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PROBABLE LIGHT-MORPH HARLAN'S HAWK OBSERVED NEAR BELEN, NEW MEXICO, WITH AN UNUSUAL CONCENTRATION OF WINTERING DARK-MORPH BUTEOS

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Harlan's Hawk (*Buteo jamaicensis harlani*) is currently listed as a subspecies of the Red-tailed Hawk, although for a time it enjoyed full species status. Breeding in Alaska and northwest Canada, it winters primarily in the southern Great Plains with small numbers scattered throughout the western United States. It is normally described as a dark-morph buteo showing great variation in plumage details. Nonetheless, a light-morph of Harlan's Hawk was described by Taverner (1936) in his pioneering work on the subspecies of *Buteo jamaicensis*. A brief review of current references to this rare morph may be useful.

A light-morph Harlan's is shown in the Golden Press guide (Robbins, et al. 1983) and is described briefly in the Hawks guide of the Peterson series (Clark and Wheeler 1987). A single photograph, but no description, appears in Hawks in Flight (Dunne, Sibley, and Sutton 1988). An article by Mindell in American Birds (1985) contains color photographs of both light and dark Harlan's Hawks. However, in the absence of definitive field work or museum studies, Mindell reserves judgement as to whether the light-morph of Harlan's Hawk is distinct

from the somewhat similar Krider's Hawk (*B. j. kriderii*) of the northern Great Plains. Indeed, Palmer (1988) does not accept either *harlani* or *kriderii* as valid subspecies, lumping these together in a continuum of color variation.

In his field work in southwestern Alaska, Mindell (1983) found 83% of the *B. jamaicensis* population to be *harlani* dark-morphs and 11% to be *harlani* intergrades, about equally divided between light and dark forms. The remaining 6% were identified as *harlani* light-morphs. More observations are needed, especially in western Canada, to clarify the status of light-morph *harlani* vs. *kriderii*, but Alaska is rather far from the usual range of Krider's Hawk. In any case, either a light-morph Harlan's Hawk or a Krider's Hawk is an unusual bird for New Mexico.

On February 24, 1992, I was driving south on I-25 about 5 miles south of Belen, N.M., nearing the Socorro county line when I saw two buteos perched within 2 meters of each other in the same tree, one a dark-morph and the other a light-morph. When I stopped, both flushed from the tree less than 50 meters distant. Both hawks had "Harlan's type" tails, much to my surprise, and I continued to observe them for about 20 minutes as they soared, paying special attention to the light-morph. The tails of both hawks were those of adults. Two adult buteos in such close proximity usually indicates a mated pair, although this has not been proven on the wintering grounds. The dark-morph was definitely a Harlan's Hawk.

During the next month the distinctive light-morph bird was observed on five additional occasions, often with its dark-morph companion (which had a missing primary that helped in its identification). On one occasion the two soared in close proximity for over half an hour, twice extending their feet and talons, in what would be termed courtship behavior if it were seen on the breeding grounds. Other observers of the light-morph bird included Steve Hoffman, Lisa Daly, Jim Daly, Larry Gorbet (who photographed it), and Tyler Huning. It was last observed on March 20, although its dark-morph companion was seen on April 2, 1992.

Having observed it four times myself, with others confirming the principal features, I have no doubt that it had all the characteristics of a light-morph Harlan's Hawk. The tail was white with light mottling and a broad dusky subterminal band. Ventrally the bird was very white overall, like a Krider's Hawk, but unlike the buffy appearance of a typical adult red-tail. The head was heavily marked with white, especially the crown, again like a Krider's. However, the ventral markings were very bold and black, and significantly heavier than the light brown markings of a typical Krider's.

The belly band was very prominent, especially on the flanks, and the patagial marks and wing commas stood out. It showed a distinct black necklace, which combined with the light head to give it an osprey-like aspect when perched. The dorsal surfaces of the wings and body were somewhat darker than the usual red-tail, with no apparent mottling, very unlike the lighter, highly mottled Krider's. It did show a narrow scapular "V" when perched, which appeared white

rather than buff. Another feature differing from a typical Krider's was the lack of wing windows, which are often quite striking in adult Krider's Hawks, as they are in most immature red-tails.

In searching for the light-morph Harlan's Hawk, the territory nearby was found to contain an unusual number of dark-morph buteos. In an area of about six square miles, roughly from the Bosque, N.M., post office to Casa Colorada, the dark-morph buteos seemed to outnumber the light-morphs. Besides the Harlan's Hawk pair discussed above, this area harbored at a minimum two more dark Harlan's, three dark Western red-tails (*B. j. calurus*), and a dark-morph Ferruginous Hawk (*Buteo regalis*) , a very uncommon bird in its own right. These individuals seemed fairly regular on specific territories, often in specific trees. Dark buteos are most highly concentrated as breeders from the Pacific Northwest to Alaska, but it is surprising to find this diverse little group wintering on a small patch of the middle Rio Grande valley.

