

IUCN

OTTER SPECIALIST GROUP BULLETIN

Volume 22 (1) April 2005



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IUCN OTTER SPECIALIST GROUP BULLETIN

The IUCN Otter Specialist Group Bulletin appears biannually. Articles, reports, symposium announcements and information on recent publications are welcome. All submissions should be typed double-spaced. The submission of an electronic manuscript on diskette or by e-mail is strongly recommended. Reports should not exceed 2000 words in length, i.e. not to exceed four printed pages, including diagrams and tables. Articles may be longer. Diagrams, maps and tables should be included as a photocopy ready for reprint. A short abstract for translation into Spanish and French has to be included.

Articles will be fully reviewed. Authors are requested to add a notice as to whether they submit an article or a report.

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Arno C. Gutleb
Norwegian School of Veterinary Science
Dept. of Production Animal Clinical Sciences
POB 8146 Dep.
N-0033 Oslo
Norway
Fax.: ++31-84-8823459
e-mail: iucnosgbull@yahoo.co.uk

Editor: Arno C. Gutleb
Reader: Lesley Wright, Rachel Kuhn, Daniel Scognamillo
Coordinator-NL: Hans van den Berg
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NOTE FROM THE EDITOR

I am very sorry, but although you should receive the Bulletin around the usual time, the delay seems to become a habit - though there are always good reasons from my point of view. I will send out the autumn issue as soon as possible but I need your input in the form of manuscripts! Right now I have up to 64 pages waiting for your manuscript! On the next page I have included a text written by Christof Schenck in commemoration of Claus Reuther. Unfortunately it is in German and I do not consider my English good enough to be able to translate all the sensitive expressions used, which is probably a pity for the majority. Nevertheless I wanted to have this text in the Bulletin.

A few weeks ago many of the people in Europe working with otters, among them many members, met in Southern Italy (see also the report in this issue). For me it was personally very nice to meet so many good friends again and in addition to good talks in probably the most remarkable lecture hall I have seen (a church within the monastery with a huge fresco as a background), we had excellent food, good wine, and for people from northern Europe - perfect weather! Anna - no idea how you and your team organised all this!

The American Zoo Keepers Association contributed the missing contribution to the printing costs of the two issues for 2005. For 2006 there was an offer of Paul and Grace Yoxon (IOSF) to assist with the difference between the member contribution (I will send a new leaflet in the next issue) and the actual costs and for 2007 there was also one hand going up that I will mention additionally once we are that far. So for the near future the financial situation is organised but of course I ask all of you to consider contributing in 2006.

Thanks to huge work by Lesley we are now able to provide old issues of the IUCN OSG Bull. as pdfs on the internet at address: <http://www.otterweb.co.uk/OSG/IUCNOSGBull.html>. So far, complete issues 1 to 6 and 19 to 21 are available, but the rest will be added as they are converted. As each issue is published, the current issue will always have only the table of contents and abstracts available online, and the rest will be made available when the following issue is published. This fulfils a long-held wish of many of you and I want to express my sincere thanks to Lesley for this work for which we even had to ask authors for new maps, as the originals were too bad to be reproduced by just copying them. If anyone finds inaccuracies, or would like to make suggestions for improvements, please contact me or Lesley.

I want to thank Fernando Rosas, Jordi Ruiz-Olmo, Lesley Wright and Gera Pál for sending me information on new literature.

In addition, I really want to thank Kevin Roche, Rachel Kuhn, Daniel Scognamillo, Hans van den Berg, Els Hoogsteede-Veens, Erwin Hellegering, and all the reviewers for their continuing contributions to the IUCN OSG Bulletin. Tobias - thanks a lot for all your work with sending the Bulletins from the Netherlands!(GRAF1SCH SERVICE CENTRUM VAN GILS, Wageningen) - for their continuing help.

Nachruf Claus Reuther

Christof Schenck

Eigentlich können wir ja gar nicht reden und schreiben schon gar nicht. Unsere Sprache besteht aus Pfeifen und Keckern, unsere Schrift beschränkt sich auf Pfotenabdrücke und Marken aus Kot und Urin. Dennoch nehmen wir jetzt einfach mal an, wir könnten uns äußern in Wort und Schrift. Einen wichtigen Anlass dazu gäbe es: Wir haben am 29.12.2004 einen unserer größten Fürsprecher verloren. Als *Homo sapiens* gehörte Claus Reuther nicht zu unserer Art, er war nicht einmal Mitglied unserer Musteliden-Familie und dennoch hat er uns, den Fischottern, sein ganzes viel zu kurzes Leben gewidmet. Vor 26 Jahren, als Revierleiter der Försterei Oderhaus, eröffnete er das erste Fischotter-Forschungsgehege. Er war geradezu besessen davon mehr von uns zu erfahren. Er wollte wissen, wie wir schwimmen, wie wir jagen, wie wir uns verständigen, wie wir uns fortpflanzen, wie unsere Lebensräume aussehen, wo wir vorkommen und vor allem, warum wir so selten geworden sind und wie uns geholfen werden kann. Er wollte lernen, um zu schützen. Und ganz früh entdeckte er, dass es in unserer Unterfamilie ja noch mehr Arten gab, über die man ebenfalls nichts wusste und die zum Teil noch viel stärker bedroht waren als wir, die *Lutra lutras*, die einzig europäische der 13 Otterarten.

So gründete er das Internationale Otter Colloquium der Weltnaturschutzorganisation IUCN, das in den folgenden Jahrzehnten neun Mal auf drei Kontinenten stattfand. Für uns eigentlich unvorstellbar: Treffen sich dazu tatsächlich über 200 Wissenschaftler aus der ganzen Welt, um über uns, die Fischotter zu beraten, ihr Wissen auszutauschen und Strategien zu unserem Schutz zu entwickeln. Claus Reuther war mit starker Stimme der große Antreiber hinter dem internationalen Otterschutz. Unablässig gab er Wissen weiter, vermittelte Kontakte, sammelte Spenden und ermöglichte so jungen Wissenschaftlern und Naturschützern auf der ganzen Welt einen ersten Einstieg in unsere faszinierende Welt. Reisen waren für ihn grundsätzlich Otterexpeditionen und so war er vielleicht der einzige Mensch, der fast alle Otterarten in ihren natürlichen Lebensräumen gesucht und gefunden hat. Nur unser heimlicher Cousin aus dem Kongo und der kleine Asiate mit der behaarte Nase fehlten noch auf seiner Liste.

Mit der Aktion Fischotterschutz und dem Otterzentrum Hankensbüttel setzte er Maßstäbe im Bereich der artgerechten Tierhaltung und der Wissensvermittlung. Er verband Artenschutz mit nachhaltiger Landwirtschaft, Gewässerrenaturierung mit Regionalvermarktung und schuf mit seiner Naturschutzaktion Arbeitsplätze in der Größenordnung eines mittelständischen Unternehmens. Die Ideen schienen ihm nie auszugehen und erstaunlicherweise fand er auch immer wieder neue Wege diese zu finanzieren und umzusetzen.

So wie wir selbst, war er stets in Aktion. Hoher Stoffwechselumsatz könnte man sagen. Während wir jedoch den Tag schon mal unter einem Wurzelstock verdösen, fielen seine Ruhephasen deutlich knapper aus. Wenige Stunden nur gönnte er sich, mit höchstem Einsatz war er bei der Sache und dies forderte er auch von seinen Mitarbeitern und Partnern. Leicht machte er es seinen Gegenübern nicht, aber er blieb stets fair und seinen Zielen treu. Selbst größte Krisen, wie zum Beispiel die Brandstiftung im Otterzentrum vor 12 Jahren konnten ihn nicht unterkriegen. Jetzt hat es ihn doch erwischt. Mit nur 54 Jahren viel zu früh. Wir werden ihn vermissen unseren großen, bärtigen, kettenrauchenden Fürsprecher. Er wird uns fehlen im Otterzentrum wie an der Ise, in Deutschland wie in Brasilien, in Chile wie in Thailand.

Enhydra lutris, *Amblonyx cinerea*, *Aonyx congicus*, *Aonyx capensis*, *Lontra canadensis*, *Lontra felina*,
Lontra longicaudis, *Lutra lutra*, *Lutra maculicollis*, *Lutra perspicillata*, *Lontra provocax*, *Lutra*
sumatrana, *Pteronura* *brasiliensis*

IUCN/SSC OSG GROUP



FROM THE CHAIRMAN'S DESK

Towards the middle of this year I was invited by the Species Survival Commission to take up the position of Chair of the Otter Specialist Group. After discussions with various colleagues and messages of support from members of the Group, I finally accepted the appointment at the end of October.

The untimely death of Claus Reuther at the end of last year has made the role of the new Chair more difficult, in particular, there has been no period of 'hand over' to discuss how the Group might continue to evolve and develop and to know what activities etc it has agreed to undertake. Therefore, in my role as Chair, I will have lot to learn and to do so very quickly. Two issues that immediately spring to mind are the development of the Action Plan and the organisation of the 2007 Otter conference in South Korea. In addition it is important that I become more aware of the aspirations of the membership. The recent Otter Workshop in Italy was an opportunity to begin the latter.

The appointment is for 12 months in the first instance, at the end of that time a decision will be made on whether to continue with the appointment or go for another appointee. The decision rests with either the Chair of the SSC or the Chair of the OSG. This seems an ideal approach. It gives both Chairs the opportunity to become 'familiar with each other' and at the end of 12 months, determine what is the best course of action for the Group

As the Chair, I see my roles as very much that of link between the members and the SSC – effectively a facilitator and manager. It is through the Chair that information from the SSC and other sources can be made available to members of the Group. But equally important, the Chair is a route through which their points of view can be discussed and if applicable be put to the SSC.

It must be remembered that the Group is only as good as its members and that they contribute to the success of the OSG. Individuals are invited to join the OSG because they have been identified as being able to make important contributions to the conservation of otters. A role, I hope that you will all continue to maintain. One of the first jobs that the Chair has to do is to examine the current membership and update it.

The arrival of a new Chair is often seen as an opportunity to change and take new directions. However, since the initial appointment is for 12 months, it is not my intention to make wholesale changes. To this end, I have asked the current Continental co-ordinators to continue in post, and am pleased to say, that to date, none have declined. I am already indebted to them for their help and advice – thank you.

Over the next few months there will be much to learn, and the curve will be steep. I have ideas as to how I see the Group can evolve – I would not have agreed to accept the appointment if I did not have my own ideas (many of which have resulted from discussions with colleagues). However, the members must also have ideas as how the Group might develop. We will all have ideas and priorities – these need to be raised and perhaps discussed further. Therefore, as Chair, please let me know your ideas, some may enhance our operations others perhaps might not.

