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## NEW SYNONYMY OF A FEW GENERA AND SPECIES OF ANTS.

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Following are some ant names considered to be synonymous. The synonymy is indicated in the standard way, with the senior name given first and junior names, with other important references, given under each senior name. This is a continuation of the attempt on the part of the author to stress the importance of making perfectly obvious and uncomplicated synonymy a part of public scientific knowledge. Of some 10,000 names of ants currently in print and unchallenged, probably nearly one half are synonyms. Myrmecologists everywhere should seek to place publication of synonymy definitely known to them as a consideration with priority over the description of new species. If this is not done, ant systematics will soon become a field in which constructive work is impossible.

### *Calyptomyrmex beccarii* Emery

*Calyptomyrmex beccarii* Emery, 1887, Ann. Mus. Civ. Stor. Nat. Genova, (2) V, pp. 471-472, Pl. 2, fig. 23, worker. 1897, Term. Füzetek, XX, p. 587 (New Guinea record). Szabó, 1910, Ann. Mus. Nat. Hung., VIII, p. 365, female (New Guinea record).

*Weberidris rufo-brunnea* Donisthorpe, 1948, Ent. Mon. Mag., LXXXIV, p. 281, fig. 1, worker (New synonymy).

*Calyptomyrmex rufo-brunnea* Donisthorpe, 1949, Ent. Mon. Mag., LXXXV, p. 186, worker. Brown, 1949, Trans. Amer. Ent. Soc., LXXXV, p. 84.

When the synonymy of *Weberidris* was pointed out to Mr. Donisthorpe, he quickly published the synonymy of the genus, but retained the species *rufo-brunnea* as distinct from Emery's *beccarii*. I have recently been able, through the courtesy of the original collector of *rufo-brunnea*, Dr. E. S. Ross, to see six specimens of what is almost certainly the same species from the type locality, Maffin Bay, Dutch New Guinea.

These specimens are undoubtedly of *Calyptomyrmex beccarii*. Not only does the species have a previously long-known wide distribution along the northern coast of New Guinea, but the very characters cited by Donisthorpe in 1949 are just those that vary in the specimens before me. Since Emery habitually undermeasured small ants, the size difference ( $3\frac{1}{2}$  mm. *teste* Emery; 3.7 mm. *teste* Donisthorpe) is completely inconsequential. The mandibular

dentition is somewhat variable, grading from a nearly edentate condition to one in which up to six low teeth are visible. The dentition is hard to see, and Emery shows it ambiguously, his original description differing from the accompanying figure in what would appear to be extremes of mandibular armament. The figure accompanying the description of *W. rufo-brunnea* seems rather strongly in error as regards major details of sculpture and pilosity.

The *Calyptomyrmex* determined as *beccarii* by Wheeler in the Museum of Comparative Zoology is a closely related but distinct species in my opinion. It differs from *beccarii* and from *emeryi* Forel in sculpture and in the position and size of the individual clavate hairs; this apparently new form is from the Philippines, but deserves further study before a description is warranted. *C. emeryi* differs from *beccarii* in having a nearly smooth propodeal face; the face in *beccarii* is roughly rugose in a more or less vertical direction. According to Donisthorpe, the New Guinea species has both labial and maxillary palps with two segments.

*Prionopelta majuscula* Emery

*Prionopelta majuscula* Emery, 1897, Term. Füzetek, XX, pp. 595–596, worker, female.

*Examblyopone churchilli* Donisthorpe, 1949, Ann. Mag. Nat. Hist., 11 (XV), pp. 401–402, female. (New synonymy.)

Mr. Donisthorpe has returned two of the original three *churchilli* types to the California Academy of Sciences. The holotype consists of the alitrunk only, while the paratype examined by myself has had the back of the head removed, and the remainder of the cephalic capsule is badly distorted. Evidently this happened while the examination of the palpi was being made. In spite of the distortion, the paratype specimen is clearly identifiable as a *Prionopelta* female. Agreement with Emery's description of *P. majuscula* is so close as to leave little doubt that the above synonymy is in order, provided one makes the usual allowances for Emery's low measurement. The genus *Examblyopone* quite definitely is a synonym of *Prionopelta*. Since, in my opinion, *Prionopelta* is a member of the tribe *Amblyoponini*, I must consider Donisthorpe's tribe *Examblyoponini* (loc. cit.) a synonym also. Donisthorpe found the type females in this case to have two-segmented maxillary and labial palpi, and since this also appears to be the number in at least one Neotropical species, the number is probably to be considered characteristic for *Prionopelta*.

