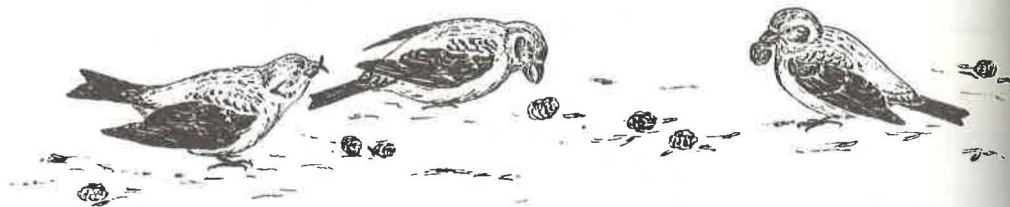


## FELLOWSHIP OFFERED

The American Museum of Natural History, with support from the National Science Foundation, will once again consider applications from college undergraduate science majors for appointments as student participants in a summer program of ornithological research at the Kalbfleisch Field Research Station in Huntington, Long Island. Applicants must be proficient in the field identification of the land birds of New York. The research program provides training in censusing breeding birds, mist netting, banding, aging and sexing birds through surgery, sound recording and playback techniques, preparation of museum specimens, etc. Students are in residence for ten or more weeks and receive their room and board plus a stipend of \$600. Applications must be filed not later than March 1, 1965. Write to Dr. Wesley E. Lanyon, Dept. of Ornithology, The American Museum of Natural History, New York, N. Y. 10024.



## SKUA &amp; PENGUIN BANDING

Activities of Johns Hopkins University party at  
Cape Crozier, Dec.-Feb., 1964.  
By W. J. L. Sladen and R. C. Wood

A total of 7,375 Adelle Penguin chicks was web punched, of which 5,000 were banded, for future studies on known age birds. A further 112 adults and 23 yearlings were banded for special studies, making a grand total of 5,135 Adelles banded. A new method of check marking penguins on the flipper was tested and shows great promise, for the birds can be recognized easily from a distance even if the band was to come off in later life. A new design flipper band was tested on 140 Adelles. This with certain modifications will be used for future banding since there is evidence of the old design band opening slightly after two or three years wear. A portable corral was made for the chick banding. This resulted in efficient rounding up of chicks in specific study areas with the minimum of disturbance. Observations were made on Adelles banded in previous seasons. Of special interest were eleven 2 year olds (banded as chicks in '62) observed and filmed during the reoccupation period. They were returning to the areas where originally banded. The penguin study areas were outlined and 100 aluminum poles for marking the colonies were firmly fixed with the aid of a pneumatic drill.

A total of 434 Skuas was banded, of which 197 were adults and 237 were chicks. The band numbers of two one year old and 17 two year old Skuas were recorded, all banded at Crozier as chicks. In a study area of 110 to 120 pairs of breeding Skuas where observations began in 1962-63, 180 (87%) of 207 banded in 1962-63 were present in 1963-64. Of 92 pairs of Skuas that were banded in 1962-63, 71 (77%) pairs were intact and nesting in the same territory in 1963-64.

In an effort to determine the age at which a Skua chick is first recognized by its parents, 11 exchanges were made of chicks ranging in age from one to 11 days. The substitute chick was the same age as the one removed and in each case was successfully adopted by the foster parents.

Four 2 year old Skuas from Hallett, one 2 year old from Evans, and one 4 year old from Royds were seen with other non breeding Skuas late in the season. At this time there was a marked increase of unbanded birds which indicates that Crozier is a collecting place for non breeders from a wide area. Crozier has had other recoveries from Wilkes and Little America. Regional color banding on an international scale will be the only easy way to work out these extensive coastal movements in the future. A new method for catching Skuas using a pull net resulted in 79 Skuas banded. With more practice, this should prove an easy and effective method for catching non breeders.

Air photos of the Adelle rookery were taken by the Navy on 16 Nov. and 9 Jan. The 16 Nov. pictures were outstandingly good having been taken just after a light snow fall. These with ground observations will aid in population estimations. Dr. Geoffrey Watson visited the study area to advise on this and other statistical aspects of the long-term program.