It is likely that the Bulletin will remain the main means through which the activities of the Group will be disseminated to the membership.

Within this Group there is an unrivalled pool of expertise, we must ensure that this is properly used and channelled. Over the past few months it has been pointed out that membership of the OSG is voluntary and that we are prepared to give our time freely to achieve the aims of the Group. As members, we must never forget this and ensure that the demands we make on each other are reasonable and practical.

The next year for me is likely to be exciting and interesting. As the new Chair, I hope that I do not let down all those who have put their faith in me. I can only promise to do my best for the Group and that for you all my best will be good enough.

To end with can I mention a couple of events:

Firstly the recent Italian otter work shop (see report by Anna Loy). This was a very successful meeting, in no short measure due to the organisation of the event. All of us who attended must have found the meeting stimulating and interesting. In addition, the organisers ensured that the 'inner man' was well satisfied with such a high standard of catering. My personal thanks to you and your colleagues, Anna.

Secondly, the end of the year should see the publication of the proceedings of the most recent Skye conference. Anyone interested in receiving information on how they might receive a copy please contact me.

Conroy Jim
Celtic Environment Ltd.,
Old Mart Road
Torphins
Aberdeenshire, AB31 4JG
UNITED KINGDOM
e-mail: jim@celticenvironment.wanadoo.co.uk

REPORT

HABITATS OF THE OTTER (*Lutra lutra* L.) IN SOME REGIONS OF SOUTHERN BULGARIA

Dilian G. Georgiev

Department of Ecology and Environmental conservation, University of Plovdiv, Tzar Assen Str. 24, BG-4000 Plovdiv, Bulgaria

e-mail: diliangeorgiev@abv.bg, dgeorgiev@greenbalkans.org

Abstract: The aim of present study was to gather base information on the distribution and relative quantity of otters in some habitats and regions, and thus to assist future monitoring of the species in Bulgaria. The otter was searched for in 111 UTM-grid squares mainly in Southern Bulgaria. It was found in 88 and absent from 23 of them. Environment stratification and habitat classification for 5 mountains, 3 valleys and Black Sea Coastal region was made. Data on otter quantity in some rivers and reservoirs is also presented.

Key words: otter, *Lutra lutra*, habitats, Bulgaria.



INTRODUCTION

The previous study of otter (*Lutra lutra* L.) distribution in Bulgaria was done by SPIRIDONOV and SPASSOV (1989). The inquiry method was mainly used, and the authors recommended a careful investigation of the population of the species in the country should be carried out. Some information on the distribution of the otter derived from studying its parasites was presented by YANCHEV (1987) and NIKOLOVA et al. (2001). GEORGIEV (2004) reported on materials in the food spectrum.

The aim of the present study was to gather base information on the distribution and the relative number of otters in some habitats and regions, and thus to assist future monitoring of the species in Bulgaria.

MATERIALS AND METHODS

For the stratification census method (CAUGHLEY, 1977), base data on the distribution and possible relative quantity of a given vertebrate species from various habitats and regions is needed.

To study the distribution of the otter the method of MACDONALD and MASON (1983, 2004) was mainly used and some observation and tracking was also done. Bank side areas smaller than 600 m were searched as a whole. For ponds and reservoirs, the upper and lower parts near the river were considered as sites for monitoring for several reasons: frequently dense vegetation, low disturbance, suitable bank slope for dens and possible home range border areas are present. Questioning of biologists and experts from NGO "Green Balkans" and "Trakiiski University" was undertaken too. A little information was gathered from them and from hunters, fishers and other people. Data was gathered during 1994-2005 from various habitats (total of 111 UTM-grid squares and 148 sites) in Rhodopy Mountain, Surnena Gora Mountain, Stara Planina Mountain, Sakar Mountain, Derwent Heights, Upper Thracian Valley, Tundza Valley, Kazanlashka Valley and Black Sea Coast. These regions were chosen as they are considered the parts of Southern Bulgaria with strongest otter population (SPIRIDONOV and SPASSOV, 1989).

The census was taken mainly during the period of 01.03-10.07.2005. Three main habitat types were investigated (due to their relative abundance in the regions studied): reservoirs (dams, ponds, fishponds), middle size rivers and large rivers situated in Upper Thracian Valley. Fifteen reservoirs were searched and a total of 77,5 km of bank side from 4 middle size rivers and 45 km of one large river (Maritza) were surveyed for food availability. A combination of methods was used, and some adaptations were made: mean spraints per sprainting site were considered (CHANIN, 2003), and compared to the results from observations or from the method of SIDOROVICH (1991) wherever possible. The mean spraints per sprainting site around dens, hunting sites or home range overlaps and other marking site-types were analyzed separately from each other. The intensity of marking was related with the number of individuals indicated by tracks and observation, and the data for the Bulgarian conditions during the study period was extracted. In rare cases only the tracking method was used. The number of individuals was calculated as individuals with marking behaviour (subadults and adults) per 10 km of river or 0.5 km² reservoir water surface, and for rivers only, possible resident females per 10 km. The home range overlaps of the possible resident females were determined according to the papers of ERLINGE (1967, 1968), VSHIVCEV (1967, 1972) and MASON and MACDONALD (1986).

To study the habitats, the vegetation (trees, bushes and littoral plants), bank slope and disturbance levels were rated up to 10 meters away from the water. At river sites these characteristics were considered in 200-meter transects along the route for both banks, and then calculated for the whole route. At dams and ponds the whole territory was looked at. For vegetation dominance and levels of disturbance a 5-point scale was used following papers of MASON and MACDONALD (1985) and OTTINO et al. (1995). For the bank slope assessment (which we suppose is important factor for the den making) a 3 point scale was used as follows: 1 (0°-30°); 2 (30°-60°); 3 (>60°) was chosen and only the dominant slope category was recorded in the transect. Presence or absence of other suitable habitats up to 3 km away from the studied one was recorded. To categorize the habitat types the classification of SIDOROVICH (1995) and also the map base of NGO "Green Balkans" was used.

For the observations a binocular and a night vision monocular (model Yukon, NV Tracker 2.5x42) were used, and for marking otter signs and habitat study, a GPS (model Garmin, E-Trex Summit). Most of the trips made were financed by various projects of NGO "Green Balkans".

RESULTS AND DISCUSSION

The otter was found in 88 UTM-grid squares, in various habitat types (constantly inhabited or temporary usage), see Fig.1. The species was not recorded in 23 UTM-grid squares in the highest mountainous areas: Stara Planina Mountain (LH32, LH82, MH44, MH64); Western Rhodopy Mountain (GM32, GM44; KG74; KG54, KG70, KG91, KG90, LG00, LG10, LG11, LG12, LG22, LG23, LG33, LG31); Sredna Gora Mountain (KH82, LH40, LH50, LH80). This was where the rivers present were without fish and ponds froze long term during winter. According to the information gathered, the following habitats were considered as important for otters in the regions studied in Southern Bulgaria:

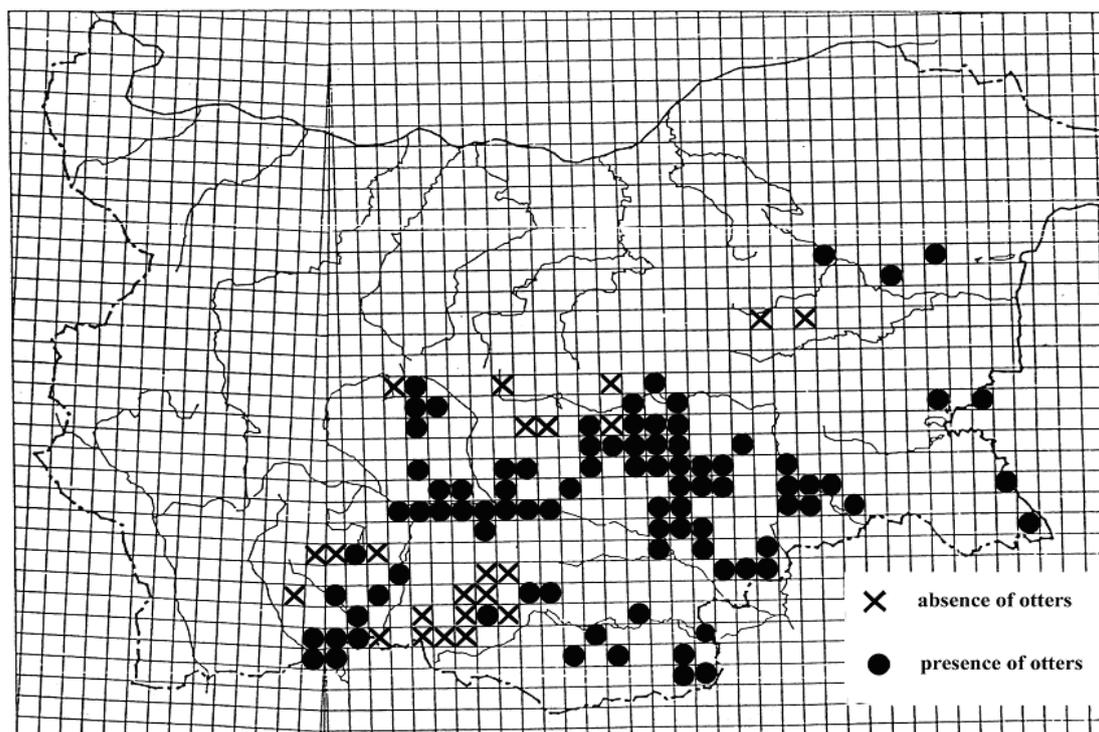


Figure 1. Distribution of the otter (*Lutra lutra* L.) in the regions where the environment stratification and habitat classification was made to assist future monitoring.

1. Main habitats (habitats where otters could live during most time of the year, providing constant food and shelter for the resident animals; in some cases combinations of these habitats could support otters in this way).

