THE NEST AND EGGS OF THE WHITE-BELLIED WREN

By GEORGE MIKSCH SUTTON

The White-bellied Wren (*Nannorchilus leucogaster*) is a small, plainly colored, almost exclusively Mexican wren which is far more often heard than seen. It is smaller than the House Wren (*Troglodytes aëdon*) and is brownish gray above and grayish white below, and has a fairly distinct grayish white superciliary line. Its wings and tail are faintly barred with dark brown. Its most distinctive feature is its stubby tail, which is only a little more than an inch long.

In the Gomez Farias district of southwestern Tamaulipas, where I first encountered this wren in early March of 1938 (Sutton and Burleigh, 1939:36), it lives principally in the thickets of *huipilla* or wild pineapple (*Bromelia pinguin*), a tough, barbed xerophyte which grows in dense, waist-high mats throughout the brushy woodlands bordering the rivers as well as on the lower foothills of the Sierra Madre Oriental. Here the bird spends much of its time close to the ground, feeding at the bases of the leaf-rosettes, keeping itself more or less hidden even while singing. Its song, a tinkling, ebullient *pret-til-ly, pret-til-ly, pret-til-ly,* is instantly recognizable as a wren's because of its rhythmic quality. As the bird sings it lifts its head, but ordinarily it does not assume the head-straight-up, tail-straight-down posture which is characteristic of so many wrens. Two other bird species, the Cinnamomeous Tinamou (*Crypturellus cinnamomeus*) and Olive Sparrow (*Arremonops rufivirgatus*), inhabit the *huipilla* beds with it in that region.

In 1938 I searched in vain for the nest of *Nannorchilus,* although I suspected that certain retort-shaped structures which I found on horizontal thorny branches directly above the matted *huipilla* might belong to the wrens. These nests were compactly built, with an inch-wide entrance at the side, which faced downward. They were so deep that I could not reach the bottoms with my finger. In exploring their interiors I found that the floor of the highest part of the entrance tunnel was invariably the twig supporting the nest.

In the vicinity of Valles, San Luis Potosí, where I encountered *Nannorchilus* in the spring of 1939, the *huipilla* was neither abundant nor luxuriant, although in brushy, vine-choked woodlands north of the village scattered stands of the plant, together with a low-growing palmetto, formed a thin understory in which both Cinnamomeous Tinamous and White-bellied Wrens lived. I collected three *Nannorchilus* there, all males—one on March 23, 7 miles north of town; two on May 1, 10 miles north of town. In the May specimens the testes were much enlarged (Sutton and Burleigh, 1940:261), but I did not discover a nest, retort-shaped or otherwise, which I believed might belong to the species.

In the spring of 1941, along the Rio Sabinas, again in the Gomez Farias region of southwestern Tamaulipas, Olin Sewall Pettingill, Jr., Robert B. Lea, Dwain W. Warner and I saw *Nannorchilus leucogaster* daily, often many times daily, from mid-March to early May. We heard it singing throughout this period, and so far as we could ascertain the volume and carrying power of the song did not increase as the season advanced. We repeatedly observed what we believed to be paired birds on established nest-territories in or along the edge of the *huipilla* thicket. Between March 25 and April 13 we collected several specimens, the gonads of all but one of which were much enlarged. We did not, however, find what we *knew* to be a nest of the species, never once saw a bird with nest material or food for the young in its bill, and only rarely were scolded (Sutton and Pettingill, 1942:24).

During our seven weeks' stay that season we discovered six of the retort-shaped nests, five of them quite fresh looking, the sixth obviously old and falling to pieces. At a distance, each of these had the general appearance of a bunch of moss. Each was built at or near the tip of a horizontal or slightly drooping branch several feet out from the trunk in a shaded place. The lowest was between 5 and 6 feet above ground, the highest about 12 feet. To me the most interesting fact about them was that they were, invariably, directly above the *huipilla* thicket. Contemplating this fact, I could not resist the feeling that their builders had found the wild pineapple protective just as the Rose-throated Becards (*Platypsaris aglaiae*) and Social Flycatchers (*Myiozetetes similis*), which built their nests out over the river, had found the water protective. I watched the nests with great interest, but I never saw a bird of any sort at one of them.

