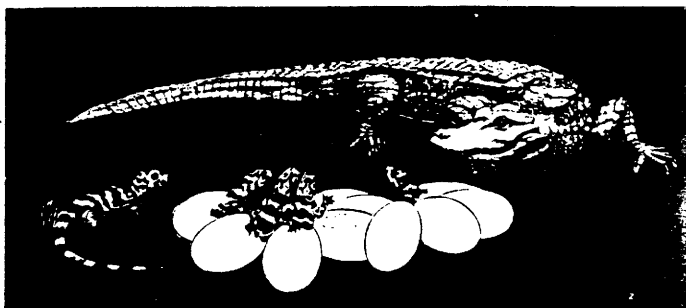


NEWSLETTER

CROCODILE SPECIALIST GROUP  
VOLUME 5 - JANUARY 1986 TO DECEMBER 1986



INTERNATIONAL UNION FOR THE CONSERVATION  
OF NATURE AND NATURAL RESOURCES

SURVIVAL SERVICE COMMISSION

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EDITOR'S COMMENTS

Well, here is the 1986 issue of the CSG Newsletter at last! The year has continued to be most demanding and extraordinarily busy. We have moved our residence and offices to a large old house which required much needed attention before we could set up operations again. This, plus other immediate personal demands, precluded our putting together earlier issues in 1986. The CSG Newsletter is indeed well and lives on!

The 8th Working Meeting of the IUCN/CSG was held in Quito, Ecuador from the 12th to the 18th of October, 1986. It was attended by more than 57 members, consultants and correspondents from around the world. To our hosts, the Biology Department of Pontifica Universidad Catolica del Ecuador, Eduardo and Ana Cristina Asanza, faculty and the many fine students who worked hard and long; Fundacion Natura; and to the staff and officers of Metropolitan Touring, Quito, Ecuador, we extend our sincere thanks for making this meeting and the corresponding field trip to Limoncoche, an outstanding success and well to be remembered. The meeting began with more than 40 international and national

presentations. The participants then moved to Limoncoche and the field camp of Metropolitan Touring Company on the Rio Napo. The trip included transport by plane, motor canoe, and a night on the Flotel Orellana, where final papers were presented and the business meeting was held. While many of us took on a sunburn and tan from the canoe trips on the Rio Napo, the CSG Chairman began the meeting sporting bright yellow skin (from a bout of hepatitis contracted in the field in Bolivia), and slowly joined us by the time we were to depart. The Melanosuchus niger population under study by Eduardo Asanza at Limoncoche was very interesting to see. A 2.8 m female was captured and hauled into our leaking boat, which also contained about 30 people, for examination by all. On the following night, 41 animals of varying sizes were seen.

The open business meeting, attended by nearly all of the participants, addressed a number of issues, including quota systems, tagging of skins in trade, a request for SSC action plans, the Northern Territory management plan implementation, and a report of the Co-editors of the CSG Newsletter.

In the latter discussions, the CSG Newsletter Co-Editors wish to extend our sincere thanks for the vote of support and appreciation voiced at the business meeting. I. Lehr Brisbin of the Savannah River Ecology Laboratory, requested that they assist in the support of the CSG Newsletter by taking on the considerable burden of Newsletter mailings and postage, a burden that has been borne to date under the good graces of the New York Zoological Society, Department of Herpetology. Myrna and I will continue as co-editors, with all correspondence coming directly to us at our new offices or at the New York Zoological Park, Department of Herpetology, and we will very thankfully be assisted by I. Lehr Brisbin as the new Associate Editor of the CSG Newsletter.

#### AREA REPORTS

##### AFRICA

From J. P. Loveridge - he and Russel Taylor successfully completed a fourth aerial and boat survey of crocodiles on the Zimbabwe shore of Lake Kariba. The data from all the surveys are now being prepared for publication. Dr. Loveridge informs us that he is on sabbatical until May 1987.

R. D. Haller of Baobab Farm, Mombasa writes that at the end of a three year research phase, they hold about 700 crocodiles ranging in size from hatchlings to 3.5 m. They expected about 100 eggs this season from farm raised adults. "Every effort is being made to increase breeding stock and to expand to a commercial venture. However, Kenya's low quota of trade in skins has prevented any such expansion which further compounded by the monopoly established by a large Israeli crocodile project 'Mamba Village.' Mr. Haller asks if we could comment on the future scope for Kenya to enter into trade, crucial to the fate of the animals they are holding. (The Eds. would like to hear more comments from both African farmers and other interested correspondents.)

Goran Blomberg tells us that endless work continues on the computer simulation of the Okavango crocodile population, which he and colleagues reported on at the 5th CSG meeting in Gainesville. He hoped to finish in September 1986. Goran longs for the day when lesser demands permit him time to write up other data he collected on Okavango crocodiles. He remains cheerful. (Not meaning to send you into a state of depression, Goran, but lesser demands and more time never come! Take it from us, the Eds.)

From Wolf-Ekkehard Waitkuwait: they have expanded facilities to house more individuals of the three African species. The 1980/1981 zoo born crocs are now ready to put together for future breeding or for possible release at the Azajny National Park. One animal of each species has been tracked by radio-telemetry in 1985. They are also expanding breeding facilities for Crocodylus niloticus and C. cataphractus at the Abidjan Zoo. (Ikkey included an article which appeared in an Abidjan guide to places of interest, that showed the raising pens, nests of C. cataphractus, eggs being transported in styrofoam boxes, and some habitat shots. Unfortunately the photocopy could not be reproduced. If you would like a copy, write directly to him at the Zoo National d'Abidjan, 01 B.P. 932, Abidjan 01, Ivory Coast.)

Jon Hutton, Zimbabwe, also sent us an article on the new crocodile regulations that went into effect in Zimbabwe on 10 January 1986. Under these regulations, the crocodile became fully protected throughout Zimbabwe. It is now illegal to injure, willfully disturb or remove any eggs of crocodile, or to hunt or remove any crocodile from any river, lake or dam, except by permit from the Department of National Parks. Previously, only the Zambezi valley crocodile population was protected. Estimates are that there are 30,000 crocodiles, or about one animal per 200 m, along the Zimbabwean shoreline of Lake Kariba.

Jon authored a resolution at the Quito meeting concerning the implementation of quota systems as the basis for commercial harvesting, without supportive populational studies or established management protocols. The resolution was adopted by the CSG in following form:

"Recognising the contribution of sustained-yield utilization to conservation of the Nile crocodile in Zimbabwe, The Crocodile Specialist Group (CSG) supports the establishment of similar management in other African Countries. From the limited information available on the development of crocodile utilization in the SADCC region, the CSG believes that the ranching option may be more appropriate than quotas for Tanzania, Malawi, Zambia, Botswana, and Mozambique. It fully supports the efforts of the SADCC Wildlife Group to establish a regional crocodile project to formulate management plans. This meeting resolves to assist SADCC with development of the project and with efforts to obtain funding to allow management plans to be completed and presented at the July 1987 CITES meeting in Canada."

Lastly, Jon Hutton has come up with an astounding observation, the

likes of which will certainly catapult the science of Crocodiliology light years ahead as compared to other more mundane biological sciences. As his findings are far too complex for these Eds. to para-phrase, we quote Jon in entirety: "After 8 years of intensive research, I have found the following: The Nile crocodile Crocodylus niloticus has a sharp end and a slightly more rounded end. Despite this apparent contradiction, it is the more rounded end you have to watch out for." (We humbly stand in awe and wonderment - the Eds.)

Alistair Graham tells us that between Nov. 1985 and July 1986 he was stationed in northwest Uganda, and along with two colleagues, made a quick nest survey of the Murchison Nile crocodile population in Murchison Falls National Park. They estimated 90 nests made in the 1986 season. Hugh Cott last surveyed the population 18 years ago. Alistair and colleagues estimated that 1968 nest effort to have been 234 nests. Since then the number of nests has declined at an average rate of 4.7% a year. After considering the possibilities of a failed or postponed 1986 nest season or if inadequate recruitment took place in the 1960s, they concluded the cause of the decline to be increasing hunting pressure from the increasing human population around the park, aggravated by the almost total decay of the park administration as a consequence of various wars over the last decade.

Shlomi Ranot, Clal Crocodile Farms Ltd., Tel-Aviv, Israel reports that Clal now owns or is partners in four farms: three touristic and commercial farms in Mombasa, Kenya; Sun-city, South Africa; Florida, U.S.A.; and a commercial farm in Kibbutz Gan Schmuel, Israel. These farms are but a beginning he says. They have developed new breeding systems and a variety of new husbandry techniques. They had two clutches of eggs in one year in Kenya, with half the breeding stock laying in January and the other half in August. They are developing artificial foods for crocodilians which they feel will be cheaper than fresh foods which may not always be available.