It will be interesting to see if this concentration repeats in future winters. I would appreciate hearing from anyone who has observed similar wintering dark-morph concentrations in the past or does so in the future. Beyond that, I am always interested in hearing about dark buteos (or light Harlan's/Krider's), so please drop me a line at the above address if you have any unusual sightings.

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ABSTRACTS OF PAPERS GIVEN AT THE ANNUAL MEETING

OF THE NEW MEXICO ORNITHOLOGICAL SOCIETY
HELD 29 FEBRUARY AT THE NM MUSEUM OF NATURAL HISTORY

Nest site selection by piciforms in the cardon cactus of northwestern Mexico. Patrick Zwartjes and Shawn Nordell, Biology, UNM, Albuquerque, New Mexico 87131

The placement of nest cavities by woodpeckers and flickers in the arms of columnar cacti have been studied in the saguaro cactus of southern Arizona, and a non-random pattern was discovered for the position of the entrance holes. We examined the placement of nest cavities by the Gilded race of the Northern Flicker Colaptes auratus chrysoides and the Gila Woodpecker Melanerpes uropygialia in the arms of a more complex cactus, the cardon Pachycereus pringlei in the state of Sonora, Mexico. We measured the height, size and orientation of the arms of 30 cacti, which were as high as 10 meters and had as many as 60 arms. We also identified and measured the height and orientation of nest holes within these cacti, and then analyzed their position with respect to the morphology of the cactus. Both species showed a preference for orienting their holes in a northwesterly direction. Both species also showed a strong preference for placing their nests such, that the arms of the cactus were oriented behind the direction the entrance faces. These preferences were most strongly found in the northwest quadrant of the cactus, where both could be easily accommodated. The southwest quadrant, where doing both is impossible, showed the weakest adherence to this pattern, whereas the other two quadrants showed evidence of a compromise between the two preferences. The northwest orientation has been hypothesized to be preferred for thermoregulatory purposes, and orienting the nest to keep the bulk of the cactus mass behind it probably facilitates the view from the nest and the view of the nest when at a distance.

The New Mexico Breeding Bird Survey. Sartor 0. Williams III, NM Department of Game and Fish, PO Box 25112, Santa Fe, NM 87504

The Breeding Bird Survey (BBS) in New Mexico is part of a cooperative North American effort jointly sponsored by the US and Canadian federal wildlife agencies. In 1968, 31 routes (one per degree block) were established in New Mexico; these have yielded an important bank on the distribution, relative abundance, and population trends of the state's breeding avifauna. Survey methods, advantages and disadvantages of the technique, and uses for the database will be discussed. One use is demonstrated by a preliminary analysis of trends for the five New Mexico routes that sample managed ponderosa pine forests, which found significant declines in most species. Recognizing the value of the BBS in detecting bird population trends over time, the number of routes in New Mexico will be doubled in 1992. Volunteers will be actively recruited.

Neotropical migrants: are they declining? Preliminary results from Rio Grande Bird Research banding. Nancy S. Cox, Biology, UNM, Albuquerque, New Mexico 87131

Rio Grande Bird Research, Inc. (RGBR) has been conducting a fall bird banding project since 1979 at the Rio Grande Nature Center in Albuquerque, New

Mexico. The annual fluctuation in birds encountered brought up the question: what is the general trend of bird populations? There seems to be a consensus that neotropical migrants are on the decline due to increased urbanization in this country and deforestation in the tropics. I analyzed 1985 through the fall of 1991 banding data to look for any trends in numbers of neotropical migrants in RGBR encounters. There are many species within the following families showing a downward trend in their numbers. These include the Tyrannidae (flycatchers), Vireonidae (vireos), Emberizidae subfamily Parulinae (warblers), subfamily Thraupinae (tanagers), and subfamily Cardinalinae (grosbeaks). When examined separately, only the Wilson's Warbler (*Wilsonia pusilia*), House Wren (*Troglodytes aedon*) and the Lazuli Bunting (*Passerina amoena*) showed an increase.

