**Supplementary Table S1.** RT-PCR detection of the four genomic RNA segments (RNA1–RNA4) of ThCEV-A, corresponding, respectively, to RdRp, GP, NP and MP, in individual cacao accessions.

| Samples (cacao accessions) | | *Emaravirus* | Symptoms |
|---|---|---|---|
| 1 | INDES-65 | positive | mild mottling. |
| 2 | INDES-67 | positive | asymptomatic |
| 3 | INDES-63 | | asymptomatic |
| 4 | INDES-THS-565 | positive | asymptomatic |
| 5 | INDES-24 | positive | mild mottling |
| 6 | INDES-53 | positive | mild mottling |
| 7 | INDES-THS-555 | | mild mottling |
| 8 | INDES-THS 565-2 | positive | mild yellowing |
| 9 | INDES-THS 565-3 | | mild mottling |
| 10 | INDES-THS 565-4 | | mild mottling |
| 11 | INDES-THS 565-5 | | asymptomatic |
| 12 | INDES-THS 565-6 | | asymptomatic |
| 13 | INDES-THS-555-2 | | asymptomatic |
| 14 | INIA Accesion-83 | | asymptomatic |
| 15 | INIA Accesion-107 | positive | mild yellowing |
| 16 | INIA Accesion-73 | | mild yellowing |
| 17 | INIA Accesion-45 | | mild yellowing |
| 18 | INIA Accesion-34 | | mild yellowing |
| 19 | INIA Accesion -15 | | asymptomatic |
| 20 | INIA Accesion -37 | | asymptomatic |
| 21 | INIA Accesion -20 | positive | asymptomatic |
| 22 | INIA Accesion -23 | positive | mild mottling |
| 23 | INIA Accesion -35 | | mild yellowing |
| 24 | INIA Accesion -25 | | mild yellowing |
| 25 | INIA Accesion-33 | | mild yellowing |
| 26 | INIA Accesion-14 | | asymptomatic |
| 27 | INIA Accesion-46 | | asymptomatic |
| 28 | INIA Accesion-13 | positive | mild mottling |
| 29 | INIA Accesion-11 | | mild mottling |
| 30 | INIA Accesion-12 | | mild mottling |
| 31 | INIA Accesion-47 | | asymptomatic |
| 32 | INIA Accesion-22 | | asymptomatic |
| 33 | INIA Accesion-35 | Positive | asymptomatic |
| 34 | Accesion-Yamayakat | | mild mottling |
| 35 | Accesion-Chipe | | mild mottling |
| 36 | Accesion-Shushuy | | mild mottling |
| 37 | Accesion-shushuy2 | | mild mottling |
| 38 | Accesion-pumpu | | mild mottling |
| 39 | Accesion-pumpu2 | | mild mottling |
| 40 | Accesion-Mirana1 | | asymptomatic |
| 41 | Accesion-Mirana2 | | asymptomatic |
| 42 | Accesion-Mirana3 | | mild mottling |
| 43 | Accesion-Tutumberos | | mild mottling |
| 44 | Accesion-CNT1 | | asymptomatic |
| 45 | Accesión-CNT2 | | mild mottling |
| 46 | Accesion- CNT3 | | mild mottling |

| | | |
|---|---|---|
| 47 | Rio Santiago 1 | mild mottling |
| 48 | Rio Santiago 2 | asymptomatic |
| 49 | Rio Santiago 3 | asymptomatic |
| 50 | Rio Santiago 4 | asymptomatic |
| 51 | Rio Santiago 5 | asymptomatic |
| 52 | Rio Santiago 6 | mild yellowing |
| 53 | Rio Santiago 7 | mild yellowing |
| 54 | Rio Santiago 8 | mild yellowing |
| 55 | Rio Santiago 9 | mild yellowing |
| 56 | Rio Santiago 10 | mild yellowing |
| 57 | Accesion Cajaruro 1 | mild yellowing |
| 58 | Accesion Cajaruro 2 | mild yellowing |
| 59 | Accesion Cajaruro 3 | mild yellowing |
| 60 | Accesion Cajaruro 4 | mild yellowing |