1.1. Running waters

1.1.1. Middle sized rivers – rivers from 2 up to about 15 meters wide and not more than 2 meters deep, not freezing during winter. Often various suitable habitats are present.

a) mountainous areas – often non canalized banks, with dense tree and bush vegetation, a lot of rock and stones along stream, low disturbance and pollution; number of sites: 21, all positive – Sredna Gora Mountain (LH70, LG79, KH92), Rhodopy mountain (LG06, LG29, LG42, LG52, LG79, LF89, MF18, MF20, KG50, KG52, KG72, GL49, GM40, KF59), Dervent Heights (MG76), Sakar Mountain (MG53, MG33, MG43). Estimated number of individuals with marking behaviour per 10 km, along 19,6 km of Sazliika river (Sredna Gora) was 3,1 and of this, possible resident females was 2,0.

b) middle canalized areas and similar sized soil bank canals through the plain – steep soil banks, rarely with patches of dense vegetation, sometimes dense littoral vegetation (*Typha* sp., and *Phragmites* sp.), high disturbance and some times high pollution, number of sites: 9 (8 positive, 1 negative) – Upper Thracian Valley (MG16, MH20, MG19, MG18, LG98, MG08, LG17, LG07). Estimated number of individuals with marking behaviour per 10 km, along 16,6 km of Sazliika River (through Upper Thracian Valley) was 2,4 and of this, possible resident females – 1,2; for Blatnica River (17 km studied) it was respectively 1,8 and 1,2.

c) free-flowing rivers – same characteristics as b), but with more space and probably more food available. The estimated home range stretches of the possible resident females upstream was: Sazliika river – 3,8 km; Cherkezitza river – 5,0 km; Parvenecka river – 2,9 km. Total sites 4, all positive – Upper Thracian Valley (KG98, MG05, LG36, LG06).

1.1.2. Large rivers – rivers wider than 15 m, and up to about 0.5 km. Often various supporting habitats are present.

a) mountain areas – same characteristics as the equivalent parts of the middle rivers, but providing more space and probably food resources. Two positive sites in Rhodopy Mountain (MG01, KG83).

b) middle parts in the plain – steep or relatively steep soil or sand banks, often with dense vegetation areas, remnants of flooded forests in the past, presence of pollution and disturbance very high in some areas. A total of 15 sites were checked, all positive; Kazanlashka and Tundza Valley (MG68, MG67, MG66, LH91, MH01), Upper Thracian Valley (MG04, KG86, LG06, LG16, LG26, LG36, LG46,

LG56). There were 3,7 and 4,6 individuals with marking behaviour and respectively 1,9 and 3,3 possible resident females per 10 river kilometers in stretches away from urbanized areas on the Maritza River (respectively 16,2 and 15 river kilometers investigated). From a highly urbanized area (14 km studied), where the Maritza river passes through Plovdiv Town and flows near one village, 2,9 individuals with marking behaviour per 10 km and 1,4 possible resident females were found. The bank for about 5 km was shallow and often flooded, disturbance was very high.

c) free-flowing rivers– One positive site in Upper Thracian Valley, at the influx of the Maritza river (LG06), and one at Black Sea Coast (NG75). In the inland site these parts are always canalized, but at Black Sea Coast there are large flooded areas occupied by *Phragmites* sp. These habitat types could be monitored separately, because of their different conditions.

1.2. Standing waters

1.2.1. Middle size reservoirs – Not freezing during winter, or only doing so partly or for short time. These habitats were monitored at their parts nearest the river, and 100% effectiveness was gained. In all the sites spraints were found, except one case, but there tracks were recorded. Sometimes with no adjacent suitable habitats.

a) **in hilly areas** – in low mountain areas the banks have dense patches of bush and trees; in hilly areas in the valleys there was no such good vegetation cover, but on the flowing rivers' banks there was always good cover and low disturbance levels. Suitable bank slope for dens were present along almost the whole bank, but there was high disturbance. Pollution was registered in one site. A total of 20 reservoirs were visited, all positive: Upper Thracian Valley (LG19, LG36, LG38, LG48, LG37, LG78, MG37, MG39, MG19, MH00, LG89), Sredna Gora Mountain (KH91, LH90) and Sakar Mountain (MG24, MG15, MG16). Results from the census of 10 such reservoirs were a mean of 4,6 individuals with marking behaviour per 0,5 km² of water surface.

b) **in plains areas**, 5 sites, all positive: Upper Thracian Valley (MG28, MG08, MG19, LG67). Vegetation was very poor (but some times dense littoral vegetation was present), high disturbance levels, banks shallow on rivers and streams. Pollution was registered at two sites. Five reservoirs censused, mean number of individuals with marking behaviour were 1,7 per 0,5 km² water surface.

1.2.2. Large reservoirs – same characteristics as the middle size ones. The difference was that in dams in hilly areas, there were sites with almost no disturbance at all. In hilly areas, the only suitable adjacent habitat was the river, but in the plain areas, there were diverse supporting habitats present.

a) **in hilly areas** – Seven sites, all positive: Stara Planina Mountain (NH36, MH94), Rhodopy Mountain (MG20, KG64), Dervent Heights (MG86), Kazanlushka Valley (MH01, MH11).

b) **in plain areas** – Three sites, positive: Upper Thracian Valley (MG06, MG27, MG37, MG38).

1.2.3. Saline lagoons and coastal lakes – lack of bush and tree bank vegetation, but dense littoral vegetation, sometimes with high disturbance, shallow banks. Two lakes visited, positive (NH31, NH51). Supporting habitats were flooded areas and soil bank canals, connecting the lake with the sea.

1.2.4. Black Sea coast rocky areas – one site visited and otters found (NG67). High disturbance, no dense vegetation marked. In this case the only supporting habitat was small freshwater river, flowing in the sea, but no otter signs were recorded there.

2. Supporting habitats – these could not be inhabited by otters during the whole year, but could temporarily provide some extra food and space during warm seasons and enhance the carrying capacity of the main habitats. Some of them assist the migration and travels of otters between different sites. When not combined each other or with main habitats often no otter signs recorded.

2.1. Running waters

2.1.1. Small canals with soil banks – Poor bank vegetation, but often dense littoral one, high disturbance, slow running waters, sometimes polluted. Use by otters recorded at three sites: Upper Thracian Valley (LG07, LG99) and Kazanlaska Valley (MH01).

2.1.2. Middle size cement bank canals constantly filled with water – Poor vegetation on banks, no littoral vegetation, fast running water, presence of fish, moderate disturbance, often with no proper bank material for den making. After further investigations, this habitat type possibly could be classified as “main”, if resident animals were found. Otters recorded at 4 sites: Upper Thracian Valley (LG99, LG17, LG06).

2.1.3. Streams and small rivers – Clean water, often dense vegetation and low disturbance. Because of the very constant marking recorded near reservoirs, we consider this habitat type is important for migrations and travels. In rare cases otter signs were found over 200 meters up or downstream of the reservoir where it is very small, but in one case a den was found 57 meters away from the dam

(downstream). In another case, use of a pond 2,13 km away from the river was recorded, where a small stream which dried out during summer was the only connection.

2.2. Standing waters

2.2.1. Ponds and small reservoirs

a) *hilly areas* in Upper Thracian and Kazanlashka Valleys, Dervent Heights, Sredna Gora, Rhodopy and Sakar Mountains (MH00, LG06, LG78, MG06, MG25, MG29, MG96, LH01, KH90, LG79, LH70, LH62, MF19), 13 sites, 10 positive and 3 negative.

b) *in plain areas*, one negative and one positive site in Upper Thracian Valley (MG28, MG09).

2.2.2. **Dunghill pit filled with water** – one case, use of the food source of *Perca fluviatilis* inhabiting the pit (Upper Thracian Valley: LG06). Steep, unstable banks, high disturbance and pollution.

2.2.3. **Rice fields** – one case (Upper Thracian Valley: LG07), otter feeding site, two individuals recorded. Shallow banks, no tree or bush vegetation, high disturbance, no pollution.

2.2.4. **Flooded areas** – three sites searched, one positive (MG19, MG08, LG07). Shallow banks, no tree or bush vegetation, dense *Phragmites* sp. or *Typha* sp. vegetation. Could provide some shelter and frogs as a food source, and sometimes fish.

2.2.5. **Black Sea sandy beach areas** – two sites positive (NH51, NG75). High disturbance and no places for hiding, but providing extra food from the sea.

2.3. Negatively human influenced waters

2.3.1. **Clean running waters without fish** – Middle size rivers in mountain areas, where the lack of fish is due to overfishing by humans, good bank slope and vegetation, low disturbance. From 25 sites visited, otters were found in 3 of them: Rhodopy (LG21) and Sredna Gora Mountains (MH00).

2.3.1. **Polluted running waters** – sometimes with dense bank vegetation and low disturbance, canalized banks, no fish and sometimes no frogs. Otters recorded in 4 sites in Upper Thracian Valley (MG19, MG09, LG99).

This environment stratification and habitat classification was made for Rhodopy Mountain, Surnena Gora Mountain, Stara Planina Mountain, Sakar Mountain, Dervent Heights, Upper Thracian Valley, Tundza Valley, Kazanlashka Valley and Black Sea Coast, but could be used also for otter monitoring in other regions of Bulgaria. Other habitat types will have to be considered as well, like, for example, swamps, mountain lakes and the River Danube.

CONCLUSIONS

The otter was searched for in 111 UTM-grid squares. It was found in 88 and absent from 23 of them. On the basis of otter presence or absence, possible otter numbers, and various environmental features, a total of 23 habitat types and human influenced otter habitats were divided and classified for Southern Bulgaria to assist future monitoring. The environment stratification and habitat classification was made for 5 mountains, 3 valleys and the Black Sea Coastal region.

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RESUME

HABITATS DE LA LOUTRE (*Lutra lutra* L.) DANS CERTAINES RÉGIONS DU SUD DE LA BULGARIE

Le but de cette étude a été d'obtenir des informations sur la distribution et la quantité relative de loutres dans certains habitats et certaines régions, afin de les intégrer à un futur suivi des espèces présentes en Bulgarie. La loutre a été recherchée dans 111 carrés UTM, principalement dans le sud de la Bulgarie. Sa présence a été détectée dans 88 carrés et son absence dans 23 carrés. Une stratification de l'environnement et une classification de l'habitat ont été effectuées pour 5 montagnes, 3 vallées et la région côtière de la Mer Noire. Des données sur la quantité de loutres dans certaines rivières et certains réservoirs ont également été représentés.

RESUMEN

HÁBITATS DE LA NUTRIA DE RÍO (*Lutra lutra* L.) EN ALGUNAS REGIONES DEL SUR DE BULGARIA

El propósito del presente estudio fue coleccionar información básica sobre la distribución y abundancia relativa de nutrias de río en algunos habitats y regiones, y así asistir en el futuro monitoreo de la especie en Bulgaria. Las nutrias fueron investigadas en 111 grillas cuadradas en UTM, principalmente en el sur de Bulgaria. Nutrias estuvieron presentes en 88 grillas y ausentes en 23. Estratificación ambiental y clasificación de habitats fue realizada para 5 montañas, 3 valles y la región Costa del Mar Negro. Pudo coleccionarse información sobre cantidad de nutrias de río en algunos ríos y cuerpos de agua.

