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NOTES ON THE GENUS CHINCHILLA

BY THEODOR CARLOS BIDLINGMAIER

The following pages comprise portions of a much longer discussion of the chinchilla sent by Mr. Bidlingmaier to the American Committee for International Wild Life Protection. The Committee has prepared the more pertinent parts of these discussions for publication herewith, and, with the help of Dr. Glover M. Allen, has endeavored to fit to accepted usage the classification that the author employed. This is based largely on the treatment of Prell (*Zool. Anz.*, vol. 108, nos. 5-6, 1934). Our chief interest, of course, is in the information on habits, economic value, rarity, methods of capture, and exploitation of the several species. The classification appears to be as follows:

Chinchilla chinchilla (Lichtenstein), 1829, from Peru, of which *C. brevicaudata* Waterhouse, 1848, appears to be a synonym. Occasional on the western slope of the coastal cordillera, south latitude 9 to 33 degrees. It is exclusively a mountain animal. The best pelts are said to come from Oruca, Tacna, and Arica. Bidlingmaier evidently refers to this animal by the local name of chinchilla reale, or true chinchilla. He refers to it as being found only in Peruvian territory, and considers that it is now extinct. Recent expeditions, he says, have been conducted through its former range but without finding any rodent of this genus. He thinks that this species was of small size, but Prell said it is 36-38 cms. in body length, and therefore somewhat larger than *C. boliviana*. The fur is very long and soft, with a "matted and bunched appearance and lead-blue silver" in coloration.

Chinchilla boliviana Brass, 1911, occurs in the eastern Andes, northern Argentina, and southern Bolivia. It is a mountain species with a pelt so similar to that of *C. velligera* that the average individual cannot distinguish between them. The pelts, according to Prell, were formerly marketed in Buenos Aires. This without doubt is the animal referred to by Bidlingmaier as the chinchilla royale, which he says today is on the verge of extinction, the few surviving individuals being confined to a relatively small area in the southwestern portion of Potosi Province in Bolivia. Under this heading, perhaps, may be included the vernacular names chinchilla indiana and chinchilla de la chileno cordillerano of Bidlingmaier's manuscript. The indianas, he says, are extinct in the wild, but a few have been re-established and are under close scientific observation—where, we do not know. The chileno cordillerano variety, he remarks, survives only in the very highest parts of its former range, at an altitude of 3200 meters or more, in the far northern Chilean provinces of Antofagasta and Atacama.

Chinchilla velligera Prell, 1934, also called Bennett's chinchilla, is found about the Rio Chuapa, 32 degrees south latitude, and northward perhaps as far as latitude 25 degrees, or even farther. It is not as numerous in the moun-

tains as in the hilly country near the coast and in the inland valleys. It is small, with body length of only 20 to 25 cms. This evidently is the animal that Bidlingmaier designates as chinchilla de la costa, which he says was found formerly at lower altitudes, but persecution has caused it to retreat to constantly higher territory. The animal has been greatly reduced but still exists in fair numbers, and if given adequate protection, might re-establish itself, Bidlingmaier believes, in 7 or 8 years.

No doubt, in the trade at least, there has been some confusion between the true chinchillas and the rock-hoppers, *Lagidium*, which are sometimes called bastard chinchillas or viscachas. These latter have a very inferior pelage and were once considered as of little value, but because of the scarcity of chinchillas, *Lagidium* pelts recently have been accepted by the raw fur markets of Europe.

In general, the chinchillas are nocturnal, Bidlingmaier says, seldom venturing from their caves and dens until after sunset. If found abroad in the day time they are seldom far from their homes. Their food consists of a great variety of seeds, herbs, roots, and especially the "quiscos," a native pine bush bearing a fruit called "guillaves," which is carried into the dens.

It seems that formerly most of the Chilean pelts were purchased by buyers in Coquimbo, and information from the Customs Office of that city show the following quantity marketed:

1905.....	18,153 dozen	\$100 to \$110
1906.....	9,776 dozen	\$130 to \$140
1907.....	4,275 dozen	\$160 to \$170
1908.....	3,084 dozen	\$140 to \$150
1909.....	2,328 dozen	\$400 to \$500
*1931-36.....	213 kilos value	\$1,615 Pds. Stlg.

* (Last governmental report recorded through the Aduana at Valparaiso.)

The raw pelt exporters have buyers in all the distant parts of the country, and the prices have increased enormously, as the above table shows. Raw fur buyers from European markets give instructions to their agents to purchase skins at any price, the demand each year tending to increase the greed of the native trapper, the chinchillero, who is tireless in seeking new and more destructive methods of hunting. Owing to an error in including hundreds of dozens of skins that were exported through the northern ports of Chile, estimates have been almost double those of the actual number coming into the markets. The trapping is followed throughout the entire year, regardless of the period of propagation.

Nothing terrifies the chinchillero, who pushes higher and higher into the altitudes of extreme thin air, often into places among crags and cliffs where his life may be in danger, with the single thought of obtaining the beautiful skin of this unfortunate little fur-bearer. He trails with a tenacity worthy

of better employment, and with a greed for wealth that seemingly cannot be satisfied. This hunter actually receives from the field buyers a sum equivalent to only 30 or 50 Chilean pesos for each skin. Through this persecution the total destruction of the species is annually more imminent. Without some adequate protection, there is no possibility that the rodents will be able to re-establish themselves.