Phylogeny versus ecology in the evolution of clutch size. Jean-Luc Cartron, Biology, UNM, Albuquerque, New Mexico 87131

The evolution of clutch sizes in birds represents one of the most debated questions in avian biology. Several hypotheses focusing on the ecology of species have been proposed, none of which accounts for all the observed reproductive patterns. The present study suggests that clutch sizes may be primarily determined by the interaction between phylogeny, life history strategies, food availability and energy budgets. Whether emphasis is put on immediate reproductive effort or survivorship depends on the evolutionary pathway taken by a species. For a given population mortality rate, an optimal energy budget allocated to reproduction should be selected and, depending on seasonal food abundance, translate into a certain clutch size. Ultimately, closely related species tend to have similar clutch sizes because of similar life histories and energy budgets.

A report of the ornithological collection of the Museum of Southwestern Biology. Robert W. Dickerman, Acting Curator, MSB, UNM, Albuquerque, New Mexico 87131

Efforts are under way to make the MSB an outstanding regional ornithological resource for the Southwest (Arizona, New Mexico, and Trans-pecos Texas). There are three goals: (1) To maximize its function as a teaching resource for New Mexico. (2) To maximize its potential as a resource for current ornithological research in New Mexico and the Southwest. (3) To serve as a repository for materials documenting the distribution of and research on the avifauna of New Mexico and the Southwest. The history and major elements of the collection, current status and usage, and progress being made in achieving the stated goals will be discussed.

New inferences about the genealogical relationships of Gruiformes based on mtDNA sequences. Peter Houde Biology, NMSU, Las Cruces, New Mexico 88003

Parsimony analysis of newly determined 12S ribosomal gene nucleotide sequence (i) provides the first molecular genetic evidence for the position of

Madagascan mesites among other families of Gruiformes, closer to seriemas and trumpeters than to cranes, (ii) argues for a very close relationship of seriemas and trumpeters, contrary to the conclusions of Sibley and Ahlquist based on DNA X DNA hybridization, (iii) supports the sister relationship of African Finfoot and Sungrebe, (iv) and supports the sister relationship of rails and finfoots, versus finfoots, Limpkin, and cranes as proposed by Sibley and Ahlquist.

Female mate choice in House Sparrows. Rebecca T. Kimball, Biology, UNM, Albuquerque, New Mexico 87131

Differences between males and females are thought to arise from male-male competition for females or female preference for brighter males. I am conducting a study of House Sparrows to determine the traits that females use when choosing a mate. Laboratory tests, where females were allowed to choose among four males, were used to determine the morphological male traits females preferred. In the field, I hung boxes in clusters of one or two. Territories with two boxes allow pairs to renest in clean boxes where there are no nest parasites. This allows me to determine whether females use territory quality in addition to, or instead of, male traits. I am also examining whether male traits, territory quality, or male nest attentiveness correlate with number of young fledged by each pair.

Eastern Bluebirds nesting in southwestern New Mexico. Dale A. Zimmerman and Stephen O. MacDonald, 1011 W. Florence Street, Silver City, New Mexico 88961

In June 1991, a pair of Eastern Bluebirds (*Sialia sialis*) successfully raised three young in the Gila River Valley of Grant County, at an elevation of about 4300 feet. The nest cavity was in a Goodding's Willow (*Salix gooddingi*) beside an irrigation ditch in the Gila floodplain. Both adults and young were photographed. Although subspecific identification remains problematical in the absence of specimens, geographic probability and the adults' appearance suggest that the birds represent the pale *S. s. fulva*, known to nest in southeastern Arizona's Chiricahua Mountains, and in cottonwoods along Sonoita Creek near Patagonia, at an elevation of about 4000 feet. A possible second nesting attempt was made by the pair in July. Five eastern Bluebirds were observed by the nest tree as late as 29 October, and at the same site at least as late as 28 December 1991. The only previous New Mexico breeding record of the species, apparently involving the nominate eastern race, was at Rattlesnake Springs, near Carlsbad, in 1975.

Population trends of breeding birds in a mountain valley complex in north-central New Mexico. James R. Travis, 9420 Avenida de la Luna NE, Albuquerque, New Mexico 87111

The Ojo Sarco Breeding Bird Survey taken in consecutive years from 1968 through 1991 shows a significant decline in the populations of summering species in the Rio Pueblo area of north-central New Mexico. The average annual decrease in the number of individuals counted was 2.4%. Statistical analysis of the population trends of the 51 regular breeding species showed that 21 declined, 4

increased, and 26 remained unchanged. Six major habitats were sampled in this survey: mountain riparian, cultivated fields, piñon/juniper woodland, ponderosa pine forest, mixed conifer forest, and farming villages. No systematic patterns related to the population trends in the bird communities were found. Two neotropical migrant species, the Black-throated Gray Warbler and Grace's Warbler, decreased the most (13% per year), but a statistical comparison of the set of neotropical migrants with the resident species showed no significant difference between them. Trends for the important species, comparison with other surveys, and the reliability of the results are discussed in the talk.

