Fundación Tropenbos-Colombia and the Hugo de Vries Laboratory, University of Amsterdam, and focuses mainly on habitat use and home range of the species and the influence of open rock savanna vegetation and salados (salt licks) on home range. Hunting pressure and hunting regulation by the indigenous people in the area is regarded. Radio-telemetry will be used in addition to other methods.

Contact with the Colombian government and indigenous in Anacuan is being made through Tropenbos-Colombia, and the project (at least two years) should begin in mid-January 1998. An extension of four years is likely. Wilms is interested in discussing methodologies of radio-telemetry with any who have experience. He can be contacted through 'Tapir Talk' or at the following:

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Venezuela

(overland tapir *Tapirus terrestris*)
estimated population: unknown

No report.

Trinidad & Tobago

(overland tapir *Tapirus terrestris*)
estimated population: unknown

No report.

Guyana

Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

No report.

Surinam

Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

No report.

French Guiana

Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

No report.

Brasil

Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

Patricia Medici: study and conservation project, Moro do Diabo State Park

Patricia Medici, a conservation biologist at The Ecological Research Institute (Instituto de Pesquisas Ecologicas [IPE]), Brazil, is working in the Atlantic rainforest in that country at the Moro do Diabo State Park, a protected area of 36,000 hectares. She is studying the auto-ecology and behavior of the lowland tapir, *Tapirus terrestris*.

Her study is aimed at gathering data pertaining to home range, habitat use, and range overlap between different individuals. *T. terrestris* as seed dispersers will be addressed, as well. Feces are being collected and analyzed at Sao Paulo University.

The occupation of agricultural lands by the lowland tapir is also a focus of this field study and radiotelemetry techniques are being used to track the collared animals. Medici has found that pitfall traps work best to capture *T. terrestris* within her study site.



This map includes general locations in Brazil discussed in the newsletter: *Tapirus terrestris* in the northeast: *Tapirus terrestris* in the Atlantic National Park, just north of the city of Brasilia (page 13); Patricia Medici (this page) studies tapirs in Moro do Diabo State Park, near Sao Paulo, and Kevin Fischer (page 7) reports on a remnant population of tapir near Belo Horizonte.

Another objective of this field work is to look at the possibility of restoring degraded areas within the park through reforestation of native plant species. Medici has ensured that a strong component of this field work includes community based environmental education. Patricia Medici is an international partner of Wildlife Preservation Trust, International (WPTI). Until December, 1997, the project is sponsored by the Fundo Nacional do Meio Ambiente (FNMA),

the Environmental Ministry of the Brazilian Government. Medici is seeking additional funding to continue her work with tapirs.

Patricia Medici
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Field Coordinator
Conservation Biology of the Lowland Tapir Project
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Left: A box trap baited with salt.
Right: Moro do Diabo, high ground from which radio-telemetry signals are received.

Photos © copyright 1997 by Patricia Medici.

T. terrestris study in the cerrado of Brasília National Park

Brazilian post-graduate Tarcísio de Siles Santos, Jr., is conducting a study of *T. terrestris* in the cerrado of Brazil. Twenty-two percent of Brazil (2 million km²) is represented by cerrado. Preliminary studies indicate that home range requirements for the Brazilian tapir (*T. terrestris*) in this biome may be several times larger than that of tapirs studied in rainforest areas. Results of recent research estimates that 45.4% of the cerrado will be used for agriculture by the year 2020. Local conservation strategies depend on understanding the requirements of *T. terrestris* in this biome. The study area, Brasília National Park, consists of 30 hectares of cerrado and is home to an estimated 10 or more tapirs. There are two distinct seasons: hot/dry and dry/cold. Mean annual rainfall is 1576 mm; relative humidity ranges between 12 and 80%. The park is surrounded by urban development, and domestic dogs enter the park in groups, attacking wild animals.

The project uses radiotelemetry to study the tapir's home range, habits, use and preference, trail use and diet. Areas of use will be studied in detail.