REPORT

FIRST RECENT RECORD OF HAIRY-NOSED OTTER IN SUMATRA, INDONESIA

Reza Lubis

Wetlands International – Indonesia Programme, Jl. Ahmad Yani No 53 Bogor, Indonesia
E-Mail: Relub@Indo.Net.Id

Abstract: En route to a regular meeting with officials in Sekayu, Sumatra, the author found a road casualty hairy-nosed otter (*Lutra sumatrana*). This is the first record of the animal on its eponymous island since an unreliable one in the 1960s. Photographs and measurements of the specimen, which has been preserved, are presented. Local officials intend to use the existence of this species as a flagship for their conservation efforts.



On January 12th, 2005, I made a road trip with our driver from the main city Palembang to Sekayu, that both are located in Southern Sumatra, Indonesia. This was just another regular visit that I make once in every two weeks to have discussions on peat-swamp conservation with the Sekayu officials. I never thought that particular morning will be an amazing experience in rediscovering a very elusive otter species, the hairy-nosed otter!

Our car passed along a straight smooth asphalt road, by the side of Musi River, surrounded by flooded swamp and shrub forest. We drove about 60 km/h and my eyes were wide opened on the road far ahead. This was not only to pay attention to opposite cars passing by, but also what was lying on the asphalt road. Suddenly I spotted a black carcass about 300 meters in front of us and I thought it may be just another dead palm-civet or one of the abundant macaques. Nevertheless, I told the driver to slow down, just to identify the carcass. The road had fortunately less traffic during that morning. As we stopped near the dead animal, I saw that it has a slender long body, long snout and webbed feet and I knew that it was a dead otter! Without further delay, I told the driver to pull the car off to the side of the road. My hands were shaking looking for the camera in my rucksack, but it was not there as I had left it at home to recharge the batteries. So, unfortunately there was no camera for me at the time. So I decided to take the body to Sekayu and look for a camera there.

I rushed to the body and checked whether it was still breathing. Unfortunately there was no sign of life. No blood shed either. Then I started with the standard protocol on identifying the otter species. I checked for the absence of claws first, as if it was clawed, I thought this might be the common *Amblonyx cinerea*. No claws though, so it must be non-*Amblonyx*. But the body size is too small for the rather common *Lutrogale perspicillata*. Could this be the rare *Lutra lutra* or even the elusive *Lutra sumatrana*? My heart was beating very fast, as I slowly lifted its head to look for the rhinarium area. My heart almost stopped at that time, as I discovered that the rhinarium area was covered with hairs! I screamed out of excitement, this was the time when our driver started to get more confused about what I was doing. I told him that we may have discovered a very rare otter species. It was the Hairy-Nosed Otters (*Lutra sumatrana*). An otter species that was known to occur only in South East Asia, distributed from Thailand to Indonesia. Before this finding, its existence in Indonesia was in doubt as the last record of this species came around 1960's and it was not clear whether it was *Lutra sumatrana* or just another misidentification.



Figure 1. The dead *Lutra sumatrana* taken to nearest town (taken 2 hours after findings)

I could feel that the body was still warm and soft, meaning that it had just been killed about several minutes ago. No blood or injury was seen in its body. However, I could see that its vertebrae were twisted and its right hind foot was broken. I also felt a strange globular shaped structure under its skin on the dorsal side of his neck. Could this be the magical stone that an otter own that most of the local people speak of when we discuss about the species?

I looked around the surroundings for anyone who might have witnessed the accident. But nobody was present. The surrounding area was a flooded open swamp with shrubs, oil palm and rubber plantations. The Musi River flows parallel to the road. There was a small tributary that crosses the road about 50 meters in front of us. My guess is that this otter may have been on its way from the big flooded Musi River to the open swamp, searching for dry ground, and got killed when crossing the road. My next question is why did he cross the road on the ground and not used the tributary? This may have been due to the high water level that was there in the tributary in that morning.



Figure 2. General view of the area where the dead *Lutra sumatrana* was found



Figure 3. Small tributaries and bridge located 50 m away from finding location

We were already late for a meeting with Sekayu official, so it was not possible to do a thorough survey of the habitat. Without a camera and GPS, I was more than helpless. So I decided to come back later with proper equipment and preparation. We took the dead otter and drove to Sekayu.

In Sekayu, I took the dead otter to local forestry office, which is the legal authority for wildlife, especially the rare and protected ones. We took some pictures of it and took some measurements etc. using available equipment in the Wildlife Office. The following are the measurements.

Sex/Age	: Male/Adult
Body Length	: 63 cm
Tail Length	: 53 cm
Total Length	: 113 cm
Weight	: 8,5 kg



Figure 4. Rhinarium part of road-killed *Lutra sumatrana*

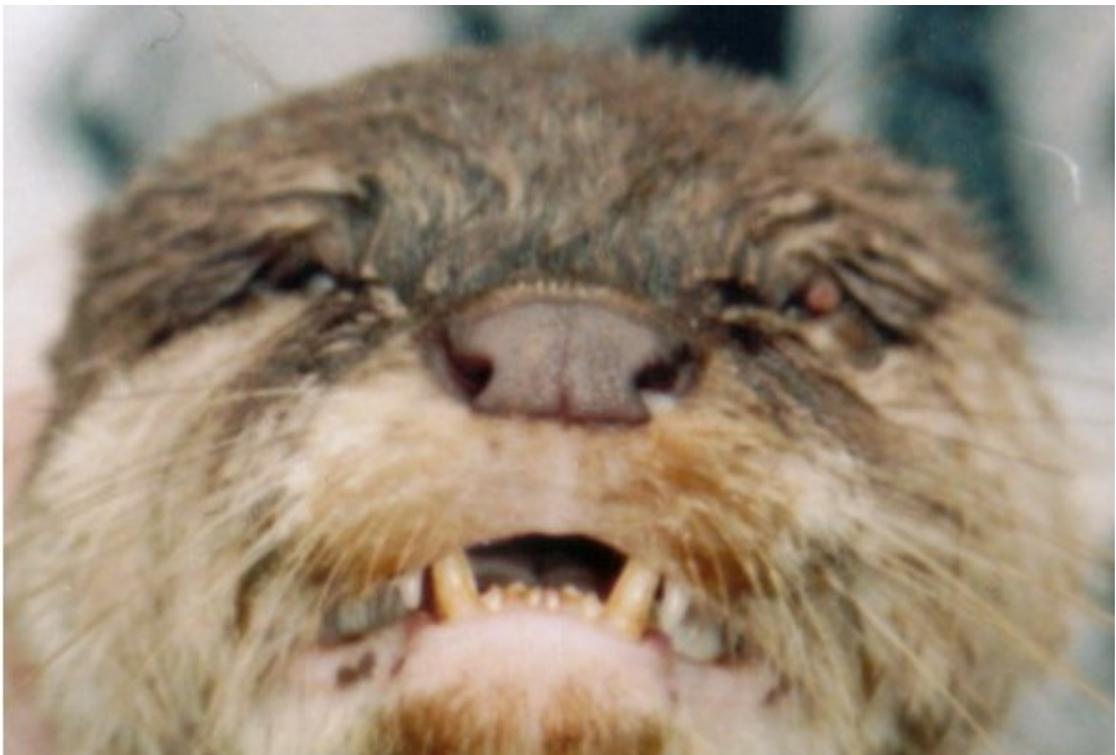


Figure 5. Rhinarium part of *Amblonyx cinerea* found trapped on fish net in Way Kambas NP in 2001

As days passed, I decided to preserve the specimen. Together with the help of a forest ranger, the otter was skinned. The pelt was kept in 70% alcohol while the flesh and the skeleton were buried in dry soil for natural decay and will be opened 2 months later. As no Indonesian museum has collection of *Lutra sumatrana* specimen, forestry officer asked us to send the otter pelts to Natural History Museum office in Bogor (Java) for further storage. A permit was given to us to hand over the specimen to the museum. On the other hand, it is rather sad to learn that no Indonesian museum has a specimen of this otter species in their catalogues. In one of my trips to London in 1996 I saw pelts of *Lutra sumatrana* collected from Indonesia in the British Natural History Museum. It is also possible, that other *Lutra sumatrana* specimens are kept in other European Museums especially those in the Netherlands, which has had a long colonial history in Indonesia. Perhaps, it is necessary to get the relevant authorities to return some of these collections to Indonesian authorities.

Our question on magical stone was answered when we found that the round structure under the skin of dorsal neck part was nothing but a marble sized metal object. It is likely that this was a traditional gun bullet made by local villagers to shoot animals. This kind of bullet only penetrates the skin but not the flesh. The usage of such guns is illegal, and forestry officers should tackle such threats in the future. The story that otter has a magical stone in its body has passed along many generations in Indonesia, not only in Sumatra but also heard in Java and Kalimantan/Borneo. It is believed that this stone helps the otter to hold its breath for a long time and therefore, it is able to swim fast underwater. Apparently, possessing and wearing this stone was believed to give similar effect to humans. Therefore, this stone was very much sought after by people. People also said that otters always dropped this stone when they defecated, that is why otter often have been observed to smear its spraints afterwards to get the stone back. However, with my experience in collecting hundreds of otter spraints during the last 10 years for research, ranging from fresh to old spraints, I have of course not found any single such stone in those spraints so far.

Our work in Sumatra was sparked by similar findings in Thailand by our colleagues from the Thai Forestry Office. This incident of finding a dead hairy-nosed otter on the road this time is considered as a high progress on otter research in Indonesia. After about 5 years, of surveys in Sumatran wetlands supported by the Otter Research Group of Japan, Columbus Zoo, Organization through Asian Otter Secretariat, Rufford Small Grant, and Swedish Biodiversity Centre, we finally succeeded in finding this species. This is a definite proof that *Lutra sumatrana* does exist in Indonesia, although it was not sighted for a long time and even some naturalist thought that it was extinct in Sumatra. We could expect to find the species in other wetland sites as well in Indonesia.

Two weeks after the lucky incident, we got back to the site and collected some additional information including coordinates of the location so that we can mark it on the map. We also perform a general survey about the area, but as water level was still high, it was quite difficult to find dry areas where we could found otter tracks, sprainting sites or nests. Therefore, we decided to make observations during the dry season, to see whether the area is the primary habitat for this species; or whether this was just a part of its movement path during the floods. We are also planing to use camera traps and soft-catch traps donated from Japan in this area, but this can only be done after obtaining permission from the ministry to trap the protected species.

