## **Supplementary Materials**

**Table S1.** Identity percent between *T. equi* Egyptian isolates in the present study

|          | MW659075 | MW659073 | MW659078 | MW659074 | MW659071 | MW659072 | MW659079 | MW659077 |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| MW659072 | 96%      | 92%      | 96%      | 97%      | 100%     | 100%     | 98.5%    | 95%      |
| MW659079 | 95.7%    | 91.6%    | 96.4%    | 95.5%    | 98.5%    | 98.5%    | 100%     | 94%      |
| MW659076 | 93.3%    | 89.5%    | 91.8%    | 92.7%    | 92.7%    | 92.7%    | 92%      | 93%      |
| MW659077 | 93%      | 88.5%    | 92.5%    | 93.5%    | 95%      | 95%      | 94%      | 100%     |
| MW659073 | 93.7%    | 100%     | 91.6%    | 93%      | 91%      | 92%      | 91.6%    | 88.5%    |
| MW659078 | 94%      | 91.6%    | 100%     | 93.4%    | 96%      | 96%      | 96.4%    | 92.5%    |
| MW659074 | 94.8%    | 93%      | 93.4%    | 100%     | 97%      | 97%      | 95.5%    | 93.5 %   |

**Table S2.** Identity percent between *B. caballi* Egyptian isolates in the present study.

| Accession number | MW678758Eg | MW678759Eg |
|------------------|------------|------------|
| Identity percent | 76%        |            |

**Table S3.** *T. equi* accession numbers of different 18s genes isolates that used in the phylogenetic tree construction and their references

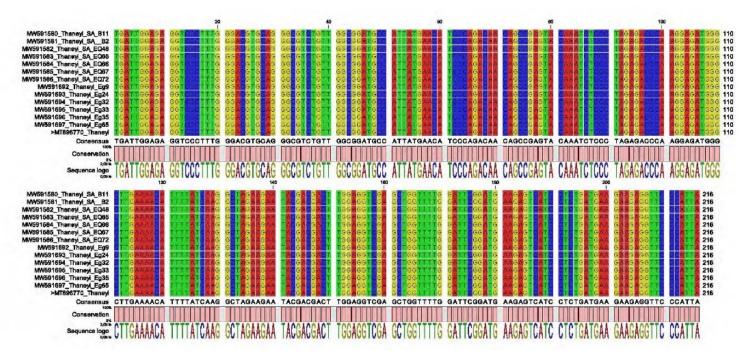
| Accession number | References                      |
|------------------|---------------------------------|
| >MT645535.1      | (Direct submission, NCBI, 2020) |
| >MT463613.1      | [31]                            |
| >MN620483.1      | [33]                            |
| >AY150059.1      | [46]                            |
| >KP995259.1      | [47]                            |
| >MK392052.1      | [13]                            |
| >KJ573370.1      | [48]                            |
| >KX227623.1      | [32]                            |
| >AY150062.2      | [46]                            |
| >KX227629.1      | [32]                            |
| >AB515310.1      | [49]                            |
| >EU642507.1      | [12]                            |
| >KJ573372.1      | [48]                            |
| >KX227641.1      | [32]                            |
| >EU888903.1      | [12]                            |

| >KX227632.1 | [32]    |
|-------------|---------|
| >AB515307.1 | [49]    |
| >HM229407.1 | [50]    |
| >AY534882.1 | [15,51] |

**Table S4:** *B.caballi* accession numbers of different 18s genes isolates that used in the phylogenetic tree construction and their references.

| Accession number | References                      |
|------------------|---------------------------------|
| >KT305929.1      | [52]                            |
| >MH651222        | [16]                            |
| >EU888901.1      | [12]                            |
| >Z15104.1_       | [45]                            |
| >MN723592.1      | (Direct submission, NCBI, 2019) |
| >MN481270.1      | (Direct submission, NCBI, 2019) |
| >MF384422.1      | (Direct submission, NCBI, 2017) |
| >MN481271        | (Direct submission, NCBI, 2019) |
| >MN907450.1      | (Direct submission, NCBI, 2020) |
| >MN163018.1      | (Direct submission, NCBI, 2019) |
| >KY952236.1      | [35]                            |
| >EU642512.1      | [12]                            |
| >MN629354.1      | [13]                            |
| >EU642513        | [12]                            |
| >AY534883.1      | [51]                            |

| >EU642514.1 | [12] |
|-------------|------|
| >MH059519.2 | [53] |
| >MH053402.2 | [53] |
| >JQ288735.1 | [54] |



**Figure S1.** Alignment of the DNA sequences among five *T. haneyi* Egyptian (Eg) isolate (GenBank accession no. MW591692:MW591695 & MW591697) and the six *T. haneyi* South Africa (SA) isolate hypothetical protein gene (GenBank accession number MW591580: MW591586) [BioEdit software].