## ASIA

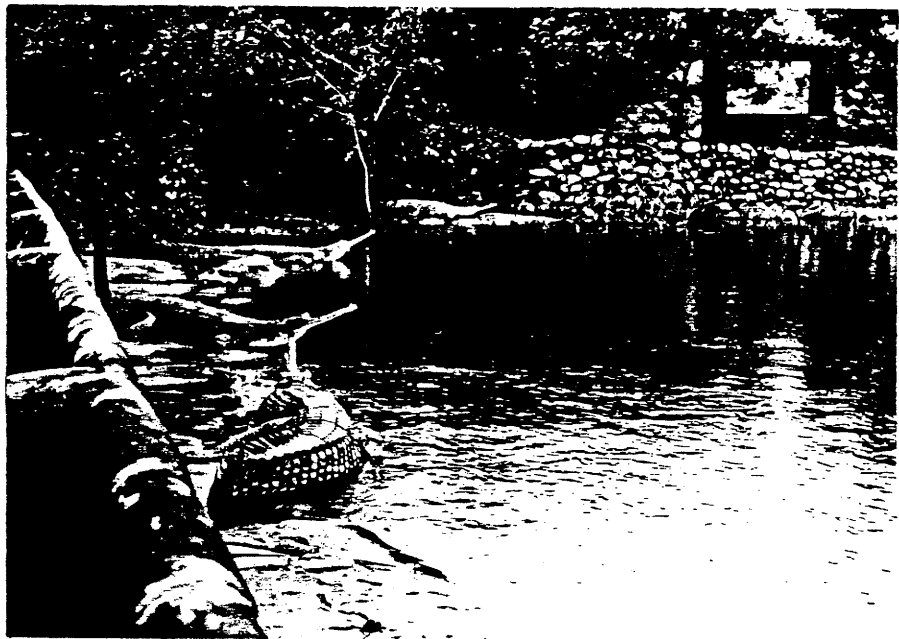
Rom and Zai Whitaker refer to recent copies of Hamadryad (Vol. 10, #3, Sept. 1985) to summarize the Madras Croc Bank's activities. However, they added that they have launched into filmmaking in the form of ECO Media Pvt.Ltd, and have made a film entitled "Snakebite," and two video programs on the Irula snake catchers and Jeff Lang's mugger project. They are now doing a documentary in which crocodile restocking will be featured. Photos included here are of Rom with a freshwater crocodile in the Catalina River in Irian Jaya in November 1984, and the Gharial pit at the Croc Bank in November 1985 following a cyclone. The water level rose half way up the wall but there were no escapes.

J.C. Daniel said he was aestivating.

Huang Chu-Chien, Academia Sinica, Peoples's Republic of China reports he is building a breeding farm for Crocodylus porosus in Hainan Island, China, and continuing research on Chinese alligators. He

expects to publish three articles on the latter species in 1986.

Chen Bihui, Anhui Teacher's University, also P.R.C, reports he is studying hatchling Alligator sinensis, and the time of optimum initial feeding. He is also studying reproductive behavioral differences between farm raised and wild Chinese alligators.



Left: Rom Whitaker coming out of the Catalina River.  
Right: Gharial pit after the cyclone.

From Lala Singh, Crocodile Research Centre of the Wildlife Institute of India, Hyderabad - The research centre, while continuing its activities of research, is gradually resuming its activities of consultancy, coordination and training. Faculty members L.A.K. Singh and Shri B.C.Choudhury visit different states and provide their services. The Technical Committee on Crocodile Conservation programs has been reactivated with Shri V. B. Singh (Uttar Pradesh) as its chairman. A three month certificate course in wildlife management was started at the centre in January 1986. This was the second certificate course to be given under the Wildlife Institute of India at Dehra Dun. Trainees from different states in India and from Sri Lanka are participating.

Sudhakar Kar, Saltwater Crocodile Research and Conservation Unit, Orissa, India - is looking after all of the state crocodilian projects

and supplying the technical know how for the development of projects, in addition to his own research. During 1985, 200 young saltwater crocodiles of more than 1.5 m were released in the Bhitarkanika Wildlife Sanctuary. So far, a total of 550 were released so far this year. In May 1985, their captive white "Sankhua" crocodile of 9 years, 8 months, hatched in 1975, laid 17 infertile eggs. The captive breeding program for C. porosus at Nandankanan Biological Park has been quite successful, including mugger crocodile and gharial. A female C. porosus which had been laying infertile eggs for ten years finally laid 16 eggs of which 13 hatched. Experimentally, 5 hatchlings were left with the female. The captive breeding of C. porosus at the biological park in Orissa is the first for successfully breeding three species of crocodilians, a record for the their state and the country, along with other endangered species of the park. (Congratulations!!! Eds.)

Dr. R.J. Rao, Deori Gharial Rearing Centre, National Chambal Sanctuary, Morena, India joins us and submitted the following report. He is conducting research on the nesting ecology of Gharial.

#### Gharial Monitoring in Chambal

To protect the gharial Gavialis gangeticus from extinction, all suitable habitats for gharial were identified and declared sanctuaries. National Chambal Sanctuary which is under the active management of the State Forest Departments of Madhya Pradesh, Rajasthan and Uttar Pradesh, is especially created on the Chambal river to protect the Gharial. It is especially suited for grow and release programs. Uttar Pradesh has so far released more than 1000 captive reared gharial in the Chambal river. Large scale studies in monitoring gharial have been undertaken in the sanctuary by the Crocodile Research Centre of the Wildlife Institute of India, and have conducted annual census from 1983 to the present. Five new nesting grounds have been found in addition to the five that were reported by Rao and Singh in their notes on the ecological relationship in basking site utilization among Kachuga and Gavialis gangeticus in the Chambal sanctuary (Journal of the Bombay Natural History Society, in press). During the 1986 nesting season, a total of 36 gharial nests were located in all ten nesting sites in the 400 km of the sanctuary. Of these, 75% were located on the territorial borders of Madhya Pradesh. A total 14 nests were located at Baroli, a major nesting ground for gharial. This is the highest record for gharial nesting in the sanctuary.

Madhya Pradesh Forest Department started the Gharial Rehabilitation Program in 1981, and at present there are about 90 gharial being reared at Deori Gharial Rearing Centre, Morena. A total of ten gharial were released in Ken Gharial Sanctuary (Ken river, M.P.) in February 1985 under the Massive rehabilitation program. Dr. R.J. Rao

Jack Cox reports that Tomistoma looks to be in bad straits in Sarawak. Jack could confirm their presence in only one small tributary which would make an excellent multi-purpose wildlife sanctuary. He has just published his report (see literature section). Although the

situation is depressing, Jack is enthusiastic about organizing other surveys where there appears to be government interest in preserving endemic crocodilians. (It was good to see Jack at the CSG meeting, and hear he may well get his wish. Keep in touch and good luck. You have your work cut out for you! Eds.)

Tirtha Maskey began 1986 at the University of Florida, Cooperative Fish and Wildlife Unit, doing a Ph.D. study which includes implanting radio transmitters into 80.5 to 97.2 cm American alligators. These were released into Orange Lake. The results were satisfactory and the goal is to apply the techniques to gharial monitoring in Nepal. (We haven't heard from Tirtha, who planned on being back in Nepal in May 1986 - Eds.)

Abdul Latif Rao, Islamabad, Pakistan, says that arrangements were being made for the importation of a limited number of crocodiles from India.

We have also received quiriies from RADE, an engineering consulting firm in Pakistan, concerning the raising and commercialization of crocodiles. (Their request for crocodilian husbandry publications indicated their goal was to "introduce coconut farming"?? - Eds)

#### AUSTRALIA

Harry Messel and Lehr Brisbin (Lehr reports) will be collaborating on a project to analyze growth data of Crocodylus porosus using non-linear sigmoid models. Others, not listed by Bris will also collaborate in the study.

From Grahame Webb we have this note: Research into Crocodylus porosus and C. johnstoni eggs and embryos continues.

A C.porosus attacked and killed a woman in north Queensland, which has prompted a call to have the animals removed from many of the coastal rivers where tourism is the key industry. No one was sure at the time of this article (early 1986), just what compromise would be reached there. The suspected animal was a 5.6 m long giant that was itself killed by the 43 year old victim's relatives near the site where the tragedy took place. The woman was reported to have disappeared while wading in shallow water in Barrets Creek. Human remains of bone from an arm, and material that may have been finger or toe nails, were reported to have been found inside the crocodile. However, some claims were made that the woman had actually met with foul play and may not have been killed by the crocodile after all, and that the report was being used as a basis for eradicating the crocodiles. Police authorities do, however, feel that the attack did take place and was the cause of the woman's death. (Excerpted from a story in a Brisbane newspaper, Friday, 17 Jan. 1986, written by Frank Jackson.)

