Reprinted from "The Entomologist's Monthly Magazine," 2nd Series, Vol. xxv.

WHAT WAS *SPHEX XANTHOCEPHALA*, FORSTER

(A BRITISH INSECT, BUT IGNORED IN BRITISH LISTS)?

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So long ago as in 1771 the once-celebrated author and traveller J. R. Forster—deserving to be remembered *inter alia* as the naturalist who accompanied Cook on his second voyage—published in London the description of a black and yellow fossorial wasp, which he named as above, and whose habitat he gives as "Anglia." The description—with certain not unimportant omissions—was reproduced by Gmelin in his edition (1790) of "*Systema Naturæ*," but it seems to have entirely escaped the notice of British authors, and I can find no allusion to such an insect in the works of Shuckard or F. Smith or E. Saunders. It is mentioned, however, with a note of interrogation prefixed, in v. Dalla Torre's *Catalogus* as possibly synonymous with *Philanthus triangulum*, F.; and if this identification could be established, the latter well known name would have to be abandoned, since the earliest description of *triangulum* was in 1775—four years later than the publication of *xanthocephala*. But I think it is demonstrable that *xanthocephala* was not *triangulum*, but a much more common British insect, whose name is fortunately unalterable, having been fixed by Linné in 1758 in the 10th edition of "*Systema Naturæ*."

Forster's description, though naturally based almost exclusively on colour-characters, is very careful and full of detail. He tells us that the size of the insect was that of *Crabro cribrarius*, L.; that the apices of the wings were 'fuscescentes' (which can hardly be said of *triangulum*), and that the basal joint of the antennæ was yellow (in *triangulum*, except in some quite southern forms, it is generally entirely black, or at most bears a small yellow spot which easily escapes notice). But the description of the abdomen makes it, I think, quite clear that the insect in question is not *triangulum*. It runs thus: "Abdomen nigrum; margines segmentorum 2, 3, 4, 5, 6 fasciis flavis cincti, subtus puncta flava utrinque duo." This, as I read it, can only describe an insect with the basal segment of its abdomen entirely black, and with the segments following belted each with yellow at the apical margin only of its dorsal plate, while, on the ventral side, the abdomen is black entirely except that two of its plates have roundish spots (puncta!) on their sides. Now having examined countless foreign specimens and several British ones of *triangulum*, both ♂♂ and ♀♀, I have never seen among them anything at all resembling the above coloration. Even in the darkest forms, the basal

dorsal-plate has two large and conspicuous (subtriangular) lateral patches of yellow colour, and the segments following, instead of a mere "marginal belting" of that colour, have practically their whole sides yellow right up to the base of each ring. The venter also is much more largely yellow than black, some segments are yellow right across, and all are widely so at their sides at least (never merely *spotted* with yellow!)

After considering the claims of all the black and yellow British Fossors yet described, I have come to the conclusion that there is one, and only one, in which I can recognise every single character ascribed by Forster to his *xanthocephala*—viz., the ♂ of the common and well-known *Cerceris arenaria*, F. Two possible objections to this identification ought perhaps to be met before accepting it, but both in my opinion can be met quite completely.

1. It may be asked—since Forster was undoubtedly familiar with Linné's descriptions of *arenaria* in "*Systema Naturæ*" and "*Fauna Suecica*," why did he fail to recognise the species when he met with it?

But, if these descriptions be consulted, it will be found that the characters given in them are those of the ♀. Although the two sexes of *arenaria* are very similar, they differ in points, which in Forster's day might quite well have been thought to indicate specific difference, e.g., *arenaria* ♀ has generally yellow markings on the basal segment, and on its face—instead of the (♂) "macula magna flava posticetrifida" described by Forster—it has as Linné states in *Faun. Suec.* "three yellow spots."

2. It has been suggested to me that Forster's expression *abdomine subsessili* does not well apply to a *Cerceris*, since in that genus the basal segment is more or less coarctate and might be called a petiole.

But *abdomine subsessili* is a Linnean phrase, and Forster no doubt uses it in the Linnean sense. Linné in *Systema Naturæ* divides all the species of Sphex into two groups only, viz. (1) "*abdomine petiolato, petiolo elongato*, and (2) "*abdomine subsessili*," or, as we might say, (1) Long-waisted forms, and (2) Short-waisted forms. In the first division he places species now reckoned under *Sphex*, *Sceliphron*, *Trypoxylon*, &c., where the abdomen is evidently "stalked"; in the second all other Fossors, *Cerceris* included, e.g., *arenaria*, the very species now under consideration.

Obviously it is *prima facie* more likely that Forster should have

met " in England " with the common and widely distributed *arenaria* than with the rare and local *triangulum*, though possibly the latter may not have been quite so rare with us in the 18th century as it has been ever since. But I do not desire to press this point, believing the case to be complete without it.

I conclude, then, that *xanthocephala*, Forster (1771) should be treated as a synonym of *arenaria*, L. (1758), and should not be considered as a possible earlier name for *triangulum*, F.

Brunswick, Woking:
October 10th, 1914.