

1 **Supplementary table legend**

2 **Table S1** Mean of dry weight and nitrogenase activity in a state of symbiosis (nmol C₂H₂ h⁻¹plant⁻¹)
3 of 60-day-old *A. americana* inoculated with the isolated strains, *B. japonicum* USDA110,
4 *Bradyrhizobium* sp. BTAi1 and *Bradyrhizobium* sp. ORS278, and nitrogenase activity in a state of
5 free living (nmol C₂H₂ h⁻¹g.protein⁻¹).

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7 **Supplementary figure legends**

8 **Figure S1** Neighbor-joining trees based on sequences of *matK* gene, showing classification of *A.*
9 *americana* (Thailand ecotype). Bootstrap value is expressed as percentages of 1,000 replications.
10 The bar represents 1 estimated substitution per 100 nucleotide position. The evolutionary
11 distances were computed using the Kimura 2-parameter method and were in the units of the
12 number of base substitutions per site.

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14 **Figure S2** Absorption spectrum of acetone-methanol (7:2, v/v) extracts of (A) *Bradyrhizobium* sp.
15 ORS278, (B) *Bradyrhizobium* sp. BTAi1, (C) *B. japonicum* USDA110, and (D) represented as all
16 *A. americana* isolated strains in this study.

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18 **Figure S3** (A) Southern blot hybridization of genomic DNA showing a representative sample of
19 the different patterns obtained from *A. americana* isolated strains. (B) Lists of the bacterial strains
20 showing the different Southern blot hybridization patterns of each *nod* gene.

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22 **Figure S4** Grouping based on mean of nitrogenase activity in a state of free living (nmol C₂H₂ h⁻¹
23 'g.protein⁻¹) of bradyrhizobial isolated strains, *B. japonicum* USDA110, *Bradyrhizobium* sp.
24 BTAi1, and *Bradyrhizobium* sp. ORS278.

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1 **Figure S5** Grouping based on mean of nitrogenase activity in a state of symbiosis with *A.*
2 *americana* (nmol C₂H₂ h⁻¹plant⁻¹) of bradyrhizobial isolated strains, *B. japonicum* USDA110,
3 *Bradyrhizobium* sp. BTAi1, and *Bradyrhizobium* sp. ORS278.

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5 **Figure S6** Grouping based on mean of plant dry weight (g) of 60-day-old *A. americana*
6 inoculated with bradyrhizobial isolated strains, *B. japonicum* USDA110, *Bradyrhizobium* sp.
7 BTAi1, and *Bradyrhizobium* sp. ORS278.

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