

AMIGOS del Lobo de Río Friends of the Giant Otter

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Editorial

You may recall from the last issue that, due to lack of time on my part to translate all articles, I proposed that this bulletin be bilingual in future (Spanish and English articles in the same issue as sent to me). I did not receive any objections to this idea; in fact, several people wrote to say this was an acceptable solution. I thank you for your understanding and present you with the first bilingual issue; on this occasion you will find that most of the articles are in English. I hope to hear from the Spanish writers next time!

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ACTUALIZACIONES DE PROYECTOS E INICIATIVAS / PROJECT UPDATES & NEW INITIATIVES

BRAZIL Ecology of otters in the Rio Negro watershed, Pantanal – Highlights of 2004

The project “Ecology and Conservation of Neotropical River Otters (*Lontra longicaudis*) and Giant River Otters (*Pteronura brasiliensis*) in the Pantanal” is being undertaken by Projeto Ecolontras/Associação Ecológica Ecomarapendi with the support of Earthwatch Institute since March 2002 in the Rio Negro watershed. Since 2002 we are collecting data continuously around Fazenda Rio Negro, in the middle portion of the Rio Negro watershed. In 2003 we included two new study sites: the Pousada Barra Mansa and the Pousada Ararauna. The first is also located in the middle portion of the Rio Negro watershed, upstream of Fazenda Rio Negro. The aquatic habitat is very similar to our initial study site, including river (Rio Negro), oxbow lakes and baías (freshwater lakes), and also a big vazante called Vazante do Castelo that drains the water from the grasslands to the river during the wet season. The Pousada Ararauna is located in the high portion of the Rio Negro watershed, close to the headwaters. It is located in one of the marshy areas of the watershed, including part of the Rio Negro, part of the Rio Correntoso, an arm of the Rio Negro, several freshwater lakes, marsh areas, creeks and channels.

Research Highlights:

- Forty-six giant otter individuals have been identified using their distinctive throat markings: 36 individuals at Fazenda Rio Negro, 1 at Pousada Barra Mansa and 9 at Pousada Ararauna.
- By documenting the use of river and oxbow lake habitats by the otters throughout the year, we are beginning to identify areas of critical importance to the 2 species. Early results show that giant otters use oxbow lake habitats more frequently than Neotropical river otters.
- By identification of prey items from 395 Neotropical river otter and 46 giant otter scats, we are determining the degree of dietary overlap between the 2 species, and consequently are gaining an understanding of how the 2 species coexist in the Pantanal. Both species are highly piscivorous in the area, with a small proportion of their diets consisting of crustaceans.
- During 287 hours of stationary observation (watching for animals from a fixed location) and 221 hours of transects (watching for animals while paddling canoes), Neotropical river otters were observed for 1,562 minutes, and giant otters for 858 minutes. These observations are helping us to understand the activity patterns, social structure, and behaviour of the otters.

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BRAZIL Monitoring of the giant otter in the Amaná Reserve, Amazonas

The project “Onças d’água do Amanã” was established in September 2004, to study biological and distributional aspects of giant otters in the area of the Amanã Sustainable Development Reserve (ASDR), in the Brazilian Amazon, as well as their interaction with local communities. Field trips occur on a monthly basis and include camping for approximately 10 days along the margins of creeks in the area. The creeks are surveyed daily in an effort to monitor the use of dens, latrines and campsites, as well as to look for new signs of the presence of giant otters in the area. Interviews are conducted with local inhabitants to gather information relative to occasional encounters with giant otter groups and historical hunting data. According to the locals, giant otters were widely distributed throughout the ASDR in the past. Due to the heavy hunting pressure for pelts and traffic of cubs, the species became locally extinct in several sites. They are apparently reoccupying these sites, rendering sightings more frequent in the past 5 years. The research is taking place along 3 different creeks that discharge into the Amanã Lake, totalling approximately 145 km. So far 170 signs have been recorded,

including 43 latrines and 41 dens; a few groups of giant otters have been sighted, although encounters have been brief.

