**Supplementary materials**

**Table S1: Divergence rate (%) of the *wsp* marker between the 11 *Wolbachia* strains and strain variants characterized from *Mylothris* butterfly species.** A-supergroup *Wolbachia* strains are shown in pink, B-*Wolbachia* in blue**.** Inside cell colors vary in accordance with degree of similarity (white: less than 75% similarity, gray: between 75 & 97% similarity, dark-gray: more than 97% similarity).

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Host species (N=)** | **id** | **Divergence (%)** | | | | | | | | | |
| **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** |
| *M. alluaudi* (2)  *M. uniformis* (5)  *M. yulei* (1) | **1** *w*Mall\_A  *w*Muni\_A  *w*Myul\_A | 99,1 | 75,3 | 74,4 | 74,4 | 74,5 | 75,1 | 74,8 | 74,6 | 74,6 | 72,4 |
| *M. crawshayi* (1) | **2:** *w*Mcra\_A | - | 75,4 | 74,6 | 74,6 | 74,7 | 75,3 | 75,0 | 74,8 | 74,8 | 72,6 |
| *M. agathina* (5)  *M. chloris* (4)  *M. dubia* (4)  *M. interposita* (1)  *M. marginea* (2)  *M. sjostedti* (3)  *M. winstoni* (1)  *M. yulei* (1) | **3:** *w*Maga\_B  *w*Mchl\_B  *w*Mdub\_B  *w*Mint\_B  *w*Mmar\_B  *w*Msjo\_B  *w*Mwin\_B  *w*Myul2\_B |  | - | 98,4 | 99,2 | 99,0 | 98,9 | 98,4 | 98,8 | 99,6 | 80,4 |
| *M. poppea* (2) | **4:** *w*Mpop\_B |  |  | - | 99,2 | 99,4 | 99,2 | 98,6 | 99,2 | 98,0 | 80,8 |
| *M. sagala* (4)  *M. knutsoni* (2) | **5:** *w*Msag\_B  *w*Mknu\_B |  |  |  | - | 99,8 | 99,6 | 99,2 | 99,6 | 98,8 | 80,0 |
| *M. asphodelus* (5)  *M. bernice* (4)  *M. elodina* (2) | **6:** *w*Masp\_B  *w*Mber\_B  *w*Melo\_B |  |  |  |  | - | 99,8 | 99,4 | 99,8 | 99,6 | 80,2 |
| *M. trimenia* (3)  *M. rueppellii* (1) | **7:** *w*Mtri\_B  *w*Mrue\_B |  |  |  |  |  | - | 99,2 | 99,6 | 98,4 | 80,0 |
| *M. carolinae* (1) | **8:** *w*Mcar\_B |  |  |  |  |  |  | - | 99,2 | 98,0 | 79,6 |
| *M. rhodope* (1) | **9:** *w*M*rho\_B* |  |  |  |  |  |  |  | - | 98,4 | 80,5 |
| *M. agathina* (2)  *M. marginea* (1) | **10:** *w*Maga\_B  *w*Mmar\_B |  |  |  |  |  |  |  |  | - | 80,4 |
| *M. ducarmei* (2) | **11:** *w*Mduc\_B |  |  |  |  |  |  |  |  |  | - |

**Table S2: Divergence rate (%) of the *wsp* marker between the 14 *Wolbachia* strains and strain variants characterized from *Bicyclus* butterfly species (as characterized in this study and by (Duplouy and Brattstrom 2018)).** A-supergroup strains are shown in pink, B-*Wolbachia* in blue. All variants share the same color**.** Inside cell colors vary and in accordance with degree of similarity (white: less than 75% similarity, gray: between 75 & 97% similarity, dark-gray: more than 97% similarity).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Infected species (N)** | **id** | **Divergence (%)** | | | | | | | | | | | | |
| **13** | **14** | **15** | **3** | **4** | **6** | **16** | **17** | **18** | **19** | **29** | **21** | **22** |
| *B. mandanes* (1)  *B. collinsi* (1) | **12:** *w*Bman\_A  *w*Bcol\_A | 99,7 | 99,8 | 78,0 | 72,8 | 72,8 | 72,8 | 72,7 | 72,8 | 72,6 | 72,5 | 72,8 | 74,4 | 72,0 |
| *B. auricruda* (2) | **13:** *w*Baur\_A  *w*Baur2\_A | - | 99,8 | 78,0 | 72,9 | 72,8 | 72,9 | 72,7 | 72,8 | 72,7 | 72,6 | 72,9 | 74,7 | 71,8 |
| *B. xeneas occidentalis* (2)  *B.ignobilis* (3) | **14:** *w*Bxen\_A  *w*Bign\_A  *w*Bxen2\_A |  | - | 78,2 | 73,1 | 72,9 | 73,1 | 72,8 | 73,0 | 72,9 | 72,8 | 73,1 | 74,7 | 71,8 |
| B. evadne (1) | **15:** *w*Beva\_A |  |  | - | 77,0 | 77,2 | 77,4 | 77,2 | 77,5 | 77,2 | 77,2 | 77,4 | 76,7 | 73,8 |
| *B. sangmelinae*  *B. funebris*  *B. ephorus* | **3:** *w*Bsang\_B  *w*Beph\_B  *w*Bfun\_B |  |  |  | - | 98,3 | 99,1 | 99,1 | 98,9 | 98,8 | 98,9 | 99,1 | 79,1 | 81,8 |
| *B. pavonis* | **4:** *w*Bpav\_B |  |  |  |  | - | 99,2 | 99,1 | 99,3 | 98,9 | 99,0 | 98,8 | 77,9 | 82,1 |
| *B. xeneas xeneas*  *B. saussudei*  *B. nobilis*  *B. medontas* | **6:** *w*Bxen\_B  *w*Bsau\_B  *w*Bnob\_B  *w*Bmed\_B |  |  |  |  |  | - | 99,6 | 99,8 | 99,6 | 99,8 | 99,6 | 78,8 | 80,8 |
| *B. sylvicolus* | **16:** *w*Bsyl\_B |  |  |  |  |  |  | - | 99,5 | 99,3 | 99,5 | 99,3 | 78,6 | 80,8 |
| *B. jacksoni* | **17:** *w*Bjac\_B |  |  |  |  |  |  |  | - | 99,5 | 99,6 | 99,5 | 78,8 | 81,0 |
| *B. evadne* | **18:** *w*Beva\_B |  |  |  |  |  |  |  |  | - | 99,5 | 99,3 | 78,6 | 81,2 |
| *B. dentata* | **19:** *w*Bden\_B |  |  |  |  |  |  |  |  |  | - | 99,5 | 78,5 | 80,6 |
| *B. anisops* | **20:** *w*Bani\_B |  |  |  |  |  |  |  |  |  |  | - | 78,4 | 80,4 |
| *B. trilophus* | **21:** *w*Btri\_B |  |  |  |  |  |  |  |  |  |  |  | - | 83,3 |
| *B. taenias* | **22:** *w*Btae\_B |  |  |  |  |  |  |  |  |  |  |  |  | - |

