reached a similar conclusion regarding European Nightjars in northern Europe. Survival value of torpor is probably greatest in spring, when returning migrants may be faced with cold and perhaps wet weather for several days, as occurred at Pocatello in May 1968. In the autumn the Poor-wills depart from southeastern Idaho when the weather is mild and flying insects are plentiful.

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USE OF DIPPER NEST BY MOUNTAIN BLUEBIRD

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Dippers (*Cinclus mexicanus*) often nest on the supporting beams of bridges. I visited one such nest near Togwotee Pass, Wyoming (Teton National Forest Road 30018 over Black Rock Creek), in each of three summers. The underside of this bridge also contained a colony of Cliff Swallows. On 23 July 1967 the nest was occupied by a pair of Dippers with two chicks, all of which I banded. Possibly as a result of this disturbance, there were no Dippers there in 1968. The nest was being utilized by Mountain Bluebirds (*Sialia currucoides*) who had 4 eggs (7 July) and 4 chicks (27 July). By 10 July 1969 occupancy had reverted to Dippers, but apparently to different individuals, as neither adult bore a band. At least two chicks were in the nest.

The Mountain Bluebird nests in river-bank cavities of Bank Swallows (Bent, U.S. Natl. Mus., Bull. 196: 278, 1949), but I find no record of use of a Dipper nest by the bluebird.

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VARIATION IN AVIAN PLASMA PROTEINS

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In a recent paper, Sibley and Hendrickson (Condor 72:43, 1970) showed that avian plasma proteins (as delimited by starch gel electrophoresis) are of little value in uncovering the relationships of the higher categories of birds. They found a basic similar pattern in all the birds examined, but great variation in minor protein bands. I have examined the plasma proteins of many passerine species using disc acrylamide electrophoresis and would like to place on record much the same conclusions as reached by Sibley and Hendrickson.

Avian blood was collected in a culture tube containing a tablet of potassium oxalate dissolved in a 1.0 per cent saline solution. The tubes were immediately placed on ice and the red blood cells precipitated by centrifugation. The resulting supernatant was submitted to electrophoresis. The technique used was similar to that described by Davis (Ann. New York Acad. Sci. 121:404, 1964), and Ornstein (Ann. New York Acad. Sci. 121:321, 1964). A tris-glycine buffer at *p*H. 8.5 with Brom-phenol blue added as a marker was used. Ten tubes, each conducting 5 ma, were run simultaneously in a cold room and the current was terminated after the Brom-phenol blue front had migrated 32 mm. The gels were stained for general protein with an amido black solution, and destained in 8 per cent acetic acid.

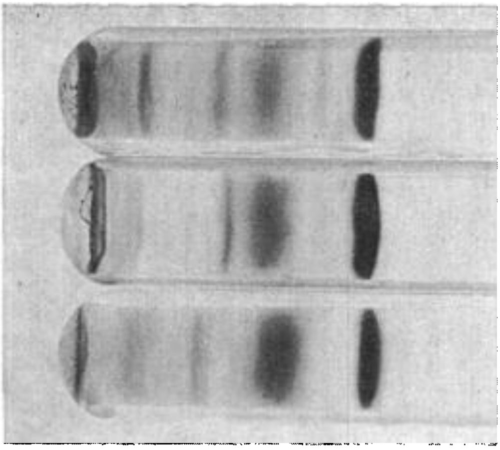

FIGURE 1. Acrylamide gel electrophoresis patterns of: *Catharus aurantiirostris* (1), *Zeledonia coronata* (2), and *Myioborus torquatus* (3).

In both suboscines (Feduccia, Wilson Bull., in press) and the oscines (see fig. 1) there is an overall similar pattern, but a great deal of variation in minor bands, which may be due to such factors as polymorphisms, age, sex, health, etc. In general, the plasma protein electrophoretic profiles appear to be of little use to the systematist interested in the evolution of the higher categories of birds.

An example which justifies the above conclusion is seen in figure 1. There has long been dispute as to the exact systematic position of the Wren-thrush (*Zeledonia coronata*). It has generally been placed either in the Turdidae or in a separate family, Zeledoniidae, near the thrushes. Sibley (Postilla 125:1, 1968) has shown that the egg-white proteins tend to negate turdid affinities of the Wren-thrush, and advocates its placement within the "nine-primaried" assemblage, possibly with the wood warblers. The plasma protein electrophoretic patterns of *Catharus* (a thrush), *Zeledonia*, and *Myioborus* (a wood warbler) are shown in figure 1. They are amazingly similar and reveal nothing about the relationships among these birds.

Disc acrylamide electrophoresis of avian plasma proteins confirms earlier results from starch gel electrophoresis (Sibley and Hendrickson, op. cit.). Although the plasma proteins may be of little use in resolving relationships among the higher categories of birds, they may prove to be of great use at the species level.

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SOCIAL STIMULATION MODIFIES THE FEEDING BEHAVIOR OF THE AMERICAN ROBIN

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Little attention has been given to the details of feeding behavior which generates omnivory in animals. It should be of interest to determine the way in which environmental stimuli act, within the context of genetically determined morphological and behavioral attributes, to produce a varied diet in one species and a monotonous diet in another. Toward this end, the following observation is offered.

The characteristic foraging style of the American Robin, *Turdus migratorius*, is one of the most familiar animal behavior patterns. Robins feed on insects, earthworms, and fallen fruits at the surface of the ground, on insects gleaned from bushes and trees, and on fruits in bushes and trees where these can be reached from convenient perches. Robins which overwinter on the campus of the University of California, Berkeley, are frequently observed using all of these foraging methods, with ground foraging (as described by Heppner, Condor 67:247, 1965) most conspicuous.

Each January and February, flocks of Cedar Waxwings, *Bombycilla cedrorum*, become common in coastal central California. One such flock of about 50 birds was first seen on the University of California campus on 18 January 1968. At that time the birds were actively feeding on the berries of an ornamental juniper tree. Individual waxwings would leave a perch, hover by the tree to remove a berry, and then fly to a perch to swallow the berry. The close flock formation and active feeding made the waxwings quite conspicuous. At this time I noticed two robins fly to the same juniper tree and begin to feed in a manner identical to the waxwings; berries were taken while the robins attempted to hover in front of the tree. After taking a number of berries in this manner, the robins flew to another tree and perched with part of the waxwing flock.

I had observed robins using this feeding method on two prior occasions in early 1967, once on juniper berries and once on the fruit of toyon, *Heteromeles arbutifolia*. Similar behavior was subsequently observed on 24, 25, and 26 January 1968 on toyon. In each case it occured in the midst of a flock of feeding Cedar Waxwings. Thus, it appeared that this behavior was initiated by interspecific contagion or social stimulation.

Recently Paulson (Auk 86:759, 1969) described several cases of commensal feeding in grebes in which the feeding efficiency of the grebes was enhanced by association with feeding ducks. In the present case the waxwings called attention to the food but did not contribute directly to the efficiency of feeding by robins. It is advantageous for an omnivorous species such as the robin to remain flexible in feeding behavior. The ability to respond to social stimulation allows the robins to exploit temporarily abundant food sources that are discovered by other species, and thus eliminate the need to sample continually all parts of the habitat. It would be maximally advantageous for the robins to continue to exploit the newly discovered food source after the species that initiated its utilization had left the area (as do the migratory waxwings). I have never seen robins remove berries

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