**Supplementary Table S2**. Accession number of *Emaravirus* species used for phylogeny in this study.

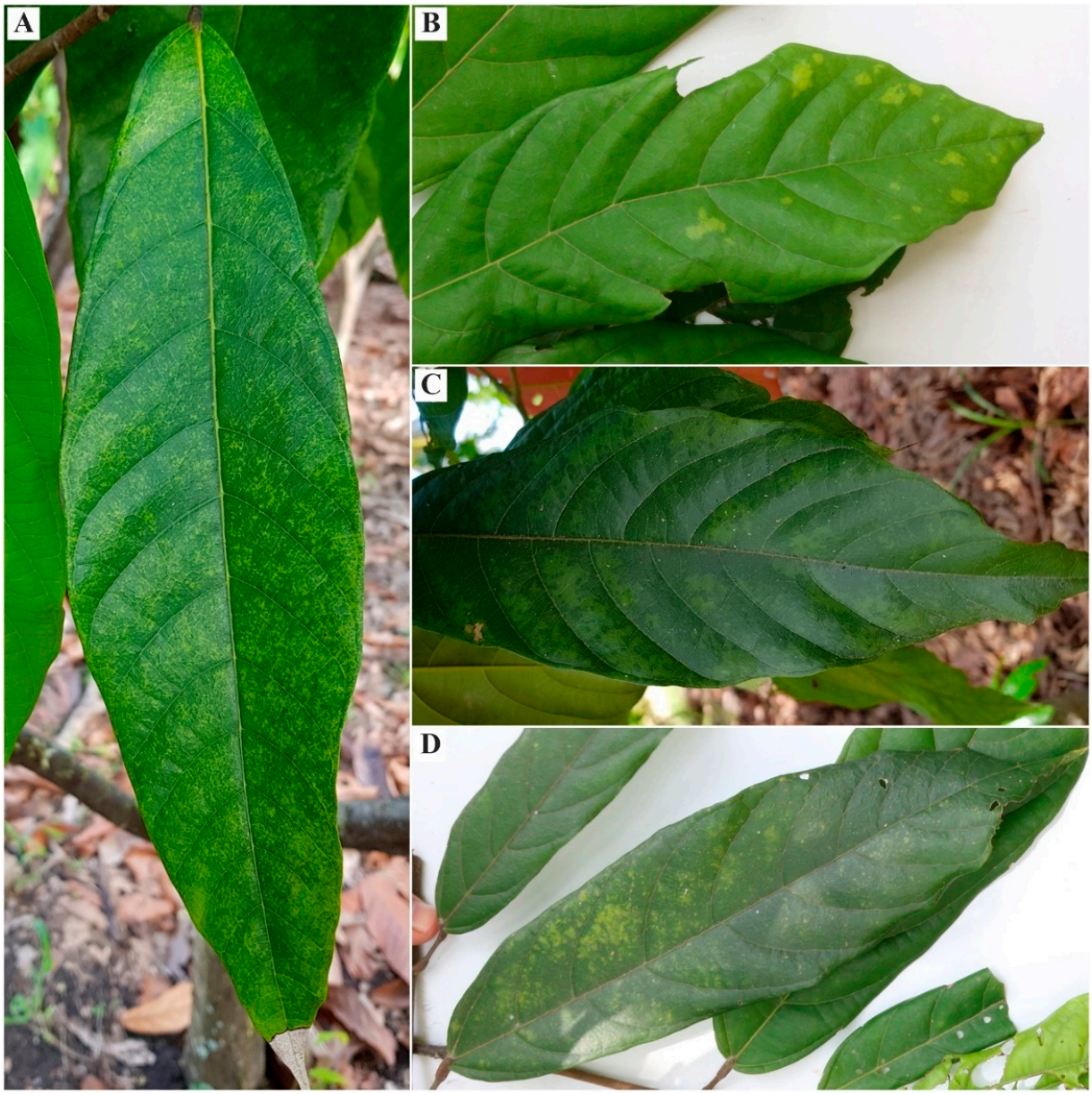
| Virus | ORF1 (RdRP) | ORF2 (GPP) | ORF3 (NP) | ORF4 (MP) |
|---|---|---|---|---|
| rose rosette virus RRV | QHZ99251 | QID76023 | QIB97971 | QIB98058 |
| aspen mosaic-associated virus AsMaV | CAA0079389 | CAA0079597 | CAA0079646 | CAA0079685 |
| Actinia emaravirus 2 AcEV-2 | QEE82886 | QEE82887 | QEE82888 | QEE82889 |
| Pistacia emaravirus PiVB | QAR18002 | QAR18003 | QAR18004 | QAR18005 |
| fig mosaic emaravirus FMV | QBH72675 | QBK46595 | BAM13809 | BAM13817 |
| pigeonpea sterility mosaic emaravirus 1 PPSMV-1 | ANQ90714 | QBA83603 | CDX09880 | ANQ90777 |
| pigeonpea sterility mosaic emaravirus 2 PPSMV-2 | QBA83607 | YP_009268865 | ALU34071 | ANQ90759 |
| blackberry leaf mottle-associated virus BLMaV | AQX45473 | AQX45474 | AQX45475 | QBM15152 |
| European mountain ash ringspot-associated emaravirus EMARaV | VFU05375 | YP_003104765 | SPN63240 | VFU05382 |
| Actinidia chlorotic ringspot-associated virus AcCRaV | YP_009507925 | YP_009507925 | YP_009507928 | YP_009507928 |
| lilac chlorotic ringspot-associated virus LiCRaV | QIN85945 | QIN85946 | QIN85947 | QIN85948 |
| redbud yellow ringspot-associated emaravirus RYRV | YP_009508083 | YP_009508087 | YP_009508085 | YP_009508084 |
| ti ringspot-associated emaravirus TiRSaV | QAB47307 | QAB47308 | QAB47309 | QAB47310 |
| raspberry leaf blotch emaravirus RLBV | YP_009237274 | YP_009237265 | YP_009237266 | YP_009237267 |
| palo verde broom virus PVBV | AWH90165 | AWH90170 | AWH90176 | AWH90182 |
| jujube yellow mottle-associated virus JuMaV | QDM38999 | QDM39000 | QDM39001 | QDM39002 |
| High Plains wheat mosaic emaravirus HPWMoV | YP_009237277 | QGT41075 | YP_009237257 | QGT41077 |
| Camellia japonica-associated emaravirus 1 CjaEV-1 | QGX73503 | QGX73504 | QGX73505 | QGX73506 |

