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Authors: Snyder, Noel F. R., Budney, Gregory F., and Iñigo-Elias, Eduardo E.

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EVALUATION OF THE NELSON CAROLINA PARAKEET FILM

NOEL F. R. SNYDER,^{1,3} GREGORY F. BUDNEY,² AND EDUARDO E. IÑIGO-ELIAS²

¹*P.O. Box 16426, Portal, Arizona 85632, USA; and*

²*Cornell Laboratory of Ornithology, 159 Sapsucker Woods Road, Ithaca, New York 14850, USA*

DURING THE ANNUAL meeting of the American Ornithologists' Union (AOU) in Fayetteville, Arkansas, in 1969, Roger Tory Peterson presented a 16-mm color film that potentially illustrated living Carolina Parakeets (*Conuropsis carolinensis*) in the wild (see McKinley 1977). This film, now known to be ~50 s in duration and to consist of three clips of birds in a tree draped with what appears to be Spanish Moss (*Tillandsia usneoides*), was a copy of footage of unknown origin and date supplied by Dee Jay Nelson, an Audubon lecturer. Nelson claimed that he had obtained the original film from a boat operator in the Okefenokee Swamp of Georgia but was unable to determine conclusively who had done the photography and where the footage had been exposed.

Several birds, apparently all parrots, were visible in the footage, but although these birds showed some field marks typical of Carolina Parakeets, including some yellow and orange head coloration, there was no consensus among the AOU attendees of 1969 that the birds were actually Carolina Parakeets. If indeed they were living Carolina Parakeets, the fact that the footage was in color suggested that the existence of the species may have extended to at least 1936 or 1937, when color film first became available to the public—a date much more recent than the usually proposed dates for extinction of this species, which run mostly from 1904 to 1920 (see Hardy 1978, McKinley 1985, Snyder and Russell 2002, Snyder 2004).

The film in question was no longer available for viewing when McKinley prepared his review of the Carolina Parakeet in Georgia (see McKinley 1977). Similarly, when one of us (N.F.R.S.) contacted Nelson about viewing this film in 1979, the latter responded that he had mislaid the original and could not provide either the original or a copy for inspection. However, Nelson also indicated that a copy had been sent earlier to the National Audubon Society (NAS). It is possible that this was the same copy that Peterson once had in his possession and exhibited at the AOU meeting of 1969. Unfortunately, when contacted in 1980 and 1981 by N.F.R.S., the NAS and Peterson were unable to locate a copy of the film, and from then until recently the film continued to be unavailable for study. In a letter

to N.F.R.S. dated 14 December 1981, Peterson acknowledged that he once had a copy of the Nelson film but stated that it was unclear whether the film actually illustrated Carolina Parakeets.

Fortunately, we learned in 2005 that Peterson's copy of the film had been discovered among his effects bequeathed to the Roger Tory Peterson Institute after his death. A digital rendition of the film copy is now archived at Cornell University's Laboratory of Ornithology and is available online for inspection (see Acknowledgments).

Here, we report on a close examination of this film and conclude that although it shows at least one living parrot in a setting that seems potentially appropriate for the Carolina Parakeet, the birds in view are probably not living Carolina Parakeets. The one individual that seems clearly alive exhibits relatively drab coloration and appears to be some other parakeet species artificially colored to look somewhat like a Carolina Parakeet. Two other individuals in the film exhibit coloration that is much more vivid and more closely matches that of the Carolina Parakeet, but these birds do not move naturally and very likely are not alive. Like the living bird, both could have been specimens of some other species colored to resemble Carolina Parakeets. Alternatively, one or both may have been Carolina Parakeet taxidermy mounts or models painted to resemble Carolina Parakeets. Multiple anomalous features of the film suggest that it is a deliberate, but clumsy, hoax.

DESCRIPTION AND ANALYSIS OF THE FILM

As described by Dee Jay Nelson to N.F.R.S. in a telephone conversation on 16 August 1979, the film came into Nelson's possession at an unspecified date, probably in the early 1950s, during a boating trip in the Okefenokee Swamp. On that occasion Nelson's hired boatman sold him an old movie camera, a Model B Eastman, housed in a shotgun shell box. The box also contained eight rolls of processed movie film, which Nelson did not view until some 15 years later. The rolls were uncut originals, and one of these proved to contain footage of what appeared to be potential Carolina

³E-mail: nfrs16426@vtc.net

Parakeets sandwiched between scenes of an American Alligator (*Alligator mississippiensis*) and an Oak Toad (*Bufo quercicus*). The latter are species typical of the Okefenokee, although there was no way to know whether the film was actually taken there. According to Nelson, the film was not taken by the boatman but may have been taken by a previous owner of the camera, an individual named Orsen Stemville from nearby Crawford, Florida. Nelson stated that he was never able to locate Stemville to learn more about the origins of the film. Overall, Nelson's account of the film was delivered with conviction and panache, and seemed plausible, although it was surprising that it took him 15 years to first view the film and that he could no longer locate the film.

