

What's in a name?

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The name I have in mind is *Nasutitermes intermedius*. *Nasutitermes* is the name of a genus of small termites in which the soldiers have a rounded head tapering to a projecting nozzle in front called the nasus, through which a defensive secretion is squirted at an enemy. *N. intermedius* is the name given by the American taxonomist Nathan Banks in 1919 to soldiers collected by R.W. Thaxter on the Aripo Savannas (variously spelled, including Arepa, Origo) near Cumuto, Trinidad. The description, as usual in those days, was sketchy and the illustration somewhat crude (Figure 1).

The only later published record of this species is by Emerson (1925) from Kartabo, Bartica District, Guyana. He described the winged reproductive (alate) and gave a good line drawing of the soldier (Figure 2). Confusingly, this does not appear to be the same termite.

I recently visited the AMNH (American Museum of Natural History) in New York, spent several hectic days looking at Emerson's collection, and found all the relevant material still there. In the same jar, labeled with the same name, are two vials of Thaxter's termites identified by Banks, which match Bank's original figure as well as can be expected (with one exception discussed below) and two vials from Kartabo identified by Emerson, which match Emerson's figure perfectly. But they are clearly not the same species! Emerson's *N. "intermedius"* soldier has a broader, more rounded head, and all the setae are short. Bank's version has a narrower head and the few setae are all long, two or more times as long as in the other. Banks has priority and so by definition he must be right, which leaves Emerson's termite without a name.

The exception mentioned above is a discrepancy in the seta patterns between the specimens and Banks's illustration. Banks shows three pairs of setae on the base of the nasus, but all the soldiers I saw, both at AMNH and at NMNH (National Museum of Natural History in Washington) have only two. I shall return to this point later.

Between 1934 and 1945 Professor Martin Adamson of the Imperial College of Tropical Agriculture (now the Trinidad campus of the University of the West Indies) collected termites all over Trinidad and sent specimens to Emerson to identify. He reported (Adamson 1940) that earth mounds on the Aripo Savannas were built

by *Nasutitermes ephratae*, a species that normally builds carton nests in trees.

In 1966 I visited Aripo Savannas and was struck by the sight of tiny earth turrets up to about ten cm high above the flat, waterlogged savanna soil. These contained numbers of adult soldiers and workers (but no juveniles) of a *Nasutitermes* with a black-headed soldier. I sent a sample to the BMNH (British Museum (Natural History) in London), where it was identified (from published papers) as *N. intermedius*. And there the matter rested for another twenty-one years.

In 1987 I visited the Aripo Savannas again, and searched in vain for the little earth turrets and the black-headed soldiers. All I could find were much larger but low, domed mounds containing nests of a quite different *Nasutitermes*, which for want of a better name I called *N. "redhead"*. After some time it gradually dawned on me that *N. "redhead"* actually fitted Bank's description of *N. intermedius* rather better than my 1966 sample better than my 1966 sample did. At the AMNH I was finally able to compare *N. "redhead"* with the samples of *N. intermedius* identified by Banks, and they seemed to match perfectly. The mystery of the third pair of setae on the base of the nasus may also have been solved. In *N. "redhead"* the middle pair of setae is often asymmetrically placed, with one seta down on the nasus and the other up on the head. (Figure 3). This could give the impression, especially from the side, that there were two symmetrical pairs of setae there instead of one asymmetrical pair.

So where does this leave Adamson's *N. ephratae*? After his death at the early age of 43 his widow gave his collection to Emerson, and so I was able to hunt through it at the AMNH. I found two whole jars containing about 30 samples of unidentified *Nasutitermes* from earth mounds on the Aripo, Piarco, Mausica and St. Joseph savannas. As far as I could tell, every single sample was *Nasutitermes "redhead"*, and therefore was *N. intermedius* Banks. So where did the name *N. ephratae* come from?

