CONCERNING SOME *POLIOPTILAE* OF THE WEST COAST OF MIDDLE AMERICA.[1]

BY A. J. VAN ROSSEM.

IN a recent paper (Amer. Mus. Novit., 414, March 24, 1930, p. 4–7) Mr. Ludlow Griscom has reviewed the Central American forms of *Polioptila*, a revision which necessarily included portions of southern and nearly all of western Mexico. To summarize very briefly that writer's conclusions, he considers that all of the black-headed gnatcatchers in the region under consideration "boil down" to three conspecific forms, as follows:

1. *Polioptila bilineata bilineata* (Bonaparte); this name to include as synonyms *Polioptila superciliaris superciliaris* Lawrence and *Polioptila superciliaris magna* Ridgway.

2. *Polioptila bilineata albiventris* Lawrence.

3. *Polioptila bilineata albiloris* Sclater and Salvin; to include as synonyms *Polioptila bairdi* Ridgway, *Polioptila nigriceps nigriceps* Baird and *Polioptila nigriceps restricta* Brewster.

To the first two premises I have no criticism to offer. The relatively limited material examined personally bears out the contention that *magna* is indistinguishable from *superciliaris*, a conclusion previously reached by Carriker (Birds of Costa Rica, 1910, p. 750). Formerly I had firmly believed in specific distinctness between "*superciliaris*" [*bilineata*] and *bairdi* because in northwestern Costa Rica they meet as species. They were held as separate by Carriker (ibid., p. 751) and in the fair series of both which I have examined from that region there is no suggestion of intergradation apparent. However, I have Mr. Griscom's positive statement (in litt.) that *bilineata* and *albiventris* (which latter is certainly conspecific with *bairdi*) "intergrade directly in southern Yucatan and British Honduras" and on that basis I accept *bilineata* as the specific name for all the Central American forms of this group.

It is with the third case, the combining of *nigriceps*, *restricta* and *bairdi* with *albiloris* that I wish to take issue, not in a controversial sense nor in any way to belittle Griscom's work for which

[1] Contribution from the California Institute of Technology.

I have in general the highest regard. It is simply my firm belief, which is based on ample material and extensive field experience, that the four forms in question are perfectly recognizable and that two of them indeed constitute a separate species.

Before going into each individual case a few prefatory remarks are in order. In dealing with this group, exclusive of *bilineata*, one fact must be borne in mind; white in the loral region is largely a seasonal character, always present in winter and usually absent in full summer plumage. Unbelievable as it may seem the question of seasonal plumage change has been almost totally ignored although the analagous cases of the North American *caerulea* and *melanura* provided conspicuous clues to the unravelling of the Central American tangle. The single exception to the above remarks is that Ridgway (Birds of No. and Mid. Amer., pt. 3, 1904, p. 729) noted a seasonal change in the case of *P. nigriceps*. This failure to take into account the transition from a white lored to a black lored state has been the cause of the incorrect characters ascribed to most of the Central American forms and, paradoxically, is responsibile for the most recent reviser's lumping of four into one.

In the four cases under discussion there are two distinct types which bear every evidence of being separate species. In one (*P. nigriceps nigriceps* and *P. nigriceps restricta*) the head in winter, both in post-juvenal and adult males, is gray, concolor with the back. In the other (*P. bilineata albiloris* and *P. bilineata bairdi*) the head in winter is black with a variable amount of white in the loral region. All four when in full breeding plumage are black headed. Characters which I consider to be reliable are given below. Comparisons are based upon males. Identifying the females of the various races and species is not so easy as in the case of the males for there is no definite seasonal color change. However, in other respects the same characters which the males show are present in the females and there is usually no great difficulty in properly placing them.

Polioptila bilineata albiloris SCLATER & SALVIN.

Subspecific characters.—Compared with *P. bilineata bairdi;* tail relatively and actually longer; loral region in winter plumage usually immaculate

white; a short, white supra-auricular streak frequently present; loral region in summer usually solid black, but sometimes with scattering white feathers. 14 specimens examined.

The range of *albiloris* appears to be wholly on the Atlantic drainage in the interior of Guatemala and southern Mexico.

