

INTERSPECIFIC MATING OF *SYMPECMA FUSCA* (VANDER L.) AND *S. PAEDISCA* (BRAUER) OBSERVED FOR THE SECOND TIME IN THE NETHERLANDS (ZYGOPTERA: LESTIDAE)

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Abstract – On 26 April 2008, interspecific mating of *S. fusca* ♂ and *S. paedisca* ♀, with oviposition ensuing, was observed in the Weerribben, in NE Netherlands. In 2007, a similar mating was brought on record from Drenthe, but its duration was shorter. It would seem that, in areas where both spp. reproduce, *S. fusca* behaves dominantly. The increasing expansion of *S. fusca* northward, as seen in the last few decades, could cause competition between the 2 spp. in the use of waters suitable for reproduction in the Weerribben and in similar areas. It is not known whether interbreeding could lead to viable progeny.

Introduction

Prolonged mating between two different dragonfly species is not often seen. This note is about the observation of a mating between a male *Sympecma fusca* with a female *S. paedisca*. The observation was made on 26 April, 2008 in the Weerribben. This is the second sighting of a mating between these two species in the Nether-

lands. No comparable reports are known from outside the Netherlands.

Observation

Mating took place along a fairly wide peathole in the Weerribben, which spread over several hundred feet, and there were about six *Sympecma paedisca* males and a few females present. At one point, however, a tandem of a male *S. fusca* and a female *S. paedisca* formed. This was unexpected, because *S. fusca* is very rare in this area. Indeed no other *S. fusca* individuals were seen that afternoon. This mating was followed for over four minutes (Fig. 1). After the male released the female the two animals had remained together, making movements with their abdomen. After copulation the female then flew off to oviposit. The male *S. fusca* grabbed the female again while she was ovipositing and made another attempt to mate. This attempt was short lived and went less well than the first and was followed by sitting. The female then flew away and for the third time she was grabbed behind the head. The third attempt was the shortest and the animals finally separated. The whole scene lasted more than 15 minutes. The *S. fusca* male then behaved aggressively towards the other *S. paedisca* males and attacked *S. paedisca* tandems regularly. It thus seemed stronger than the *S. paedisca* males.

Discussion

In the Netherlands there have been only a few sightings of both *Sympecma fusca* and *S. paedisca* in the same location and interspecific mating between these species has only been observed once before.

In the 1970's B. Kiauta (pers.



Fig. 1. Copula *Sympecma fusca* ♂ × *S. paedisca* ♀ in the Weerribben spring 2008. Duration at least 4 minutes.

comm.) found both species in a garden in Bilt-hoven and in the vicinity, such as Ridderoordse Bossen, but this was outside the reproduction period. VAN POELGEEST (1983) found between 1970 and 1975 both *Sympecma* species in fens (especially alder broekbos) in Het Gooi area but never saw territorial or mating behaviour. Since 2005, both species have occasionally been seen in the Kuinder Plas (Noordoostpolder). E.P. de Boer (pers. comm.) observed an attempt at forming a tandem between the two species but mating was not observed. The first sighting of a mating between these two *Sympecma* species was in 2007 in Drenthe (MANGER, 2007) but this was of shorter duration than observed in the present study. In a letter of the late Dr M.A. Lief tinck to M. Wasscher (1983) is stated that Lief tinck tested the possibility of interbreeding in these two species in his garden in Aerdenhout in 1929. In the early spring of 1929 he observed many mixed tandems, after the two species had overwintered in a cage. Because of Lief tinck's departure to Indonesia, the results of this test unfortunately have never been completed and published. It is not known whether any offspring were produced. Crosses between zygopteran species are rare but in the literature several cases are described (e.g., MONETTI et al.; OLIAS et al., 2007). It is not known whether the here reported mating between the two species resulted in viable offspring.

SCHMIDT (1993) writes that, in southern

Germany, where both species occur in the same breeding waters, reproductive competition between the two species could occur in an certain type of habitat, but he does not make a reference to the possible dominance of any of them. *S. fusca* seems to be the dominant species at the reproductive sites in the Netherlands. This is evident both from the observation described here and from the previous observation in 2007 (MANGER, 2007). In 2007, when several males and females of both species stayed at a peathole, the dominance of the *S. fusca* males was apparent. Given the recent northward expansion of *S. fusca*, the question arises of whether it will ultimately have negative consequences for *S. paedisca*. In ten years, will both species be, just like *Coenagrion puella* and *C. pulchellum*, brotherly neighbours? Time will tell.

References – MANGER, R., 2007. *Brachytron* 11(1): 83-86; – 2011, *ibidem* 14(1): 59-63; – MONETTI, L., R. A. SÁNCHEZ-GUILLÉN & A. CORDERO RIVERA, 2002, *Biol. J. linn. Soc.* 76: 225-235; – OLIAS, M., F. WEIHRAUCH, M. BEDJANIĆ, N. HACET, M. MARINOV & A. ŠALAMUN, 2007, *Libellula* 26: 243-272; – SCHMIDT, B., 1993, *Carolinea* 41: 83-92; – VAN POELGEEST, B., 1983, *Stridula* 6(3): 30-31.

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