Local officials in Sekayu District were proud of this finding as we send a press release to a national newspaper. They do not know that their wetlands still hold such rare species. They are currently discussing with the Head of the District to use the otter as a flagship species for their district, an excellent idea that we are sure to agree.

Acknowledgements - I am very grateful to Prof. Padma de Silva for her continuous encouragement throughout this work on hairy-nosed otter. The Columbus Zoo Organization, Columbus, Ohio, US, through the Asian Otter Secretariat is supporting my surveys on otters in Sumatra.



RÉSUMÉ

PREMIÈRE DONNÉE RÉCENTE SUR LA PRÉSENCE DE LA LOUTRE DE SUMATRA À SUMATRA (INDONÉSIE)

Le cadavre d'une loutre de Sumatra a été découvert en janvier 2005, sur le bord d'une route dans le sud de Sumatra, en Indonésie. Il s'agit du premier indice de présence de cette espèce, découvert en Indonésie depuis plus de quarante ans. L'espèce était même considérée par certains, comme ayant disparue de l'île qui lui a donné son nom.

RESUMEN

PRIMER REGISTRO DE LA PRESENCIA DE NUTRIA DE RIO DE NARIZ PELUDA (HAIRY-NOSED OTTER) (*Lutra sumatrana*) EN SUMATRA, INDONESIA

Se reporta el primer registro de la presencia de nutria de río de nariz peluda (hairy-nosed otter) en Sumatra, Indonesia. Una carcasa fue encontrada en proximidad de río Musi. El individuo era un macho de aproximadamente 8.5 kg, su caracasa fue colectada y medida. La piel se registró en el Museo de Historia Natural en Bogor, Java.

R E P O R T

THE USE OF A NATURAL CAVE FOR BREEDING BY GIANT OTTERS IN THE BRAZILIAN PANTANAL: OBSERVATIONS AND NEW INSIGHTS ON GIANT OTTER BEHAVIOR

Constanza Camilo-Alves and Arnoud Desbiez

Fazenda Bela Vista, Pantanal, Caixa postal 18, Centro 79300-000 Corumbá / MS Brazil e-mail: ccamiloalves@hotmail.com

Abstract: It has long been known that giant otters excavate dens for breeding and resting. One family of giant otters which we have observed on the Brazilian Pantanal, also use a long cave in a rocky cliff, particularly when raising cubs. The cave is not above the highest flood level, but does not usually flood, unlike excavated dens, which are very susceptible to flooding. Nearby caves were used by Neotropical Otters (*Lontra longicaudis*) and Capybaras (*Hydrochoerus hydrochaeris*).



Giant otters occur widely through the main rivers of the Brazilian Pantanal. They have been amply reported to use dens both for resting and as shelter (SCHWEIZER, 1992; CARTER and ROSAS, 1997; TOMAS et al., 2000; RIBAS, 2004). Dens consist of tunnels excavated into the riverbanks. There appears to be no particular choice of soils in den excavation (DUPLAIX, 1980). Giant otters also rest in cleared areas, which they make along the riverbank margins, called campsites (DUPLAIX, 1980; CARTER and ROSAS, 1997; ROOPSIND, 2002; RIBAS, 2004).

On the Papagaio River a family of giant-otters has been observed for several years. The Papagaio River is a branch of the Paraguay River from which it separates and re-joins again between Corumba and Porto Morrinho. It is limited on the west side by the Urucum Mountains and it overflows into grasslands on its east side during the flood season (May to July). In the territory of this giant otters'

family group there are limestone cliffs and riverbanks with dark sandy soils. This river is usually more than 3 meters deep near the rocky cliffs and the visibility of its dark waters averages 1.3 meters deep. In August 2001, we observed several giant otters leaving from a hole in a rocky cliff at the edge of the river (S19°15.069' W057°26.246'). Upon closer examination we discovered that the hole is in fact a long cave. This is the first report of giant otters using a natural cave rather than an excavated den. Indeed for the last three years we have been observing this family of giant otters using a natural cave in the cliff in this section of their territory instead of an excavated den.

The cave entrance is 5 meters away from the river. During the peak of the flood season river water may flow inside the cave. Access to the cave is only possible through the river or through the east margin of the cliff, since the cliff extends to the river on the other side. The entrance of the cave is 1.5 meters high and 3 meters wide. Inside the cave there is a large and tall corridor with several lateral corridors and resembles a labyrinth. A person can walk in an upward position for about 150 meters after which the roof lowers abruptly, although the corridor continues. Bats occupy the cave. They can be observed leaving their roosts inside the cave each evening; however no footprints from other mammals except of giant-otters have been observed inside the cave. In fact, from the cave entrance we can observe 20 meters of giant-otter footprints going through all the corridors. We also collected a giant otter adult skull in front of the cave in August 2001.

During 2002, 2003 and 2004 we regularly observed the group of giant-otters using the cave. Most interestingly, observations were most frequent when the group was raising giant otter pups. This family raised four to five pups each year. In fact it appeared as though the cave was mostly used to raise pups. During the same period the group used a latrine in front of the cave and a campsite with a latrine 60 meters east of the cave.

It was not possible to explore the total home range of this giant otter family to find eventual dens, latrines or other campsites since part of the river is covered with aquatic plants. Another seven caves found on the edge of the river were explored but there was no evidence (sightings, tracks or latrines) that they were used by giant-otters. Interestingly these caves show evidence of being used by river otters (*Lontra longicaudis*) and even capybaras (*Hydrochoerus hydrochaeris*).

On 7 km of the Papagaio River there are riverbanks, which are easily accessible, with no aquatic plants or rocky cliffs extending to the river. Here we only saw the giant otters twice and we did not find any den, campsites or latrines on these riverbanks. The next 3 km of the river have rocky cliffs and most part of the river edge is covered with floating vegetation mats, preventing further access to locate evidences from giant otters. The rest of the river is all covered with aquatic plants and has a long cliff on one side. We often observed giant otters using the section of the river where there are cliffs and aquatic plants.

We think that it is possible for giant otters to build dens at the margins of the Papagaio River, as they build dens in similar soils along Paraguay River basin. Indeed, we found a small den, probably made by the river otter. Shelters like dens and this cave probably provide protection from ambient disturbances such as variations in temperature and humidity as well as protection from predators due to inaccessibility. There may be other reasons why giant otters use this cave. We suggest that giant otters are using the cave since the probability of flooding is lower than dens on the riverbanks. River water flows inside the cave only during floods higher than 4.5 meters while riverbanks are underwater during a 3.5 meters flood. Therefore, the cave is flooded for a shorter period or is not flooded at all. Indeed, the cave was submerged during 2002 and 2003 when the flood peak was 5.11 meters and 5.18 meters respectively (GALDINO and CLARKE, 2004). During 2004 the flood peak was 4.26 meters and the cave was not submerged.

Surprisingly the giant otter family did not migrate in 2004 during the flood season and continued using the cave. This is surprising since giant otters are reported to abandon temporarily their dens and migrate to unknown areas during the flood season possibly following fish migration as suggested by DUPLAIX (1980). However, giant otters from the Papagaio River did not migrate during 2004 and 2005. In 2005 there was no flood so maybe there were no changes in resources due to the flood. However in 2004 the Paraguay River overflowed and therefore there was most probably a change in resources. We certainly do not have sufficient data, and are basing our discussions on observations from only one giant otter family and therefore cannot draw any conclusions or meaningful interpretations. However we would like to suggest that changes in resources might not be the only

factor influencing giant otter migrations during the flood season. In 2004 when the cave was not submerged the giant otter family remained even though changes in resources due to the flood probably did occur. Therefore other factors such as availability of dens and flood peaks may be influencing animal movements.

Effective conservation measures for this endangered specie (GROENENDIJK et al., 2004) demand a better understanding of their basic requirements in terms of shelter, and resources as well as a better understanding of their behavior. Why and where giant otters go during the flooded season in the Pantanal still remains a mystery.

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RESUME

UTILISATION D'UNE GROTTTE NATURELLE COMME CATICHE, PAR DES LOUTRES GÉANTES, DANS LE PANTANAL BRÉSILIEŒ: OBSERVATIONS ET NOUVELLES DONNÉES SUR LE COMPORTEMENT DE LA LOUTRE GÉANTE

Dans le Pantanal brésilien, une famille de loutres géantes a été observée utilisant régulièrement une grotte naturelle comme abris. La fréquentation de cette grotte par les loutres a été observée durant trois années consécutives et s'est avérée être plus importante durant la période d'élevage des jeunes.

RESUMEN

USO DE UNA CUEVA NATURAL PARA REPRODUCCION POR LA NUTRIA GIGANTE EN EL PANTANAL BRASILEÑO: OBSERVACIONES Y NUEVAS EVIDENCIAS EN EL COMPORTEAMIENTO DE LA NUTRIA GIGANTE

Este es el primer reporte de nutria gigante usando una cueva natural en lugar de una excavada por ellas mismas. La entrada de la cueva está a 5 m del río, y tiene 1.5 m de alto y 3 m de ancho. La cueva se bifurca en laberintos donde una persona puede caminar erguida por casi 150m. La cueva fue más frecuentemente usada cuando las nutrias tenían crías, pero muestra evidencias de haber sido usada también por nutria de río (*Lontra longicaudis*) y capybaras (*Hydrochoerus hydrochaeris*).

REPORT

INTERESTING COOPERATIVE BEDDING GATHERING BEHAVIOUR IN CAPTIVE ASIAN SMALL-CLAWED OTTERS (*Amblonyx cinerea*)

Lesley Wright

CCLRC Rutherford Appleton Laboratory, R1, 1.58, Chilton, Didcot, Oxon, OX11 8SR. Email: L.Wright@rl.ac.uk

Abstract: At Exmoor Zoological Park in Devon, UK, the Asian Small-Clawed Otter family cooperate to bend down bamboo canes to reach and remove the leaves for adding to their bedding



On 20th March 2005, I visited Exmoor Zoo in Devon, UK, to do behavioural observations on the Asian Small-Clawed Otters for the KASBAH project (WRIGHT, 2003). The otters there display an interesting method of gathering bedding, which might be of interest to other otter keepers.