Harvey Stockwell (Folks at the Bronx Zoo call her Jane.) is working on a three year C. johnstoni study in Katherine Gorge, Northern

Territory. A total of 121 crocodiles have been caught and tagged during May and June 1985, of which 34 are from the first and second gorges. All were closely examined, sexed, and had various measurements taken and then were released at the capture site. Periodic night surveys are being conducted to monitor activity. Also, nesting and hatching will be closely examined and annual captures are contemplated. The data will be used to determine the status of the Gorge population and also for comparisons with other closely monitored populations further north. Nesting came to an end with the first eggs being laid around 31 August 1985 in the first gorge. The last eggs were deposited on 20 September 1985. Most nests were made in sand, under partial shade.

September 1985 also saw the first of the quarterly population counts. A series of night-time spotlight surveys were conducted in the first gorge. Based on the numbers of marked and unmarked animals sighted, the population was estimated to be about 70 animals sharing the water with Harvey. About 60 animals were above 60 cm in length.

There was a lull in activity in October 1985 with eggs having been laid and the "wet" yet to come. November should have been a time of hatchlings coming out all over. However, the year was a disappointment. Only two nests hatched in the first and second gorges, each with 4 young surviving the initial days after birth. One left the hatching area in December and was seen traveling 1/2 kilometer downstream from the nest. The larger crocs also seem to be leaving their dry season homes and are traveling downstream out of the gorge. At least half of the population has left. Many may have gone up the 17 mile creek when the water rose at the end of November. There is, however, one newcomer besides the hatchlings, an 8 foot long animal who appears around the narrows during the wet. With the population in the gorge dwindling, a closer look will be taken of the side creeks and downstream during the wet season. (It was good to see her back in N.Y. in early 1986, and hear New Yorkese spoken with an Australian accent!! - Eds.)

Laurie Taplin has a very nice article "Crocodile tears, salt glands and the evolution of crocodiles" in Vol. 12, No. 12, Autumn 1986 issue of Australian Natural History. He also adds this report: He is continuing his surveys of the population status of C. porosus in Queensland. Numerous foci of good recruitment have been found, particularly in the western and north-western rivers of Cape York Peninsula where good numbers of crocodiles have been found. Resurveys of rivers first surveyed by Harry Messel in 1979 have shown healthy increases in non-hatchlings in most instances. Changes vary from 15% to + 320% with the overall change about +70%. The presence of numbers of large juveniles and subadults suggests that the next four or five years should see some significant increments to the breeding population.

Surveys of the silica sand dune fields (never previously investigated) on the eastern coast at Cape Flattery have produced a very different picture. The dune fields are botanically and faunistically depauperate and the many blackwater lakes and ponds support very low numbers of crocs. The lakes are so devoid of vertebrate life that the

presence of even a single croc is surprising.

On the croc management front, the three recent fatalities, two in Queensland and yet another in Northern Territory, have not resulted in any marked changes in policy. An upsurge in problem crocodile reports has now declined to more usual levels. Several very large crocs, between 4 and 5 m, have been removed from populated areas of the east coast and have become farm or zoo stock. A joint study of the reproductive biology of C. porosus is underway with Col. Limpus, primarily a turtle man, using laparoscopy to examine gonads of live crocs. An important aim is to assess the impact of removing very large breeding males from low density populations close to human habitation.

#### NORTH AMERICA

R. Howard Hunt reports that the Atlanta Zoo, Atlanta, Georgia has a pair of 3 m long gharial, Gavialis gangeticus, in their solaria, and are feeding them live rainbow trout. One is on breeding loan from Silver Springs Inc. and the other, a male, is from Atagawa Alligator Garden, Japan.

From Allan Woodward, Florida Game and Fresh Water Fish Commission, Gainesville, Florida: Since 1981, The Florida Alligator Research Team, consisting of Allan "Woody" Woodward, Mike Delany, Tommy Hines and Dennis David of the Florida Game and Fresh Water Fish Commission; and "Ab" Abercrombie of the Florida Cooperative Research Unit, has been conducting research on the impact of harvest on alligators. Investigations have included two harvest strategies: collection of eggs and hatchlings for ranching, and harvest of larger animals (1.2 m total length or longer). We are trying to determine the impact of harvests on population size, daylight visibility, growth rates, survival, reproduction, and physical condition. Ultimately, we hope to determine optimum harvest rates from these studies. Results of this work will be published over the next several years.

The Wildlife Division of the Texas Parks and Wildlife Department, 4200 South School Road, Austin Texas 78744 (Lee Ann Johnson and Bruce C. Thompson) summarized the Texas alligator survey, harvest and nuisance alligator program in the April 1986 report. The first controlled alligator season in Texas paved the way for streamlining population estimation techniques and the harvest process in 1985. New modifications on night counts and helicopter surveys were tried. The harvest was expanded to 9 counties for the Sept 6-22, 1985 season and tag issuance was increased due to an increase in nesting activity. An experimental hunt on the Murphree Wildlife Management Area provided baseline data on the use of firearms to take free swimming alligators. Nuisance alligator complaints continued to increase and general approaches to nuisance situations were outlined in a technical paper and video cassette. The video cassette is now available for training use.

## SOUTH AMERICA

Stephan Gorzula, Caracas, Venezuela spent a week in Sept. 1985 in Manaus with Bill Magnusson and Marc Hero, taking a crash course in how to rope a Paleosuchus trigonatus in its underwater tunnel and bring it out. Stephan has been studying the species in the Gran Sabana. He was very reluctant at first, but Bill convinced him it had to be done, etc. (My sympathy goes with you Stephan. I, too, was convinced by Bill that I just had to dive on down there, crawl under the tree roots, and see the beast eye to eye firsthand! - P.B.)

Stephan also reports that the Venezuelan Crocodile Group is doing well and had drawn up a research plan for 1986/87.

Andres Eloy Seijas continues his studies at the University of Florida. Jose Ayarzagüena has produced a very nice film about C. intermedius.

Saul E. Gutierrez Eljuri, Caracas, Venezuela, reports that during 1985/1986 four biologists completed four theses on caiman at the University Bolivar in the following areas: nesting biology; captive growth of hatchlings, artificial incubation of eggs (reporting 80% hatching); a study of meat yields, proximal analysis, mineral content, nutritional assays and canning experiments; and a study of organs as a source for chicken feeds. Rafael Romero, Gustavo Rodriguez, Saul Gutierrez Eljuri, and Juan Antonio Belda A., worked under the supervision of Professors Michael Robinson and Jose L. Vidaurreta.

Olga Victoria Castano of the Estacion de Biologia Tropical Roberto Franco in Villavicencio, Colombia reported that they artificially incubated 11 Paleosuchus trigonatus eggs out of a nest containing 19 eggs. When the nest was located, one egg containing a dead embryo was examined. The embryo was 11.7 cm in length. Between June 19-20, 1985, eight young hatched. They measured between 21.3 and 23.1 cm total length and their weight range was 51-57 g. All the eggs were fertile and five young survived. (Eds. Note: It is good to hear of the continuing research at the Roberto Franco Station since the death of our friend and colleague Fred Medem.)

Pedro Vasquez Ruesta of Universidad Nacional Agraria La Molina, Lima, Peru, wrote that he has concluded a study of the Crocodylus acutus habitat in the northwest of Peru, funded by WWF-U.S. The status of C. acutus in other habitats is unknown. He would like information on any subject relating to crocodilians, especially techniques.

## EUROPE

Rene Honegger, Zoo Zurich, reports sending a pair of American alligators to Tony Pooley at Crocworld. Zoo Zurich is rebuilding their 59 year old reptile house. They are presently engaged in moving stock and quarreling with the architect. Rene has also agreed to provide the CSG Newsletter with items of interest involving crocodilian breeding in

European zoos on an ongoing basis.

Dr. Marianus S. Hoogmoed, Ryksmuseum van Natuurlyke Historie, The Netherlands, tells us that he is continuing research on South American herpetofauna, especially that of the Guianas, but with emphasis on amphibians and snakes. Caiman are a side line of the research, and an ecological study of Caiman crocodilus in Surinam by P. Ouboter and L. Nanhoe was conducted under Marianus' supervision.

#### NEAR EAST

Ali Reza Khan, U.A.E., reports that the Alain Zoo has recently built crocodile pens for 3 Siamese crocodiles, 2 saltwater crocodiles and 10 Nile crocodiles, including breeding facilities. Ali was also planning to attempt to survey Gharial in Padma-Jamuna river systems of Bangladesh in June-August 1986. The project will be self financed.