| | | | | |
|---|---|---|---|---|
| **Camellia japonica-associated emaravirus 2 CjaEV-2** | QGX73507 | QGX73508 | QGX73509 | QGX73510 |
| **Perilla mosaic virus PerMV** | BBM96177 | BBM96178.1 | BBM96180.1 | BBM96181.1 |
| **common oak ringspot-associated emaravirus CORaV** | LR828198 | LR828199 | LR828200 | ---------- |
| **pea-associated emaravirus PaEV** | -------- | ---------- | QJX15716 | ---------- |
| **grapevine emaravirus A GEVA** | QVW29591 | QVW29592 | QVW29593 | QVW29594 |
| **Maple mottle-associated virus MaMaV** | QOI17315 | QOI17316 | QOI17317 | QOI17318 |
| **chrysanthemum mosaic-associated virus ChMaV** | BCK60941 | BCK60942 | BCK60943 | BCK60945 |

**Supplementary Table S3**. List of gene-specific primers and conserved terminal primers (3C and 5H) used for 5′/3′ RACE-PCR to obtain full terminal sequences of ThCEV-A RNA1–RNA4.

| RNA | Primer | sequence (5' - 3') | Position nt |
|---|---|---|---|
| **RNA1** | 1-F | GGTTTATTCTGTTCTGTCAA | 1055-1036 |
| | 3C | CTCAGCAGTAGTGAACTCC | 3' end |
| | 1-R | TCCAAATCATCAAAGTAACC | 6406-6425 |
| | 5H | CTCAGCAGTAGTGTTCTCC | 5' end |
| **RNA2** | 2-F | TGACACATTTAGACATTCAAGCC | 205-183 |
| | 3C | CTCAGCAGTAGTGAACTCC | 3' end |
| | 2-R | TATCCTTTTCATCCAAACAC | 1867-1886 |
| | 5H | CTCAGCAGTAGTGTTCTCC | 5' end |
| **RNA3** | 3-F | GAGTGTTAGAAATGAGTCAG | 377-358 |
| | 3C | CTCAGCAGTAGTGAACTCC | 3' end |
| | 3-R | TGACATTTAGTTTCAGTACG | 1120-1139 |
| | 5H | CTCAGCAGTAGTGTTCTCC | 5' end |
| **RNA4** | 4-F | GAGATAAAGGAGTTACAGGA | 343-324 |

| | | | |
|---|---|---|---|
| | 3C | CTCAGCAGTAGTGAACTCC | 3' end |
| | 4-R | AAAAGAACATTATGTCTGCA | 799-818 |
| | 5H | CTCAGCAGTAGTGTTCTCC | 5' end |




**Supplementary Figure S1.** Symptoms in cacao native accessions positive for ThCEVA. A) INDES – 24 accessions showing yellow mosaic, B) INIA – 20 accessions showing yellow-mottling and deformation, C) INIA – 13 accessions with yellow mottling, and D) INIA – 35 accessions showing yellow mosaic.