At this time, the otter group consisted of a male, a female and their two six-month old female cubs. The pen is heavily vegetated, but the otters selectively prefer bamboo leaves for bedding, and have stripped the lower parts of the bamboo canes for this purpose. Over this winter, they developed a technique for gaining access to the upper parts of the bamboo.

First, the alpha female climbs up a bamboo cane to approximately four feet above the ground. There she appears to test the flexibility of individual canes by rocking on them using her front paws whilst balancing on the original cane with her hind feet and tail (see Figure 1). She then climbs onto the chosen cane, holding on with paws and teeth, and begins to use her body weight to sway the cane too and fro, gradually edging out on the cane as it begins to bend. During this process, the rest of the otter family gathers under the bamboo and watch.



Figure 1: Female climb bamboo cane and tests adjacent canes

As the cane bends, she lets go with her back paws and hangs on the cane, so that her weight bows it towards the ground. The rest of the family gather under where the leaves of the cane are descending, reach up and grab the leaves and pull it down. The whole family then rips leaves off the bamboo and takes them to the holt for bedding (see Figure 2). During the three periods of observation of this behaviour, the cane was ever left to spring back.



Figure 2: Female uses body weight to bend cane down; rest of the otter family seize leaves

When all the leaves have been removed, the rest of the otter family moves off to groom or forage, but the alpha-female then shreds as much as she can of the cane itself (see Figure 3) - on one occasion severing it and dragging it to the holt.



Figure 3: Female shreds the cane to add to the holt bedding

According to the keepers, the otters go through this routine several times a week, and on some days, several times a day; I observed three such events during a single day's observation. This behaviour seems to show a reasonably high degree of planning and co-operation to achieve the desired end. It also demonstrates that pen vegetation can provide good enrichment if the animals are allowed to make use of it for their own ends.

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RESUME

INTÉRESSANT COMPORTEMENT D'ENTRAIDE DANS LA COLLECTE DE MATÉRIAU POUR LEUR LITIÈRE, OBSERVÉ CHEZ DES LOUTRES CENDRÉES (*Amblonyx cinerea*) EN CAPTIVITÉ

Au parc zoologique d'Exmoor, dans le Devon, au Royaume-Uni, les membres d'une famille de loutres cendrées ont coopéré entre elles pour plier des canes de bambou, dans le but d'atteindre et d'arracher les feuilles qu'elles ont ensuite ajouté à leur litière.

RESUMEN

COMPORTAMIENTO COOPERATIVO OBSERVADO EN MADRIGUERA EN LA NUTRIA DE RÍO DE UÑAS PEQUEÑAS ASIÁTICA (*Amblonyx cinerea*) VIVIENDO EN CAPTIVIDAD

En el Parque Zoológico Exmoor en Devon, Inglaterra, los miembros de la familia de nutria de río de uñas pequeñas asiática cooperan para doblar las hojas de bambú, remover las hojas, y sumarlas al lugar de descanso dentro de la madriguera.

REPORT

METHODOLOGY FOR TEST OCCURRENCE AND DISTRIBUTION OF NEOTROPICAL OTTER (*Lontra Longicaudis*, OLFERS, 1818) IN CANANÉIA, SOUTH COAST OF THE STATE OF SÃO PAULO, BRAZIL

Roberta E. Silva^{1,2}, Eduardo Nakano-Oliveira^{2,3} & Emygdio L.A. Monteiro-Filho^{2,4}

¹ Mackenzie Presbyterian University, e-mail: robertaelise@yahoo.com.br

² Instituto de Pesquisas Cananéia, IPeC, www.ipecpesquisas.org.br

³ Universidade Estadual de Campinas, UNICAMP

⁴ Universidade Federal do Paraná, UFPR

Abstract: For a further distribution and occurrence study of *L. longicaudis* in the region of Cananéia, south coast of the State of São Paulo, Brazil, a methodology adapted for the local conditions based on the "survey" method used with *Lutra lutra* was tested. The study site was divided in 35 quadrants of 2x2 km and in each one a body of water was chosen for the investigation. Each body of water was traveled for at least 2 km searching for evidences of the presence of otters. It was possible to produce an image of the distribution of the species in the area using the coordinates of the sites where the vestiges were found. This image showed the presence of otters in rivers and in the estuary and absence in the areas facing the open sea. In 12 out of 13 positive quadrants for the otter presence the first vestige was found in the first 800 m of monitoring. Therefore, we recommend a reduction of the area traveled in each bodies of water to 1 km, reducing the expenses and also increasing the sampled area. We also recommend the increase in the size of the quadrants due to the occurrence of otters in some quadrants considered negative by the method.

Taking into consideration that the neotropical otter, *Lontra longicaudis*, is one of the less studied species of otters, a new methodology to verify their occurrence and distribution was tested in a part of the south coast of the State of São Paulo, southeast of Brazil, which is inserted in one of the largest remains of the Atlantic Forest (SMA, 1998). The method used was adapted from a methodology tested for *L. longicaudis* between 2002 and 2003 in the regions of State of Rio de Janeiro and State of Rio Grande do Sul by Waldemarin (2004), which was based on the "survey" method used for the Eurasian

otter (*Lutra lutra*) proposed by REUTHER et al. (2000). The method was tested to the south of Ilha Comprida island and Ilha de Cananéia islands, to the north of Ilha do Cardoso island and part of the continent (of 25°00' to 25°04' S and 47°54' to 47° 56' W) where carnivores have been studied for about four years by the Carnivore Project of Instituto de Pesquisas Cananéia, IPeC (Nakano-Oliveira, in press).

The sampling site was divided in 35 quadrants of 2 x 2 km and in each one a body of water was chosen (a river, a lake or a marine coast) to be investigated searching for evidences of the presence of *L. longicaudis*. The rivers were prioritized in the moment of choice and the most central one in each quadrant was chosen to be traveled. A minimum distance of 2 km was investigated in the margins of this body of water and the distance of the first vestige found in relation to the monitoring starting point was recorded using a navigation GPS (Garmin, 12 XP). If no vestige is found, the method suggests covering an extra distance of at most 3 km or until the first vestige is found. This information would be useful to confirm that we would not consider negative a quadrant where there actually are otters, but in most cases we reached the end of the quadrant before finishing the extra course.

The quadrants that didn't have any type of body of water that could be investigated were considered null. According to the method 13 quadrants were considered positive, 14 negative and 8 null (Fig. 1 and 2).

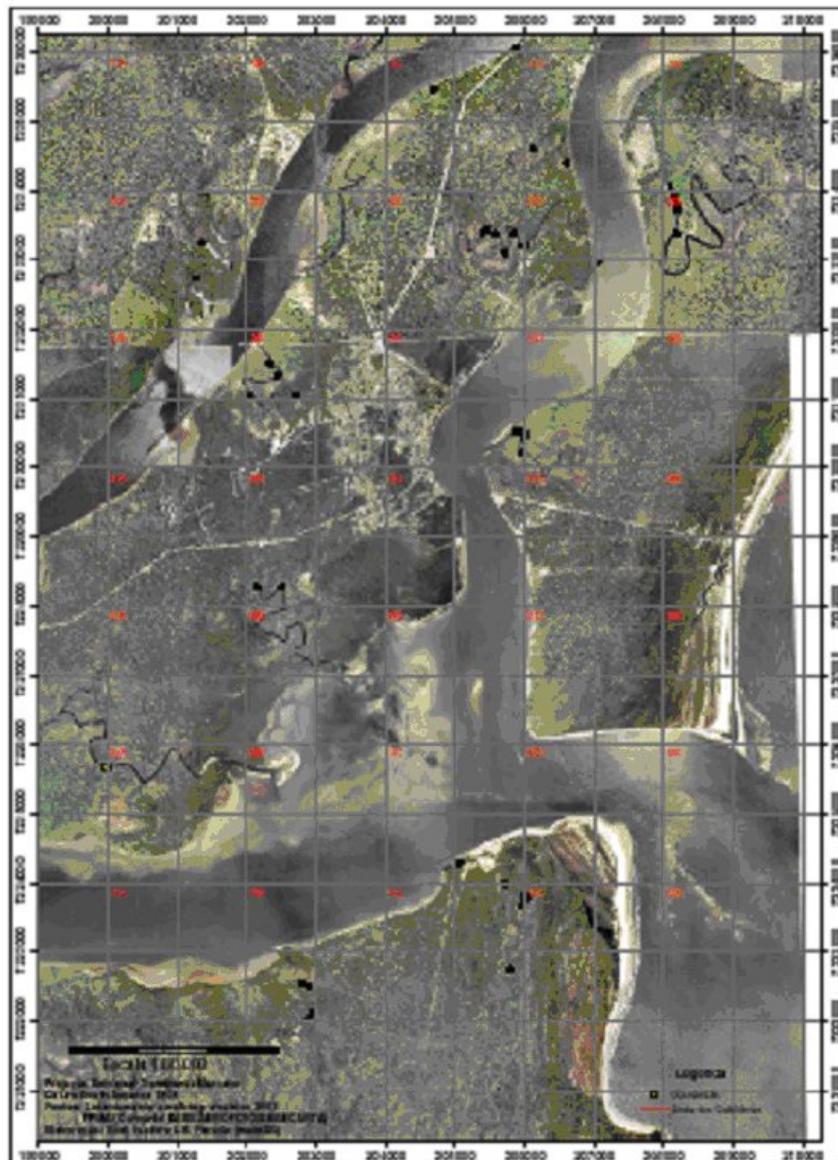


Figure 1: Aerial photograph of the distribution of the vestiges of *Lontra longicaudis* in the study area.