*Myrmecina americana* Emery

*Myrmecina latreillei* subsp. *americana* Emery, 1895, Zool. Jahrb. Syst., VIII, p. 271, worker.

*Myrmecina americana* Brown, 1949, Psyche, LVI, pp. 44-47, worker. Creighton, 1950, Bull. Mus. Comp. Zool., CIV, pp. 246-250, with subsp. *brevispinosa* and *texana*.

*Myrmecina graminicola* subsp. *texana* Wheeler, 1908, Bull. Amer. Mus. Nat. Hist. XXIV, p. 422, worker (New synonymy).

In my treatment of the forms of *Myrmecina* of North America cited above, I synonymized Emery's variant *brevispinosa* after finding nests near Boston of the "typical" *americana* which, upon being starved in an artificial nest, produced small, lightly colored and lightly sculptured workers corresponding well to the description and supposedly authentically determined specimens of *brevispinosa*. At the time of publication of my article, Dr. Creighton's magnificent work on the North American ants was in the hands of the printers, and this seemingly irrefutable evidence for the synonymy of *brevispinosa* came too late for consideration under his treatment of *Myrmecina* (loc. cit.).

In the face of the biological evidence, it is impossible to support *brevispinosa* as a geographical race or as an intergrade between "*americana americana*" and a western race. Dr. Creighton is, of course, correct in stating that series from the southwestern United States average smaller, are often lighter in color, have smaller propodeal teeth and are more lightly sculptured. An extreme in these respects is reached by M. R. Smith's *M. californica*, which may, when collections from the West are more complete, prove to be one end of a gradual cline. Such a cline could, of course, occur as a chain of natural species or subspecies; the evidence in the form of actual series in collections is at present much too slight to support any definite generalizations on the subject.

Adding to the complexity of the taxonomic situation with regard to Holarctic *Myrmecina* is the recent discovery, by Dr. D. L. Wray at Pittsboro, North Carolina, of two very small, smooth *Myrmecina* workers, light in color and with greatly reduced propodeal armament. The head, alitrunk and nodes of these workers are scarcely more than feebly coriaceous, and in smoothness surpass all other *Myrmecina* of the *graminicola* group including the form *sicula* Emery and *californica*.

My opinion of this situation is derived from the study of very numerous representatives of over one hundred colonies of *Myrmecina* from the Nearctic and Palearctic regions, including types or

reliably determined specimens of all the named forms except *M. graminicola grouwellei* Bondroit. Since all characters of sculpture, color, clypeal and antennal scape structure, etc. formerly used in separating the various forms will not hold perfectly constant for all specimens in the *major* areas of the Holarctic region, we may well question whether any of them are worth much. Specimens from northern Europe appear to be relatively uniform in their large size, coarse sculpture, flattened bases of antennal scapes and in the relatively strong development of lateral and median clypeal teeth. Most individuals from the northeastern United States and eastern Canada are nearly as large and roughly sculptured as the northern European ones, but the clypeal teeth are much reduced and the scapes are narrow and curve evenly at their bases, with little or no trace of flattening.

As one goes south in the Mediterranean area and south and west in North America, *Myrmecina* becomes gradually more and more uncommon, the size of the individuals and the strength of the sculpture decreases, and the shapes of the bases of the scapes and of the clypeal processes lose the distinctness of the populations from the cooler, wetter areas. The scanty evidence from the Orient shows that there is a mixture of types in eastern China and Japan with regard to the scape and clypeal characters. It is doubtful whether these Oriental forms can be separated from *M. graminicola*, although at least the Chinese form is intermediate to *M. americana*.

All of this evidence, while not yet strong enough to be at all conclusive, points to the origin in Asia of the *graminicola* group (the other *Myrmecina* species are Indo-Papuan) and a spreading to Europe and North America (during relatively recent geological periods) of a variable *graminicola*-like species. The populations of eastern North America and western Europe therefore rest on opposite ends of a range stretching a great part of the way around the Northern Hemisphere, and it is not surprising that they show the most constant differences. For the maximum display of the full differences, the individuals seem to require optimum conditions with regard to temperature, humidity and food which are not found in the warmer or warmer and dryer parts of the ranges. Therefore, it seems that the latter areas produce forms depauperate not only in sculpture, propodeal teeth and general body size, but also in the development, be it positive or negative, of the scape and clypeal characters.