Dotted lines indicate elevation in the Andean chain of 4,000 m or higher. The mountain tapir has been recorded at elevations between 1,400 and 4,700 m, although it usually frequents elevations of 2,000 to 4,500 m (Downer, 1996).

The project seeks to confirm anecdotal reports that some tapirs leave the park during the dry season.

One animal has been collared; the goal is six. Pitfall traps camouflaged with sticks and grass were used; dimensions were 2.40 m long, 1.50 m wide and 1.60 m deep. Additional

funds are being sought.

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Ecuador

Mountain tapir (*Tapirus pinchasi*)
Estimated population: 1,100

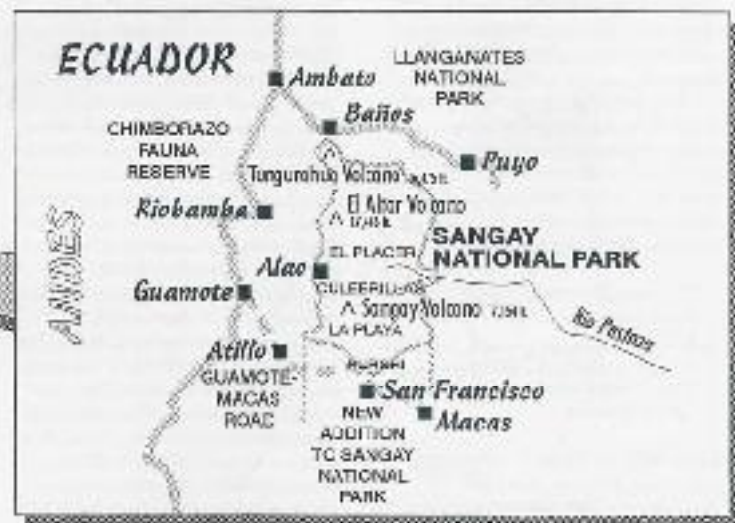
Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

Ruben Nuñez' mountain tapir conservation outreach

Strengthened communications as a result of current newsbriefs on Tapir Talk has resulted in the funding of Craig Downer's assistant, Ruben Nuñez, for an extended three month period. Funding was provided by Wildlife Preservation Trust, International (WPTI), through the

Tapir Specialist Group. WPTI funded the project from May to September, 1997, and is now working with the Tapir Preservation Fund to secure a grant that will allow this valuable work to continue.

Ruben Nuñez is a graduate of the Agricultural Technical Department of Azuay University in Fátima. He has completed a Master's program in Agricultural Engineering and has assisted on radio-collaring expeditions with *T. pinchasi*. Nuñez has also secured logistical support from the Catholic church, who are now urging people through their "power of conviction," to hear talks from Ruben Nuñez addressing human interactions with nature.



Detail map of a section of Ecuador showing areas that are the focus of conservation and education work by Craig C. Downer and Ruben Nuñez. Downer has radio-collared several *T. pinchasi* in Sangay National Park. The new Guamote-Macas road allows easy public access to locations that have traditionally been safe for wildlife.

- So far, he has taken conservation education to approximately 10,000 Ecuadorians since February, mainly in the states of Tungurahua and Chimborazo.

- He is intent to travel to more remote villages with his environmental education programs.

- He has succeeded in forming several Mountain Tapir Clubs in schools, and has assisted one school in building a model of *T. pinchaque* habitat to express it as a "living sponge."

- Ruben has also given his program to 250 members of the police force in Riobamba, a location where poached tapir products are sold. They stated they were not aware of the laws concerning this species, and requested copies of the law, saying they would jail those in violation. They had hitherto not been told they should take impounded animals, live or dead, to the INERAN office.

- While Craig Downer is continuing on with the scientific studies of *T. pinchaque* in the Ecuadorian Andes, Ruben Nuñez's education efforts are an imperative part of the entire program.

Any field research becomes exponential when accompanied by complementary environmental education.