#### OCEANIA

We have learned that Japanese interests are assisting the Phillippine government in developing farming operations for Crocodylus nq. mindorensis and Crocodylus porosus.

#### PERSONALS

Our sincere condolences to Ali Reza Khan, Alain Zoo and Aquarium, P.O. Box 1204 Alain, Abu Dhabi, U.A.E. on the death of his mother last year of a heart attack. She was 75 years old.

Congratulations and very best wishes to Mr. Charoon Youngprapakorn who celebrated the 36th year anniversary of the crocodile farm and the 8th year anniversary of the Crocodile Farm Construction and Land Company on 26 July 1986.

Congratulations and best wishes to Shri H.S. Panwar, former director, Project Tiger, who is now the new Director of The Wildlife Institute of India, Dehra Dun, under which is the Crocodile Rsearch Centre. Dr. L.A.K. Singh in the present Officer In-Charge of the Crocodile Research Centre, Hyderabad.

Andres Eloy Seijas has been studying at the School of Forest Resources and Conservation of the University of Florida since Sept. 1985.

Best wishes to Pramod Kant who recently became Southern Regional Deputy Director of the Wildlife Preservation at Madras, replacing Shri Wilson P. Dorairaj who has gone for another assignment.

Prof. Roland A. Coulson was retired from Louisiana State University this year. However, he will continue his work on alligators and his flow theory of metabolic rates as Professor Emeritus. The very best from everyone in croc-world you've helped over these many years. Roland

is a very young 70 years old!

Dr. Angus Bellairs has also retired and sends his greetings. Needless to say that croc people the world over will not let you rest for a moment! Best wishes! Write to Angus at 7 Champion Grove, London SE5 8BN, U.K.

Congratulations to Saul E. Gutierrez Eljuri, Caracas, Venezuela, on the birth of a daughter on 25 September, 1985. Her name is Irina, and we are betting that by now she is having her father take her to see BABA babies as well!!

#### REQUESTS

Charles A. Ross, Div. of Birds, Dept. of Vert. Zoology, Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, would like information on C. niloticus in salt or brackish water.

In addition, Andy would like to receive requests for the newly published and updated Bibliography of the American Alligator, Alligator mississippiensis. It is a comprehensive 1986 work by I. Lehr Brisbin and Charles A. Ross. Write directly to Andy for copies.

A 20" X 24" full-color poster depicting ten key stages in the development of the American alligator embryo maintained at a constant temperature of 88 F (31 C). The poster is available for a donation of \$10.00 U.S. from Mark Hoffenberg, Office of Veterinary Medical education, Box J-125 JHMH, Gainesville, Florida 32610 (It is very nicely done - EDS.)

A Directory of Crocodilian Farming Operations by Richard Luxmoore, J. G. Barzdo, S.R. Broad, and D. A. Jones, is available from IUCN Publications, Avenue du Mont Blanc, 1196 Gland, Switzerland, for orders outside the Americas and Japan. For USA, Canada, Latin America and the Caribbean write UNIPUB, Box 1222, Ann Arbor, MI. 48106, USA; for Japan, write to Green Scientific Book Co., 610-1-506, Ogura, Saiwai-Ku, Kawasaki 211, Japan. The price US \$12.00 plus \$1.20 postage. It is a joint IUCN/CITES publication.

Brian Groombridge, Conservation Monitoring Unit, 219 (c) Huntingdon Rd, Cambridge CB3 0DL, U.K. requests data on African crocodilians for the latest edition of the Red Data Book.

#### ZOOS

Chris de Beer of the National Zoological Gardens of South Africa in Pretoria reported that they are displaying seven Crocodylus niloticus and two Alligator mississippiensis. The crocodiles were four years old and approximately 1.75 cm long in 1986. Both alligators are females. The older has been at the Zoo since 1920 and the younger since 1975.

Rene Honegger of Zoo Zurich, Switzerland, reports that they are in

the process of rebuilding their reptile house, with reopening scheduled for 1988.

According to David Jardine of the Cincinnati Zoological Society, Cincinnati, Ohio, USA, they have had several batches of eggs from their Paleosuchus trigonatus, but the last two batches have been infertile. Their suspicion is that this is due to the advanced age of the animals.

The Saint Augustine Alligator Farm, St. Augustine, Florida, the oldest in the United States, has developed a joint endangered species breeding program with the New York Zoological Society. New facilities are being developed for a number of species, including Melanosuchus niger and Alligator sinensis. The facilities are well known to crocodilian researchers studying behavior in the farm's naturalistic surroundings. The farm is well managed by Mark Wise, who, in concert with the farm's owners, is striving to establish the farm as a center for crocodilian breeding and research.



Left: Caiman c. yacare breeding and exhibit area.

Right: Alligator mississippiensis behavioral research area where CSG member Kent Vliet learned what it was like to observe alligator behavior in the water with the 'gators themselves!

## TRADE

From Dr. Dietrich Jeldon, Scientific Authority, Frankfurt/M, Federal Republic of Germany - the standing committee of CITES proposed that those CITES parties that had imposed a ban on imports of Caiman crocodilus and derivatives from Bolivia should lift their bans because Bolivian authorities had taken significant measures such as a ban on trade in living animals (in effect until August, 1986) and a committee of control by the CITES Management Authority in Bolivia to supervise CITES implementation. They will submit copies of all export permits to the CITES Secretariat, and would take measures to obtain advice. Bolivia agreed to an export quota of 50% of the average exports over the last 5 years, to 65,000 animals or 130,000 sides. The Secretariat concluded that exports of up to 100,000 specimens a year could be sustained without endangering the species, provided that utilization is conducted in an appropriate way and under a controlled management regime. The Federal German scientific authority did not agree with the Secretariat and felt that if a quota system is implemented, the quota should be as small as possible, and gave the following reasons: Bolivian caiman populations have been severely depleted in the past; many skins originate from Brazil illegally; more than 90% of the skins imported into West Germany from Bolivia are less than 130 cm long, and may indicate large animals are no longer represented in the population; there is still a lack of proper data on Bolivian populations, so that an export of 100,000 skins is not justified. (CSG Chairman, Dr. F. Wayne King, is presently conducting investigations on the status of Bolivian crocodilians. He reports serious irregularities still exist in the control of caiman harvests and exports, which have been recently brought to the attention of CITES authorities - Eds.)

The present situation - Venezuela suspended the commercial hunting of caiman from 23 October 1985 to October 1986. Prior to the ban, more than 200,000 caiman skins were exported to the United States and Europe. These were largely flanks pieces, many of which were from animals under 1.5 m in length. Most skins were crust tanned in Venezuela by local tanneries. Unfortunately, a lack of expertise and poor skinning, salting, and processing has resulted in very large numbers of skins that are nearly worthless and a waste of the natural resource. This editor has seen large numbers of Venezuelan flanks over the past year. Skins were cut from the animals in wasteful narrow strips. There are numerous tears and cut holes over much of many of the flanks. Skins show evidence of having spoiled prior to tanning from poor preservation. Skins are bruised, still bear surface scales, contain hard spots, and are discolored. An estimate of 30% to 40% of the animals harvested probably resulted in poor or unusable hides. They would probably not be an exaggeration. We understand a new 1987 harvest is presently in planning.

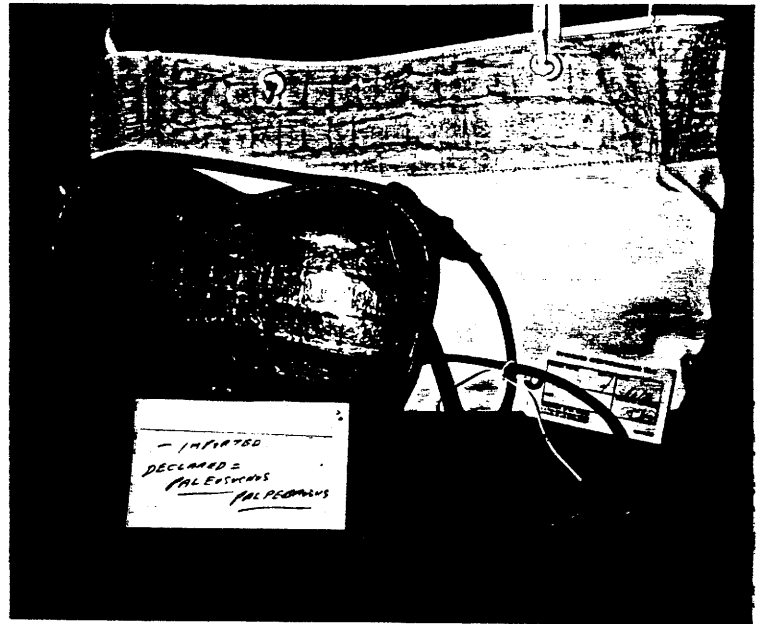
The infusion of Venezuelan skins into the market, coupled with the reports of legal export quotas of African Nile crocodile skins, and the hope that Paraguayan, Brazilian, and Bolivian skins may soon enter the trade in larger numbers, along with the already available classic skins

from the U.S., Papua New Guinea, Africa, and perhaps Australia, has given the industry the incentive to go all out in promoting crocodilian skin fashions as the "in thing in 1987" in the United States. Classic skin prices the world over have settled at about U.S. \$25 per foot length or about \$13-\$15 per cm belly width.

