

## Yellow-rumped Warbler and Other Bird Species Foraging on Winged Termites in Sacramento, California

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Colonies of termites (Isoptera) produce winged reproductives that disperse in swarms, often following the onset of rainy periods. A wide variety of bird species may be attracted to forage on these swarms, a phenomenon that is frequently seen in tropical regions (e.g., Eisenmann 1961, Olson and Alvarenga 2006, pers. obs.). Published reports of birds foraging at such swarms in North America, however, are surprisingly few (Blake 1941, Cowan 1942, Lamore 1959). Here I report a number of instances of birds feeding on winged termites in my residential backyard in Sacramento, California, all in the month of October immediately following early autumn rains. In all instances the termites appeared to be a species of subterranean termite (Rhinotermitidae), probably *Reticulitermes hesperus*, one of the most common termite species in California (Powell and Hogue 1979).

I first noticed Yellow-rumped Warblers (*Dendroica coronata*) catching winged termites on 12 October 2000, following the first rains of the season. Half a dozen or more warblers were actively catching termites as they emerged from the ground near a wooden fence. The slow, nearly vertical ascent of the insects made them easy targets for the birds. I estimated the extent of this predation by repeatedly focusing my binoculars on a single termite and following its flight as it left the ground. Almost invariably, within a few meters of the ground, a blur of feathers (one of the warblers) would come into view and snatch the termite with an audible bill snap. Few of the 20 or so emerging termites followed in this way reached an altitude of 3 meters before being captured by a warbler. I made similar observations, of 5-6 Yellow-rumped Warblers feeding on emerging termites near the same fence, on 4 October 2004 and 4 October 2008. On the latter date, I also saw a Black Phoebe (*Sayornis nigricans*) flycatching for termites.

On 18 October 2008, hundreds of termites emerged at a different location in the yard. The termites swarmed up from the ground below a large, unearthed tree stump to the top of the stump, from which they made their maiden flights. Again Yellow-rumped Warblers and a Black Phoebe were catching termites on the wing, but the warblers also landed on the stump and gleaned termites before the latter flew. At various times during the duration of the swarm, three other species, Red-breasted Sapsucker (*Sphyrapicus ruber*), Northern Flicker (*Colaptes auratus*), and Western Scrub-Jay (*Aphelocoma californica*) also foraged for termites on the stump.

Unusual heavy rains and high winds passed through the Sacramento area on 13 October 2009, and more rain fell on 14 October. Between 1030 and 1045 on the morning of 15 October, I observed a massive emergence of winged termites from a number of points along the back fence line of my yard and my next door neighbor's yard, as well as from the unearthed stumped noted previously. The numerous emerging termites had attracted approximately 50 Yellow-rumped Warblers, flycatching in the manner described above as well as on the ground and fences at points of emergence. One of the largest swarms was coming from the top of a fence post in my neighbor's yard. This post stood 20-30 cm higher than the fence line in general, and the termites seemed to be climbing to its top before launching. Aside from the Yellow-rumped Warblers, at least two different Orange-crowned Warblers (*Oreothlypis celata*) made visits to this fence post and nearby section of the fence and adjacent vegetation to glean termites. The Orange-crowned Warblers, however, did not engage in flycatching. A few other birds were observed flycatching over the yards, apparently after termites, including two Black Phoebes, at least one Ruby-crowned Kinglet (*Regulus calendula*), and at least one Cedar Waxwing (*Bombycilla cedrorum*).

Given that Yellow-rumped Warblers are abundant in my neighborhood in October and are highly opportunistic foragers (Hunt and Flaspohler 1998), it is not surprising that they were the first and most numerous birds attracted to termite swarms. I was therefore surprised to find that these may be the first published observations of this species – as well as of Red-breasted Sapsucker, Western Scrub-Jay, Ruby-crowned Kinglet, Cedar Waxwing, and Orange-crowned Warbler—feeding on termites. The Yellow-rumped Warbler is not listed among the species known to feed at swarms by Blake (1941) or Cowan (1942), and termites are not listed as known prey of the species in the food habits summary by Hunt and Flaspohler (1998). However, my observations suggest that termites might provide a valuable food source for Yellow-rumped Warblers at the time they arrive on their wintering grounds in the Central Valley, which occurs about the time of the first fall rains.

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