Tapir Specialist Group members are urged to write letters of concern. Anyone receiving this newsletter is aware of the desperate status of the mountain tapir. A letter will officially register growing concern about this situation. The person to contact is:

Lt. Jaime Enriquez, Director
 Areas Naturales y Vida Silvestre
 INERAN
 Edificio de MAG 8 Piso
 Eloy Alfaro y Amazonas
 Quito, Ecuador

Rubén Wilfrido Nuñez Sánchez
 Rosa Suarez, 896 Juan León Mero
 Esmas Ecología 5 de Junio
 Esmer, Tungurahua, Ecuador
 Telephone:
 593 3 827-272
 593 3 749-581



Among streams, the milk-mountain tapir (*Tapius pinchaque*) battles rapids on the San Pedro in the Andes of Ecuador. Photo copyright 1997 by Craig C. Downer.

Craig C. Downer's 1996/97 expedition to Ecuador

Much conservation work was accomplished and many significant contacts were made on Craig Downer's 1996/1997 trip to Ecuador. This year's continuation of his ongoing work with *Tapius pinchaque* was funded by the Tapir Preservation Fund and others. Highlights from a long report on the six-month expedition are noted:

- 23 March 1997: We reached several million viewers through the "LA Television" program hosted by Freddy Eilers. Impact was essentially great because recent flooding resulting in both human and animal fatalities was shown to be exacerbated by damage to highland soils and misperception of the seed-dispersing mountain tapirs in some regions. These animals were shown *in situ* using excerpts from film footage I had shot for *Esperanza, the Mountain Tapir*, produced by Richard Brock of Living Planet, Productus, Bristol, U.K. (for orders call: +44-011-974-1948.) Close-up footage documents destruction of the highlands by floods and droughts due to deforestation and overgrazing along with the role of the mountain tapir in the survival of its habitat. This TV show, the most popular in Ecuador, is put on by

"Teleamazonas," the national channel. Enrique Bayo, Director of ecological programming, expressed interest in doing an hour documentary about the mountain tapir in Sangay National Park using its own video team.

- A segment similar to the above was done, again with live interview, for the AMBAWINKIN channel out of Tungurahua's capital, Ambato.

- Numerous radio interviews were given, including Radiofónica of Riobamba, Radio Lector of Ambato, and Voz del Santuario of Baños. These interviews will be rebroadcast throughout the northern Andean radio network as well as internationally (Radiofónica).

- We gave numerous talks and slide-lecture programs were given in person to large and small groups of students. These were developed and given by myself in conjunction with Ruben Nuñez, of Baños, Tungurahua (see report on Nuñez work on page 15).

- As a result of our lectures, two high schools are making models of the Andean ecosystem as a "living sponge" which intercepts and gravity feeds water to all lower lying ecosystems, including to the Amazon Basin and the Atlantic and Pacific coasts. They have begun to display these in market places, bus terminals and other public areas.

- Another outcome was that several mountain tapir clubs were started in schools. These are dedicated to educating the public and saving the species.

- Talks and slide programs were given at the following universities: Universidad Agraria de Chimborazo-Riobamba (twice), Universidad Iecuca Agraria-Umbato, Universidad de San Francisco-Quito, Universidad Central-Quito and Universidad Pontificia Católica-Quito (about 500 in attendance). We were happy to learn that a group of professors from the Universidad de San Francisco and the Universidad Pontificia Católica have taken steps to procure and restore forest habitats and to launch educational campaigns among campesino populations which jeopardize the mountain tapirs.

- Our talks at the Sagrada Corazon Catholic school in Baños resulted in our tapir work being included when the Catholic Church used its "power of convocation" to help spread the conservation message in outlying towns. After I left, they took Rubin to the village of San Francisco to deliver our program to nearly 400 campesinos, many of whom had traditionally killed mountain tapirs and destroyed forest and pasture in Sangay National Park. Our goal is to reach all such communities, beginning in the states of Tungurahua, Chimborazo, Morona-Santiago, Cañar, and Azuay.

