

The "Black Bog Ant" *Formica picea* NYLANDER, 1846 – a species different from *Formica candida* SMITH, 1878 (Hymenoptera: Formicidae)

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Abstract

According to morphometrical and genetical evidence, the ant taxa collected by BOLTON (1995) under the name *Formica candida* SMITH, 1878 can be divided into a minimum of two different species with separate zoogeography. The well-known "Black Bog Ant" – distributed over Europe, the Caucasus and the West Siberian Lowland – is identified as *Formica picea* NYLANDER, 1846, but the species found in all Central Asian mountains north to the Gorno-Altai region, in Tibet, Mongolia, the Baikal region and East Siberia is redescribed as *Formica candida* SMITH, 1878 under fixation of a neotype. According to article 23.9.5. of the 4th edition of ICZN (1999), the name *Formica picea* NYLANDER, 1846 (a junior primary homonym of *F. picea* LEACH, 1825) needs not be replaced by one of its junior synonyms. This rule is most appropriate, considering the fact that *F. picea* LEACH is in *Camponotus* MAYR since 1861 and will never return to *Formica*; this application ends the confusing to-and-fro between three names that lasted for 50 years. The separation of *F. picea* and *F. candida* from the three other Palaearctic species with shining blackish body and reduced pubescence (i.e. *F. gagatoides* RUZSKY, 1904, *F. kozlovi* DLUSSKY, 1965 and *F. gagates* LATREILLE, 1798) is explained and morphometric data are given in two tables. An explanation for the peculiar habitat shift of *F. picea* is offered.

Key words: *Formica picea* complex, lectotype, neotype, discriminant analysis, zoogeography, habitat shift

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Introduction

The black and brilliantly shining species of the subgenus *Serviformica*, known to European myrmecologists under the trivial name "Black Bog Ant", is one of the worst examples for unstable and indeterminate taxonomic naming. In Europe, but not outside this area, this ant is one of the few real tyrophiles among ants though occurrence on mineralic soil is reliably reported for higher mountain ranges (e.g., KUTTER 1917) and moist atlantic *Empetrum-Molinia* heath (SÖRENSEN 2001). Its special habitat selection and the brilliantly shining body surface has led to the rare situation that most European reports on this ant published during the last 150 years can credibly be referred to one and the same species. As a consequence, there is a rather good knowledge on several aspects of its biology.

From 1846 to 1979, this ant has almost constantly been named *Formica picea* NYLANDER, 1846. Considering the junior primary homonymy of *F. picea* NYLANDER, 1846 with *Formica picea* LEACH, 1825 (since 1861 in *Camponotus* MAYR), different junior synonyms were introduced as replacement names in the second half of the 20th century. YARROW (1954) was the first to propose the replacement name *Formica transcaucasica* NASSONOV, 1889. This propos-

al was not followed by a majority of myrmecologists – apparently because they did not consider the homonymy a practical problem (e.g., DLUSSKY 1967, DLUSSKY & PISARSKI 1971, KUTTER 1977, ARNOLDI & DLUSSKY 1978). The name *F. transcaucasica* became more frequently used when COLLINGWOOD (1979) repeated Yarrow's name change in his widely-distributed book on Fennoscandian ants. The most recent name change came, when BOLTON (1995) introduced the replacement name *F. candida* SMITH, 1878 in his important world catalogue of ants. All name changes performed by Yarrow, Collingwood, and Bolton were not based upon type investigation, critical reading of the original description, and consideration which similar species occurred in the type localities.

As shown in the results (section 1), no original material of *F. transcaucasica* and *F. candida* has been identified so far and the original descriptions are insufficient and may refer to several species occurring in the type localities. Hence we are confronted with the problem that nobody knows to which real species the original descriptions of *F. transcaucasica* and *F. candida* must refer and we are in urgent search for a valid and verifiable name of the Black Bog Ant.