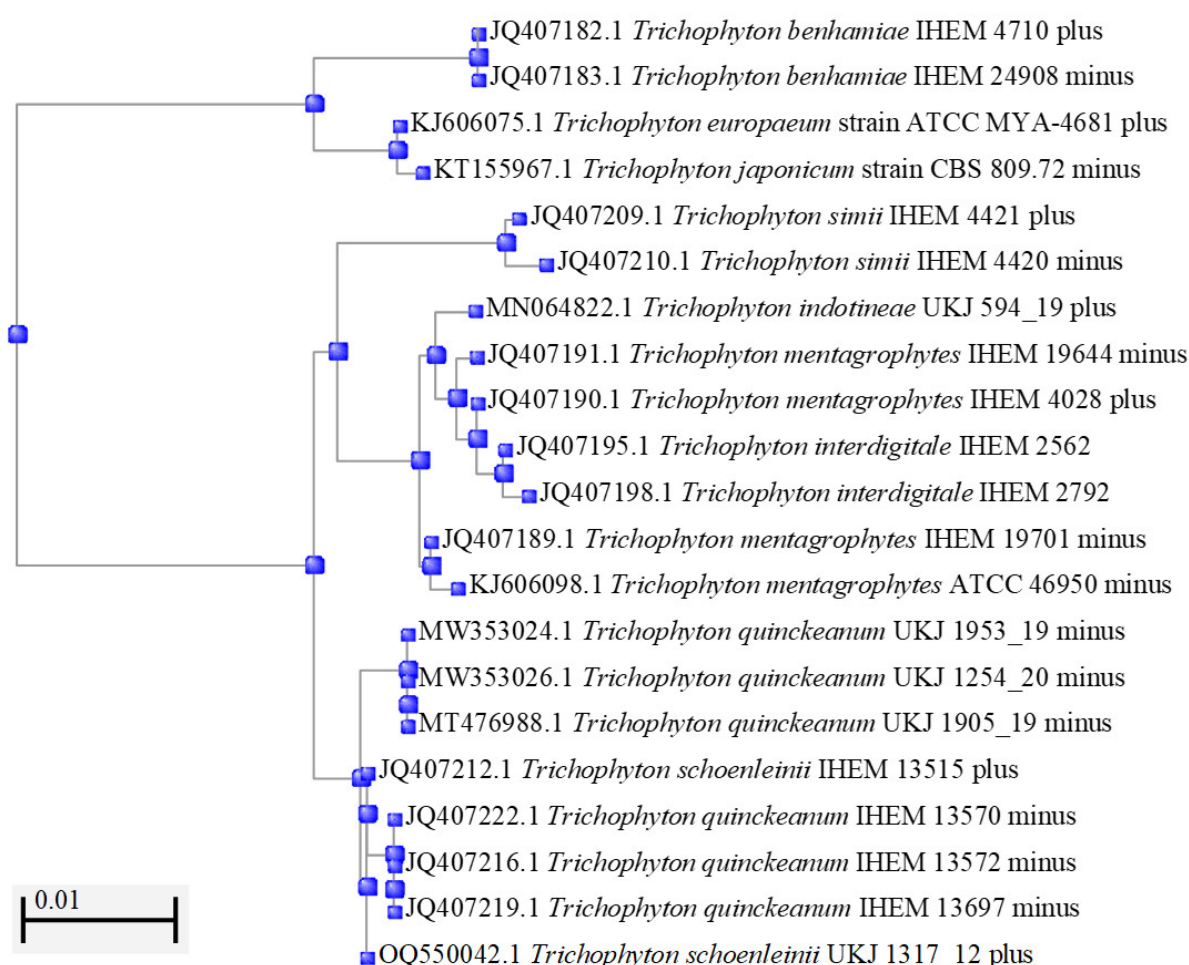


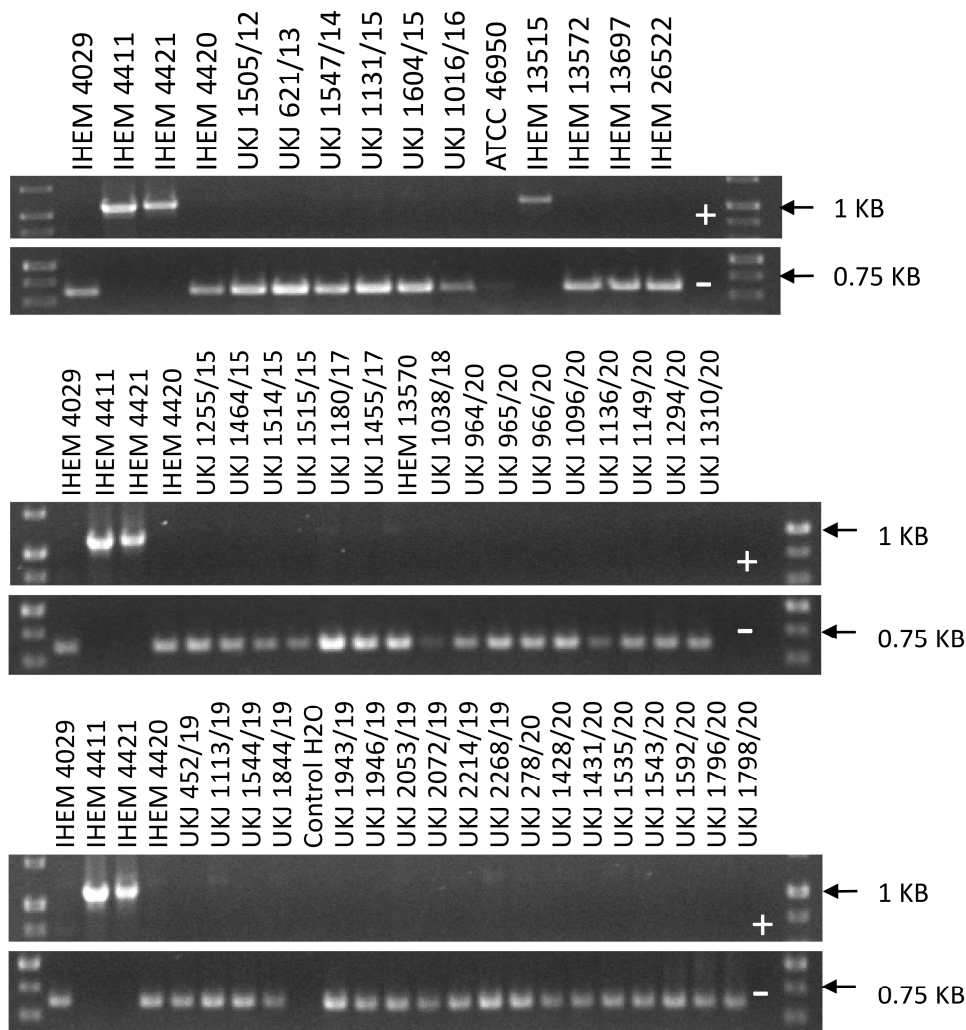
# A new genotype of *Trichophyton quinckeanum* with point mutations in *Erg11A* encoding sterol 14- $\alpha$ demethylase exhibits increased itraconazole resistance

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## Supplementary Materials



**Figure S1. Phylogenetic tree of ITS sequences of *T. quinckeanum* and related species using Neighbor Joining method [35].** Accession No., species name and strain designation were shown. Mating type MAT1-2-1 were described as plus and the opposite mating type MAT1-1-1 as minus. Program Unipro UGENE was used for assembling genes and alignments of fragments of equal lengths [46]. Phylogenetic tree was obtained by use of the online tools of NCBI (National Center for Biotechnology Information, USA)[47]. Standard conditions were used for building the phylogenetic tree with a setting of 0.75 for maximal sequence difference.



**Figure S2. Mating type analysis of *T. quinckeanum* strains.** The genes of mating type MAT1-1-1 ( $\alpha$ -box transcription factor like), the minus mating type, or MAT1-2-1 (HMG-box transcription factor like), the plus mating type, were partially amplified and analyzed by agarose gel electrophoresis as described previously [26]. As controls for minus mating types served DNA amplified from *T. mentagrophytes* IHEM 4029 strain and *T. simii* strain 4420. For controls of opposite mating types, PCR fragments from *T. mentagrophytes* strain IHEM 4411 and *T. simii* strain IHEM 4421 were analyzed.

Table S1. : Adjusted primer list for amplification of *T. quinckeanum* fragments.

| Gene           | Primer name  | Sequence 5'3'          |
