

Silk of the nuptial gift of the spider *Pisaura mirabilis*.

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Adult males of the spider *Pisaura mirabilis* wrap up prey with silk and carry these nuptial gifts in search of females. They pass these gifts to females before mating. The females digest the prey as well as the silk during copulation. Recent work on the significance of the nuptial gift of *Pisaura mirabilis* has shown that larger gifts result in longer copulations and higher male reproductive success (Austad, pers. commun.). Nothing is known, however, about the function of the silk in the context of sexual selection.

The results show that male *Pisaura mirabilis* invest little silk in nuptial gifts (mean \pm standard error: 0.04 ± 0.005 mg). The major factors determining the amount of silk are male body size and time available for wrapping up the prey. The size of the prey, the nutritional status of the male, and female body size are less important. The small contribution of the silk to the nuptial gift suggests that the silk is of little nutritional value to the females. But the more silk a nuptial gift contains the longer it takes the female to digest it. Therefore the silk may serve as a mean to prolong feeding time of the females during mating and consequently copulation time. This would increase the reproductive success of the males.

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