The high price of limited raw classic skins and the massive promotion that has been launched by the reptile leather fashion industry has resulted in the massive utilization of much cheaper caiman skins (raw, \$5 to \$15 U.S.) and flanks on designer products, often in conjunction with partial sections of classic crocodile and American alligator. Both caiman and crocodile/American alligator products are being retailed at classic skin and designer prices (medium sized Italian made handbags at U.S. \$1000 to \$3000 and up, shoes at \$500 to \$700, 10 cm wide caiman belts for women at \$595). Odly enough, numbers of "antique" crocodilian handbags are appearing on the market and are being retailed at up to \$6000. They curiously resemble the light tan, somewhat stiff, native crafted vegetable tanned products which are typical from West Africa.

In addition, artificial crocodilian leather is now seen on items retailing for \$100 to \$300, and is used in conjunction with snake skin or small pieces of genuine caiman at higher prices. In one instance, artificial American alligator and crocodile handbags of exceptionally good quality and declared to be worth about \$900 were imported from France, complete with CITES documents and U.S. export documents for American alligator. The consumer continues to be misled with advertisements and product labeling that skirts the identification of some artificial products by utilizing coined trade names, while caiman is called crocodile or alligator along with classic crocodile and American alligator.

The promotion has carried with it the inclusion of U.S. listed endangered species. Caiman c. yacare, many of which are probably of Paraguayan, Bolivian and Brazilian origins in spite of bans, are often seen imported as Caiman c. crocodilus or Caiman c. fuscus, and are often invoiced from Venezuela, El Salvador, French Guiana or as re-exports from European countries. We have seen handbags of Crocodylus palustris from Pakistan. Inquiries are being received from all over the world asking about crocodile farming technology and marketing, and unfortunately there is very great pressure to allow quota harvesting of crocodilians without first developing management and populational protocols and data, in order to capitalize on these new fashion promotions. A number of tanneries are reported to be gearing up for production throughout southeast Asia and in Japan. Caiman skins and products are beginning to appear from Taiwan.



Left: Crocodylus palustris handbag manufactured in Pakistan.  
 Right: Caiman crocodilus handbag and tote bag, retailing at about U.S.  
 \$500 and \$1200 respectively, and declared to be Paleosuchus palpebrosus.

Only the next year will tell if the consumers are buying the "hype" generated by the fashion industry. Few people I've spoken to, including retailers, indicate that a large segment of the buying public is willing to spend the kind of money that crocodilian products are selling for. We saw the same pattern in 1980 and 1981 when American alligator products entered the market from 1979 harvests. The fashion waned fairly quickly, as reported by shops and wholesalers, for lack of general consumer interest in such high priced luxury items.

The consumer has so far been kept purposely ignorant of crocodilian hide and product quality so they'll buy caiman skin at the same price as classic crocodile. So far, European tanners and manufacturers have dominated the crocodilian hide and product industry. Any real competition has been lacking for years, which has allowed for the exorbitant prices of products we have seen, that often now includes not so fine quality items. We recently saw high priced Italian handbags

made from "crusted" caiman skins! However, the Japanese industry and other Asian entrepreneurs are learning to buy hides and develop processing and manufacturing expertise at a rapid pace. Consumers may have learned from the electronics industry, etc., that they can get a good cheaper deal if it bears the label "made in Taiwan," "Japan" or "China;" may soon find the same deal in Asian made crocodilian products. Should Asian manufacturers and processors succeed and infuse the market with cheaper but not necessarily cheap fair quality crocodilian hides and products, the complexion of the crocodilian skin and product industry could change dramatically again, over the next few years. This should be a very interesting study in marketing, not to mention conservation. To end, let me quote the November 17, 1986 issue of The New Yorker magazine: "...the prevailing trend is that anything slathered over with crocodile looks good; perhaps next fall skins will be dispensed with altogether, and replaced by quilted and shellacked hundred dollar bills..."

Peter Brazaitis

From Tom Milliken, WWF/Traffic (Japan) we received this (excerpted) press release dated 18 November 1986:

Japan has been receiving large shipments of wildlife from Singapore in violation of CITES. Singapore is not a CITES signator and is stockpiling massive amounts of protected wildlife for future export to Japan. There has been a sudden escalation of crocodile skin imports from Malaysia. Customs data indicate that between April 1985 and September 1986, 23, 576 kg of crocodile skins were imported from Malaysia (actually from Singapore). These skins had a declared value of U.S. 1.5 million dollars. These include thousands of South American caiman skins which are being shipped to Singapore for future export. At the present time, Japan has reservations against 14 species of wildlife, more than any other country. The list complements the Singapore list. (Contact Tom for more information: #39 Mori Building, 2-4-5 Azabudai, Minato-ku, Tokyo. Eds.)

We note with interest the following offerings of living crocodilians:

- 1) 20 Crocodylus rhombifer between 40-70 cm reported to have been born in Czechoslovakia, offered by a Czechoslovakian dealer; and
- 2) 50 young Gavialis gangeticus and 50 young Crocodylus palustris out of Denmark.

If you have any information about the sources of these animals, please contact the editors.

## BOOK REVIEWS

A DIRECTORY OF CROCODILIAN FARMING OPERATIONS. Compiled by R.A.Luxmoore, J.G.Barzdo, S.R. Broad and D.A. Jones. Jointly published by IUCN, Gland, Switzerland and Cambridge, U.K., and the CITES Secretariat, Lausanne, Switzerland. 1985. 204 pp. Introduction is in English, French and Spanish. (see REQUESTS section of the Newsletter for ordering information.)

This compilation of information on crocodilian farms and ranching operations throughout the world was a most ambitious undertaking to say the least. Needless to say, the rapid development of crocodilian farming operations is spurred by high skin prices, market interest, and fashion promotions that promise to continue into the long-term future. Investors, eager to capitalize on seemingly guaranteed high returns are often quick to back the building of such farms, only to find that a lack of management expertise, husbandry technology, fluctuating markets, and a nearly ten year wait before any considerable return is feasible, makes crocodile farming anything but a lucrative fast turnover business. Thus, as fast as new operations appear, many disappear. In addition, bogus farms may be established for the purpose of "laundering" illegal or controlled hides, and provide documentation for products made from skins of undocumented origins. Fashion promotions may point to the handful of world farms and imply that all products are made from captive raised animals. The effect is intended to make the purchase of crocodilian products more palatable to the consumer, who is more willing to accept the killing of wildlife for its skin if it is ranched or farmed for the purpose, such as mink and fox. Attempting to set forth such a rapidly changing listing is an accomplishment of no little merit. This work has succeeded in presenting this much needed information.

The work is widely available in several countries, modest in price (about \$12.00 U.S.), and includes a number of important discussions concerning the application of CITES to farming operations, trade, problems and controls, and future outlooks. One of its shortcomings is that the book is bound. Rather than being capable of being easily updated by the addition of new pages it will have to be completely re-issued to be revised.

Listings for operations are given alphabetically by country. Each listing contains as much information about the operation as possible. Wherever an operation reported activities that were not consistent with known information, every effort was made to include these questions or other comments. However, the reader must judge for him/herself if the farm listed is a viable credible operation or an operation of questionable enterprise. Both are presented without accreditation. Sources of information are referenced wherever possible. However, the list of acknowledgements which should include the many people who helped comment on or reviewed the text is conspicuously brief. The methods section lacks any reference to a standard of scientific or common names used in the text.

This is a very worthwhile and much needed publication. The CSG Newsletter co-editors recommend it highly. Peter Brazaitis

JAWS TOO! The Natural History of Crocodilians with Emphasis on Sanibal Island's Alligators, by George R. Campbell and Ann L. Winterbotham. Sutherland Publishing Co., Ft. Myers, Florida 33908. 1985. 267 pp. Index, photographs, illustrations, maps. Suggested price \$41.95.