- Early April, 1997: I made an expedition with a team of eight assistants to the Purshí sector of Sangay National Park in order to capture, radio-collar and release four adult tapirs. Unfortunately, the nearly continuous assault of torrential storms and rains made capture impossible at this time. However, I was able to train the team verbally and through demonstration, and have left four Thionix collars with Rubén Nuñez for future use, or to be used when I return. We constructed a plan by which Nuñez can work with the rangers at Sangay on future capture expeditions. Typically, the heaviest rains come between May and July. It is hoped that future work can include the use of

cellular transmitter collars.

In the Pastoral sector of Sangay National Park:

- We learned that local campesinos had recently entered in large numbers into this formerly pristine sector. There was burning near the site where the Guano-Macas road enters the park from the west. The campesinos were evicted along with their cattle, but will most likely return. I suggested a plan whereby the residents of Atilo might derive alternate sources of income through cultivating of blue-green algae in the Atilo lakes.

- There was a cattle invasion in the Tambillo sector to the north of Rio Upano, and poaching had occurred recently. Road construction was heavy here at the time of my visit.

- The Army Corps of Engineers is completing the Guano-Macas road and approximately 16 kms remain to be constructed. Capitan Cabezas is in charge of the work and has promised the full military support in prosecuting the Purshí sector against colonizers, poachers, etc. This support has been called upon, but when the Corps leaves, military support will be much harder to obtain.

- Ecological devastation in the steep, western portion of the Guano-Macas road has resulted in extensive loss of forests, pastures and their soils and the exposure of bedrock, though some primary succession has recently taken hold in the form of lichens, mosses, ferns and fern allies, and some flowering plants.

- INEFAN, the national natural resource agency in charge of parks and wildlife, has recently decided to relinquish control over considerable areas of the 518,000-hectare Sangay National Park, both in the lower, eastern Purshí sector where settlement occurs along the Guano-Macas road, and in the new extension of the park to the south of Purshí. INEFAN is thus handing over lands to settlers rather than working out land exchanges. This type of land transaction is not new, but it is disturbing. It is also a shame in light of the recent greatly expanded declaration of park and reserve status

on lands throughout Ecuador. (These include an area around Antisana Volcano, South of Cayambe-Coca Ecological Reserve, where the mountain tapir still survives in significant numbers.)

Continuing the work:

- This trip resulted in my being asked to teach several university-level classes on ecology and to work with government agencies and conservation groups, including the Fundación Golondrinas in northern Ecuador, which would like to see mountain tapirs re-introduced into their small, securely protected reserve. Funding is being pursued for these projects.

Publications:

- I have submitted articles in Spanish to *La Muga* (Daños), *Revista Ecuiana* (Quito), and *Granado* (Máncos). These should be published soon.

- April 1997: An alert on poaching in Sangay National Park was published in the "Briefly" section of *Oryx*.

The mountain tapir has now been listed in the 1996 IUCN Red List of Threatened Animals as fully Endangered (EN) rather than just Vulnerable to extinction (VU). I was partly responsible for the change in this listing, which signals the urgency of doing whatever we can to help preserve this species.

Craig C. Doener
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(Ed note: This year the Andean Tapir Fund received full copyright 501 (c) 3 status.)

Peru

Leopard hawk (*Nyctax nyctax*)
Estimated population: Unknown

Mountain tapir (*Oryx pectinatus*)
Estimated population: 200

No report.

Bolivia

Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

No reports.

Paraguay

Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

No reports.

Argentina

Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

No reports.

Uruguay

Lowland tapir (*Tapirus terrestris*)
Estimated population: Unknown

No reports.

Asia

Myanmar (Burma)

Malayan tapir (*Tapirus indouus*)
Estimated population: Unknown

No report.

Laos

Malayan tapir (*Tapirus indouus*)
Estimated population: Unknown

On a recent trip to Southeast Asia (1997), Steve S. Waters, outgoing IHC Chair for Tapirs and Hippos, learned that there were no projects being conducted on tapirs in Laos, Vietnam, or Cambodia.

Vietnam

Malayan tapir (*Tapirus indouus*)
Estimated population: Unknown

(See under Laos.)

