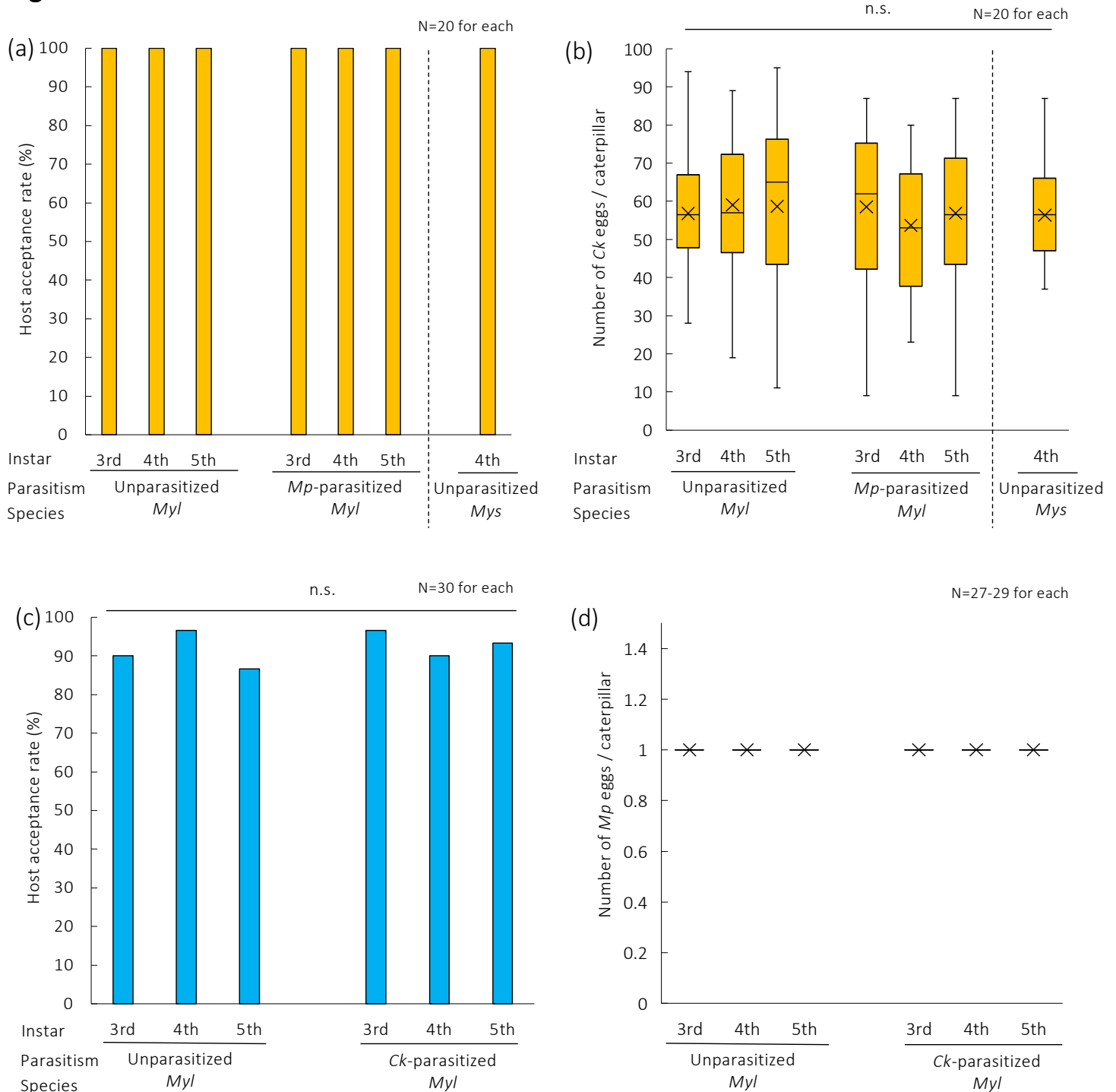


Supporting Information

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Title: Multiparasitism enables a specialist endoparasitoid to complete parasitism in an unsuitable host caterpillar

Figure S1

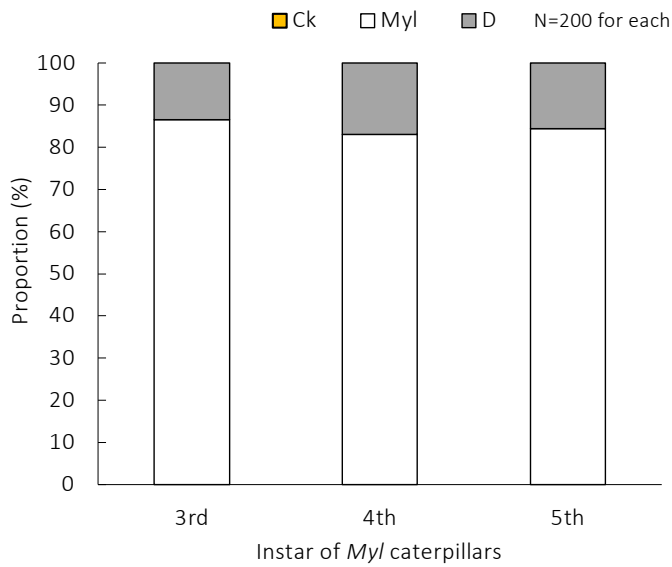


Supplementary Figure S1. Host acceptance and oviposition by *Cotesia kariyai* and *Meteorus pulchricornis* to unparasitized *Mythimna loreyi* caterpillars and caterpillars previously oviposited by another parasitoid.

