



Fig. 13. Sagittal section of *Triplaris melaenodendron* branch multiply occupied by queens of *Azteca beltii* and *longiceps*. Note that the two queens occupied chambers that were formerly continuous across perforated septa, but were subsequently separated by an asymmetrical plug of carton, with concave shaped side facing *beltii*.

in Costa Rica may be causing dramatic changes in distribution and dispersal of *C. alliodora* ants (and possibly also creating new and shifting selective regimes). In recent decades the Atlantic lowlands have gone from nearly unbroken rainforest to a largely agricultural landscape. It is unknown what the prehistoric distribution of *C. alliodora* was, but currently it is a very common pasture tree. It is a candidate species for plantation forestry, and there are several plots of various ages at La Selva. The La Selva *A. pittieri* exhibit high variance, ranging from relatively small queens with reduced propodeal pilosity to relatively larger queens with greater propodeal pilosity. A few queens examined from south of Limón exhibit the former condition. At La Selva, we may be witnessing a dynamic invasion and/or hybridization process as formerly Pacific slope forms spread with agricultural development and come into contact with Atlantic lowland rainforest forms. Prior to extensive land clearing, there may have been allopatric populations of *C. alliodora* containing morphologically differentiated populations of the *A. pittieri* complex. *Cordia alliodora* requires bare ground and high insolation to establish (J. Haggard, pers. comm.). On the Atlantic slope, trees may have been restricted to highly dynamic river margins where rivers meandered across the coastal plane. Queens with relatively short, wide heads and reduced propodeal pilosity may represent the original Atlantic lowland form, and thus

should be widespread and associated with large areas of primary forest. The mid-elevation Pacific slope form with larger head and greater propodeal pilosity may have dispersed eastward with land-clearing, or been transported with nursery stock, and may occur as pockets of invasion or else closely associated with extensive land-clearing.

#### The Role of Local Faunas

The above discussion illustrates some of the differences between locally and globally defined species. Sorting local species can often be done simply and quickly, using highly accessible characters. The task of global revisions is a much greater challenge, requiring large specimen bases and the use of different character systems, often those requiring dissection or molecular analysis. Ideally, large effort should go to the immediate production of global revisions, from which the clarification of local faunas will be a by product. However, publication of local faunas prior to a global understanding of taxa serves several purposes. For the systematist, local faunas provide clues to characters that differentiate locally sympatric species, and these characters may be useful in global studies. Local faunas give the field collector an idea of what to expect in local communities, and the kind of sampling effort required to adequately sample a region. They also provide identification tools, which may inspire non-systematists to use the group for study, which in turn may