

The time required for pupation is long — more than 20 days (average 24 days according to Ledoux). Meanwhile, other larvae are developing and pupating in their turn, but despite regular and abundant oviposition by the queen (in good conditions) many eggs and larvae disappear beginning at about the third month, so that after 4-5 months, the queen may be accompanied by only 8-10 small (minim) workers. Presumably the workers forage effectively after this early period, which must be a critical time for nest foundation.

Ledoux, noticing that some winged queens when isolated before nuptial flight began to lay eggs, found that these eggs were not cared for, and did not hatch. When he isolated 10-20 queens together with abundant food, he found that a few among them would lose their wings and begin to oviposit. Some females, usually those still with wings, would care for the brood, raising a small proportion of them through larvae to pupation and eclosion of adult males, which were killed, apparently before they could mate with the queens.

All the evidence thus points to arrhenotokous parthenogenesis being the rule in *Odontomachus*. Ledoux' observations with the isolated queen groups are also of interest in their indication of a possible dominance hierarchy among the virgin queens, or «division of labor», as Ledoux terms it.

The experience of Colombel indicates that freshly dealate queens, and even adult workers, may be accepted into colonies other than those in which they were born. Apparently some hostility is shown at first toward aliens, and these may sometimes be killed, but in other cases hostility gives way to acceptance. The loose organization of the nest also suggests that new colonies are sometimes founded by queens with attendant workers at some location toward or beyond the margin of the parent nest. This kind of budding-off of new nests appears to be common among Ponerinae.

**Larval development.** When Ledoux put a queenless colony of 50-60 *O. assiniensis* workers under observation in an artificial nest, the workers laid eggs and reared a number of adults, all of which turned out to be males. The eggs hatched after 10-11 days and the resultant larvae developed through 4 instars, lasting on the average: I, 5 days; II, 4 days; III, 7 days; IV, 5 days, with the fourth instar reaching a length of 7 mm,