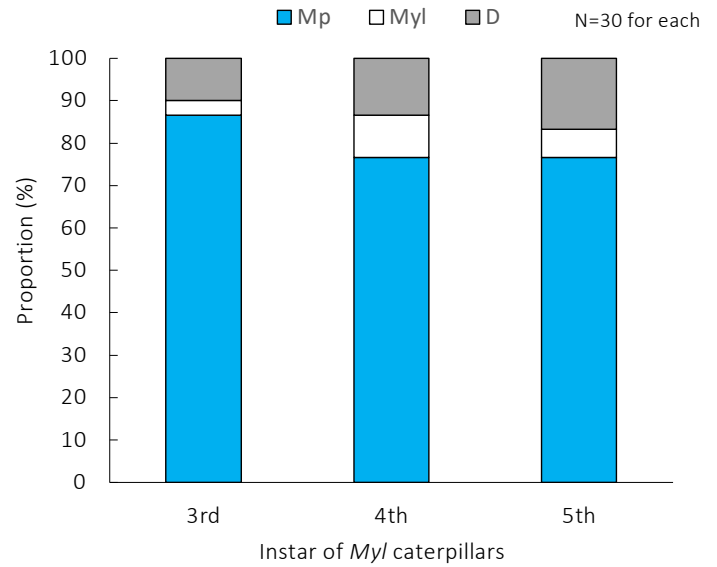
Host acceptance (a, c) and number of eggs found in the caterpillar body (b, d) by *C. kariyai* (a, b) and *M. pulchricornis* (c, d). *Myl* = *Mythimna loreyi*, *Mys* = *My. separata*, *Ck* = *Cotesia kariyai*, and *Mp* = *Meteorus pulchricornis*. (n.s.: no significant differences, by ANOVA (b) or Chi-square test (c))

Figure S2

(a) *Ck* x *Myl*



(b) *Mp* x *Myl*

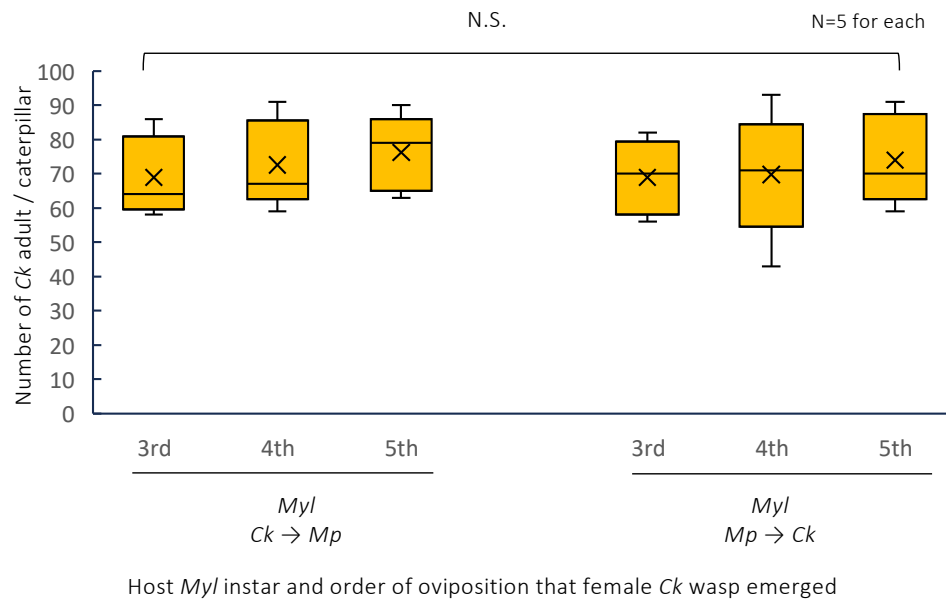


Supplementary Figure S2. Successful parasitism rate of *Cotesia kariyai* (a) and *Meteorus pulchricornis* (b) in *Mythemna loreyi* caterpillars. Female parasitoids were allowed to oviposit into 3rd, 4th or 5th instar *Myl* caterpillars, and oviposited caterpillars were reared individually to examine the host suitability.

Myl = *Mythemna loreyi*, *Ck* = *Cotesia kariyai* and *Mp* = *Meteorus pulchricornis*.

(n.s.: no significant differences by Chi-square test)

Figure S3



Supplementary Figure S3. Reproductive ability of *Cotesia kariyai* emerged from *Mythimna loreyi*. Number of emerged *Ck* wasps per *Mythimna separata* caterpillar after oviposition by *Ck*, which emerged from *Myl* under different multiparasitism conditions (instar and order of oviposition by two parasitoids).
Myl = *Mythimna loreyi*, *Mys* = *My. separata*, *Ck* = *Cotesia kariyai* and *Mp* = *Meteorus pulchricornis*.
 (n.s.: no significant differences by ANOVA)