In February 2005, during the rising-water period, a cub was observed on the bank of a creek. It is believed to have been a very young animal, due to its size, closed eyes and limited mobility. The animal was found alone on a small piece of land surrounded by water and vocalized constantly. The vocalization of an adult was heard in the vicinity, but no other animal was sighted. On the following day, the team returned to the site in search of possible signs of the cub's or group's presence, but the water level had risen and no sign was found. The sighting of the cub suggests that the species is encountering favorable conditions to its survival in the area.

This project is supported by the Fund for Expansion of Research of the Mamiraua Institute and Petrobras.

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BRAZIL A probable case of abortion followed by consumption in wild giant otters

The "Ariranhas do Pantanal" Project has been conducting surveys and monitoring of giant otter populations in the Brazilian Pantanal since 2000. The daily activities include recording giant otter signs, sampling of biological material and video-documentation of the sightings. In October 2004, 92 km of the Salobra river (coord UTM 21K 0551711/7767359 and 0544437/7763710), close to the mouth of the Miranda river, were surveyed onboard a canoe with a 15 HP outboard motor. Faeces samples were collected for diet and genetic studies. In the lab, the presence of a claw, originally attributed to a reptile, was noticed in one of the samples. A more detailed analysis of the remaining samples revealed a great amount of structures, such as small bony fragments; non-identified soft tissues; epidermis containing attachments such as external auditory pavilion, lips and vibrissae; tail ends and other claw fragments, including nails. The presence of interdigital membranes and dorsoventrally-compressed tail ends led us to believe to be dealing with giant otter remains. The tiny size of the bones and the very initial stage of ossification, characteristics that define a premature individual, lead to the hypothesis of an abortion. It is believed that the foetus was consumed following the abortion. Among the possible causes of abortion induction one can think of group stress, infectious diseases and reproductive malfunctions. The hypotheses of water contamination by pesticides and negative anthropogenic influences as causing the reproductive failure are weakened by the fact that this area of the Salobra River is not subject to such factors. Therefore, the causes that may have led to the abortion remain unclear. Genetic analysis will be conducted in order to confirm the identity of the remains.

Acknowledgements: Fundação Brasileira para o Desenvolvimento Sustentável, Wildlife Conservation Society and Sociedade Civil Mamirauá. }

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BRASIL Estudio preliminar de las relaciones entre los lobos de río y los habitantes de la Reserva de Desarrollo Sostenible Amanã

Algunas informaciones de pobladores locales y de algunos investigadores indicaban la presencia de lobos de río (*Pteronura brasiliensis*) en las cabeceras del Lago Amanã, un gran lago de *terra firme* ubicado en la Reserva de Desarrollo Sostenible Amanã (RDSA) de la Amazonía Brasileña. Esto motivó que desde diciembre del 2002 se iniciaran estudios sobre la especie en el área, consiguiendo

confirmar su presencia y realizar investigaciones de dieta, abundancia, distribución y ecología que continúan hasta hoy.

Con el objetivo de garantizar la recuperación y conservación de la especie en la zona, un aspecto importante desde la etapa preliminar de trabajo fue el contacto con los pobladores locales. Nos interesaba conocer los tipos de relaciones existentes entre la especie y los pobladores y cómo éstas habían variado con el tiempo. Las relaciones históricas entre ambos pueden ser de uso, temor, interacción con las actividades pesqueras y cotidianas, y desconocimiento. Fueron realizadas entrevistas semi-estructuradas, conversaciones informales y reuniones en algunas de las comunidades de la RDSA para este fin.

El uso histórico de la especie en el área es un aspecto constantemente narrado por los pobladores. Ellos señalan que antiguamente existían varias familias de lobos de río en el Lago Amanã y en sus caños asociados, sin embargo, habrían desaparecido de estas zonas debido a la caza, tanto para la venta de piel como para la utilización de crías como mascotas. Posteriormente, al decretarse la prohibición del comercio de pieles y debido a que la especie había desaparecido de la zona, la relación con ella se vio interrumpida por algún tiempo.