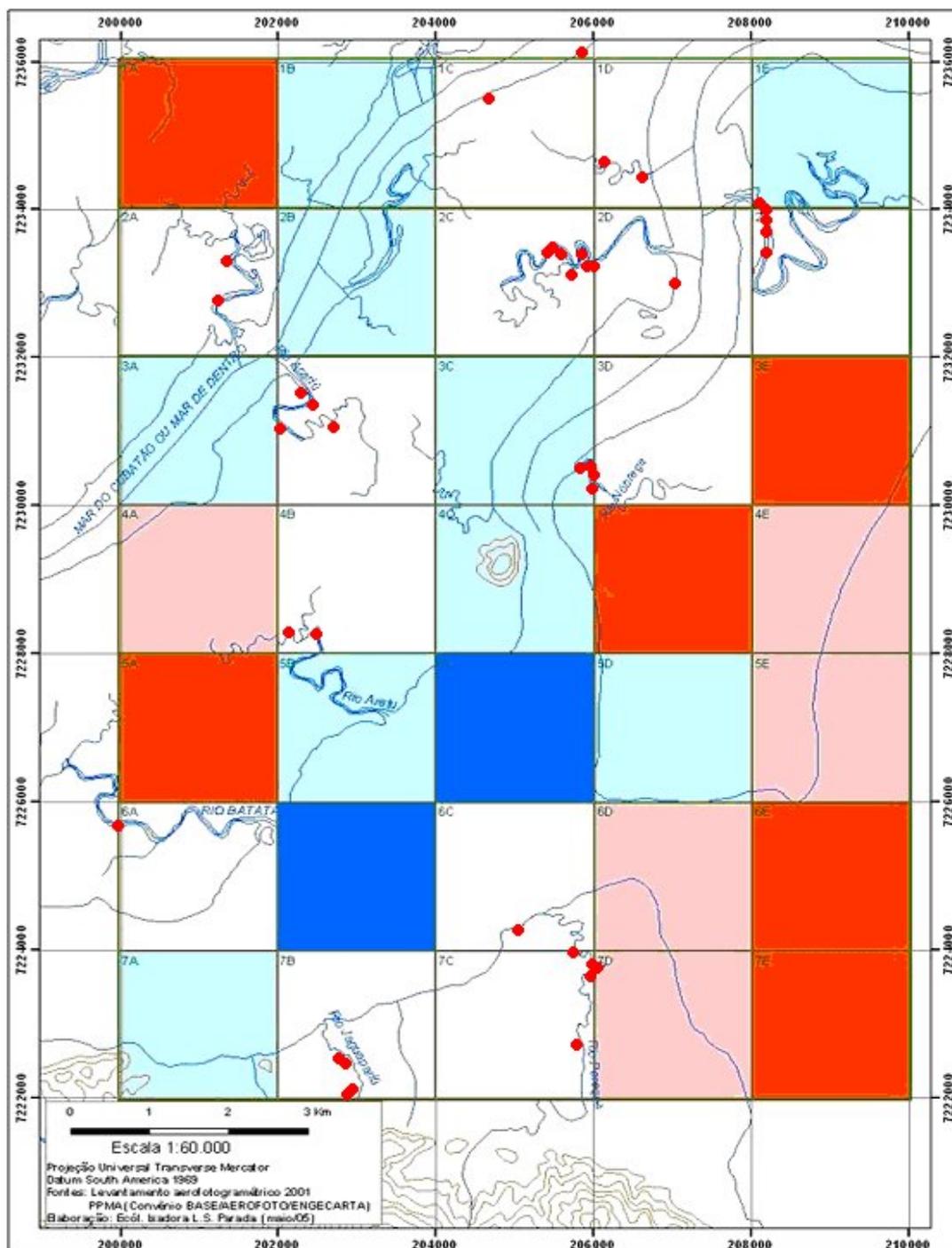


Figure 2: Map of the distribution of the vestiges of *Lontra longicaudis* in the study area.

- Sites where vestiges were found.
- Positive quadrants.
- Null quadrants where the presence of *L. longicaudis* was never registered
- Null quadrants where the presence of *L. longicaudis* has already been registered
- Negative quadrants where the presence of *L. longicaudis* was never registered
- Negative quadrants where the presence of *L. longicaudis* has already been registered

The presence of otters was confirmed in several quadrants (see Nakano-Oliveira, 2004) considered negative and null by the method used, showing a lack of independence among the quadrants. So we recommend that a new test should be carried out using larger quadrants so that an area where actually there are otters is not considered negative.

The minimum distance used for the monitoring area (2 km) was confirmed as excessive, once in 12 out of 13 positive quadrants (92.3%) the first vestige was found at a maximum distance of 800 m in relation to the monitoring starting point. Therefore, the minimum distance that should be traveled can be reduced to 1 km so that there is less than 10% of chance of considering negative a quadrant where the species actually occur and thus reducing the costs of the research and allowing the increase of the sampled area.

Acknowledgement – to Instituto de Pesquisas Cananéia, IPeC, Fundação O Boticário de Proteção à Natureza, The Nature Conservancy do Brasil and IDEA WILD for all the support; to Luciana Nakano C. de Oliveira for the revision of the paper; to Rebeca Pires Wanderley and Clovis for helping in the field; to Centro Nacional de Pesquisas para Conservação de Predadores Naturais CENAP/IBAMA for the permissions for catching carnivores (licence # 044/03).

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RESUME : Test d'une Méthodologie l'Occurrence et la Distribution de la Loutre à Longue Queue (*Lontra Longicaudis*, Olfers, 1818) à Cananéia, sur la Côte Sud de l'État de São Paulo, Au Brésil

Pour une prochaine étude de la distribution et de l'occurrence de *L. longicaudis* dans la région de Cananéia, sur la côte sud de l'état de São Paulo au Brésil, une méthode basée sur la "méthode d'étude" utilisée pour *Lutra lutra* et adaptée aux conditions locales, a été testée. La zone d'étude a été divisée en 35 carrés de 2x2 km et une étendue d'eau à prospecter a été choisie au sein de chaque carré. Chaque étendue d'eau a été parcourue sur 2 km, afin d'y rechercher les indices de présence de la loutre. Il a été possible d'obtenir une estimation de la distribution de l'espèce, à partir des coordonnées des sites où des indices de présence ont été trouvés. Cette carte montra la présence de la loutre dans les rivières et les estuaires et son absence dans les secteurs faisant face à la pleine mer. Dans 12 des 13 carrés positifs, le premier indice de présence de la loutre a été trouvé dans les 800 premiers mètres prospectés. C'est pourquoi, nous recommandons de ramener la distance prospectée sur chaque étendue d'eau à 1 km, ce qui permet de réduire les dépenses et d'augmenter l'étendue de la zone prospectée. Nous recommandons également d'augmenter la taille des cadrats, en raison de la présence de loutres dans certains carrés donnés comme négatifs par cette méthode.

RESUMEN: Presencia Y Distribución De La Nutria De Río Neotropical (*Lontra Longicaudis*, Olfers 1818) En Cananéia, Costa Sur Del Estado De San Pablo, Brasil

La metodología de relevamiento usada con *Lutra lutra* fue adaptada y testeada para estudiar la presencia y distribución de la nutria de río Neotropical (*Lontra longicaudis*, Olfers 1818) en Cananéia, costa sur del estado de San Pablo, Brasil. El sitio de estudio fue dividido en 35 cuadrantes de 2x2 km, y un cuerpo de agua fue muestreado en cada cuadrante. Al menos 2 km fueron muestreados en cada cuerpo de agua para detectar la presencia de nutrias de río. Con las coordenadas donde se detectó la presencia de nutrias se generó una imagen de su distribución. Esta imagen mostró la presencia de nutrias en ríos, estuarios, pero su ausencia en áreas enfrentadas con mar abierto. En 12 de los 13

cuadrantes donde se detectaron nutrias, evidencias de su presencia fue detectada en los primeros 800 m muestreados. Así, nosotros recomendamos reducir la distancia recorrida en cada cuerpo de agua a 1 km, lo que reduce los costos y además incrementa el área muestreada. Además recomendamos incrementar el tamaño de los cuadrantes dada la presencia de nutrias en algunos cuadrantes considerados negativos por la metodología.

REPORT

EUROPEAN OTTER WORKSHOP: RESEARCH ADVANCES AND OTTER CONSERVATION IN EUROPE

Padula, Salerno, Italy
20 to 23 October 2005

Anna Loy

Dip. S.T.A.T., Università del Molise, Via Mazzini 8, I-86170 Isernia, Italy, Tel: ++39 (0865) 478926, Fax: ++39 (0865) 411283, a.loy@unimol.it

Abstract: The workshop was attended by 110 delegates from 19 European countries and 2 from Israel, over three days. The first session was devoted to distribution, GIS modeling, habitat suitability and restoration; the second covered Genetics and conservation; the third was on home range, population dynamics and diet; and the fourth was about threats and conflicts. There was a round table focussing on the status and conservation of otters in Italy: identifying the topics and tasks necessary for the production of a national action plan for otters. The species in Italy is critically endangered, the only viable population being found in the southern regions (Campania, Calabria, Basilicata, Puglia). The recent discovery of a fragmented population in Molise. The event also included a meeting of the European IUCN/SSC Otter Specialist Group. Proceedings will be published in *Hystrix*.

The meeting was hosted in the beautiful setting of the XIV century's Certosa di Padula, the largest Carthusian monastery in Europe. It is situated within the National Park of Cilento and Vallo di Diano, which hosts one of the most important otter populations in Italy. The meeting was sponsored by the National Park which, as an organisation is at the forefront of otter research in Italy. Foundings also included financial support for students attending from Eastern Europe and Israel. The Workshop was organised in collaboration with the Universities of Rome 'La Sapienza' and Molise.

The Workshop was dedicated to the memory of Claus Reuther, the late Chair of the IUCN SSC Otter Specialist Group who died on December 29th 2004 and dedicated much of his life to the protection of otters and their habitats. The aim of the meeting was to create a discussion forum on different research perspectives and to examine the possibilities of joint national and international research programmes and collaborations.

The Scientific Programme consisted of four sessions, each devoted to a topic relevant for otter research and conservation strategies. Each session consisted of talks by invited speakers and poster presentations. The meeting was attended by 110 delegates from 19 European countries and 2 from Israel. A total of 41 posters were presented over the three days of the meeting. Authors of posters were also given the opportunity to make a five minutes presentation of their work at the end of each of the four sessions of invited talks.

The opening ceremony was followed by a brief and personal remembrance of Claus Reuther by Michaela Bodner, Continental OSG representative for Europe.

The first scientific session, devoted to distribution, GIS modeling, habitat suitability and restoration, was chaired by Luigi Boitani. The invited talks started with Vadim Sidorovich who described the research methods, density variation and key factors for distribution of otters in Belarus. This was followed by Romina Fusillo who reported on modeling otter range distribution and its implications for

conservation of the Italian population and Xavier Janssens who proposed a GIS-derived landscape constraint to model the occurrence of the elusive otter in Cevennes (France). Presentation on posters were made by Marcello Cannetiello - Ecological niche factor analysis in otter from Cilento and Vallo di Diano National Park, Amichai Guter -Reinforcing of the Eurasian otter population in Israel: translocation as a step towards recolonisation, Anna Loy -Evaluating habitat suitability for otters through a fine scale GIS approach, Aksel Bo Madsen -Status and conservation of the otter in Denmark, Paola Ottino -Distribution and habitat use of the otter in relation to land use in the Araglin Valley, Southern Ireland, Lukas Poledník -Estimating numbers and densities of otters using GIS and Jerzy Romanowski - Monitoring of the otter recolonisation of Poland.