The film, as it is presently available in copy form, includes no adjacent footage of alligators, toads, or any other subjects and illustrates what appear to be three parrots variably concealed in foliage of a shrub or tree draped with what appears to be Spanish Moss. The tree species is not one with which we are familiar, although it appears to have small red fruits or flowers. Botanists we have had view the film, including individuals familiar with the flora of Georgia and Florida, have likewise been unable to identify the species involved (F. R. Wesley, J. Lopez, J. Nelson, and A. Sanders pers. comm.), and it seems possible that it may be some sort of exotic ornamental. Two of these botanists (Lopez and Sanders) also expressed doubts as to whether the Spanish Moss in view had grown originally on the tree, suggesting instead that it may have been placed on the tree from another source.

The birds in view appear to be fairly small (none subtends more than about one fifth of the width of the frame), but all are sufficiently large and visible to reveal many details of coloration and anatomy despite limitations in resolution of the footage. The film is of much better quality than we had expected on the basis of Nelson's verbal description of its characteristics to N.F.R.S. in 1979.

Only one of the three birds in the film is actively moving about among branches; the other two remain stationary on perches in the foliage, except for brief, peculiar movements described below. The bird moving about actively is the one most clearly visible and is quite surely a parrot of some sort, judging from its largely green coloration, bill shape, and use of the bill in climbing about the branches. From its pointed tail, it also appears likely to be a parakeet of some sort. However, beyond these general features, the bird's resemblance to a Carolina Parakeet is not compelling. The bird shows some traces of the vivid orange coloration found on the forehead and cheeks of both adult and immature Carolina Parakeets, but this color seems to be limited to the central forehead region and lacks brilliance. Further, while there is some yellow coloration to the rest of the head and throat, it is only a dingy brownish-yellow quite different from the bright yellow head coloration of a typical adult Carolina Parakeet or the green head coloration of a typical immature Carolina Parakeet. Another aspect of this bird's coloration that does not clearly suggest a Carolina Parakeet is an irregular whitish patch in the mid-back region, which, however, may be due to some missing contour feathers revealing light-colored bases of adjacent contour feathers. Here it should be noted that the footage overall is reasonably well exposed. Tree foliage and sky visible in the footage are quite colorful in hue, not faded. Further, two additional parakeets in the film, to be discussed below, appear to be properly hued for Carolina Parakeets.

In clip 1, the bird active in the footage is initially seen at the bottom of the frame chewing on something in its flesh-colored bill, possibly red berries or flowers also seen in nearby branches. Then, surprisingly, as it clambers up a branch near the end of this clip, it appears to be dragging behind it some sort of yellow-colored object comparable in length to its tail—possibly a slender piece of wood tied in some fashion to one of its feet—conceivably some sort of tether that came loose. In clip 2, this bird (presumably the same bird, judging from its coloration, position, and movements) is difficult to see behind obscuring leaves. It continues to move about, but it is hard to judge what it is doing. This bird is not clearly present at all in clip 3. At one point in clip 1, the bird can be seen well in profile, and its head and bill shape do not seem to provide a close match to those of the Carolina Parakeet. In particular, the bill of the bird projects much too far forward to suggest this species.

The other two birds visible in the footage also have puzzling characteristics. The one in a relatively central location in all three clips is mostly obscured by vegetation and is visible only as what appears to be a loosely attached wing that is seemingly associated with what looks like a near-profile view of the motionless head of a parakeet. This head, which is inclined somewhat downward, has a vividly orange forehead and cheeks, a bright yellow throat, a white bill, and apparently a white eye-ring—all characteristics of typical adult Carolina Parakeets. However, the head can be seen only intermittently and partially through the wind-blown foliage, which raises uncertainties that it is really the head of a bird. The head is in the same position and orientation in the foliage in clips 1 and 3, but the bird appears to be displaced a few centimeters downward and is much more obscured behind vegetation in clip 2 (possibly because of a change in camera angle), although still motionless and with the same downward inclination of the head.

