

IDENTIFICATION OF NORTH EUROPEAN *MELOGONA* FEMALES, AND THE FIRST RECORD OF *M. GALLICA* (LATZEL, 1884) FROM DENMARK (DIPLOPODA, CHORDEUMATIDA, CHORDEUMATIDAE)

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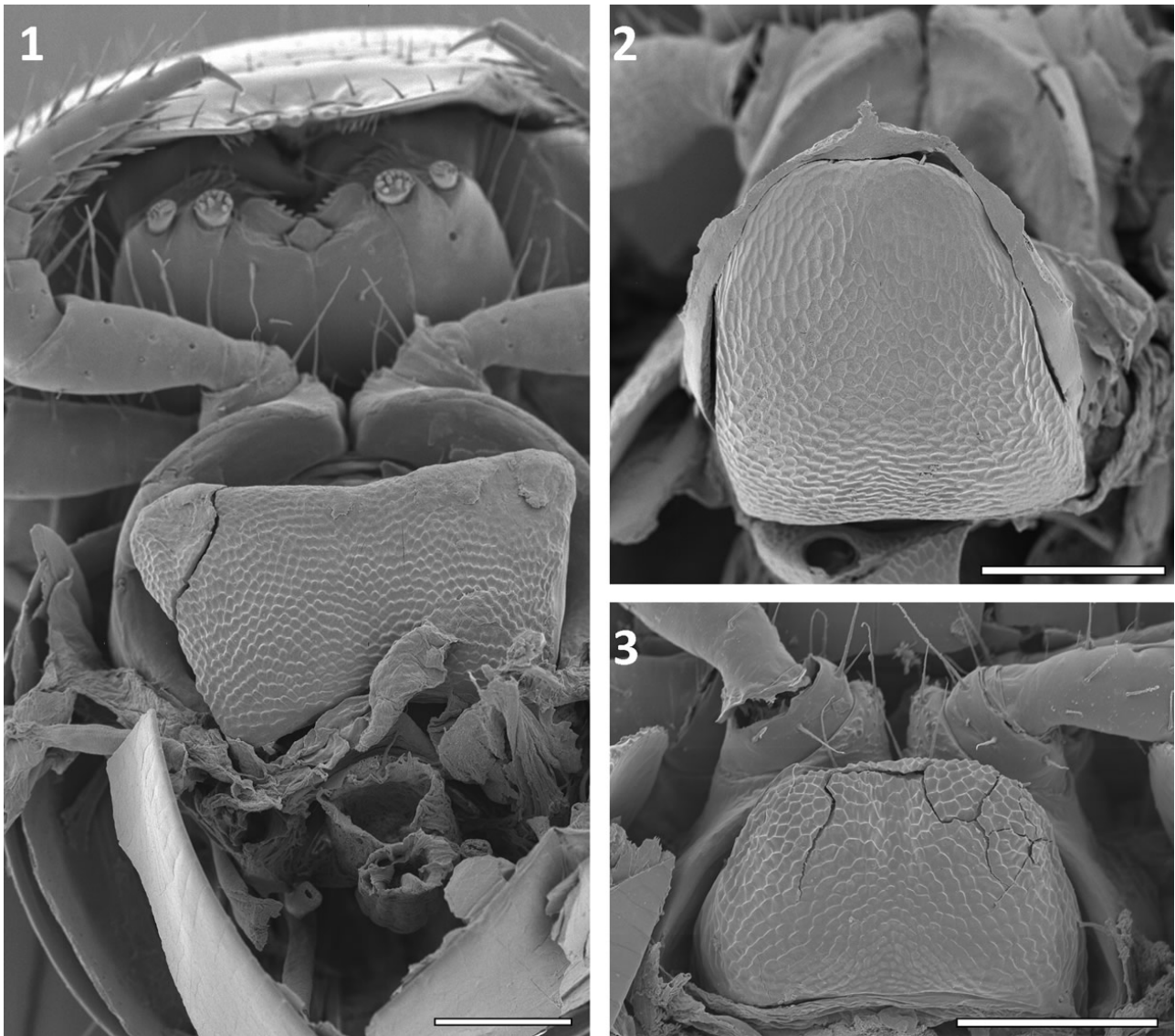
Three species of the genus *Melogona* Cook, 1895, have been found in northern Europe. *M. gallica* (Latzel, 1884), is known from Belgium, Switzerland, the Czech Republic, Germany, Denmark, France, UK, Ireland, Luxembourg, the Netherlands and Norway; *M. voigtii* (Verhoeff, 1899) from Austria, Belgium, Switzerland, the Czech Republic, Germany, Denmark, UK, the Netherlands, Poland and Sweden; *M. scutellaris* (Ribaut, 1913) from Belgium, Switzerland, France, UK, Ireland and Italy (Enghoff & Kime 2009). Whereas males of these species have distinctive gonopods (Brolemann 1935, Blower 1985, Andersson et al. 2005), and adults of both sexes of *M. scutellaris* may be recognized on the lower number of body ‘segments’ (28 vs. 30 in the two other species) females of *M. gallica* and *M. voigtii* have remained undistinguishable (www.bmig.org.uk/species/melogona-voigtii, accessed 7 June, 2016).