It is difficult for the CSG-Newsletter editors to review this highly informative and entertaining work on the American alligator, given that it is dedicated to CSG editor Myrna Watanabe. It could have been titled "Everything you always wanted to know about those lovable 'gators on Sanibal Island, with a little bit of George Campbell and Ann Winterbotham thrown in." There are numerous figures and drawings, both in color and pen and ink, with many that are truly unique in their style (such as the illustration on page 78 of a baby alligator clasped onto someone's finger to demonstrate its bite). All of the recent crocodilians are represented in this work to round out the relationship of alligators to the rest of the Crocodylia, in more than 23 topics of discussion ranging from history and myth to how the alligator got its name and the truth about alligator danger. There's also a bibliography. It's guaranteed to stimulate the interest of every young upcoming crocodilologist, and a number of us old croc-ers as well! P. Brazaitis

A Bibliography of the American Alligator by I. Lehr Brisbin, Jr., Charles A. Ross, Charles A. Ross, M. C. Downes, Mark A. Staton and Brad R. Gammon. Savannah River National Environmental Research Park. Aiken, SC. 1986. See "Request" section of this CSG newsletter for availability.

This monstrous undertaking (pun intended) lists 2108 references that refer directly to Alligator mississippiensis... and the compilers have read almost all of them! It's enough to leave any reviewer wordless. How can you top that one? This volume is certainly something no crocodilian researcher's library should be without. Each citation is categorized, major categories are listed with citation numbers, and most references have accession numbers, which means that if you can't find the full text of something anywhere else, the Savannah River Ecology Laboratory has it. What more could we want? I commend the compilers on a job well done. Now when are they coming out with an update? I put my order in right now. Myrna E. Watanabe

#### PUBLICATIONS RECEIVED

Behura, B. K. and S. K. Kar. 1981. A note on the egg predators of the saltwater crocodile, Crocodylus porosus Schneider in the Bhitarkanika Wildlife Sanctuary, Orissa. Pranikee 2: 25-28.

Brazaitis, Peter. 1986. Reptile leather trade: the forensic science examiner's role in litigation and wildlife law enforcement. J. Forensic Sciences 31: 621-629.

- Bustard, H. R. and S. K. Kar. 1980? Crocodile kills taken as human food. Br. J. Herpetol. 6: 137.
- Bustard, H. R. and S. K. Kar. 1980. Territoriality in immature captive saltwater crocodiles (Crocodylus porosus Schneider). J. Bombay Natural Hist. Soc. 77: 148-149.
- Bustard, H. R. and S. K. Kar. 1981. Defence of the nest against man by the saltwater crocodile (Crocodylus porosus Schneider). J. Bombay Natural Histo. Soc. 77: 514-515.
- Conservation Comm. of the Northern Territory. 1986. Crocodylus johnstoni in the Northern Territory: Biology and history of management. Technical Report No. 32.
- Conservation Comm. of the Northern Territory. 1986. Crocodylus porosus in the Northern Territory: Biology and history of management. Technical Report No. 31.
- Cox, Jack and Francis Gombek. 1985. A preliminary survey of the crocodile resource in Sarawak, East Malaysia. World Wildlife Fund Malaysia, Kuala Lumpur.
- Fuchs, Karlheinz, Robert Mertens and H. Wermuth. 1974. Die Unterarten des Nilkrokodils, Crocodylus niloticus. Salamandra 10: 107-114. (German with English summary.)
- Fuchs, K., R. Mertens and H. Wermuth. 1974. Zum Status von Crocodylus cataphractus und Osteolaemus tetraspis. Stuttgarter Beitr. Naturk., Ser. A 266: 1-8. (German.)
- Huang Zhu Jian (Chu-chien) and Myrna E. Watanabe. 1986. Nest excavation and hatching behaviors of Chinese alligator and American alligator. Acta Herpetologica Sinica 5: 5-9. (Chinese with English summary.)
- Jelden, Dietrich C. 1981. Preliminary studies on the breeding biology of Crocodylus porosus and Crocodylus n. novaeguineae on the Middle Sepik (Papua New Guinea). Amphibia-Reptilia 3/4: 353-358.
- Jelden, Dietrich. 1985. Breeding biology and ecology of Crocodylus porosus and Crocodylus n. novaeguineae on the Middle Sepik (Papua New Guinea). Stuttgarter Beitr. Naturk. Ser. A. 378: 1-32. (German with English summary.)
- Kar, Chandra Sekhar and R. J. Rao. 1985. A gharial (Gavialis gangeticus) at Gahirmatha Coast, Orissa, India. J. Bombay Natur. Hist. Soc. 82: 671-673.
- Kar, S. K. and H. R. Bustard. 1980? Attacks on domestic livestock by the saltwater crocodile (Crocodylus porosus) in Orissa, India. Br. J. Herpetol. 6: 135-136.

- Kar, S. K. and H. R. Bustard. 1983. Attacks on domestic livestock by juvenile saltwater crocodile, Crocodylus porosus, in Bhitarkanika Wildlife Sanctuary, Orissa. Amphibia-Reptilia 4: 81-83.
- Medem, Federico. 1985. Crocodilian skin trade in South America. World Wildlife Fund-U.S., Washington, D.C.
- Messel, H., G. C. Vorlicsek, A. G. Wells, W. J. Green, I. C. Onley and F. Wayne King. 1986. Monograph 19. Resurveys of the Tidal Waterways of Van Dieman Gulf and the Southern Gulf of Carpentaria, 1984 and 1985. Pergamon Press, Oxford, Sydney, New York, Toronto, Paris, Frankfurt.
- Rao, R. J. 1985. Management of crocodiles and turtles in wet-land sanctuaries of India. Tigerpaper 12: 1-5.
- Rao, R. J. and R. K. Sharma. 1986. Gharial rehabilitation in Madhya Pradesh, India. Tigerpaper 13: 2-4.
- Rivero Blanco, Carlos. 1985. Evaluacion de algunas aspectos de la temporada de aprovechamiento de la especie baba, Caiman crocodilus, de 1985. Ministerio del Ambiente y de los Recursos Naturales Renovables, Direccion General Sectorial de Administracion del Ambiente, Caracas, Venezuela.
- Singh, L. A. K. 1985. Gharial Population Trend in National Chambal Sanctuary with Notes on Radio-tracking. Government of India, Crocodile Research Centre of Wildlife Institute of India, Hyderabad.
- Singh, L. A. K., S. Kar and B. C. Choudhury. Unpub. India: status of wild crocodilians. Mimeo.
- Singh, L. A. K., S. Kar and B. C. Choudhury. Unpub. Summary: Indian Crocodilians: a 10-year review of management. Mimeo.
- Varona, Luis S. 1986. Algunas datos sobre la etologia de Crocodylus rhombifer (Reptilia: Crocodylidae). Poeyana (Instit. Zool. Acad. Ciencias Cuba) 313: 1-8. (Spanish with English abstract.)
- Varona, Luis S. 1986. Implicacion taxonomica de algunos caracteres externos de Crocodylus acutus (Reptilia: Crocodylidae). Poeyana (Instit. Zool. Acad. Ciencias Cuba) 312: 1-6. (Spanish with English abstract.)
- Watanabe, Myrna E. 1986. A change of fortune for the Chinese alligator. Animal Kingdom 89: 34-39.
- Wermuth, Heinz. 1963. Farbwechsel und Lernfahigkeit bei Krokodilen. Die Aquarien-und Terrarien Zeit. (Datz) 16: 90-92. (German.)
- Wermuth, Heinz. 1975. Prof. Dr. Robert Mertens. (Obituary). Die Aquarien-und Terrarien Zeit. (Datz) 28: 430-432. (German.)

Wermuth, Heinz. 1978. Artenschutz fur Krokodile und die Reptilleder-Industrie. Beih. Veroff. Naturschutz Landschaftspflege Bad.-Württ. 11: 451-454. (German.)

Wermuth, Heinz. 1986. Praktische Erfahrungen beim Identifizieren von Krokodil-Lederwaren fur die Belange des Artenschutzes. Amphibia-Reptilia 7: 33-42. (German with English abstract.)

Wermuth, Heinz and Kh. Fuchs. 1978. Bastarde zwischen sudostasiatischen Krokodilen. Stuttgarter Beit. Naturk., Ser. A 314: 1-17. (German.)

Whitaker, Rom, Paul Sukran and Chadiz Hartono. 1985. The Crocodile Resource in Irian Jaya. WWF/IUCN Conservation for Development Programme in Indonesia. Report 12.