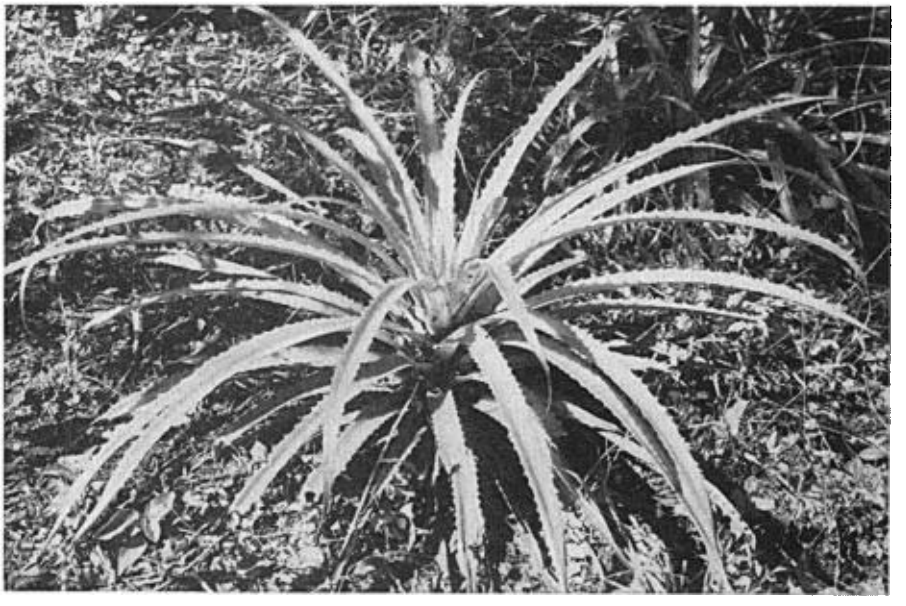

Fig. 26. An isolated *huipilla* plant. Photograph taken near Gomez Farias, Tamaulipas, May 26, 1947, by Robert B. Lea.

In 1947, when I joined the expedition of Robert B. Lea and Ernest P. Edwards for two weeks on the Rio Sabinas in late May, one of my first thoughts dealt directly with the unsolved problem of the retort-shaped nest. I discussed the structure at length, going over in detail my experiences with it in earlier years, and began watching *Nannorchilus,* determined to find out what I could about its nidification. I was far from convinced, even then, that the wrens had built the moot nests.

Not far from our camp, which was on the very bank of the river, a clear-cut trail led from the cane fields through the thicket. There, early on the morning of May 17, while I was intent upon painting, *Nannorchilus* came through the thicket—first one, then another, each singing a tinkling song. Bearing in mind the statement of Wetmore (1943:301), who had described the songs of White-bellied Wrens which he had heard in southern Veracruz as clear, sweet, and "of surprising volume for so small a bird," I listened and watched with keen interest. The birds were singing full force, there could be no questioning of that, for their whole bodies vibrated with the effort, but I still felt

that "tinkling" and "fragile" were the words to use in describing the performance, especially when I compared it with the uproarious *squeal, churl, squeal if you will!* of a Spotted-breasted Wren (*Thryothorus maculipectus*) which chanced to sing on the opposite side of the trail.

I did not quite settle down to work the whole morning. If I laid aside my painting and watched the wrens they retreated to a distance of 30 to 40 feet, back among the nettles, prickly pear cactus, *huipilla,* and coarse vines; but the minute I resumed my work they returned, following each other from perch to perch, singing at me or at each other, sometimes in duet, but never antiphonally (see Skutch, 1940:295; Chapman, 1929:384). Occasionally they came so close that I could hear the scratching of their feet on the twigs or leaves, and they very nearly alighted on the far leg of the easel. I observed no distinctive adaptation to environment comparable to the Long-billed Marsh Wren's (*Telmatodytes palustris*) straddling of upright stems, and I was struck with the fact that their bearing was not very wren-like in that they virtually never held their short, narrowly feathered tails straight up. They were certainly energetic, however. Hopping from leaf to leaf, resorting to flight only infrequently, they moved through the *huipilla* with surprising speed. Occasionally, for no reason at all so far as I could see, they circled out above the trail or crossed over and left me entirely. On several occasions I watched one of them beating to death and swallowing a spider. I never saw them attempt to capture insects in midair, and they seemed to pay no attention to moths and beetles which flew past them. Now and then they both hopped to the ground and disappeared. Hearing no sound from them I suspected that they had gone to the nest; but the instant I entered the thicket to investigate, the tinkling started and presently they both reappeared, hopping upward through the jagged leaves.