The afternoon session was dedicated to Genetics and conservation, and chaired by Ettore Randi, who also spoke on his own research interests - the patterns of genetic diversity in otter populations in Europe. The second invited talk was by Hugh Jansman who described the use of non-invasive genetics and telemetry to monitor the re-introduction of otters in the Netherlands. Posters presentation were by Dominic McCafferty -Non-invasive genetic sampling of the Eurasian otter using hair samples, Johanna Arrendal - Population structure in the Eurasian otter in Sweden through noninvasive genetic sampling, Laura Bonesi -Testing the ability to resolve population parameters of Eurasian otters when using the method of DNA fingerprinting on spraints, Ainhoa Ferrando -Distribution of otters genotypes obtained from non-invasive samples in a reintroduction area, Petra Hajkova - Factors affecting the success rate of spraint DNA analysis and Barbora Zemanova- Assessment of otter population size in Trebonsko using a non-invasive genetic method.

The session were followed by a rich and stimulating discussion, highlighting the problems and advantages related to the status and distribution of otters with the new non-invasive genetic techniques. The first session on Saturday focused on home range, population dynamics and diet and was chaired by Jim Conroy and Claudio Prigioni. In his presentation Jim discussed the role of diet in the ecology of the Eurasian otter in northern Europe, with especial reference to his studies in Shetland. This was complemented in the second presentation, where Jordi Ruiz-Olmo presented a wide ranging review on adaptations of Mediterranean otters to the heterogeneous habitat (stability vs. fluctuations). Poster presentations were by Livia Mattei on otter experimental release in the Aterno-Pescara basin, Paola Ottino on density and home range of otters on the Blackwater catchment (Ireland) and Nuno Pedroso on the diet of the otters in dams of South Portugal during the dry season.

The afternoon session, chaired by Michaela Bodner, was dedicated to threats and conflicts. Invited talks were given by Margarida Santos-Reis who described the conflict in fish farms in Portugal, Paul Chanin on road casualties and by Arno Gutleb who gave a thought provoking description on the possible implications for wildlife of prenatal exposure to pollutants. Posters were presented by Thrine Heggberget -Otters and roads, Alison Wilkie - Otter conservation in Scotland's First National Park, Katerina Poledníková -The impact of otter disturbance on the condition, state of health and stress indicator levels in common carp.

That evening, the colloquium hosted a meeting of the European IUCN/SSC Otter Specialist Group. This was chaired by Michaela Bodner, continental representative for Europe. The meeting was attended by representatives for Portugal (Margarida Santos Reis), Spain (Jordi Ruiz Olmo), Norway (Thrine Moe Heggberget), the Netherland (Addy de Jongh), Denmark (Aksel Bo Madsen), Poland (Jerzy Romanowski), Belarus (Vadim Sidorovich), Switzerland (Darius Weber), Italy (Anna Loy), and other OSG members (Arno Gutleb, Amit Dolev, Hugh Jansman). Arno Gutleb posed the problem of fundings for the OSG Bulletin, and Jim Conroy reported the offer by Paul Yoxon to support the publication of Bulletin through the International Otter Survival Found. The meeting was also told that Jim Conroy had been appointed by IUCN as the new chairman of the IUCN/SSC OSG.

During Saturday, two films on otters, made by the helper Lorenzo Quaglietta were shown during the lunch.

Throughout the meeting, the staff of the National Park was always in attendance to help out as required. All the delegates commented on the catering, the food for coffee breaks or lunches was to a very high standard, culminating in a simply superb conference dinner – thank you National Park

On Sunday morning, a round table meeting, moderated by Anna Loy, focused on the status and conservation of otters in Italy. Discussions concentrated on identifying the topics and tasks necessary

for the production on for a national action plan for otters. The species in Italy is critically endangered, the only viable population being found in the southern regions (Campania, Calabria, Basilicata, Puglia). The recent discovery of a fragmented population in Molise resulted in the decision to invite a representative from the local region to join the team involved in the application of the Italian action plan. The framework for the discussion was described by Piero Genovesi of Istituto Nazionale Fauna Selvatica, the Italian Government Game Service, and by Pierluigi Fiorentino, representative of the Italian Ministry of Environment. Giuseppe Tarallo, president of the National Park of Cilento and Vallo di Diano, pointed out the central and leading role of the Park in the funding of research and on the strategic role of the Cilento otter population for conservation of the species in Italy. Luigi Boitani, head of the research project on otters in the National Park of Cilento and Vallo di Diano, addressed to the importance of coordination between state and local governments for decision making. Livia Mattei, representative of Corpo Forestale dello Stato, the Italian Forest and Wildlife Service, asked for a more clear framework of agencies and structures involved in otter and river management and conservation. Antonio Canu, representative of Italian WWF offered the WWF experience in fund raising to help in research and management actions. Otter expert Gabriella Reggiani from Istituto di Ecologia Applicata pointed out that there was sufficient data to know the present distribution range of otters in Italy, but much work is still needed to assess densities of otters. Claudio Prigioni, head of the research project on otter in the National Park of Pollino, stressed the importance of studies on viable populations to obtain data on density, while Anna Loy focused on the importance of detailed surveys and habitat evaluation projects on fragmented and peripheral populations that will allow to predict potential and future expansion of otters in Italy.

Claudio Prigioni, chief editor of *Hystrix*- the Italian Journal of Mammalogy, offered to publish the Proceedings of the Workshop in a special issue to be produced at the end of 2006.

About 30 attendants also participated the post congress tour to the River Calore, where the main otter project operated by the National Park has been running. The tour guides were Saviana Pansino, Valentina Ruca, who did much of the radiotracking and field work, Ilaria Campana and Lucia Schettino.

The following helped greatly in the organisation of the conference - Salvatore Antonelli, Francesco Albergamo, Ilaria Campana, Marcello Cannetiello, Saviana Pansino, Lorenzo Quaglietta, Valentina Ruca, Lucia Schettino. Our sincere thanks for their efforts.

Pdf files of the abstract volume, pictures and the participants list can be downloaded from the National Park web site dedicated to the EOW at the address www.pncvd.it

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Proceedings VIIth Otter Colloquium

Dear Colleagues!

The Proceedings of the VIIth Otter Colloquium (1998 - Trebon) are published. The book contains 400 pages and is sold for the price of 20 Euro plus postage (Europe 5 €; Overseas 8 €). Those of you who prefer to receive a CD with pdf files instead may order it for 10 Euro plus postage (Europe 2 €; Overseas 2.25 €).

Sincerely yours,

Arno Gutleb - on behalf of the editors
(Robert Dulfer, Jan Nel, Jim Conroy, Arno Gutleb)

For requests: Arno Gutleb

Department of Production Animal Clinical Science

Norwegian School of Veterinary Science

POB 8146 Dep.

N-0033 Oslo

Norway

Fax.: ++31-84-8823459

e-mail: iucnosgbull@yahoo.co.uk

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CALL FOR INFORMATION

Searching for Otter Skin (with Hairs) Samples

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.** 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 year 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
e-mail: rachelkuhn@yahoo.fr

Otters Preying on Turtles

Dear Colleagues,

I would greatly appreciate, if somebody could give me any published or personal information on the following questions.

1. Are there data (outside Ukraine) about Eurasian otter (*Lutra lutra*) predation on European pond turtle (*Emys orbicularis*)? Data on adults or eggs, occasional or large number predation would also be interesting.
2. Are similar data on other turtle species, i.e. on loggerhead turtle (*Caretta caretta*), green turtle (*Chelonia mydas*), or invasive *Trachemys scripta*, etc. available?
3. Are there similar data available from other otter species on other turtle species?

Grateful for any help,
József Lanszki
University of Kaposvár
Ecological Research Group
lanszki@mail.atk.u-kaposvar.hu

Otters and Fish Farms

Dear colleagues,

I would appreciate if somebody can help us to solve the problem.

In brief: the fish farm reported that otter is causing great damage during winter period. Inspector noticed many trails and even one dead body of young otter was found.

Management of fish farm told that nearly 50 to 80 specimens of otters have been seen during the winter. Fish farm covers about 400 hectare and produce from 120 to 150 tons per year. In fact it is not a modern fish farm, there is no special equipment and 15 workers do the job manually. Now the management demands the compensation for damage. The questions are:

1. Is it possible that so many specimens of otter live on the area of 400 hectare?
2. What is the real amount of actual damage caused by otter (protected species)?
3. Can you recommend any preventing measures?

Thanks for any information.

Regards,

Katica Bezuh, nature protection nature inspector

Ministry of Culture

Nature protection division

katica.bezuh@min-kulture.hr

Looking for Masters Degree Otter Project in Switzerland

Hello,

I'm a third year student in biology at the university of Geneva. I've always been interested in otters and I would like to carry on my training studying this animal. Do you know people who offer master work with otter (especially the Eurasian otter), or organisations proposing a field work linked to this animal?

I asked Jean-Marc Weber about master's works or scientific's project on the Eurasian otter here in Switzerland but he told me that nothing is planned now. He also suggests me that I should contact you and that you will know where to reorient my request.

Thank you for your attention.

Kind regards

D.Ermacora

David Ermacora [ermacor7@etu.unige.ch]

DNA and Chemical Compositon of Spraints - Kinmen, China

I'm living on a small island called Kinmen near the mainland of China. The island is under the jurisdiction of the Taiwan government. Dr.Lee (National Taiwan University) has studied the otters here.

This year we have a project to answer the question "how many otters are actually on our island?" We've used two methods to study the question:

1. DNA analysis to identify samples from different zone's otter spraints
2. chemical analysis compounds from different zone's otter spraints

We need to find references about compounds identify (otter spraints). Can you help us to find these papers (just paper list).

For information our island area is about 150 km², people population about 50,000. In my island (my home town), the island area is so small that the otters live very close to people's living places.

Recently, I've found otters spraints under a bridge, which is only 10 meters far from a hospital. The hospital is the biggest in Kinmen Island.

But there were two otters, which died in a traffic accident in May and this month. We still need to know how many otters do live in Kinmen and find a way to protect them.

Many thanks to you

from Michael Zhou

michael.zhou@msa.hinet.net

Unusual Otter Mating Behaviour!

I received a foto by Rachel Kuhn of an Eurasian otter (*Lutra lutra*) showing very unusal 'mating behaviour' that I thought is worth to be shared with all of you! ☺



Photo © Rachel Kuhn