The vulvae of *Melogona* species are remarkable in being fused in the midline. When viewed from a caudal point of view, the fused vulval bursae thus appear as one large sclerite. While checking some Danish *Melogona* females identified as *M. voigtii* I found that there were two distinct shapes of the bursal sclerite, and by comparison with British specimens of *M. gallica* it became clear that one of the morphotypes represent this species while the other represents *M. voigtii*.

In *M. gallica* (Fig. 1) the bursal sclerite is trapezoid, broader than long, with straight edges and broadest distally. In *M. voigtii* (Fig. 2) the sclerite is slightly longer than broad, broadest basally and with rounded lateral edges. In *M. scutellaris* (Fig. 3) the sclerite is also broadest basally and with rounded lateral edges, but in contrast to *M. voigtii* it is broader than long. The sclerite can easily be seen if the specimen is slightly ‘opened’ between the second and third pairs of legs.

Brolemann (1935: figs 698-699) illustrated the vulvae of *M. gallica* and (ibid.: figs 714-715) *M. scutellare*. Kurnik (1987: figs 12, 14, 15) gave drawings of vulvae of all three species and (ibid.: figs 37-38) scanning electron micrographs of vulvae of *M. voigtii*. Although most of these illustrations are somewhat difficult to interpret they are consistent with Figs 1-3.

M. gallica was found for the first time in Denmark in Fredensborg Slotspark, NE Zealand (55°59’N, 12°24’E), 10.iv.1984, Ole Martin leg. Four females were collected which I originally identified as *M. voigtii*, then the only known Danish species of the genus. Thirty-two years later (14.iv.2016), a male and two females of *M. gallica* were collected at the same site by Ruttapon Srisonchai and Henrik Enghoff. Both samples are kept in the Natural History Museum of Denmark. All Danish *Melogona* specimens in the museum were re-examined, but apart from the above mentioned sample, and a few unidentifiable juveniles, all are *M. voigtii*.



FIGURES 1-3: *Melogona* spp. vulvae, oblique ventral view.

1) *M. gallica*, showing also the head and the second pair of legs, specimen from England, Cheshire, Delamere Forest ca. 60 km SW of Manchester, 3.iv.1986, H. Enghoff leg.; 2) *M. voigtii*, specimen from Denmark, Århus, 7.xi.2015, L. Brøndum leg.; 3) *M. scutellaris*, specimen from England, Cheshire, Kerridge ca. 20 km SSE of Manchester, 4.iv.1986, H. Enghoff leg.

Scale bars = 0.1 mm. The fractures seen on the bursal sclerites in Figs. 1 and 3 are artificial.

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