I witnessed pursuit of one by the other, copulation, and, almost immediately thereafter, singing of both birds. In my opinion the male and female sang equally well. The volume of their songs varied. A bird when very close to me sometimes sang almost inaudibly, barely opening its bill; but when it flew a rod or so off, or hid in the vegetation, it sang much more loudly. Neither bird used a call note which I interpreted as scolding.

On May 18, I saw several White-bellied Wrens along the trail referred to above. From their behavior I judged most of them to be paired, but the fact that they invariably sang rather than scolded made we wonder whether they had started to nest. A retort-shaped nest which I found about 12 feet from the ground in a dead thorn tree appeared to be firmly attached, but it was obviously either unfinished or the remains of an old one. I waited for half an hour, heard wrens singing some distance away, but saw no bird of any sort at the nest.

The following day, at about 10 a.m., I returned to examine this nest carefully. It was so clean and firm that I felt it must be new. I could see through it easily, for it had not been lined. I located a pair of wrens, forty or fifty yards away, and sat down to watch them. They sang a good deal at first and scolded a little. The scolding was not unlike that of House Wrens. On meeting each other they sometimes sang in duet. One of them flew off and the other began moving past me in the general direction of the nest. Now, greatly to my surprise, it neither scolded, sang, nor gathered nest material, but hopped upward from perch to perch until it was about 20 feet from the ground and possibly the same distance from the nest and proceeded to sit there quietly for the next 25 minutes! During this time I kept my binocular on it most of the time, for I did not intend to lose track of it. Although virtually motionless, with tail horizontal or hanging slightly downward throughout this entire period, its eyes stayed wide open and bright. As I consulted my watch, I heard a familiar tinkling which suddenly increased in vol-

ume—the singing of the returning mate, which now flew past me. The bird I had been watching came to life, as it were, about-faced, began singing, and flew down to join the other.

On May 22, Ernest Edwards reported finding three nests, each of a different sort, in an acacia tree across the river. Two of these obviously were active, for a pair of Kiskadees and a pair of Social Flycatchers were much in evidence; but at the third nest, which was retort-shaped, no bird appeared. We did not climb up to this nest. We could only guess that it was that of *Nannorchilus*. It was about 15 feet from the ground and was not concealed, although it was in a somewhat more shaded position than the other two nests.

Fig. 27. Nest of White-bellied Wren and nest of black hornets on same branch. Rio Sabinas near Gomez Farias, Tamaulipas, May 27, 1947. Hornets probably *Polybia simillima* according to J. C. Bequaert. Photograph by Robert B. Lea.

On May 24, after watching two White-bellied Wrens along the main trail for a time, I followed an old, little-used trail which led toward an open field and was fortunate enough to find a retort-shaped nest 6 feet from the ground in a small tree growing in

the shade of much larger trees. This was the most beautiful example of the nest I had so far seen. The whole structure was flecked with fresh moss. The fine material lining the entrance tunnel appeared to have been selected with great care and was so fastened in place as to give the impression that it had been woven or spun as a single piece. The structure as a whole was unlike any of the retort-shaped nests I had so far seen, however, in that the bottom of the inner compartment was about on a level with the entrance. I could, as a result of this shallowness, feel the inside of the nest with my finger. The top was rather flat, too. On examining this part critically, I found that it had fallen in or opened up a bit. The structure looked as if it had just been finished; but wait and watch as I did that day and for a time on each of the following six days, I never saw a bird of any sort near it.

On May 26, I once more was fortunate enough to discover a retort-shaped nest, this one about 18 feet from the ground at the end of a long drooping branch in the heart of a fair-sized tree just off a secondary trail. The whole thing was exquisitely fashioned, with the tubular entrance lined as if with spun glass which protruded in a sort of halo, and about 3 feet above the nest, on another twig of the same branch, was the equally large, light gray "paper" nest of a colony of black hornets. As the hornets were at home I realized that I could not possibly reach the retort-shaped nest without cutting off the branch, or pulling it toward the main trunk with a rope, or improvising a ladder. Accordingly, I cut a tall, slender sapling, trimmed off the branches, and, poking this upward through the leafage, tapped the nest gently. At first nothing happened. I waited a moment, then touched the nest again. Again no visible result. The third tap shook the branch enough to rouse the hornets a little and out of the lower, nearer nest popped a wren. It dropped half way to the ground before spreading its wings, whereupon it began a tinkling song, trailed off at an angle to some vines, and, still singing gaily, alighted. At first it held its head low, looking about as if unconvinced that there had been a disturbance. Then, continuing its song, it slipped off through the *huipilla*. It was *Nannorchilus,* behaving now just as I had seen *Nannorchilus* behave hundreds of times.