The apparent wing of this bird swings back and forth across an opening in the leaves to the left and below the bird's head on several occasions in clips 1 and 3—motions possibly caused by the wind—and it seems likely that it is the underside of the right wing that is visible at these times, judging in part from the adjacent position of the apparent head and throat, and in part from the apparent curvature of the primaries. The motion of the apparent wing looks unnatural enough, especially given that it is not associated with any obvious movements of the apparent head, that it raises doubts as to whether the wing belongs to the head or to a living bird. The wing appears to have distinctly bluish primaries and a substantial yellow patch near the bend of the wing on the underside. Although Carolina Parakeets have a substantial yellow patch near the bend of the wing on the wing underside, their primaries are grayish, not bluish, on the underside and are only faintly bluish on the topside, which lacks a yellow patch.

The third bird is much more clearly visible than the second and is perched in near profile near the top left of the field of view with most of its head and breast and one folded wing in full view. This bird is in the same position in the foliage in clips 1 and 3, but it is missing from this position in clip 2, which suggests that the three clips may not be in chronological order in the footage. Like the second bird above, the third bird appears to have a bright yellowish color to the throat and most of the head and neck, and it has much more distinct orange in the forehead and cheek region surrounding the whitish eye-ring than the first bird. This bird does not appear to move its head in relation to its body during the

course of the footage, showing none of the compensatory movements one might expect to see in a bird jostled about on its perch in the wind. Just before the end of clip 3, the entire bird appears to be pulled suddenly and rapidly, but passively, downward and somewhat to the right into concealing foliage, disappearing without showing any detectable head or wing movements independent of the overall movement of the body. The lack of any independent head movements in clips 1 and 3 and the thoroughly unnatural-seeming disappearance of this bird in clip 3, best viewed in slow motion, suggest a nonliving bird or model that was somehow withdrawn from view without warning and without apparent response in the bird.

To sum up, none of the three birds convincingly matches a living adult (or immature) Carolina Parakeet in both visual appearance and behavior, although the coloration of two of the birds is close to appropriate for this species. The head–bill shape of the bird that is clearly living and is most clearly visible appears to be different from the head–bill shape of a Carolina Parakeet, and its coloration is only weakly suggestive of this species. The other two birds are never seen in full profile, so whether their head–bill shapes closely resemble that of a Carolina Parakeet is not determinable. In any event, despite their much closer resemblance to Carolina Parakeets in head color, these two birds do not move in a convincingly natural fashion and they could be dead birds or models. A perusal of Forshaw's *Parrots of the World* yields no species other than the Carolina Parakeet that is colored at all like the birds in the film, but it seems very possible that this resemblance had been produced, at least in part, by artificial means.

DISCUSSION

Artificial coloration of psittacines to change their apparent identities is a well-developed practice in the illegal bird trade, and the technology exists to create truly realistic coloration matches to Carolina Parakeets, starting with a variety of other similar-sized psittacines. We know of two instances of U.S. ornithologists visiting Mexican cities in recent decades and finding excellent ersatz examples of living Carolina Parakeets for sale on the streets. Similarly, some of the Thick-billed Parrots (*Rhynchopsitta pachyrhyncha*) received from confiscations for the release program conducted in Arizona in the 1980s and 1990s (see Snyder et al. 1994) came in with completely yellow heads. Presumably, these had been colored for sale as Yellow-headed Amazons (*Amazona oratrix*), a species especially valuable in the trade because of its ability to imitate human speech. Another of us (E.E.I.E.) has seen and photographed multiple examples of other Mexican psittacines colored to resemble Yellow-headed Amazons in the bird trade.

If not the Carolina Parakeet, what species might the clearly living individual in the Nelson film really be? No unambiguous cues exist in the footage to establish an accurate absolute size of the bird, so size considerations are no help in identifying a potential source species. However, the forward-projecting bill seen in this bird strongly suggests some species of parakeet in the genus *Brotogeris*, although the tail lengths of most *Brotogeris* spp. in relation to body length are shorter than the tail length of this bird (see Forshaw 1989:466–470, 527–539). Nevertheless, the Plain Parakeet (*B. tirica*) and the Canary-winged Parakeet (*B. versicolorus*)

appear to possess sufficient tail lengths to match the bird in the film. Further, the flesh-colored bill coloration of both these species, as described and illustrated in Forshaw (1989), appears to represent a reasonably good match to the bill coloration of the bird in the film. The head coloration of this bird could have been produced by artificial coloration, perhaps involving peroxide treatment, of the uniformly green head of either species.