Thailand

Malayan tapir (*Tapirus indouus*)
Estimated population: 100

Face to face

Rabinowitz, Alan. 1993. Tapir tracks. In *Tropical Ties Tied*, eds. J. Corbally and T. Hallegger, 3rd edn, pp. 263-265. Treeless Tales, Inc. San Francisco.

Dr. Rabinowitz describes sighting a Malayan tapir in the Huay Kha Khaeng Wildlife Sanctuary, Thailand. The 600-pound tapir was in the river, and upon seeing Dr. Rabinowitz, raised its snout, bared its teeth, and let out a harsh, grating sound. He noted both the speed and agility the tapir possessed as it made its way out of the river and through the forest. *T. indouus* is rarely seen in the wild. This account provided a brief yet interesting insight about the habits of the Malayan tapir.

Poaching incident

This story may be typical of problems facing conservationists in Thailand.

On July 22, 1996, Thailand lost one more of the estimated 100 Malayan tapirs (*T. indouus*) that still inhabit the country. The wild population throughout its entire range may be only 900 animals.

On or about July 9, an anonymous tip to police had resulted in the arrest of four Thai men in Ayutthaya on suspicion of slaughtering six endangered bears and capturing up to 40 cubic Gallbladders and jaws of the bears bring high prices in Korea. Five Korean tourists suspected of being buyers of illegal bear parts were also arrested.

One of the four Thais was restaurant-owner Veera Saengmanich. Police learned he had been keeping a baby tapir on the premises. But the

tapir, one of 15 species on Thailand's 'highly endangered' list, was gone by the time police arrived. A raid on Mr. Veera's home turned up a tiger, two deer and a gibbon.

Leontie Vejajiva, an animal activist with WART (Wild Animal Rescue Foundation) of Thailand, confirmed that the tapir had been taken to a zoo in Lopburi after Veera's arrest. It died there on July 22nd. Its condition on arrival at the zoo was not stated.

A tapir can bring several thousand dollars U.S. on the illegal market. Maximum penalty for trading in and possessing protected wildlife in Thailand is four years in jail and/or a fine of 40,000 baht (about \$1175 U.S.).

*Edited from Bangkok Post online
<http://www.siam.com/bkk/tpst/>
Fisarat Techanongtham and
Chakrit Ratanontri
July 23 and 24, 1996*

Cambodia

Malayan tapir (*Tapirus indouus*)
Estimated population: Unknown

(See under Laos.)

Malaysia

Malayan tapir (*Tapirus indouus*)
Estimated population: 950

No report.

Sumatra

Malayan tapir (*Tapirus indouus*)
Estimated population: Unknown

No report.

Indonesia

Malayan tapir (*Tapirus indouus*)
Estimated population: Unknown

No report.

NEWS FROM CAPTIVITY

News briefs

The last mountain tapir in Europe

Anja, the last mountain tapir (*T. pincoya*) in Europe was held in the Wilhelma Zoo in Stuttgart, Germany, until she was euthanized on 29 January 1997. She was at least 27 years old, establishing the record for this species in captivity. This leaves only five known captive *T. pincoya*, all belonging to the Los Angeles Zoo. Three (2.1) are on loan to the Cheyenne Mountain Zoo in Colorado Springs, Colorado, USA. The Colorado Springs animals are all young, and it is hoped that they will breed. However, all three are siblings. The two tapirs remaining at Los Angeles (a female aged 9 and a male aged 14) are half-siblings. Mountain tapirs can no longer be brought out of their countries of origin, and the future for captive breeding of this species does not look bright. The 22 mountain tapirs bred from the Los Angeles animals (18 at Los Angeles, 4 at San Diego) are all derived from one original pair brought from Ecuador in 1967 and 1969. There has been some discussion about a zoo in Quito which plans to maintain and breed *T. pincoya*, but no confirmation of this exists.

Anja never produced offspring. She was the first mountain tapir acquired by the Wilhelma Zoo, arriving 8 May 1969 along with a male which died on 11 November of the same year. Both had been sent by the dealer Martin Stummer of Quito, Ecuador. He sent another male which arrived 7 May 1970, but died after 11 days.