Bearing in mind my failure ever to follow *Nannorchilus* to its nest, I hid promptly. Some distance away, in the direction the wren had taken, I heard low tinkling notes, possibly from two birds rather than one. I was surprised at not hearing any scolding. Presently the tinkling stopped. After twenty minutes the return of the wren to its nest was announced by the familiar tinkling song. To my surprise I had no trouble in observing the bird, which flew boldly forward above the *huipilla*. It was by itself. It approached the nest by short flights upward from perch to perch. As it drew nearer to the nest it looked about nervously, as if to make certain that the coast was clear. At each perch it sang a snatch of song. It did not scold at all. After reaching a point about 10 feet from the ground, it fluttered upward five or six feet, then, changing its manner of flight, it flew straight and fast at the nest, disappearing at the entrance. I waited almost half an hour longer, but it did not come out; and no other bird appeared.

I showed Lea and Edwards the nest the following day, hoping that the wren would drop out and sing in its descent as it had for me; but repeated tapping with the sapling was in vain. We lingered in the vicinity for some time, but no *Nannorchilus* sang, or scolded, or put in even the briefest appearance.

On May 28 I visited the nest three times, but no wren popped out in response to tapping with the sapling, nor flew up when I "squeaked," nor scolded in the distance. Even the singing of the wrens had stopped in the immediate vicinity.

That day I found another nest, which looked as if it might have been several months old, in a dead thorn tree not far off the main trail, at the edge of a burned-over tract.

About 11 feet from the ground near the tip of a slender upward-sloping branch, and 8 feet out from the main trunk, it was plainly visible from the trail as well as from several points in the thicket. It may well have been built while the tree was alive—before the fire which had killed out the *huipilla* and exposed the brown earth.

I went on visiting the two new-looking nests despite my continuing failure to find birds anywhere about them. On May 30 I collected the one with damaged roof. The one near the hornet nest we planned to collect just before leaving for the north, but last minute complications prevented. On June 2 we left the Rio Sabinas.

On June 2 we made a point of stopping an hour or so about 30 miles south of Victoria at a point on the highway known as the Mesa de Llera. Here, at an elevation of about 1700 feet, a notable feature of the vegetation was the grass which carpeted the dry ground between the thickets. Hoping to find Botteri Sparrows (*Aimophila botterii*), we struck out through the low trees and scattered clumps of cactus.

We had good success in our reconnaisance, to our surprise finding such supposedly forest-loving birds as the Mangrove Cuckoo (*Coccyzus minor*) and the Gray Robin (*Turdus grayi*) nesting almost side by side with the Mockingbird (*Mimus polyglottos*), Varied Bunting (*Passerina versicolor*) and Long-billed Thrasher (*Toxostoma longirostre*), and, to our even greater surprise, finding *Nannorchilus*. The wren was not common, but we encountered a single bird in one thicket, found a pair singing in another, and heard one or more pairs in the distance.

Failing to discover so much as a clump of *huipilla,* I realized that at least one of my ideas about the White-bellied Wren would have to be revised: the species' range did not, as I had so far thought, invariably coincide with that of *Bromelia pinguin*. Here, where hardly a feature of the habitat called to mind the verdant Sabinas bottomlands with which we were so familiar, *Nannorchilus* kept close to the ground; but I had little difficulty in following it about, for there was no dense, ground-covering vegetation at all comparable to the matted stands of wild pineapple in which we had been so accustomed to seeing it.