En los últimos años, y específicamente en las cabeceras del Lago Amanã, donde la especie parece haberse refugiado, los encuentros entre pobladores y lobos de río se han vuelto comunes, lo que indicaría su aparente recuperación. Según los mismos pobladores, esta recuperación viene siendo muy rápida, desde hace aproximadamente 5 años. Actualmente manifiestan que, con cierta frecuencia, se encuentran en los caños con grupos de lobos de río y cada vez más cerca a las comunidades. En las otras áreas de la RDSA se señala a la especie como desaparecida, o como si hubiese huido a otros lugares.

Debido a estos encuentros se han registrado algunos conflictos entre los pobladores y los lobos de río, así como algunas amenazas potenciales que están relacionados principalmente con la falta de conocimiento que la población local, y más aún los pobladores más jóvenes, tienen sobre la especie. Durante estos encuentros, los lobos hacen mucho ruido y observan quién se aproxima, lo que es asumido como agresivo y amenazador. Existen también relatos de pescadores “atacados” por lobos de río que entran en sus canoas a robar pescados. Así mismo, otra amenaza potencial está referida al recuerdo que muchos de los pobladores antiguos tienen sobre el dinero que daba la piel de nutria en el pasado. En la actualidad, a pesar que reconocen la ausencia de compradores, persiste el deseo de caza para adornar sus casas con la piel de estos animales y de captura para mantener crías como mascotas. La creencia acerca de que los lobos de río “acaban con los peces” de los ríos también puede ser potencialmente una amenaza.

Se han registrado dos abates de lobos de río en la cabecera del Lago Amanã desde noviembre de 2002, así como también varios intentos de abate sin éxito. La totalidad de estos episodios ocurre mientras los pobladores encuentran grupos de lobos de río próximos a sus canoas disparándoles con escopeta o intentando arponarlos, y sus motivaciones están relacionadas al miedo y desconocimiento pero también al cierto grado de status que le puede traer al cazador llevar un lobo de río, animal poco conocido, “agresivo” y escaso, a la comunidad.

Este trabajo se ha realizado gracias al Fondo de Extensión para la Investigación del Instituto de Desarrollo Sostenible Mamirauá.

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FRENCH GUIANA An update of Kwata NGO otters conservation programme

Biodiversity conservation is a recent concern in French Guiana. Despite rather well-preserved ecosystems, threats to freshwaters are dramatically growing since the beginning of the gold mining rush towards the end of the 90s: for instance, on most watersheds, mercury contamination of carnivorous fishes has been shown to be very important. Also, protected areas are of limited efficiency, because of their small areas (only 3% of the territory) and very limited means, and provide very limited protection against gold miner pressure.

Together with other flagships species, we have investigated the status of otters since 5 years. The programme includes awareness-raising, with education activities developed in schools, during conferences, with and through edition of educative tools. Additionally, field work includes several parts. First, the species distribution was assessed and revealed that the giant otter is still widely distributed in the country. Second, correlations between presence / absence of the species and patterns of habitat use are currently being investigated, with promising links being established between field surveys and remote sensing information: preliminary results suggest that mean group size may decrease while disturbance levels of rivers increase. Third, we undertake regular surveys in several rivers where groups of known size occur: the aim is to propose a tool of assessment of abundance through the surveys of presence index. Lastly, the use of molecular markers is being developed: new procedures have been developed to extract DNA from scats, leading to promising applications for giant otter conservation, such as evaluation of population genetic diversity, gene flows and/or isolation between watersheds, as well as recent populations trends.

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ESPECIALES / SPECIALS

Maximum Age of Giant Otters in Captivity

Little is known about the maximum age of giant otters in the wild. So far, it has been given as 8 years by Staib & Schenck (1994). In captivity a maximum age of 14 years has been reported by Hagenbeck & Wuennemann (1992). Now, the oldest giant otter ever to die did so at the age of 17 years at Dortmund Zoo (Germany). His twin brother is still alive and thus is the oldest known giant otter in the world.