On 3 April 1971, Wilhelma received a third male, Boris. He was captured on 2 August 1970 and was nearly fully grown when he arrived at the zoo. He lived there for 21 years, 9 months, until 14 January 1993, when he was euthanized; he holds the third longest

record for the species in captivity. A wild-born male at Los Angeles lived about 24 years.

On 25 April 1978, the Leipzig Zoo sent their female, Claudia, to Wilhelma, where she lived until 4 June 1981. Although Boris mated regularly with both Anja and Claudia, neither female became pregnant. When a sperm sample from Boris, taken during copulation, was examined under a microscope, it appeared that his sperm were fewer and less motile than might be expected. However, only a partial ejaculate was obtained, and as there was no chance to compare this sample to ejaculate from another tapir, the veterinarian could only make the presumption that Boris was infertile.

There were plans to exchange Boris for another male from a U.S. zoo, but due to a herpes virus infection in the Wilhelma tapirs, the transfer was not attempted. After Boris' death, his testes were sent for histological examination, and were found to be inactive. At his age, this was no surprise to the zoo.

After Boris' death the Los Angeles Zoo offered to send a five-year-old captive born male to Wilhelma. Even though Anja was at least 25 years old, it was considered to be worth a trial. Transport was arranged for 14 September 1994. The male had been crate-trained to avoid stress, and was not immobilized. Zoo officials in Los Angeles and Stuttgart were stunned and saddened when the tapir died on his way from the Los Angeles Zoo to the airport.

Information from the Wilhelma Zoo supplied by

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Wilhelma Zoo

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Germany

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Mountain tapir birth

As the newsletter goes to press, it was

learned that the pair of *T. pincoya* at the Los Angeles Zoo has produced its first offspring, number 25 for the zoo. The female was born 3 August 1997 and was doing well at last report.

Submitted by
Christopher M. Anderson
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SSP for tapirs?

No official AZA Species Survival Plan (SSP) exists for any species of tapir in the United States, although some zoos display signs indicating their tapirs' participation in an SSP. According to Rick Borongi, Chair of the Tapir TAG (page 20), management decisions are more effectively handled by the TAG. In this way, he says, a balance can be maintained in which, for instance, no species is over-bred to the detriment of other species. Management of *T. hindii* is handled by Lewis Greene of the Prospect Park Zoo, New York, and of *T. indus* by Rick Borongi.

Malayan tapirs at the Adelaide Zoo

Based partly on their excellent breeding success with Brazilian tapirs, the Adelaide Zoo, South Australia, was selected as home for a male Malayan tapir named Sukong. Once he is settled in, they expect to obtain a female.

Tapirs in Colombian zoos

José Sarría, veterinary student at the National University of Colombia, reports the following *T. tenebris* in Colombian zoos. He says this is not a complete report, but represents information he gathered in the course of his genetic studies:

ZOO
Santa Cruz: 3.3
Jaime Duque: 1.0
Pasciaga: 1.1
Santa Fe: 4.2

Matecalfs: 1:2?
Calfs: 3:2
Lactia: 1:1?

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Breeding plan successful at Samut Prakan Zoo, Thailand

Staff at the Samut Prakan Crocodile Farm and Zoo have pronounced their breeding plan for the Malayan tapir a success after their second birth, it occurred on 15 July 1997.

At 22 days, the female calf was healthy, weighed about 20 kg, and was eating leaves alongside her mother. Her brother, Nong Khai (Brother Egg), had arrived two years earlier, on 7 September 1995. He had recently been separated from the mother.

According to Dr. Panya Youngprapakorn, the farm's deputy managing director, the program owed much to Dusit Zoo. The breeding program at Dusit served as a model for Samut Prakan. Four years ago, Dusit had exchanged its male for one of the three females at Samut Prakan. The Samut Prakan female, 10-year-old Pui, and Den, the young male from Dusit, hit it off immediately, although there was occasionally some biting. A year later - August 1994 - they mated.