#### Some Reflections About the CSG Newsletter

The topic of the inclusion of book reviews in the Newsletter was raised at the CSG meeting in Quito, and was roundly supported. Their importance to researchers who may have very limited funds was cited by a number of people as a means of helping them select publications of worth. During the year, your responses on the tear sheets overwhelmingly supported the continued inclusion of reviews as well. We'll do just that.

We've received dozens of comments concerning the content of the Newsletter, including our book reviews. We appreciate your taking the time to let us know how you feel. Except for one letter, which took exception to one of the reviews we did, your comments have been on a positive note. We'd like to take this opportunity to include some of your comments, both good and bad, here now. You have our most sincere thanks for all of them. We hope with the addition of Lehr Brisbin we can be a little more consistent with our mailings in the coming year. We promise two to three issues a year, depending on how much information we receive from you. Please do send us back the tear sheets from each issue so we can keep our files current. Send us your reprints for inclusion as well, and any information you care to pass on. There are croc people all over the world who tell us they are kept in contact with each other largely through the CSG Newsletter and the shared good will. At present, our mailing list numbers nearly 300. The CSG Newsletter is not a publication, but rather an exchange of information between fine people who share the same professional interest. What we say in the Newsletter is what you say to us, and the editors' personal observations and opinions. The opinions expressed are not those of the scientific institutions that graciously support us. We thank you again, and Myrna, little Peter, and I want to wish all of you good health, happiness, good work, unlimited funding, and our warmest regards for 1987!



31 March 1983

August 8, 1983

Dear Peter and Myrna:

My copy of the CSG Newsletter No.2 arrived a few days ago, and it had a lot of information and news. You are doing a great job, and deserve the encouragement of all crocodile workers for assuming the time-consuming task of editorship, and keeping everyone up-to-date on crocodile issues. Congratulations.

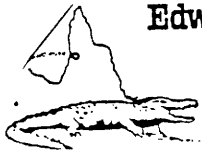
How about a section on Recent literature, including addresses of authors?

With best regards,

*Jose*  
José A. Ottenwalder

## Edward River Crocodile Farm PTY LTD

POSTAL ADDRESS PO BOX 661  
CAIRNS 6870 AUSTRALIA  
OFFICE LOCATED CAIRNS 6870 AUSTRALIA  
FARM LOCATED EDWARD RIVER  
TELEPHONE CAIRNS (077) 517775



5th December, 1983.

Our Ref: 103/6/OPS

Messrs Brazaitis & Watanabe,  
Crocodile Specialist Group Newsletter Editors,  
c/o Herpetology Department,  
Bronx Zoo,  
BRONX NY 10460  
USA

Dear Editors,

Re: Change of Name, Location & Address - Applied Ecology Pty Ltd.,

I wish to advise that Applied Ecology Pty Ltd. has changed its name to Edward River Crocodile Farm Pty Ltd and has relocated its office to Cairns, Queensland, address as shown above.

It may be of interest for your Newsletter that the farm has made steady progress over the past couple of years, despite the fact that a review of Government funding and support left the future most unsure for over 12 months. Now it seems that Government support for the farm as an Aboriginal enterprise will continue. This year the farm produced 740 *Crocodylus porosus* hatchlings with the new 1984 nesting season already started.

I shall endeavour to give you more details of our activities for your newsletter next year. I find your Newsletter contains much of interest and is appreciated, wishing you the very best in your endeavours for 1984. Keep up the good work!

Yours sincerely,  
EDWARD RIVER CROCODILE FARM PTY LTD.

*J. T. V. Francis*  
J. T. V. Francis,  
Proprietor/Manager.

*BILL MAGNUSSEN*

Petres de Ecologia  
1104  
CP 478  
09 000 Manaus AM  
Brasil  
5 March 1984

Peter Brazaitis and  
Myrna Watanabe  
Herpetology  
Bronx Zoo  
Bronx, New York 10460  
U.S.A.

Dear Peter and Myrna,

I found the Newsletter most informative; by all means continue to do book reviews. Is there any chance of you sending me a copy of Camichos paper on "Análisis estomacal, hábitos....". It sounds most interesting (and unattainable!).

Dear Peter (and Myrna)

Let me first congratulate you for the the newsletter. Most certainly you are giving it a very different look and will serve a better purpose than before.

## ELLEN TROUT ZOO

P.O. Drawer 190—Lufkin, Texas

Operated by City of Lufkin Zoo Department

28 July 1983

Mr. Peter Brazaitis and Ms. Myra Watanabe, Editors  
Crocodile Specialists Group Newsletter  
c/o Herpetology Department  
Bronx Zoo  
Bronx, NY 10460

Dear Mr. Brazaitis and Ms. Watanabe:

Thank you for sending me a copy of Vol. 2, No. 2. of Croc. Spec. Group Newsletter. I enjoyed reading it and hope you will keep my name on your mailing list permanently.

Is it possible to obtain copies of Vol. 1, all nos. and Vol. 2, No. 1.? Even photo copies would be appreciated and I would be happy to pay copying costs.

Any assistance you provide concerning my request will be appreciated.

Again, thank you for the Newsletter. I think that the last of the dinosaurs are magnificent reptiles seriously deserving study and conservation. If I may be of any service regarding alligators in East Texas please feel free to call on me.

Sincerely,

*Gordon B. Henley*  
Gordon B. Henley  
Zoo Director

MUSEO NACIONAL DE HISTORIA NATURAL  
Calle de Correo 379  
Montevideo - Uruguay

Montevideo, 24-III-1986

Dr. Peter Brazaitis  
Crocodile Specialists Group Newsletter  
c/o Herpetology Department  
Bronx Zoo  
Bronx  
New York 10460  
USA

Dear friend Brazaitis:

Thank you very much for your circular letter of 25-XII-1985. Enclosed please find the tear sheet.

The lastest Newslette was excellent indeed, both the contents and the items of news.

With best wishes

*F. A. Achaval*  
F. Achaval



**J. HILLIS MILLER HEALTH CENTER**  
**COLLEGE OF VETERINARY MEDICINE**  
 Department of Special Clinical Sciences  
 and  
**HEALTH CENTER ANIMAL RESOURCES**  
 Box J-6  
 Gainesville, FL 32610

March 8, 1984

Mr. Peter Brazaitis/Ms. Myrna E. Watanabe, . .  
 Crocodile Specialists Group Newsletter  
 c/o Herpetology Department  
 Bronx Zoo  
 Bronx, New York 10460

Dear Peter:

Since you have undertaken to make critical reviews of books (and other publications) in your newsletter, I hope that you will allow authors of these publications to have their rebuttal to these reviews similarly published. Such is the way it is done in reputable journals and I hope you will allow me the opportunity to respond to Myrna E. Watanabe's review of my FAO Field Document. First of all I don't think this should have been reviewed as a book since it is a Field Document. In my estimation her review was done quite unprofessionally.

My response is as follows:

Obviously Ms. Watanabe has no concept of the range of modern veterinary medicine. Making a statement that "...veterinary medicine still operates in the realm of the magical" is uncalled for, totally unjust and slanderous to the veterinary profession. I don't quite understand how she can make such a statement based upon a FAO Field Document that was limited to a review of Captive Health Problems of Crocodiles in India.

Ms. Watanabe states that the report "seems to be purely and simply a report on what Dr. Jacobson saw, and was told, with a short list of recommendations, ...". Obviously, this is what I did. Due to time limitations and limitations with resources in India to perform detailed post-mortem and histopathological evaluations I was left with compiling data on hatching rates, mortality rates and make comments related to obvious disease problems. Surely, even Ms. Watanabe should know that an accurate assessment of disease problems cannot be made by gross observation alone. As stated in recommendation 4.5 of my report, "In order for mortality to be reduced, specific diagnoses must be made. An individual with a long-term commitment in crocodile disease should be identified and should be situated at an Indian Veterinary Institute". This is all important. Without accurate diagnoses, treatment and specific recommendations for reducing mortality cannot be made.

With regard to Ms. Watanabe's comments regarding the necrotizing skin disease of gharials being treated as a non-specific mycotic infection, I would like to reiterate as I mentioned in the report that the specific etiologic basis for this disease remains unknown. Although a fungus was isolated from an animal at this center, no histopathologic report was available. In the report, I was simply documenting what medication was being used when I arrived. Although the Forest Officers at the station were advised by me that the antibiotic-steroid mixture was contraindicated for mycotic disease, I did not feel that this should be part of the written report. Also, Ms. Watanabe should be aware that in certain infectious disease conditions (such as immune mediated diseases) steroids may be indicated. The report was not aimed at giving detailed recommendations on chemotherapy since most of the drugs we routinely use in the U.S. are not available in India. Much more time would be needed to survey all drugs currently available in India. This would be a prerequisite before chemotherapeutic recommendations for treatment of specific disease could be made.