It is not unusual that wild animals become older in captivity than in the wild. This is due to the optimal care and the permanently available food sources provided by the zoo staff. Thus, zoological gardens are still playing an important role in the survival of endangered species. As the giant otter is still threatened by several human-induced factors in the wild, the breeding of giant otters in captivity is an important part of the efforts to stabilize the world population of the species. Zoo populations will serve as a reservoir for the population in the wild. An International Studbook has been set up to provide an effective means of coordinating the world zoo population of giant otters (Gatz & Sykes-Gatz 2004). Improving the husbandry management of giant otters in captivity will result in a higher viability and in a higher reproductive rate. As nearly all offspring can survive in captivity as soon as a functioning reproductive system has been established, the future existence of the species will be secured.

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REGULARES / REGULARS

Observaciones de Campo / Observations from the Field

Violent encounters observed between black caiman and giant otters

Although perhaps more famous as a site to study rare primates and birds, Cocha Cashu Biological Station (Manu National Park, Peru), was originally established (around 1970) by the Frankfurt Zoological Society and La Universidad Agraria La Molina to study the endangered black caiman (*Melanosuchus niger*). Due to intense pressure from the trade of its hide, black caiman were nearly hunted to extinction by the 1980's, with the Manu population being considered the only significant population in South America under effective protection while legal and illegal trade was ongoing in this period (Plotkin et.al., 1982, quoted in Herron, 1985). Given its intact populations of both black caiman and giant otter, Cocha Cashu continues to operate as one of the best field sites in the world in which to study the natural behaviour of these animals, including the nature of the interactions between these two top predators.

Densities of caiman in oxbow lakes are known to be highly variable, as caimans seem to select lakes for breeding that have large expanses of quiet water, as well as well-vegetated shorelines. Connectivity to the main river may also affect the desirability of lakes for breeding. Cocha Cashu and Cocha Salvador both maintain some of the highest observed densities of caiman among oxbow lakes of the Rio Manu, with night-time censuses for Cocha Cashu (in 2004) reaching about 120 black caiman for this ~20 ha lake. These high densities of caiman make it relatively easy to observe interactions between giant otter and caiman at these sites, although it is rare to observe truly violent encounters. Here we report on 2 different violent encounters involving caiman and otters that occurred in October 2003 and November 2004.

The first incident was observed by Lisa at Cocha Salvador on November 15, 2003, and much of the episode was videotaped with a simple camcorder. Around noon on this day, she heard the otters using the strong 'waver-scream' vocalization emanating from a patch of grass along the shore. The area was surrounded by higher grasses that obstructed any view of the cause of the disturbance, but after a couple of minutes, the entire family of otters entered the water, and, continuing to scream whenever above water, they then initiated rapid and repeated dives in a focal location along the shore. It quickly became apparent that a very large caiman was being harassed underwater, as bubbles tracked its movement to a patch of branches at which it surfaced briefly. The energy of the caiman seems to have been quickly drained, and all of its observed movements were slow and deliberate. Adult otters were the primary attackers for most of the period, while younger otters tended to stay perched on logs nearby, screaming and occasionally entering the fray only briefly. After a couple of minutes in open water, the caiman attempted to return to shore, its position largely judged by the swarm of otters that continued to follow it. It didn't immediately make it to the shore, however, getting caught up in an area of small fallen tree branches. There it remained resting on a branch, just at the surface, surrounded by the diving otters, and occasionally writhing its head up and around, apparently in response to underwater attacks to its soft belly. After about 3 minutes on the branches, it finally managed to return to a shallow grassy patch along shore, where it was able to protect its belly from attack; however, it remained motionless on the edge of the water while nearly the whole family of otters continued to attack it, biting its tail and legs for many minutes more. The energy of the wave action produced by the otters attacks, and the muddy water made it difficult to see if the otters were succeeding in exacting serious wounds to the caiman, but it appeared that some otters did emerge with small pieces of flesh, perhaps from the legs and sides of the caiman, although no amount of blood was ever visible. The caiman may have been sufficiently protected from serious injury by its large size and the tough plates on its hide. When the otter family finally relented in attacking it and retreated, it

stayed motionless for more than 10 minutes, before slipping again into deeper water, still alive although obviously drained of all energy.

