

Wheeler had included material from several localities in the type series.

In order to test the above possibility, I have examined specimens from many colonies of *Pheidole ceres* collected in Colorado at widely separated stations. There are heavily sculptured soldiers and others with the cephalic sculpture reduced enough to leave the vertex virtually smooth and rather shining. But I could not find any correlation between these conditions and geographic position. Furthermore, there are a number of collections representing mixed nest series, for example, one from Kosslers Lake, near Boulder, one from Turkey Canyon, at Morrison, west of Denver, two from Colorado Springs, one from Durango, and one from Mesa Verde, Colorado. It may be concluded that there is considerable lability in the head sculpturing of the major caste in *ceres*, so that a good series of specimens is desirable for making determinations of this species, but there is no evidence so far to support the recognition of any subspecies. The species is fairly common, and sufficient material has been studied to warrant the conclusions drawn.

Considerable doubt exists as to the validity of the ant which Wheeler described as *Pheidole vinelandica* subsp. *buccalis*. Creighton designated this ant a subspecies of *bicarinata*, but stated that it intergrades with *vinelandica* in western Texas. Any of the subspecies of a species may breed (at least potentially or theoretically) with any other, but since *vinelandica* is, according to Creighton, an eastern and southern race which extends to Texas, and since it was thought to intergrade with *buccalis* in west Texas, it would seem that *buccalis* is more closely related to *vinelandica* than to the typical *bicarinata*, and to be a southwestern form whose range overlaps that of the southern race. The range of *buccalis* is given as Arizona, southern Utah and east to Texas. Morphological examination of specimens which key out to *buccalis* appear to bear out this conclusion. In 1956, Cole published the results of his experience with this form in Arizona (including the type locality, Prescott), and in New Mexico. He states that it occurred intimately interspersed with colonies of typical *bicarinata* (the latter was not supposed to extend west of the Rockies as far as Creighton's records showed in 1950), and even to nest in identical stations. If this is the case, then the two forms cannot be geographic races, and must