"Nong Pui is very protective of her baby," says Dr. Panya. "When we try to get close to her, she will scream as a warning. This behavior will go on for another three months."

After the arrival of the male calf, an attempt to mate the sire with a five-year-old female called Lily produced no results. They got along, but Den showed no interest in mating. However, nine months after parturition, Pui again mated with Den, producing the second offspring.

Asked what perils typify on the endangered species list, Dr. Panya cited deforestation as the main reason, followed by illegal trade in wildlife. People take baby tapirs for pets, but they don't know how to care for them, and they usually die.

Panya estimated that there are about 100 tapirs left in Thailand. "That's just an estimate because nobody has seen them that much. But one thing for sure, the situation is alarming."

(In this article, the range of *L. hainisi* is given as, "Asia: ranging from Taiwan Range to Sumatra.")

Edited from Bangkok Post online
<http://www.namart.com/bkkpost/Canada/News/8-September-1997>

Training tapirs at the Louisville Zoo

by Jane Herman

"It's a pig. No, it's an anteater!" A common refrain heard whenever one of our 3-1 Malayan tapirs (*Tapirus indou*) is on exhibit. The new "Islands" exhibit opened at the Louisville Zoo in Spring 1996 featuring orangutans, samangs, Sumatran tiger, baboons, and Malayan tapirs. Three exhibits flank one side of an Indonesian village with a stream - the lifeline which brings all these beings together - running through each one. The unique exhibit design allows us (Kierpa/Tiauna) the opportunity to rotate the five species through three outdoor exhibits, simulating the natural activity around a water source, and one indoor exhibit. Which animal we move to which habitat is random as is the time of day and the duration of stay. When the animals are not in one of the habitats they are in a holding building which is attached via a system of on grade transfer chutes which includes up to four sets of stairs. In addition, there are overhead transfer options for the tiger and primates. In order for the rotation to be successful we require full cooperation from our charges. This is achieved through behavioral training using positive reinforcement.

Training helps us reach several goals. It gives us another tool to match the lives of the animals under our care and, as mentioned earlier, cooperation is important to our daily operations, but perhaps the most significant goals

are reached in the area of providing better husbandry and health care. Initially the process was slow going, but by making each training session positive and upbeat the learning began. In time, both tapirs have been trained to sit, lie down, roll over, hold positions and do four lifts. With these behaviors we are able to perform a basic physical check daily and this enables us to detect ailments in the earliest stages. Other behaviors such as back-up, move up (saddle position) and target can be used for problem solving. The first known behavior, but one which is most essential from day to day is the ability for the tapirs to walk up and down stairs. We achieved this final behavior using two different methods. One trainer stood on the supposed reinforced "Chip," the male, with a favorite food item each time he made a positive move toward going down the stairs. At first he was reinforced for looking down the stairs, then for taring food off the step, then he was jack-potting for rapping off onto the first step.

Each successive step was achieved in the same manner. Also during this time he learned to back up the stairs. A second trainer worked with our female, "Sarah." Small pieces of apple were floated in the indoor pool for Sarah to eat. After a few days, one of the stairwells was filled with water to the top step and again apples were dropped into the water. She stepped into the water and received her reinforcement. Each day the stairwell was filled with less water until no water was added at all. Both trainers reached their goal in six weeks.

At this time we are working on getting the tapirs to urinate on command for collection, and open mouth presentation for an oral exam. In the future we plan to work on getting temperatures and drawing blood. In order to achieve success a level of trust must be reached between the trainer and the tapir. The need for trust becomes even more evident when we ask the animals to do a behavior that is uncomfortable for them. Perhaps one of the best examples occurred in January of this year when