In a file of old correspondence I found Adamson's last letter to Emerson, written in 1945 only a few months before he died. In it he wrote:

"It is so long since I wrote to you that I forgot whether I wrote to you about the *Nasutitermes* earth mounds on the Trinidad savannas. After much hesitation I adopted the name *N. ephratae*, after you made a careful comparison between specimens from one nest and

specimens in your collection. As soon as I began to study them carefully in the field, I found that the soldiers in some nests have light reddish brown heads, in others almost black heads. The red head is accompanied by 4 bristles on top of the head and several long bristles on the hind tibia – the black head with two bristles on the occiput and only 1 on the tibia. The alates differ in hairiness of wings.”

So Adamson had already recognised two different *Nasutitermes*, one red headed, one black headed, but it is not clear from the letter which one he had sent to Emerson. *N. ephratae* is black headed and has one pair of setae (bristles) on the vertex (occiput). It still lives in bush islands and swamp forest on the Aripo Savannas now, so apparently this is what Adamson sent. My 1966 specimens of black headed nasutes have two pairs of setae on the vertex, and are not *N. ephratae* but another still unidentified species.

N. ephratae was originally described (by Holmgren in 1910) from specimens collected at Ephrata in Suranam. In the Guyanas it lives on the savannas, building large and conspicuous soil mounds. In Trinidad and the Caribbean, what appears to be the same species builds quite different and very distinctive nests in trees. Emerson evidently thought that on the Aripo Savannas the tree-dwelling *N. ephratae* was reverting to its grassland architecture. However, my own observations indicate that the tree-nesting *N. ephratae* forage out onto the grassland during the dry season, but do not build nests on the ground.

This leaves one further unsolved problem. In 1983 a party of students from Imperial College, London did a short project on the termites of the Aripo Savannas. Following Adamson, they called their termites *Nasutitermes ephratae*, but gave no description and left no specimens. So which termite was it? We simply don't know. This shows how necessary it is for anyone who works on animals (or plants for that matter) to keep a good series of voucher specimens, that can be reexamined when there is any doubt about the identity of the object of study (which happens often, especially in the tropics).

Sixty-five years of confusion may finally have restored the name *N. intermedius* to its rightful owner, but has left two other termite species bereft of names, and one research project doubtfully attributed to an uncertain species. Fortunately, not all taxonomy is quite as tangled as this!

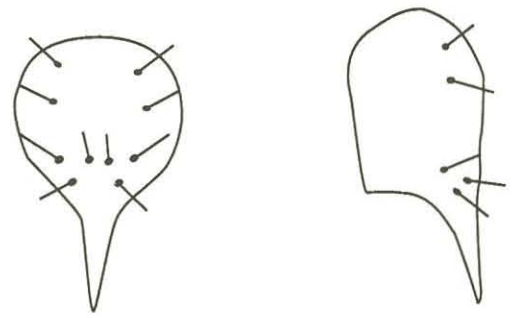


Figure 1. *Nasutitermes intermedius* as illustrated in Banks 1919 plate 2.

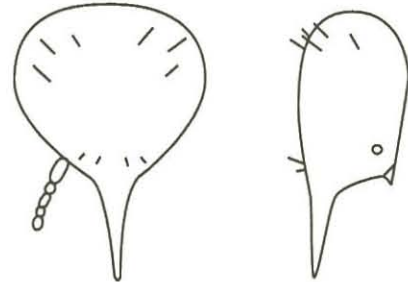


Figure 2. *Nasutitermes intermedius* soldier head as illustrated in Emerson 1925 p 389 from Guyana.

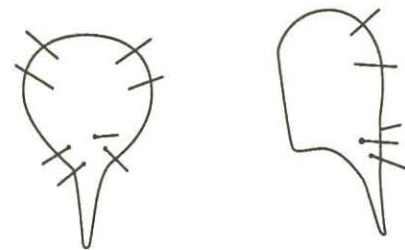


Figure 3. Sketch of *Nasutitermes intermedius* soldier head, showing the asymmetrical placement of the central front pair of setae.

References

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