As I walked round a clump of cactus and thorny shrubbery, I saw squarely in front of me, 7 feet from the ground in a slender, bull's horn acacia, a beautiful retort-shaped nest. I stepped forward, carefully grasped the leaves at the end of a long branch, started to pull the tree toward me so as to have a better look at the nest, and was promptly bitten or stung by ants which swarmed out all over the tree. I peered into the thicket, listening. Nowhere was there a sign of a wren. Bearing in mind the many retort-shaped nests which had turned out to be old or unfinished or unoccupied, I stepped closer and tapped this latest find with my finger. Nothing came out. I tapped again. No bird appeared. Realizing that here at last was an opportunity to preserve a perfect example of the much-talked-about nest, I started to work it loose from the upward sloping twig across which it had been built—when out popped a wren! I was so taken by surprise that I did not quite see what it did as it emerged, but I heard its staccato scolding, saw it gliding, on widespread wings, into the thicket, and watched it shake itself vigorously just after alighting. It was an adult bird, not a fledgling. After tapping the nest again, and hearing no sound of young birds inside, I collected the adult. The mate did not appear. I lifted the nest from its moorings intact. It contained four considerably incubated eggs.

At Linares that evening we prepared the two *Nannorchilus* specimens which we had collected at the Mesa de Llera—the bird which I had got at the nest, and one which Lea had shot a mile or so away on the opposite side of the highway. Each of these had a well defined brood-patch. My bird was a female, Lea's a male. *Nannorchilus* was, then, a

species in which the male and female shared the duties of incubation, sang about equally well, and probably stayed paired the greater part of the year.

DESCRIPTION OF NESTS

I must remind the reader that I have yet to observe a White-bellied Wren actually building a nest. I did see a wren emerge from a nest near the Rio Sabinas, to be sure; and I saw a wren go into that same nest. On the Mesa de Llera I collected a female wren which had four eggs in a nest. Both these nests might properly be called White-bellied Wren nests, it would seem; yet at this writing I do not know what species of bird built them. Two White-bellied Wrens which Frank M. Chapman observed in mid-March, 1896, near Chichen-Itzá, Yucatan, occupied a nest which Chapman believed to be that of the Gray-headed Flycatcher, *Tolmomyias sulphurescens cinereiceps* (1896:277).

The Mesa de Llera nest, which is now before me, is the only occupied *Nannorchilus* nest which I have thus far collected or measured. It does not resemble at all closely any other bird nest with which I am familiar. It is much deeper (longer) than thick, being about 8¼ inches long and 5 inches thick at its greatest diameter (outside measurements). Viewed from the front, back, or side, it is roughly elliptical, in full profile being a bit broader and more angular at the top than at the bottom because of the protrusion of the entrance tunnel. This tunnel is so closely attached to the main body of the structure that the nest's really striking resemblance to a retort becomes evident only when one examines the entrance carefully. The entrance tunnel is about 2 inches long and a trifle less than an inch in diameter. The nest-wall varies in thickness from about half an inch (along the floor of the entrance tunnel at its highest point, that is, the point at which it passes over the supporting twig) to possibly an inch and a half (at the very bottom of the nest). So far as I can tell, there are no feathers, fur, nor plant down in the lining.

The nest is made largely of rather loosely interwoven dead plant stems, principally the extremely fine and delicate skeletons of the panicles of various grasses. Scattered over the outside are flattened bunches of bright yellowish green filamentous lichens, tufts of dark green moss, small seed-pods, spider egg-cases, pubescent flower stalks, and wisps of Spanish moss. There are no palm fibers, apparently. The whole structure is colorful and neat, even the outer surface of the bottom being smooth and symmetrical rather than shaggy.

The unoccupied nest which I collected near the Rio Sabinas on May 30 is strikingly dissimilar to the nest just described in that its long axis is almost horizontal rather than vertical. It is, furthermore, considerably smaller, being only about 6¼ inches long and 4¼ inches thick at its greatest diameter. Its walls are comparatively thin—so thin that at certain places one can easily see through the whole nest when it is held up to the light. The entrance tunnel, which faces almost directly downward, is beautifully lined with very fine panicle-skeletons of grasses which have an almost feathery appearance. The supporting twig, which is only about ⅜ of an inch in diameter, but very tough, forms the floor of the entrance tunnel at its highest point. This nest may possibly be a "dormitory nest" (see Skutch, 1940).

DESCRIPTION OF EGGS

The four eggs are alike in being wholly unspotted, and rather strikingly glossy. They vary slightly in shape and color, the shortest being a little paler than the other three, the longest being also the narrowest as well as the most nearly elliptical. They measure: 17.4 x 13.2, 17.6 x 13.2, 17.8 x 13.3, and 18.0 x 12.8 mm. The blown specimens, which have been kept away from daylight almost constantly since they were collected, when carefully compared with the color-blocks in Ridgway's "Color Standards and Color

Nomenclature" (1912) most closely match Pale Turquoise Green, the palest of the four being almost exactly of that shade, the other three being a trifle bluer, perhaps between Pale Turquoise Green and Lumiere Blue.