Seasonal patterns of migration in Accipiters: differential migration. James L. Daly, Biology, UNM, Albuquerque, New Mexico 87131

Differential migration is described as variation in seasonal timing and geographic pattern of migration within species. Specifically, the variation occurs between different populations of a species, and/or between different age and sex classes within a population. Four years of data (1985-1988) were analyzed to examine differential migration between age classes (immature and adult) of Sharp-shinned Hawks and Cooper's Hawks during spring and fall migration. Visual observations were conducted from study sites in the Sandia Mountains (spring migration) and Manzano Mountains (fall migration) of central New Mexico. Differences in seasonal timing and pattern of migration for adults and immatures were tested using ANOVA and chi-square procedures. In general, differences do exist, with immatures preceding adults during fall migratiion and adults preceding immatures during spring migration. Results are discussed with respect to existing studies and hypotheses on differential migration.

Some 1991 New Mexico birding highlights. John Parmeter, James Black, and Larry Gorbet, 209 Columbia SE #32, Albuquerque, NM 87106

The talk will consist largely of a slide presentation, showing some of the more unusual birds recorded in New Mexico in 1991, as photographed by James Black and Larry Gorbet. John Parmeter will give the talk and comment on some of the records. Strictly as a fun exercise, an attempt has been made to rank the 10 "best" birds found in the state during 1991.

Trends in migratory rapter counts in the Rocky Mountain West, 1977 1990. Stephen W. Hoffman, William DeRagon, and James C. Bednarz, HawkWatch International, PO Box 35706, Albuquerque, NM 87176

Standardized season-long counts of migratory raptors were made by one or more skilled observers at the following remote, mountaintop lookouts: Wellsville Mountains, UT (1977-1979 and 1987-1990), Goshute Mountains, NV (1983-1990), Sandia Mountains, NM (1985-1990), and the Manzano Mountains, NM (1985-1990). Statistical trends were assessed for a dozen raptor species by simple regression, nonparametric rank-trend analysis, and route regression (all sites pooled). Adjustments were made for the number of observers when appropriate. Results suggest increases in Turkey Vultures and Ospreys, and declines in

Northern Goshawks and Golden Eagles. Trends were not entirely consistent across all sites, suggesting the need for additional monitoring locations. Several more years of data will be required to determine if these trends sustain themselves over the long term. Regional trends in raptor populations as revealed by standardized migratory counts may serve as valuable early warning signals of ecological change, providing opportunities for corrective actions before raptors or other species become threatened or endangered.

The thermal advantages of Cactus Wren roosting behavior. Greg Farley, Biology, UNM, Albuquerque, NM 87131

Species in the wren genus *Campylorhynchus* share the unusual avian behavior of year-round obligate cavity roosting, despite variation in several aspects of their ecology. This behavior is also likely to be present in all species in the family Troglodytidae, suggesting evolutionary history has had a profound effect on the expression of this trait in living wren species. I tested this premise by quantifying the energetic savings of roosting in three closely related species which occupy different habitats. The differences between ambient and within-roost temperatures averaged 20 degrees Centigrade for Cactus Wrens (*C. brunneicapillus*) at the northern end of their distribution in New Mexico, whereas data from near the southern range boundary in central Mexico are significantly lower. Individuals in this species always roost alone. Congeners (*C. gularis* and *C. jocosus*) occurring at the same latitude in Mexico show differences of 16-18 degrees Centigrade, and roost in groups of 4-10 individuals. These data suggest that limitations in thermal physiology in this taxon have resulted in behavioral modification of cold ambient conditions through roosting behavior.

THE 1992 ANNUAL MEETING REPORT

The 30th annual meeting of the New Mexico Ornithological Society was held Saturday 29 February 1992 at the New Mexico Museum of Natural History in Albuquerque, New Mexico.

President Mary Alice Root called the business meeting to order at 9:00 a.m. Ross Teuber gave the treasurer's report, Rollie Goodman reported on the Field Notes, Burt Lewis and Jackie McConachie gave an update on the NMOS Field Notes Database. Volunteers are needed to help input the data. John Durrie reported on the progress of the New Mexico Bird Finding Guide. He thanked Ross Teuber, Pat Snider, Jim Karo, Dale and Marian Zimmerman, Mary Alice Root, and Bo West for their contributions. A pre-publication copy of the guide is available to view. The guide should be available by June 1. Jim Travis, chair of the nominating committee (with Pat Insley and Bo West) read the following proposed slate of officers for 1992-94: President, Sandy Williams; Vice-President, Mary Alice Root; Secretary, Paul Steel; Treasurer, Ross Teuber; Directors, Pat Basham, Burt Lewis, Jackie McConachie. The slate was accepted by acclamation.