In contrast to this violent, sustained attack by the otters on a caiman, Frank Hajek observed a very different interaction on October 13, 2004. On that day the group had spent most of the early morning hunting along the north shore of the lake. At 9:50 am, while hunting under overhanging vegetation, several group members started to make the loud wavering call associated with group alarm. This was followed by intense splashing, and repeated charges by the otters to a focal area deep in the shadows. Several otters went on shore and re-entered the fray. After nearly five minutes of this intense activity, a large animal about twice the length of the giant otters (presumably a caiman), erupted from the water, scrambled over a semi-submerged log and swam away from the scene. At this point all 10 members of the otter family left the water and crossed by land to another part of the lake close to their main den, where they reinitiated their hunting. At 10:25am one otter left the group and returned to the den. He hesitated quietly in the water for a couple of minutes before walking into the den. At this point Frank saw that the otter had sustained serious injuries to its right front leg. When on land, the otter put no weight on the leg, and held it up close to its chest. The otter entered the den and was not seen until the next morning. The otter injured in this attack was a 3.5-year old individual named Orson, an adult male still living with its natal group at Cocha Cashu.

Just before noon, the Cocha Cashu family left the lake, to other wetlands within their territory. Orson remained on Cocha Cashu alone, and was observed over the course of the next 4 days only very occasionally. He spent very little time out in the lake hunting, generally only appearing in early morning and late afternoon for short bouts of hunting. He was not observed to successfully catch a single fish during those 4 days, and he then vanished completely for 4 days more, although we suspect he was inside the den during this time, suffering from the pain and possibly infection. He was finally observed again fishing on October 22, 9 days after the initial injury. He was noticeably thin, and his movements were abnormally slow, both when diving in the middle and along the edge of the lake. In addition, he was observed to be charged by caiman on 3 new occasions, including once on the day immediately after his injury, and twice after October 22nd. Such a high rate of attack by caimans on a solitary otter has never before been observed at Cocha Cashu, and must have been brought on by the caimans somehow sensing his vulnerable condition, although possibly combined with an increase in territorial behaviour during the nesting season. The first of the 3 charges occurred in nearly the exact same area as the original injury, and may have been the same large caiman; Orson seemed to disturb the caiman from its resting place, and was briefly charged, but he managed to put on a burst of speed to escape the attack, and after a short distance of only 5m or so, the caiman gave up the charge and simply observed Orson from a fixed location. The second charge was observed on Oct 22, and involved a much longer charge from a medium-sized caiman in the far Northern region of the lake. In this attack, the caiman undertook an extended charge, speeding alongside the shore for a distance of some 15-20m before Orson noticed the attacker, and again managed to evade the caiman with a burst of speed. The third attack was also observed on Oct. 22, once he had finally begun to succeed in catching fish. This attack was perpetrated by a small (~1.5m) caiman, who appeared to be attempting to rob Orson of an armoured catfish he had just caught and was beginning to eat on a log. This prompted Orson to retreat to a known campsite area with his fish, which he carried much further up on land to eat than is normally seen.

Once Orson began catching fish, it was obvious that he was mainly catching species that are slow, bottom-dwelling fish that are usually not preferred prey items of healthy otters. On Oct 22nd, these included 1 cichlid, and 2 large armoured catfish. The next 2 days he caught a large yahuarachi (*Potamorhina sp.*) and was observed to be able to use his injured leg to support the fish while eating it, which represented a major improvement in his overall condition. However, he was not observed to catch anything more than one more small cichlid and 3 small stingrays in the subsequent days. The capture of the stingrays was particularly interesting, as these are almost never observed to be eaten by

healthy adult otters. Shortly after, Orson left Cocha Cashu, travelling in the same direction as the family, and probably joined them in other wetland areas to the North of the lake. No further observations were made until the following January when Orson was again observed to be travelling with the family, and seemed fully recovered from his injury.