Whether the north-south variation is partly due to genetic fac-

tors as well as to environmental ones remains for experiment and observation to verify; the small amount of material now available, plus the variation brought about in the artificial nests by starvation, seems to indicate in a rough preliminary way that the smoother forms are non-genetic or largely so in North America. Menozzi and others have indicated briefly that smooth South European forms like *sicula* did not seem worthy of taxonomic distinction because of the variability of the characters discussed.

In my previous discussion of the Holarctic *Myrmecina*, I indicated that *texana* would probably have to be considered a synonym of *americana* when more collections from the southwestern United States were known, since the characters cited by Wheeler in the original description could be matched by specimens from nests coming from much farther north and east. I reserved judgement at that time because of certain differences that appeared to exist in the cephalic sculpture of the *texana* types. Since that time, I have been able to compare much more material with the *texana* specimens, and I can only conclude that my original opinion was correct.

Since Dr. Creighton (loc. cit.) has retained *texana* as a valid subspecies, I have found it prudent to examine *texana* most carefully for a third time, and I am now completely confirmed in the synonymy listed above. This case has little to do with north-south or other variation as discussed above; *texana* is just not distinct by any character from nest variants stemming from Ohio, Kentucky, Pennsylvania and North Carolina and occurring in the same colonies with more "normal" specimens.

Dr. Creighton states, "When more material is available for examination, *texana* will probably prove to be a separate species, for it has rather distinct structural features which separate it from *americana*." However, the only character actually mentioned by Dr. Creighton (in the key to the work cited) is the "finely punctate and subopaque" base of the first gastric segment. As I have already pointed out during the time when "The Ants of North America" was still in press, this character is certainly the last one would pick to separate any subspecies from *americana*, since virtually all specimens I have seen of *M. americana* from the northeastern United States show more or less strong shagreening of the gaster. This shagreening is of the same kind shown by the *texana* types, and in specimens from northern Ohio and North Carolina definitely surpasses that of the *texana* types in strength and distinctness. *Texana* is just another name which has stood through the years by default of really critical examination.

In addition to the North American synonymy, I should like to suggest some synonymy for *M. graminicola* which appears quite safely put forward at this time. All of the names considered are European or are from adjoining areas; lack of mention of *sicula* and the Asiatic subspecies does not mean that I consider these forms above synonymy, but merely indicates that the material at hand is insufficient for the certain consummation of the synonymy at the present time.

*Myrmecina graminicola* (Latreille)

*Formica graminicola* Latreille, 1802, Fourmis, p. 256, male, not worker or female.

*Myrmica striatula* Nylander, 1849, Acta Soc. Sc. Fennicae, III, p. 40, worker (New synonymy).

*Myrmecina graminicola* var. *Grouvellei* Bondroit, 1918, Ann. Soc. Ent. France, LXXXVII, p. 116, fig. 58c (New synonymy).

*Myrmecina kutteri* Forel, 1914, Deux nouv. myrmécol., p. 1, as worker. (See Emery, 1915-16, Rend. Accad. Sc. Bologna, p. 57) (New synonymy).

In the reference just cited, Emery placed *striatula* as a variety of *graminicola* and *kutteri* as an "aberration" of the same species. Signor Mario Consani has kindly sent me two specimens of *striatula* labelled "Lenkoran," so I take them to be authentic. These prove to be slightly less strongly sculptured variants of *graminicola*, and can scarcely be said to merit taxonomic distinction. Aberration *kutteri* is no more than the ergatoid (wingless) female form of the ordinary *M. graminicola* from Switzerland and Italy; it is quite commonly found in nests with "typical" *graminicola* workers.

The var. *grouvellei* appears to be a depauperate form of *graminicola*: while the clypeus shows some reduction of the teeth, especially the median one, the differences do not appear strong enough (from Bondroit's figure) to warrant taxonomic distinction of this form in the face of the great variation recorded for *graminicola* in southern Europe outside France. Further study will probably show that *grouvellei* is merely one of the intermediates between *graminicola* and an ecological variant represented by the very doubtful species *sicula*.