For phylogenetic analysis, it seems best to select those characters which show the least intraspecific variation. Considering the diphenism in the female sex, characters were selected in which the least difference occurs between the worker and queen. For this reason, those characters which exhibit some interspecific differences only in the queen, for example, the shape of frontal edge of clypeus (Plate 2, figs. 6-8) and the punctation of gaster (Plate 1, figs. 1-3), or only in the worker, for example, the profile of alitrunk (Plate 1, figs. 8-12), rugosity pattern of petioles, were eliminated. After this screening, two categories of interspecific correlation were remained.

The first category includes those characters showing either discontinuous or continuous variation between two of these species. These were expressed as o∞f // s and observed on the shape of the frontal area (Plate 2, figs. 6-8) and the length of legs and body size of female castes (Plate 1, figs. 1-3, 7, 9, 11). However, other types of correlations were found in the male caste (Plate 1, figs. 4-6; Plate 2, figs. 18-20), namely, o // f∞s, the shape of epinotum and o∞s // f, the size of body and legs. It is strange that female and male show a different pattern of interspecies correlation. One can see that with these observations it is still impossible to obtain a clear picture of phylogeny.

The second category includes stable characters showing continuous variations whose degree shows a sequential trend from one species to another (o→f→s). Rugosity of the head and thorax (Plate 1, figs. 1-3, 7-12; Plate 2, figs. 6-8, 9-11) is an example which appears constantly in all the individuals of female castes with different degrees of coarseness increasing sequentially from *osimensis* to *smythiesi*, with *famelica* as the intermediate. It is also a strange fact that in the male there are no differences observed in rugosity patterns (Plate 1, figs. 4-6; Plate 2, figs. 12-20). However, the same tendency was observed in the wing venation of male (Plate 2, figs. 3-5) and queen (Plate 2, figs. 1-2), in which the de-sclerotization of wing venation increase as a range of o→f→s. From these tendencies, a simple cladogram can be given as follows:

From the study of geographical distribution, *osimensis* is found at sea level in the southern part to the −3.5°C isothermal line (Fig. 1), the northern limit of distribution of tropical species. From its vertical distribution pattern, this species belongs to the class I have labeled tropical type I. The distribution of *famelica* extends horizontally from Kyushu to the middle of Hokkaido and vertically from the level land to the mountain zone (Fig. 2). This distribution pattern shows that *famelica* belongs to the class labeled temperate type I. In the case of *smythiesi*, the same pattern of horizontal distribution as that of *famelica* is observed, but the species is limited altitudinally to the mountain zone. This distribution pattern belongs to the class labeled temperate type II.