However, as viewed during clip 1, the wings of this bird do not appear to extend anywhere near far enough along the tail to indicate normal wing length for a Canary-winged or Plain parakeet (or a Carolina Parakeet, for that matter). This failing could well be due to the distal portions of the flight feathers having been clipped off to prevent flight (not an unreasonable possibility if the bird was a captive at partial liberty). There also appears to be a line of yellow coloration visible in the bird's right wing in a position that could reflect some yellowish white secondaries of a Canary-winged Parakeet. Unfortunately, the bird never opens its wings to reveal just how complete its primary and secondary feathers might be. Finally, there appears to be a yellowish wash to the rump of this bird, which is a characteristic of neither the Carolina Parakeet nor the two *Brotogeris* spp. The significance of this yellowish wash is uncertain, but it is worth noting that it resembles the bird's head color in hue and might conceivably represent some spillage of the peroxide or other material potentially used in coloring the head of the bird.

Thus, we suspect that the one clearly living bird in the footage may well have been an artificially colored and wing-clipped *Brotogeris*, perhaps most likely a *B. versicolorus*. This common South American species has a natural range centered in Brazil, but it is also widely available in the U.S. pet trade and has feral populations in many U.S. regions, such as Puerto Rico, Florida, and California (see Forshaw 1989, Raffaele 1989). Aside from its head–bill shape, another species that could easily have been modified into the living bird in the film is the Green Parakeet (*Aratinga holochlora*) of Mexico, and indeed many confiscated Green Parakeets along the U.S.–Mexican border in recent decades have had heads modified to a yellow or light orange coloration, according to U.S. Fish and Wildlife Service and Animal and Plant Health Inspection Service records. Other species are also possible as a starting point for the living bird in the film, but the modifications needed would be more extensive and more difficult to achieve. The possibility that the living bird in the film was a real Carolina Parakeet with badly deteriorated feathers from extended captivity is difficult to exclude completely but seems unlikely because of the bird's forward-projecting bill (for comparison, see the clearly downward-projecting bill in the 1900 photograph of a living Carolina Parakeet presented in Cokinos 2000:45).

Overall, we believe that the film is most reasonably regarded as an unpersuasive attempt to simulate living Carolina Parakeets, although it remains murky who may have done this, for what reason, and at what date. Nelson's description of how he acquired the film suggests the mysterious Orsen Stemville as a possible perpetrator, although a potential motive for Stemville is completely speculative. In efforts to track down what might be learned about Orsen Stemville in Crawford, Florida, we have so far failed to come up with any evidence of this individual in interviews of local residents and examination of county records as far back as the 1930s.

Another candidate for cinematographer of the film is Nelson himself, in which case his description of the circumstances

surrounding acquisition of the footage, like the film itself, could well have been a fabrication. Nelson (a long-standing resident of Billings, Montana, and now deceased for 20 years) was engaged in presenting screen-tour lectures in the 1960s, and it could be argued that he may once have envisioned such footage as an asset in such activities. However, we have failed so far to gain evidence bearing on the question as to whether he ever exhibited the parakeet footage to the general public.

Nelson's stated inability to locate the original parakeet footage when he was contacted in the 1970s could have been exactly that, or he may by then have concluded that the footage was sufficiently flawed that it was not to his benefit to encourage careful analysis of the film. It is relevant to note that in later years Nelson was involved in a heated controversy with the Mormon Church during which he was accused of misrepresenting his academic background to indicate that he was an expert Egyptologist and had multiple advanced degrees (Brown and Brown 1981). If true, this accusation could be considered germane to an evaluation of the origins and validity of the parakeet film as well, although even if true, it does not in itself prove that Nelson was the creator of the film.

In any event, we wish to provide a more comprehensive and negative judgment on the validity of Nelson's footage than was provided by McKinley (1977), Hardy (1978), R. T. Peterson (unpublished letter to N.F.R.S., 14 December 1981), Snyder and Russell (2002), or Snyder (2004). Having now seen and studied this footage ourselves, we do not believe that it represents credible evidence for a late occurrence of living Carolina Parakeets, despite the intriguing nature of Nelson's claims.

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