**Table S3: Divergence rate (%) between the *Wolbachia* strains and strain variants characterized from the *Mylothris* butterflies and the *Bicyclus* butterflies (as characterized in this study and by (Duplouy and Brattstrom 2018))**. Central cells colored in accordance with degree of similarity between strains (white: less than 75% similarity, gray: between 75 and 97% similarity, dark-gray: more than 97% similarity).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Strain** | **1:** *w*Muni\_A | **2:** *w*Mcra\_A | **5:** *w*Msag\_B | **7:** *w*Mtri\_B | **8:** *w*Mcar\_B | **9:** *w*Mrho*\_B* | **10:** *w*Maga\_B | **11:** *w*Mduc\_B |
| **12:** *w*Bman\_A | 73,1 | 73,5 | 70,2 | 70,2 | 70,4 | 70,3 | 70,5 | 70,8 |
| **13:** *w*Baur\_A | 73,5 | 73,9 | 70,2 | 70,2 | 70,4 | 70,3 | 70,5 | 71,0 |
| **14:** *w*Bxen\_A | 73,3 | 73,7 | 70,4 | 70,4 | 70,5 | 70,5 | 70,7 | 71,0 |
| **15:** *w*Beva\_A | 86,3 | 86,7 | 76,7 | 76,7 | 76,7 | 77 | 76,6 | 74,1 |
| **3:** *w*Bsang\_B | 75,6 | 75,8 | 99,2 | 98,9 | 98,4 | 98,8 | 99,6 | 80,9 |
| **4:** *w*Bpav\_B | 75,4 | 75,6 | 99,2 | 99,2 | 98,8 | 99,2 | 98 | 81,3 |
| **6:** *w*Bxen\_B | 74,8 | 75 | 99,8 | 99,8 | 99,4 | 99,8 | 98,6 | 80,5 |
| **16:** *w*Bsyl\_B | 74,5 | 74,7 | 99,4 | 99,4 | 99 | 99,4 | 98,6 | 80,4 |
| **17:** *w*Bjac\_B | 75 | 75,1 | 99,6 | 99,6 | 99,2 | 99,6 | 98,4 | 80,7 |
| **18:** *w*Beva\_B | 75,4 | 75,6 | 99,4 | 99,4 | 99,4 | 99,4 | 98,2 | 80,3 |
| **19:** *w*Bden\_B | 74,5 | 74,7 | 99,6 | 99,6 | 99,2 | 99,6 | 98,4 | 80,2 |
| **20:** *w*Bani\_B | 74,8 | 75 | 99,8 | 99,4 | 99 | 99,4 | 98,6 | 80,1 |
| **21:** *w*Btri\_B | 72,9 | 73,2 | 80,6 | 81,2 | 80,2 | 80,8 | 80,8 | 99,4 |
| **22:** *w*Btae\_B | 73,5 | 73,7 | 75,9 | 75,9 | 75,7 | 75,9 | 76,7 | 82,0 |

**Figure S1:** **Rooted phylogenetic relationships of the concatenated MLST and *wsp* genes sequences from the different *Wolbachia* characterized from the *Mylothris* butterflies**. Additional *Wolbachia* strains characterized from *Brugya malayi* (D-supergroup strain) and from *Opistophthalmus* scorpions (F-supergroup strains) were added as outgroup. Habitat of the host is shown in right-circle.

**Figure S2:** **Rooted phylogenetic relationships of the concatenated MLST and *wsp* genes sequences from the *Bicylcus* butterflies**. Additional *Wolbachia* strains characterized from *Brugya malayi* (D-supergroup strain) and from *Opistophthalmus* scorpions (F-supergroup strains) were added as outgroup. Habitat of the host is shown in right-circle.

Figure S1

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Figure S2