While these two incidents and the subsequent unsuccessful attacks on the injured Orson obviously represent a small sample size of otter-caiman interactions, we feel them to be interesting in a number of respects. First of all, it probably is not coincidence that these events occurred at the same time of year. In October and November, female black caiman are breeding and defending their nests in lakes of the Rio Manu. Although the sex of the caimans involved in these observations is unknown, we think it possible that both these encounters involved large females defending their young. We suggest that this time of the year may therefore be the most dangerous period for otters in oxbow lakes, and be a significant source of injury and mortality of young cubs, which overwhelmingly disappear in the first year of life. Secondly, we were somewhat surprised at the resilience of the injured Orson, and his ability to overcome a serious injury by subsisting on low-quality prey items. However, it is certainly instructive in demonstrating the otter's adaptability to utilize a wider variety of prey than is usually observed. The fact that healthy otters minimize the use of certain prey types that Orson depended upon (armoured catfish and stingrays, in particular) helps to demonstrate how under normal circumstances, otters are actively choosing preferred prey of highest quality rather than simply using what is most abundant and easy to catch.

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Ultimas Publicaciones / The Latest Publications

Groenendijk, J., Hajek, F., Duplaix, N., Reuther, C., Van Damme, P., Schenck, C., Staib, E., Wallace, R., Waldemarin, H., Notin, R., Marmontel, M., Rosas, F., de Mattos, G.E., Evangelista, E., Utreras, V., Lasso, G., Jacques, H., Matos, K., Roopsind, I., Botello, J.C. (2005) **Surveying and Monitoring Distribution and Population Trends of the Giant Otter (*Pteronura brasiliensis*) – Guidelines for a Standardisation of Survey Methods as Recommended by the Giant Otter Section of the IUCN/SSC Otter Specialist Group**. *Habitat 16*, Arbeitsberichte der Aktion Fischotterschutz e.V., ISBN 3-927650-26-9, 100pp.

Staib, E. (2005) **Eco-Etología del Lobo de Río (*Pteronura brasiliensis*) en el Sureste del Perú**. Traducción a español de la tesis de doctorado "Oko-Ethologie von Riesenottern (*Pteronura brasiliensis*) in Peru". Sociedad Zoológica de Frankfurt, Lima, Peru; 195 paginas.

Noticiero / Notice Board

!!! Hair samples of otters required !!!

Dear colleagues,

We are currently working on a project called "Comparative aspects of hair and hair coat characteristics in the *Lutrinae*". A part of this project is to study the hair density of the *Lutrinae*. We would like to verify the existing information for *Lutra lutra*, *Lontra canadensis* and *Enhydra lutris* and to get information about the hair densities from the other otter species. It is also important to compare data obtained by the same method.

For this study we will need samples from fresh or frozen dead animals. Samples of *Lutra lutra* are available here in Germany and we are now looking for samples of the other otter species. **The samples**

we need are small skin sections (about 10cm²) from a few individuals. Please find attached a description how to prepare such samples. Best are samples from wild animals but samples from zoos are also very useful, especially from zoos situated within the natural distribution range of the species.

If you can provide such samples now or within the next two years please contact us. All expenses (material, postage, mailing) will be paid. To meet the CITES regulations for samples, we will support you with the paper work (export and import licences).

If you are a zoo in Germany or in a neighbouring country and have a dead otter (other than *Lutra lutra*) there could be the possibility that we collect the samples ourselves in order to spare you some work.

We guarantee that your contribution will be acknowledged in any publication in which your samples are used, and that you will receive a copy of such publications as soon as they are available.

