biculus exceeds that of *pima* both east to west and north to south. The vertical range of *imberbiculus* is almost twice as great as that of *pima*, for although *imberbiculus* does not descend to sea level, as *pima* does, it is capable of reaching levels above 6000 feet, while *pima* rarely reaches the 3000 foot level. The more restricted range of *pima* makes it easy to place that species in the Sonoran Desert biotic association as defined by Shreve (5) but no such single association is possible in the case of *imberbiculus*. Most of the middle of the range of *imberbiculus* lies in what Shreve calls the Chihuahuan Desert, a biotic association found on the Mexican plateau and adjacent portions of west Texas, New Mexico and Arizona. But it is scarcely possible to consider the stations in central Texas and Oklahoma in this category and those in western Arizona, Sonora and California are clearly in the Sonoran Desert association. It thus appears that the distribution of *imberbiculus* spans at least three different biotic areas.

It is interesting to contrast the distribution of *imberbiculus* and *pima* with that of *Novomessor cockerelli* and *albisetosus*, since the latter two xerophiles occur in many of the stations where *Ephebomyrmex* is present. The writer has attempted to show (6) that the distribution of our two species of *Novomessor* is largely determined by their response to elevation. There can be no doubt that elevation is also a highly important factor in the case of *imberbiculus* and *pima*. The response of *imberbiculus* to elevation is very similar to that of *N. cockerelli* hence it is not surprising to find that the two species occur together over a very large area from western Texas to western Arizona and south along the Mexican plateau as far as Durango. With certain restrictions this range is true of *N. albisetosus* also. But *pima* behaves in an entirely different fashion. Its distribution is limited to Arizona and Sonora and in those states it occurs only in stations of low to moderate elevation. It is hard to escape the conclusion that this behavior is a result of the different elevational range possessed by *pima*. Since the upper limit of this range appears to be in the neighborhood of 3000 feet it follows that *pima* would, on this