NOMENCLATURAL HISTORY AND RELATIONSHIPS OF NANNORCHILUS LEUCOGASTER

The White-bellied Wren was described by Gould in 1836 (p. 89), under the name *Troglodytes leucogastra.* The species' habitat, as stated, was "in Mexico, in loco Taumalipus dicto." Gould's spelling of Tamaulipas may possibly have followed current practice in Europe.

J. D. Macdonald has courteously furnished me with two photographs of Gould's type, which is now in the British Museum. Who collected this type I do not know. M. A. Delattre's collections of about that period were made in California and Nicaragua, and it is interesting to note that C. L. Bonaparte, who listed *Troglodytes leucogaster* Licht. (p. 60), in his "Comptes Rendus" article on Delattre's work, and in his considerably emended reprint of this article, both of which appeared in 1854, did so despite the fact that Delattre had neither seen nor collected the bird. As Zimmer (1926:71) has explained, Bonaparte's article was far more than a report on Delattre's work; during course of preparation it became expanded into a "more or less general classification of the avian class."

In 1859, twenty-three years after Gould's description of *Troglodytes leucogastra* had appeared, and again, curiously enough, in the Proceedings of the Zoological Society of London (p. 372), P. L. Sclater re-described this wren as *Cyphorinus pusillus,* basing his diagnosis upon four specimens collected by A. Boucard at Playa Vicente, Oaxaca. How Sclater happened to overlook Gould's description we do not comprehend. His failure to see Gould's type is, however, understandable, for the specimen was not received at the British Museum until December, 1885 (letter of J. D. Macdonald, July 21, 1947).

Baird listed the species in Part I (p. 119) of his "Review of American Birds," published in 1864, on the basis of a single Verreaux specimen (one of the four birds taken by Boucard at Playa Vicente, Oaxaca) in the Smithsonian Institution collection. He called it *Heterorhina pusilla,* employing Sclater's specific name, but referring it to the genus *Heterorhina,* obviously believing that its affinities were with that group rather than with *Cyphorinus.* The only species of *Cyphorinus* which he listed was *C. lawrencii* of Panama.

That Baird entertained an incorrect concept of Gould's *Troglodytes leucogastra* is apparent from his application of the name *leucogaster* to the race of Bewick Wren inhabiting the southern border of the United States and contiguous parts of Mexico. How he could have imagined that Gould's wren, with tail only 1⅛ inches long (clearly stated in the original description) was a Bewick Wren is beyond us. He may have failed to note the statement of tail-length in Gould's diagnosis.

However it came about that Sclater failed to see or comprehend Gould's description, and that Baird misinterpreted it, Sclater corrected his own error. When he and Salvin published their "Nomenclator Avium Neotropicalium" they listed this wren as *Uropsila leucogastra,* a combination of Gould's specific name with a generic name of their own. The genus *Uropsila* they described briefly, as follows: "Genus cauda exili, ferè sicut in *Henicorhino,* satis insignis, sed naribus, sicut in *Thryothoro,* membranâ obtectis"—a genus with narrow tail, exactly as in *Henicorhina,* sufficiently well marked, but with nostrils, as in *Thryothorus,* covered with a membrane (1873:155).

By 1873, then, the bird had been known by four different generic names—*Troglodytes, Cyphorinus, Heterorhina,* and *Uropsila;* a total of five specimens were known to

the scientific world; not a word had been published, so far as I have been able to discover, about its habits; and not a person who had written of it had seen it alive.

In 1880, in the first of the three volumes on Aves of Salvin and Godman's "Biologia Centrali-Americana," a brief discussion of the species appeared (pp. 77-78). By that time six specimens had come to light—Gould's type, the whereabouts of which were not at that moment known; the four birds collected by Boucard at Playa Vicente, Oaxaca, three of which were in the British Museum, and one of which (almost certainly a co-type and possibly even the type of Sclater's *Cyphorinus pusillus,* according to word recently received from Herbert Friedmann) was in the Smithsonian Institution collection; and one other (in the British Museum) from an unstated locality in Mexico.