Polioptila bilineata bairdi RIDGWAY.

Subspecific characters.—Compared with *P. bilineata albiloris;* tail shorter; loral region in winter plumage usually with a black or dusky streak from anterior corner of eye to bill; short, white supra-auricular streak very rarely present; loral region in summer solid black.

In comparing *albiloris* and *bairdi* the tail length is the most reliable character. The others, while characterizing most specimens and sufficiently noticeable in series to be worthy of emphasis, are of doubtful value in the determination of individual specimens.

Remarks.—In the males of *albiloris* and *bairdi* the black cap is assumed with the post-juvenal plumage and thereafter the only changes are seasonal ones, i.e., white lores in winter and black ones in summer. The following notes on plumage changes are based primarily on a carefully collected series of forty-five *bairdi* taken during my two years' field work in El Salvador.

The post-juvenal male and adult male mid-winter head pattern is that of figure 4. There is considerable variation apparent, some having slightly more black in the lores, others decidedly less. Young birds average with less of black than do the adults. Commencing in late January in the earliest individuals and about the first of March in the latest, a very slow pre-nuptial moult is inaugurated which in the most tardy birds is not complete until late April. This moult affects chiefly the head, although many body feathers are also renewed at the same time. At its completion the lores are to all intents solid black (figure 5) and if, as is very rarely the case, a few white feathers appear in the lores it is due to an incomplete moult. Considering the length of time necessary for this pre-nuptial moult it is not surprising that, on the basis of head characters alone, Griscom found "*albiloris,*" *bairdi* and "*nigriceps*" in the same locality in western Nicaragua. Indeed it would be very surprising if all three types of head pattern were *not* found there between the months of January and April! The reverse change, that is from black to white lores in mature males, occurs at the post-nuptial moult the time of which, like the spring

moult, varies tremendously in different individuals. Some commence in late July while the other extreme is a male taken September 25, which still retains most of the old summer plumage.

In both *bairdi* and *albiloris*, although much more commonly in the latter, there occurs sporadically a short, white supra-auricular streak extending backwards from the posterior upper corner of the eye. It crops out in both sexes regardless of season and represents most probably a recessive character indicative of the more or less remote *bilineata* origin. Such specimens from the west coast of Central America have sometimes been called "*bilineata*" or "*superciliaris.*" This short streak bears little resemblance to the broad superciliary stripe of *bilineata* and need cause no confusion. Seventy-one specimens examined.

The range of *bairdi* lies wholly on the Pacific slope, a narrow strip extending from northwestern Costa Rica to San Blas, Nayarit. It overlaps that of *nigriceps* in a geographical sense, but possibly not actually for while San Blas is on the seacoast, Tepic, the southernmost station for *nigriceps* is an upland locality. Typical *nigriceps* reaches the coast, however, at Los Labrados in southern Sinaloa.

Polioptila nigriceps nigriceps BAIRD.

Specific characters.—Compared with *P. bilineata albiloris, P. bilineata bairdi* and *P. bilineata albiventris;* bill decidedly smaller; *head concolor with the back in post-juvenal and winter plumage;* general coloration darker and more slaty gray with rump and flanks definitely tinged with brownish or buffy; decidedly different from the paler bluish or ash gray tones of the more southerly species; tail with more black on the basal portions of the lateral rectrices.

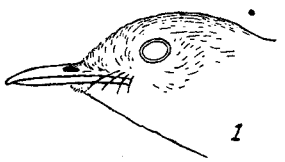
Subspecific characters.—Compared with *Polioptila nigriceps restricta;* black in summer plumage extending backward over nape. Ten specimens examined.

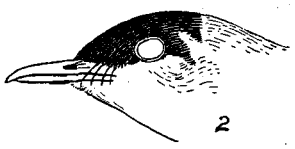
Culiacan, Sinaloa is the northernmost station for *nigriceps* and Tepic, Nayarit the southernmost.

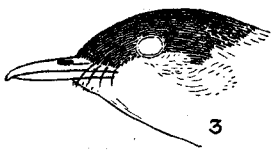
Polioptila nigriceps restricta BREWSTER.