A method of sexing penguins by a special instrument made by the American Cystoscope Makers Inc. has been worked out. Heretofore it has only been possible to sex these penguins with certainty by dissection, or as a result of the careful observation of marked birds.

By-products of the main ornithological program at Crozier have been:

1. Immobilization of seals, primarily as an aid to collecting blood and specimens without the need for killing the animal. Following preliminary testing in 1963 by Dr. Vagn Flyger, Peterson and Damm tested two immobilizing drugs on the two genera of seals. Phencyclidene (Sernylan) in dosages of approximately .40 milligrams per kilogram was effective as a long-term immobilizer. It was inconvenient in that recovery required as much as 36 hours, but has a wide margin of safety. Succinylcholine (Quelicin) given in repeated dosages totaling no more than 2.2 milligrams per kilogram is a useful short-term immobilizer, with



effects lasting less than one hour. But succinylcholine has a narrow therapeutic index, on seals as other animals, and is thus dangerous. 12 Weddells and two Crabeaters were immobilized. Only one death resulted; the others returned to sea and apparently recovered fully from the drugs.

2. Evaluation of effects of tranquilizing type drugs on Adelle Penguins.

A total of 80 (58 test animals and 22 controls) penguins was tested. The drugs used were Diazepam (Tranival), Prazepam (WL - 4020), and Propiopromazine (Tranvet) at various dosages. The testing procedure was blind and followed a standard routine for both drugged and control animals. There appeared to be no difference between drug and control animals at low dosages. At high dosages the drug animals lost the ability of coordinated movement and exhibited some sedation. Tranquilization in the true sense did not appear to be achieved with these drugs. One animal died after the administration of WL - 4020 and showed muscle necrosis at the injection site.

3. Collecting frozen material for the following collaborative investigations.

- a. Chemical pesticide residue determinations (including DDT) in fat deposits of penguins and seals (US Fish & Wildlife Service, Patuxent Research Refuge, Laurel).
- b. Assays for content of the enzyme lactate dehydrogenase in diving vertebrates (Dr. C. L. Markert, Professor, Johns Hopkins, Dept. Biology).
- c. Aging processes in collagen tissue, (aorta, muscle tendon, etc.) in relation to arthritis and metabolic disorders (Dr. R. A. Milch, Ass. Prof. of Orthopaedic Surgery, Johns Hopkins Hospital).

4. Blood samples were taken from the penguins and seals collected for the above purposes in a continuing attempt to collect data on antibodies to respiratory virus diseases in Antarctic vertebrates. Of particular interest is the possibility of psittacosis in the seals which is being investigated in collaboration with Drs. Karl Meyer and Eddie of George Williams Hooper Foundation, California.

5. 16 mm film was taken to contribute to a revised and more complete edition of Sladen's film "Adelle Penguins of the Antarctic."

The Jamesway hut built for last season's 1962-63 activities of Johns Hopkins and Univ. Wisconsin parties was blown away during the winter.

Another Jamesway was erected by USARP in a storm at the beginning of the 1963-64 season under what must have been very unpleasant weather conditions. This hut, with specially constructed braces, survived well the frequent gales, but it is doubtful if it will survive the winter when not being lived in.

The Johns Hopkins party for 1963-64 was made up of the following personnel.

		Time at Crozier
Dr. William J.L. Sladen	project director	2 Jan. to 21 Feb.
Robert C. Wood	research assistant	24 Dec. to 28 Feb.
Dr. Geoffrey Watson	professor of statistics	2 Jan. to 10 Jan.
Dr. Robert L. Damm	Dr. Public Health student	30 Nov. to 2 Jan.
Richard S. Peterson	Sc.D. student	30 Nov. to 10 Jan.
Anthony G. H. Parker	from Hawkes Bay, N.Z.	21 Jan. to 25 Feb.
William B. Emison	from Idaho	21 Jan. to 25 Feb.

We were most grateful to Messrs. Parker and Emison for joining the party without salary to assist with the banding operations. Parker's knowledge of sheep farming methods added greatly to improving our techniques with the penguin banding. We were also grateful to Dr. Watson for sparing time in his busy curriculum to visit Crozier and advise on statistical aspects of the population work.