In May, 1884, George F. Gaumer collected a White-bellied Wren at Temax, Yucatan—probably the seventh specimen known to science. In 1887 this became the type of *Troglodytes brachyurus* Lawrence. Since, in his original description, Lawrence (1887:67) made no mention of *Uropsila leucogastra,* we can but assume either that he was unaware of the existence of that bird, or that he entertained a wholly wrong concept of it. The wren which he obviously considered closest to his new "species" was *Troglodytes intermedius,* a House Wren now almost universally regarded as a race of *Troglodytes musculus.*

In 1888 Ridgway, having found that the generic name *Uropsila* of Sclater and Salvin was preoccupied, proposed the name *Hemiura,* selecting Gould's *Troglodytes leucogastra* as the type. Ridgway felt that *Hemiura* was not a very strong genus. He even went so far as to state that he was "inclined to rank" it "merely as a subgenus of *Troglodytes.*"

In 1896, sixty years after the species had been described, a few statements at last appeared about the *living* White-bellied Wren. These were from the pen of Chapman, who, writing of individuals which he had seen in the vicinity of Chichen-Itzá, Yucatan, and which he called *Hemiura brevicauda* (probably a mere slip of the pen for *Hemiura brachyura*), discussed the song as "closely resembling that of *Troglodytes aëdon,*" and a nest which, though occupied by two of the wrens, he nevertheless believed to have been built by the Gray-headed Flycatcher, *Tolmomyias sulphurescens cinereiceps.* The paragraph is bewildering not alone because it is difficult to understand how anyone with an ear as good as Dr. Chapman's could have considered the song of the White-bellied Wren similar to that of *Troglodytes aëdon,* but also because the two wrens which Chapman had seen using the same nest daily for a week both proved, on collection, to be females.

In 1906, Cole, also reporting on the birds of Chichen-Itzá, Yucatan, listed a female White-bellied Wren taken on February 18, 1904. He considered the species "common" and made this statement concerning it: "I occasionally heard a song much like that of *Troglodytes aëdon,* which, from Chapman's remarks, I attribute to this bird" (1906:135).

Discussing this matter with Josselyn Van Tyne, whose experience with Yucatan birds is extensive, I learned an important fact which Chapman and Cole could not have known—namely that *Troglodytes musculus* inhabits the Chichen-Itzá region. The song of *Troglodytes musculus* is much like that of *Troglodytes aëdon,* as numerous authors agree (see Skutch, 1940:296), so the birds which Chapman and Cole heard singing probably were House Wrens, and the chances are that they did not hear the White-bellied Wren at all. As for the two individuals which Chapman observed occupying the same nest, Dr. Zimmer has ascertained through examination of the specimens that both were, indeed, White-bellied Wrens. To what extent they were using the nest we have no way of knowing. Possibly they were merely roosting in it. We cannot be sure from Chapman's statements that he actually saw the birds carrying grasses to it.

In 1904, Ridgway announced that his own generic name, *Hemiura,* was preoccupied, so he proposed *Nannorchilus,* the name by which the White-bellied Wren has since been known (1904*a*:202). Recognizing that *Nannorchilus* and *Henicorhina* were very close, he characterized the latter as follows: "Very small Troglodytidae (wing 49-60 mm.) most resembling *Nannorchilus,* but with tail only half as long as wing, nostril opening through middle of nasal fossa, and coloration very different (sides of neck streaked with black and white)" (1904*b*:607).

I am at a loss to explain the apparent sharp difference of concept concerning the White-bellied Wren's nostril. Sclater and Salvin, in their original description of *Uropsila,* clearly stated that the genus was like *Henicorhina* in all respects save the nostrils, which were covered with a membrane "as in *Thryothorus.*" Concepts and boundaries of the genus *Thryothorus* have varied, and will vary, of course. Some taxonomists will agree with Hellmayr (1934), who "lumps" *Thryophilus* and *Pheugopedius* with *Thryothorus,* while others will not. Be this as it may, Sclater and Salvin evidently regarded the operculate nostril as an important character of *Thryothorus,* hence also of *Uropsila;* whereas Ridgway, whose proposal of the name *Hemiura* involved no stated change in the current concept of the genus *Uropsila,* and whose name *Nannorchilus* was a simple replacement of the name *Hemiura,* unequivocally described the nostril of *Nannorchilus* as "nonoperculate" (1904*b*:617).