The Appendix listing diseases of crocodilians was simply intended as an overview, and in no way was intended to cover in great depth all documented cases of crocodilian disease. As we all know, there is a far greater list of diseases of these animals that people have seen than that which is reported in the literature. Although I have a good grasp of the reptile disease literature, still there are many short reports and much personnel data information that I am unaware of.

Ms. Watanabe's statement concerning visceral gout being a "catchall phrase used to cover a multitude of otherwise inexplicable diseases" is totally incorrect. Such a statement makes it quite apparent to any one familiar with disease processes that Ms. Watanabe is not competent to review this subject. Visceral gout is a well documented disease entity in reptiles (and also birds). The pathogenesis involves increases of uric acid in the blood with concomitant tophi at a variety of extrarenal sites. If Ms. Watanabe is interested in educating herself above this disorder she should read:

1. Wallach and Hoessle: Visceral Gout in Captive Reptiles, JAVMA 151:897-899, 1967.
2. Appleby and Seller: Some Cases of Gout in Reptiles. J. Path. Bact. 80:4272-430, 1960.
3. Frye, F. L.: Biomedical and Surgical Aspects of Captive Reptile Husbandry. Vet. Med. Publ. Co. Edwardsville, KN, 1981, 417-419.

As you can tell from the content of the above rebuttal to Ms. Watanabe's review, I am a little disturbed by the quality and content of her review. I believe a review should be an objective evaluation of subject material of which the reviewer has some expertise, and not an emotional attack. I seriously question Ms. Watanabe's expertise in reptile disease.

If your newsletter is to remain professional in scope, I recommend a little more fairness in your review section. I look forward to your response.

Additionally, you will find enclosed a more comprehensive review on diseases of crocodilians which has been submitted for publication in the Journal of Zoo Animal Medicine.

With best regards,

*Elliott Jacobson*

Elliott Jacobson, D.V.M., Ph.D.  
 Assistant Professor

Royal Ontario  
 Museum

100 Queen's Park  
 Toronto, Ontario  
 Canada M5S 2C6  
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ROM

21 November, 1984

Peter Brazaitis/Myrna Watanabe  
 Editors  
 Crocodile Specialists Group Newsletter  
 c/o Herpetology Department  
 Bronx Zoo  
 Bronx, New York  
 U.S.A. 10460

Dear Colleagues,

I recently assumed the position of curator of herps. at the Royal Ontario Museum. Although my research has not centred on crocodilians, I have thoroughly enjoyed reading the occasional "Newsletter" that has crossed my desk. Would it be possible for me to be added to your mailing list? Also, is it possible to obtain back issues of the newsletter, or at least copies which can be borrowed for xeroxing?

Many thanks for your time and considerations.

Very sincerely,

*Dr. R. W. Murphy*

Dr. R. W. Murphy  
 Associate Curator  
 Department of Ichthyology  
 and Herpetology

*Dear Peter and Myrna,*  
*I have received my newsletter of the CSG after Vol 3 no 2. I fear it may have been because I never returned my transcript so far and you may have struck my name off your mailing list. Frankly I used to enjoy receiving the newsletter and my motivation would be inspired by its arrival. Reading was happening through the world. If the above is the case please continue sending me the newsletters including back issues if you could be so kind.*



incorporating:

Aquarium and Reptile Park, Pretoria  
Cheetah Research and Breeding Centre, De Wildt  
Nature Reserve and Game Breeding Centre, Lichtenburg  
Nature Reserve and Game Breeding Centre, Potgietersrus

Mr. W. Labuschagne  
Director: XXXXX XXXXX

Reference

Enquiries

P.O. Box 754  
PRETORIA, 0001  
Republic of South Africa

Tel: (012) 28 3265  
Telegr: ZOO

17 December 1985

The Editor  
Crocodile Specialist Group Newsletter  
C/o Herpetology Department  
Bronx Zoo  
Bronx, New York 10460  
U.S.A.

Dear Mr. Brazaites

Recently Mr. Rene Honegger visited our Zoo and suggested that I contact you to ask that our name be put on your mailing list to receive the C.S.G. Newsletter.

I read two of the Newsletters dated July 1983 and September 1984 and found the information therein very interesting and useful. News about crocodilians around the world have many advantages to us, regarding facts and the status and conservation of the different species.

This information can be used to educate the public, making them aware of what is being done in this field regarding conservation and research. On several occasions we have successfully bred and incubated *Crocodylus niloticus* eggs. At the moment we have 200 *Crocodylus niloticus* eggs in incubators for an experiment - temperature sex determination in *Crocodylus niloticus* - being undertaken in collaboration with the Natal Parks Board and University of Pretoria.

Yours sincerely

*Chris de Beer*

CHRIS DE BEER  
PRINCIPAL NATURE CONSERVATOR (HERPETOLOGY)  
FOR DIRECTOR

SAVANNAH RIVER ECOLOGY LABORATORY  
DRAWER C  
AIKEN, SOUTH CAROLINA 29801

TELEPHONE (803) 735-2471  
UNIVERSITY OF GEORGIA  
INSTITUTE OF ECOLOGY

25 February 1986

Dr. Peter Brazaitis  
C/o Herpetology Department  
New York Zoological Park  
Bronx, New York 10460

Dear Dr. Brazaitis:

Dr. Brichin here at the Savannah River Ecology Lab showed me a copy of the December Croc. Specialists Group Newsletter. I found it both interesting and informative, and would like to be put on the mailing list. Thank you.

Sincerely,

*Laura A. Brandt*  
Laura A. Brandt  
Research Technician  
Alligator Program

Crocodile Specialists Group  
IUCN  
% Herpetology Dept.  
Bronx Zoo  
Bronx, N.Y. 10460

February 17, 1986

Gentlemen,

We appreciate the work of your editors, Peter Brazaitis and Myron Waterhouse, for their valuable contributions as expressed in the newsletter.

For us to continue to do our part in the conservation of habitat for the American Alligator we need the valuable information contained in the newsletters.

We want to thank the editors for providing the kind of information we so badly need.

Sincerely,  
Duke Whitebottom, President

D.C.M.O.

Government of India  
CROCODILE RESEARCH CENTRE of the  
Wildlife Institute of India  
19-A/319 Lake Road, Sahasrampura P.O.  
Mysore-570 004. (A.P.) INDIA

May 29, 1986

Dear Peter and Myron,

I refer here to your letter of 5th March. While all the contents make me feel good, I am particularly worried about the Director which a 'Book Review' has taken. I remember, a few years back we received the first copy of the Newsletter under your joint Editorship. The coverage, set up and promises were most welcome and have been improved and maintained since then. These features and many others have always remained as the plus points over the irregular appearance of the Newsletter in the past. I do not know if any one else is equally well equipped, from all considerations, to handle the publication of the Newsletter, but certainly it becomes unpalatable to accept that a "Book Review" should force you both to step down from the excellent record of Editorship. A Book Review can be made by any competent person in the field and is accepted as unbiased. In spite of that, if you and the Chairman agree, you may add a note for the section 'Book Review' that the opinions are not necessarily that of the Group or the Editors.

At this stage, I may simply say that I would like the section Book Review to continue in a Newsletter, published under your joint Editorship.

Oh yes, we have received pathological findings on several samples taken by Dr. Jacobson during his visit, and very much wish that these findings were included in the Consultancy Report. I have taken extra care to see that these findings are circulated to all Rearing Centres concerned to benefit from this.

With best wishes and good luck,

Yours sincerely,

Dr. Peter Brazaitis &  
Myron Waterhouse,  
Editors, Crocodile Specialist Group Newsletter,  
C/o Herpetology Dept.  
Bronx Zoo, Bronx, New York 10460.

(L.A.H. GINGER)

Pushpa joins us in really her regard  
+ you as Myron as her for your letter.



TEAR SHEET

PLEASE RETURN TO: PETER BRAZAITIS AND MYRNA WATANABE  
CO-EDITORS  
CROCODILE SPECIALIST GROUP NEWSLETTER  
51 LANDSCAPE AVE.  
YONKERS, NEW YORK 10705 U.S.A.

NAME : \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

IS THE ABOVE A NEW ADDRESS? YES \_\_\_\_\_ NO \_\_\_\_\_ EFFECTIVE DATE \_\_\_\_\_

PROFESSIONAL AND RESEARCH NEWS:

PERSONAL NEWS:

HOW LONG DID IT TAKE YOU TO RECIEVE THE LAST ISSUE AFTER IT WAS MAILED?

ANY COMMENTS OR SUGGESTIONS FOR THE NEWSLETTER?

DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_