At first there was a sufficient number of chinchillas to be caught with traps and with dogs; but little by little, other and more exhaustive methods were employed. Presently they were driven from their dens by the use of smoke. These little rodents are thus obliged to abandon their homes, or else be suffocated. If they leave the den, they almost always are quickly caught by the perro or dog, that is eagerly awaiting at the mouth of the tunnels.

A few of these valuable little fur-bearers prefer to die within their dens rather than to be trapped; in such instances, the chinchillero employs a long flexible stick, which is passed through the tunnel into the den proper. This is twisted until it becomes entangled in the fur of the rodent, which is thereby withdrawn from the den.

If this method fails, the tunnel is barricaded with stones, this blockade being left in place for a period of two days. Then, because of hunger, the rodent attempts to escape, and in this case it is generally felled by a stone cast from the trapper's sling shot.

In any region where signs indicate that a family of chinchillas may reside, an enclosure is erected, this being constructed of sticks and burlap, salvaged from sacks, which is sewn together, end to end, thereby forming a great length of this material. This barricade is constructed in circular form, with one portion terminating in a funnel-shaped outlet. At this point pitfalls are usually dug, being cunningly concealed so that when the chinchillas scamper upon the roof they immediately drop into a chamber beneath. Another plan of procedure is to erect similar barriers, and within the confines to destroy the vegetation. At the same time the extent of the burlap circle is reduced, little by little, until at last there remains only a small area within which the operations can be conducted.

Haste is of no material importance to the chinchillero, for he realizes that there is no one about to molest him in his activities, and that his patience eventually will be rewarded. By this systematic destruction, what few chinchillas remain are, by the destruction of their natural food, being forced into higher and higher elevations, and finally into regions where such natural foods do not exist. In other instances the vegetation is burned off, this method completely destroying the native "*bulsa-mocarpum brevifolium*" or *algarrobilla*, over large areas.

Apparently it is of no use to limit the trapping to certain months of the year, because of the ignorance of the native trappers, who carry on this

illicit hunting of all species with an endless patience unequalled in any other part of the world. The system as now employed will certainly end in total destruction and, unless laws are enforced to save this most valuable furbearer, within a very short period of time all of the remaining species will be exterminated. The native chinchilleros are tenacious, and although a pelt only brings them a very meager reward for their arduous labors, it seems to them like riches. They operate over the entire territory of the provinces previously mentioned, and most surely there is not a spot left in these sierras that has not been explored by them.

It is a well established fact that legal protection in the sierras of the Atacama and Coquimbo provinces is practically impossible. Because of its enormous extent it would be very costly to have this territory thoroughly patrolled. Even considering the high character and efficiency of the carabineros, the chinchillero, knowing the regions from a childhood of adventure with his father and other hunters, could easily escape into places where he would never be discovered.

Better results would follow the enactment of stringent laws especially aimed at the traffic in contraband skins. Many skins of chinchillas are now exported by being smuggled over the high cordilleras to Argentina. First they are taken across the frontier into Bolivia and thence smuggled southward and eastward through Argentina. The skins now smuggled from Chilean ports are relatively of no importance, inasmuch as this government for the past 15 years had controlled the situation fairly well by the enactment of laws that give strict protection to these valuable fur bearers.

It is claimed by certain interests in the chinchilla industry that the poorer working classes of Atacama and Coquimbo provinces derive much benefit from the wages paid for their trapping services. This, unfortunately, is not as true as it appears, for the reason that it is impossible for the average common laborer to become a proficient chinchillero because of the initial investment required to equip even a small expeditionary force of hunters, whereby these men can live in the high and desolate regions of the cordilleras, leading a seminomadic life for 6 to 8 months before even a dozen skins may be collected and sold.

With his catches collected, the hunter slowly returns to points where he meets the field-buyers of the raw skin brokers. His catch sold, he proceeds toward some commercial center to purchase supplies, and thus re-outfit for a new expedition.

Some people claim that the absolute prohibition of all commerce in chinchilla skins over a period of years would have the effect only of raising the now fabulous prices to even higher figures. It seems logical, therefore, to encourage a much more thorough scientific study of the status of these rodents in their remaining habitat, while at the same time other investigations

and studies should be made of their reactions to confinement and to breeding under domestication.

Some efforts to breed these animals in confinement have been attempted in Chile in the vicinity of Vallenar and Copiapo, where in the nearby sierras grow the several varieties of the algarroBILLA. Nothing of great value has been revealed by the government, nor by most private enterprises. Apparently, through economic necessity, the experimental criadero at La Serana was closed some two years ago. Today there remain only five licensed criaderos (breeding farms), two of which are now presumed to be working in conjunction with a syndicate from the United States, which some 15 years ago, under the direction of a former employee, smuggled a number of coasterino chinchillas out of Chile.

The foregoing is merely a synopsis of Mr. Bidlingmaier's paper. The Committee wishes to call attention to the unfortunate situation of the mammals of the genus *Chinchilla*. We know little enough about the possibilities of rearing these animals in captivity. It would seem that here is a worthwhile problem for some western agricultural college situated in a high, dry climate. Attempts at farming in the United States, thus far, have been confined to commercial breeders and surrounded with much mystery and secrecy. We have not been able to ascertain anything about the governmental farms in Chile and Argentina.

American Committee for International Wild Life Protection, Cambridge, Massachusetts.