Since 1904 surprisingly little has been published about *Nannorchilus leucogaster.* Hellmayr (1934:271-273) lists five geographic races, yet virtually all that has been written about these has concerned measurements and colors of skins, and range. Even Wetmore, who commented on the species' songs, "chattering calls," and behavior in southern Veracruz, may not have realized that he was writing of a virtually unknown bird (1943:301).

What I have seen of living *Nannorchilus,* especially of its nidification, convinces me that it is not very closely allied to any wren which I know at all well. Its behavior resembles that of *Henicorhina* (with which I have had slight field experience) in some ways, although its color pattern certainly does not. It bears a strong color resemblance to *Thryothorus modestus* (which I have never seen in life), although it is much smaller, somewhat less heavily barred on the wings and tail, and proportionately shorter-tailed. The eggs of *Thryothorus modestus* are white.

A comparison of skins of *Nannorchilus* with available specimens representing the genera *Henicorhina, Thryothorus,* and other allied wrens convinces me that there is no sound, purely morphological basis for maintaining *Nannorchilus* as a separate genus. When Ridgway studied the bird in 1888 he was tempted to place it in a monotypic subgenus under *Troglodytes*—a disposition which would probably not be very seriously considered today in the light of what we now know about the distribution, behavior, songs, and nesting habits, of neotropical wrens.

What I have just said leads me to summarize certain facts concerning the nidification of *Thryothorus, Henicorhina,* and allied genera. Most American ornithologists are familiar with the more or less domed-over nest of the Carolina Wren (*Thryothorus ludovicianus*). Some nests of the closely related Spotted-breasted Wren (*Thryothorus maculipectus*) are similarly domed-over, but others, especially those built "among the thickets and vine tangles" in Costa Rica, are globular, with entrance at the side (Skutch, 1940:309). As for *Thryothorus pleurostictus,* Sumichrast (in Lawrence, 1875:13) tells us of retort-shaped nests which he saw the birds building on the Pacific side of the Isthmus of Tehuantepec; Skutch (1940:303) describes "elbow-shaped" nests examined by him in Costa Rica; and Dickey and van Rossem (1938:428), writing of El Salvador

birds, postulate an interesting relationship between this wren and the Flycatcher *Tolmomyias sulphurescens* wherein the flycatcher breeds early and the wren breeds late, using the flycatchers' nests. Chapman (1896:277), it will be remembered, expressed a similar belief that White-bellied Wrens which he observed in the vicinity of Chichen-Itzá, Yucatan, were using the empty nests of *Tolmomyias sulphurescens*. As for *Thryothorus modestus*, Skutch (1940:300) describes the "breeding nest" as "a compact ellipsoidal or nearly globular structure with a circular entrance at one end, facing obliquely downward." The same author (1940:302) describes the nest of *Thryothorus semibadius* as "roughly globular" with "a very wide doorway that faces downward or even obliquely inward."

Concerning *Henicorhina*, we find Sumichrast's brief description of the nest of *H. leucosticta* under the name *Heterorhina prostheleuca*, as he observed it in southern Veracruz—a structure "formed of mosses interwoven with great skill" and "fastened to the branches of shrubs . . . so skillfully . . . as to be readily mistaken for a bunch of moss" (1860:545). Todd and Carriker (1922:416) describe the nest of the Colombian race of *H. leucophrys*, under the name *Henicorhina hilaris bangsi*, as a "domed-over structure, placed either on the tip of a horizontal limb or in a tangle of roots under an overhanging bank." Calling attention to a custom among certain wrens which probably reaches its most striking development in *Telmatodytes* and *Cistothorus*, they go on to say that "it builds many false nests, which are always placed in conspicuous positions, while the real nest is most cunningly hidden away."

Apparently there is nothing wholly distinctive about the nidification and nesting behavior of *Nannorchilus*. Several neotropical wrens build retort-shaped nests and at least one other species, *Thryothorus pleurostictus*, lays pale blue eggs (Sumichrast, in Lawrence, 1875:14; Skutch, 1940:303). In several species both the male and female sing and in these same species the sexes probably share the duties of nest-building and incubation. The custom of *Nannorchilus* of carrying its tail horizontally rather than vertically bespeaks a possible separateness from wrens with which I am familiar, but I prefer not to be dogmatic about this until I have observed *Nannorchilus* scolding loudly in defense of eggs or young.

In short, I seriously question the desirability of maintaining a separate genus for the White-bellied Wren. But whether we call it *Thryothorus* or *Henicorhina* must be determined by further study.

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