At 10:00 a.m. Mary Alice Root introduced Dr. Kit Matthew, director of the New Mexico Museum of Natural History, who gave the welcoming address. The paper session followed with Greg Farley, UNM, introducing the speakers. Fourteen papers were presented. (See abstracts in this issue of the Bulletin.)

Approximately 85 persons registered for the meeting. Jackie McConachie and Mary Alice Root made the arrangements for the meeting. Clara Teuber manned the registration table, and Gloria Travis and Rose Brasel again baked home-made pastries for the coffee breaks. Jay Lack of Farmer Brothers Coffee Company again donated the coffee equipment and supplies.

The banquet was held at the Old Town Sheraton with 42 people attending. The outgoing president, Mary Alice Root, thanked the board and the members for their support, and thanked all of those contributing to the New Mexico Bird Finding Guide. Dr. J. David Ligon and Dr. Dale and Marian Zimmerman received Life Memberships. The outgoing board members presented a Life Membership to Mary Alice Root. The new life members also received NMOS T-shirts or mugs with Dale Zimmerman's Black-throated Sparrow drawing on them. (The T-shirts and mugs ordered for the meeting were completely sold out.)

At 8:15 p.m. at the New Mexico Museum of Natural History the featured speaker, Dr. J. David Ligon, UNM, spoke on "The evolution of cooperation in birds." Dr. James S. Findley, UNM, introduced Dr. Ligon.

A Sunday morning field trip to the corrales Preserve was led by Dr. Findley.

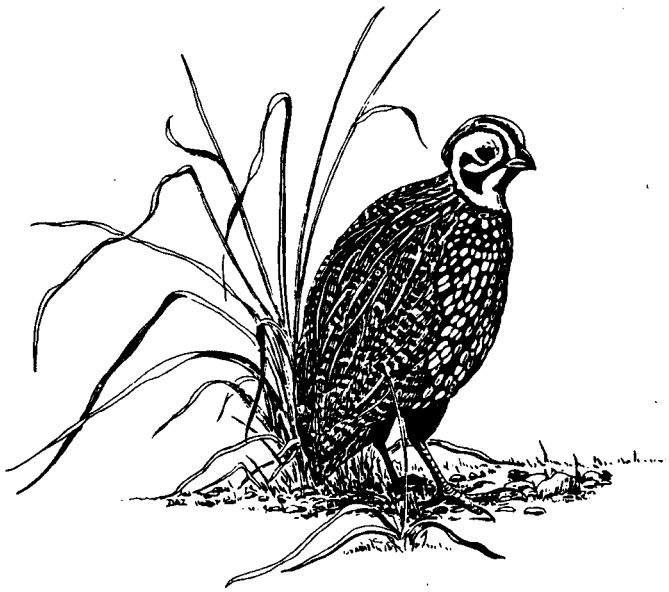
NOTES OF THE 29 FEBRUARY BOARD MEETING

The new president, Dr. Sartor 0 Williams III presided. Discussion followed on forming an editorial committee to solicit and review articles for the NMOS Bulletin, on raising dues for 1993, on $ for database software, on the disposition of raw data accumulated from the Field Notes, on deciding to have the UNM Printing Plant print the New Mexico Bird Finding Guide, especially since UNM supported the computer work. Another board meeting is to be held in about 90 days.

SUMMARY OF MAY BOARD MEETING

The NMOS Board of Directors met 16 May 1992. The revised Bird Finding Guide is being printed by the UMN Printing Plant and will be available for sale early in June. An Editorial Board will be appointed to review and solicit articles for the Bulletin. Two issues of Field Notes are nearly ready for printing. Much progress has been made on the Database project: to iron out some of the bugs, Board members were assigned an issue of the Field Notes to test a data entry form. Dues will be increased commencing January 1, 1993: Regular-$10, Family-$15, Supporting-$35 and Life will remain at $300. However, 1993 renewals and new members can pay current rates if paid prior to November 1, 1992. Roswell and

other locations were reviewed as possible sites 1993 Annual Meeting. NMOS will support Pat Snider's RARE BIRD ALERT by paying the $20 monthly telephone bill. A promotional brochure will be developed explaining the purpose and programs of NMOS. Involvement in BLM's WILDLIFE 2000 PLAN will be pursued. NMOS will again actively participate in the Festival of the Cranes. Volunteers are needed to handle the promotion, production and distribution of NMOS publications.



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