Chip developed an abscess on his jaw. A slight swelling below his eye was noticed during a daily check. By the next morning the entire left side of his face was swollen. The veterinarian was able to briefly examine the swollen area while Chip sat in a holding position, with the trainer feeding him (whenever possible, we will have the vet staff stand next to the trainer during a hand feeding so their presence during a medical situation will not be totally foreign). Within the next few days the abscess became evident. With Chip lying down steadily and the trainer scratching him, the veterinarian was able to extract fluid from the abscess for testing. This was achieved with little reaction from Chip. A few days later the decision to lance the abscess was made. This time the trainer eased Chip to lie down and roll over. While the trainer was scratching Chip into a trance-like state, the veterinarian cleaned the area and quickly lanced the abscess. Chip's response was somewhat delayed, but his movement to a standing position was quick nonetheless. The trainer eased the behavior to lay down and roll over again. Chip responded with only a slight hesitation and he was jacked-up with the rest of his poduce. Over the course of the next week, using essentially the same techniques, we were able to keep the wound area clean until it healed.

Chip and Sarah have become a big hit with our guests. When we train the tapirs as the habitats the visitors become drawn in and the whole experience becomes more personal for them. This provides a great opportunity (after the season) to educate the public on the plight of tapirs in the wild. The 'Tpir Talk Forum' on the Internet has been a great resource. Adults are intrigued to hear up-to-date information about work going on right now in-situ. Many school children are choosing to do research papers on tapirs and are touched when they hear about fellow students in Bogota, Colombia, raising money to help save these endangered creatures. Education and information are two of our strongest allies in the

fight to save the tapir from extinction. We have taken one step closer when, before we get the chance to speak, the reply comes from a child, "No, Maud! It's a tapir!"

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Baird's tapir survey

A survey of Baird's tapirs in captivity was initiated in April 1997 by Sheryl Todd and Sharon Matola. Records of animals kept currently and historically were requested, and questions on breeding were asked. Replies are still coming in. A report will be announced in the next edition of *Tapir Conservation*.

T. bairdii born in Japan

Japan's first Baird's tapir was born at the Komazawa Zoological Gardens of Yokohama on 21 June 1995. A male, the infant was successfully reared and is doing well. Details will be included in the Baird's tapir survey mentioned above.

Studbooks

Baird's tapir (*Tapirus bairdii*)

North American Regional
 Mike Dee
 Los Angeles Zoo
 5133 Zoo Drive
 Los Angeles, CA 90027 USA
 Phone (213) 666-4650
 Fax (213) 662-9786
 Published: 1994

Mike Crotty, keeper of this book, passed away in October, 1997.

MesoAmerican Regional
 Sharon Matola
 Belize Zoo
 P.O. Box 1787
 Belize City, Belize, Central America
 BelizeZoo@btinternet.com
 Phone 501-081-3604

Fax 501-081-3604

Created: July 1997

At a recent AMAZOO meeting in San Jose, Costa Rica, the Belize Zoo was asked to keep the new MesoAmerican Regional Studbook for Baird's tapir.

Lowland tapir (*Tapirus terrestris*)

European Regional
 Dr. Francis Haelewyn
 Parc Zoologique de Lille
 Av. Maréchal Dolehal
 59600 Lille, France
 Fax +33 2037 3809

British book published: 1994

European regional created: 1997

Recently expanded from Dutch only. Records from European zoos have been requested.

North, Central and South America
 John Garner, Lincoln Park Zoo
 Diana Weirhach, Houston Zoo

Created: c. 1997

Is being transferred from Lincoln Park to Houston. Has not been published.

Mountain tapir (*Tapirus pinchaque*)

No studbook.

Malyan Tapir (*Tapirus indicus*)

International
 Rick Barongi
 Durrell Animal Kingdom
 P.O. Box 10,000
 Lulu Buena Vista, FL 32830-1000
 Nixa (407) 939-2452
 Fax (407) 939-5386
 barongi@aol.com
 Published: 1997

European/British Regional
 Nürnberg Zoo

Regional
 Mr. Kinoshira
 Fukuoka Zoological and Botanical Gardens
 1-1 Minamikuon
 Chuo-ku, Fukuoka, 810 Japan
 Published: 1995; no change: 1996

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1997-1999 Triennium

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EEP Taxon Advisory Group (TAG) for Hippos and Tapirs

Stan S. Waters, Chair, has left to return to Vietnam; no successor has been named as of publication date.

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