Yours sincerely,

Rachel Kuhn (PhD Student) afs@otterzentrum.de
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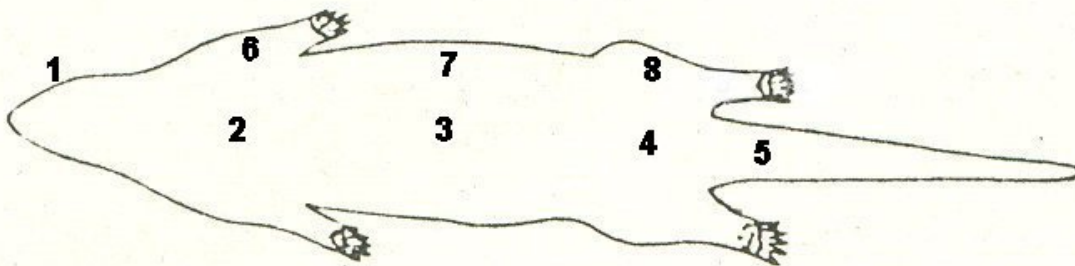
Preparation of the samples

Take small pieces of skin with the hair. The pieces must have a size between 9 and 16 cm² but not more (so it is easier to fix them in formalin).

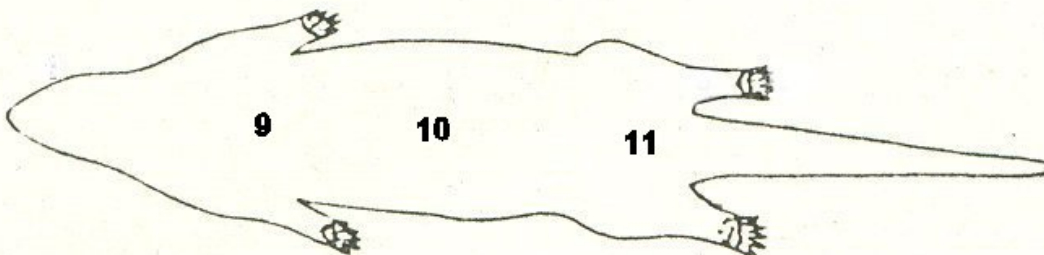
Take the pieces from the following body regions:

- | | | | | | |
|----------|--------------------------|------------|--------------------|-----------|-------------|
| 1. Cheek | 2. Between the shoulders | 3. Midback | 4. Rump | 5. Tail | 6. Shoulder |
| 7. Side | 8. Haunch | 9. Chest | 10. Ventral middle | 11. Belly | |

Dorsal



Ventral



If you don't have the possibility or the time to take skin pieces from all those body regions, please take pieces only from the midback (3) and ventral middle (10).

Put the pieces into formalin (about 4%) for 3-4 weeks. During these 3-4 weeks, change the formalin 2 or 3 times. Sometimes turn the samples in the container in order to facilitate the penetration of the formalin. If the samples are frozen it is best to let them defrost in the formalin.

After the 3-4 weeks, put the samples in alcohol (70 or 80%) for 1-2 days. Then put each sample into a small container (glass or plastic) with fresh alcohol (70 or 80%). The samples can be sent like that.

For each sample, please note:

- the body area
- the date of finding of the animal
- the place of finding
- the age of the animal (at least juvenile or adult)
- the sex (if known)
- the weight of the animal (if possible)
- if the samples were frozen or not

Thank you very much for your assistance!

El párrafo de Pepe Pepe's Paragraph

Dear friends,

Of course, it goes without saying that we giant otters are the lords of the rivers and lakes, but we do share our home with another relative, the Neotropical otter. It's a funny relationship we have. We're not exactly enemies, but it's not as if we hang out with each other either. The other day, a friend of mine who lives on the river said he met one (unlike us, they're not very social and usually live alone), and they just ignored each other. But I have heard that Neotropicals sometimes take over our dens after we have abandoned them!! I call that cheeky!! By the way, it's not always true that these cousins of ours are much smaller than us; in some areas, they seem to reach quite a large size and we can be easily confused. To help you tell us apart, next time I will describe some important differences in our appearance and in the signs of our presence. Meanwhile, hasta la vista!!



Dedo

Contribuciones, en inglés o español son muy bienvenidas. Por favor enviar a: fzsgop@terra.com.pe. Si desea que su nombre sea removido de la lista de distribución, o si su dirección cambia, por favor notifique a Jessica Groenendijk. Las opiniones expresadas en este boletín no son necesariamente compartidas por el Proyecto Lobo de Río de la Sociedad Zoológica de Francfort (www.loboderfo.com).



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