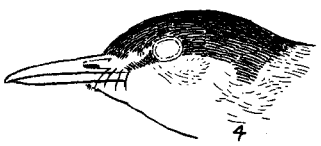
Subspecific characters.—Compared with *P. nigriceps nigriceps;* black of head in summer plumage much less extensive and not extending over nape. Thirty-four specimens examined.

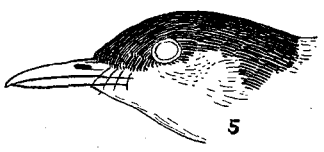
Although known certainly only from Sonora, the northernmost points being Tecoripa and San Javier, there can be little doubt that *restricta* extends a short distance into northern Sinaloa.

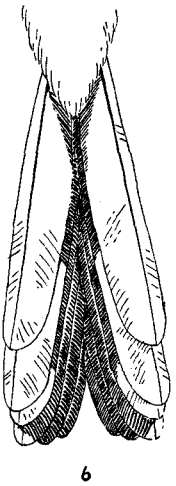












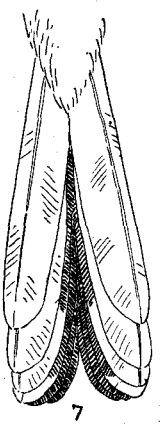


Fig. 1. *Polioptila nigriceps nigriceps. Polioptila nigriceps restricta.* Winter.

Fig. 2. *Polioptila nigriceps restricta.* Summer.

Fig. 3. *Polioptila nigriceps nigriceps.* Summer.

Fig. 4. *Polioptila bilineata bairdi.* Winter.

Fig. 5. *Polioptila bilineata bairdi.* Summer.

Fig. 6. Tail of *Polioptila nigriceps restricta.*

Fig. 7. Tail of *Polioptila bilineata bairdi.*

Remarks.—In the post-juvenal and winter plumages *nigriceps* and *restricta* are not distinguishable from each other by any characters I can find. For that matter both are sometimes not too easy to distinguish from *Polioptila caerulea!* In this latter case the less purely blue (more slaty) coloration, shorter wing and longer, more graduated tail will serve to identify *nigriceps* and *restricta.*

As stated above, the winter plumage of the males, post-juvenal and adult alike, is characterized (figure 1) by the absence of black. The pre-nuptial moult commences, just as in the southern species, about the end of January or early in February and may not be complete until the middle of April. The moult commences on the forehead and progresses slowly backward, the line of demarcation between the new black and the old gray feathers being very sharply defined. The only difference I can find between *nigriceps* and *restricta* is that in *nigriceps* the black of the summer plumage goes clear to the nape (figure 3) while in *restricta* it stops short at the hinder edge of the crown (figure 2). Personally taken specimens of *restricta,* collected in Sonora on April 28 and May 9, had some time before finished the moult. These, together with other April and May specimens from Sonora, demonstrate the validity of this race on precisely the characters which Brewster originally ascribed to it. Brewster's specimens, some of which I have examined, were taken in late February and early March and do not show the full development of the black cap, although some come very close to doing so.

It is always harder to refute an old concept than to initiate a new one and because I have here attempted to do both I have gone into the characters of Middle American *Polioptila* in far greater detail than would otherwise be justified. I regret that it is not possible to deal fully with all of the forms in this region, but with some of them I have had no field experience whatever. This, I insist, is necessary in order properly to determine relationships. For the present paper I have borrowed specimens from the Bureau of Biological Survey, California Academy of Sciences, Museum of Comparative Zoology, and the U. S. National Museum to fill in geographical gaps not represented in the Dickey collection.

Average measurements for males

	Wing	Tail	Culmen from base
7 *P. b. albiloris*	48.5	53.0	14.5
25 *P. b. bairdi*	48.5	48.0	14.8
7 *P. n. nigriceps*	47.0	51.0	13.6[1]
23 *P. n. restricta*	48.5	52.5	13.3

[1] The bills of *nigriceps* and *restricta* are much more slender both in vertical and lateral profile, a feature which measurements do not properly express.

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