Visitors to Crozier

Herr Helmut Barth was filming (35 mm) Adelles in connection with the conservation film being made by Herr Eugen Schuhmacher and was resident at Crozier 21-27 January and 1-12 February. Barth gave us assistance with the Adelle chick banding during his second visit. From 21-28 February the U.S. Geological Survey surveyors, D. McLean, J. Heiser and W. Mussetter stayed at Crozier to determine the exact position of the hut by sun fixes. A survey marker was placed on the rock adjacent to the hut.

A number of scientists visited Crozier to collect specimens. These included: Dr. Jacques Zaneveld and W. Simmonds of Old Dominion College, Norfolk, Va. (marine algae); Dr. Keith Wise of Bishop Museum, Hawaii (arthropods); Dr. E.D. Rudolph and C.M. Wetmore of Ohio State Univ. (lichen ecology and microclimate); Edmund Schofield of Clark Univ., Mass. (lichen culturing). We were also glad to see Dr. George Llano, Office of Antarctic Programs of the National Science Foundation, Dr. J.B. Cragg from Nature Conservancy, the well-known British ecologist, and Dr. Chester Pierce, Professor of Psychiatry, Univ. Oklahoma Medical School.



Birds Banded at Cape Crozier, 1958-64.

Species	1958-59		1961-62		1962-63		1963-64		Totals	
	Ch	Ad	Ch	Ad	Ch	Ad	Ch	Ad	Ch	Ad
Adelie Penguin	198		2310	1347	4110	304	5000	135	11,420	1984
Chinstrap Penguin						1		1		2
South Polar Skua			224	208	501	1365	237	197	962	1770

Ch = banded as chick and therefore a bird of unknown age  
 Ad = banded as adult or sub-adult

Adelie Penguin Chicks Marked at Cape Crozier, 1962-64.

	1961-62	1962-63	1963-64	Totals
	Banded Only	900	--	--
Web Punched Only	--	--	2375	2375
Banded & Web Punched	1410	4110	5000	10,520
Total Marked	2310	4110	7375	13,795

Web Punctures: 1961-62 - Middle of left web, left foot.

1962-63 - Middle of right web, left foot.

1963-64 - Middle of left web, right foot.

# # # #  
 615 North Wolfe Street, Baltimore, Maryland 21205

## INVASION FROM THE NORTHLAND

By Bob Pepper

December 16, 1963, was the start of an invasion which would last until May 6, 1964. Our home at 206 South Second Street, Denton, Maryland, had been invaded by these creatures before but never in such large numbers. They produced a piercing sound which always warned us that they were near. They ranged in color from variations of gray and white to variations of yellow, black and white. Known as *Hesperiphona vespertina vespertina* or as the winter finch Evening Grosbeak to most people, they invaded our feeders at the rate of up to 125 a day. We fed their seemingly bottomless pits about 250 pounds of sunflower seeds during the winter.

During the remainder of December, after their arrival, we banded 335 Evening Grosbeaks for an average of 20.9 a day. The highest number banded on a day, during the winter, was 75 on Christmas day. It was accomplished almost entirely with three potter traps which sat on the ground. It was quite a chore but one that any faithful bird bander enjoys. For the winter our total was 971 Grosbeaks banded for an average of 6.78 a day. The following chart shows our banding broken up into monthly periods.

MONTH	# BANDED	# OF FEMALES	# OF MALES	AVERAGE PER DAY
December	335	200	135	20.9
January	334	214	120	10.4
February	132	80	52	4.5
March	118	58	60	3.8
April	47	29	18	1.5
May	5	1	4	0.8
TOTALS	971	582	389	6.78

During the winter we recaptured 21 birds which were not ours. There were 19 Evening Grosbeaks and 2 Cowbirds. None of the birds listed were recaptured more than once. However, a bander about 15 miles from us was also getting about the same number of Evening Grosbeaks that we were, and we recaptured 27 of the ones he banded. Four of them we recaptured 3 times, and three others we recaptured twice. Sometimes it was a few days between one recapture and the next, but they were as much as two months apart. The two Grosbeaks banded at Pleasantville and the two at Swiftwater were by different people although in the same area. This made every bird recaptured banded by a different person in 9 states and Quebec, Canada. My mother, father, and I all enjoyed the busy winter with our friends, but at the time of this writing we have not seen them this winter. The following chart gives information on the recoveries.