|----------------|--------------|------------------------|
| HMG (MAT1-2-1) | TqHMG_F1     | ACCATGCCGATGCCAGCATCTG |
|                | TqHMG_R1     | CGAAATCAACATCAGTTGTCC  |
| Erg1           | TqErg1_F5    | TGGGGGCTGGAGCTTATAGATG |
|                | TqErg1_R5    | CAAATCACCCAGAACAACATGG |
| Erg11A         | TqErg11A_F1  | GGATGTGAATGCAGAAGAGG   |
|                | TqErg11A_R1  | TAGACGAGTTGAGGCGGAGG   |
|                | TqErg11A_F2  | CTCAATGTCGTCTATCAGCTGC |
|                | TqErg11A_IR2 | TATGGTTGGGCTTGGCTCCTTC |
|                | TqErg11A_UR2 | TATGATTGGGCTTGGATCCTTC |
|                | TqErg11A_F3  | GCACATATGATGATCACCTCC  |
|                | TsErg11A_R3  | ACTGTTCAATTCAATGTGAC   |
| Erg11B         | TqErg11BF2   | GCCCACATGATGATCGCTCTTC |

Table S2. : GenBank Acc. No. of sequenced DNA fragments.

| Species                  | Strain<br>GenBank | Erg11A<br>Acc. No. | Erg11B<br>Acc. No. | Erg1<br>Acc. No. | Mat1-1-1<br>Acc. No. | Mat1-2-1<br>Acc. No. | ITS<br>Acc. No.* |
|--------------------------|-------------------|--------------------|--------------------|------------------|----------------------|----------------------|------------------|
| <i>T. quinckeanum</i>    | UKJ1505/12        | OQ536520           | OQ536535           | OQ536505         | OQ536550             | absent               | OQ550042         |
|                          | UKJ621/13         | OQ536521           | OQ536536           | OQ536506         | OQ536551             | absent               | OQ550043         |
|                          | UKJ1547/14        | OQ536522           | OQ536537           | OQ536507         | OQ536552             | absent               | OQ550044         |
|                          | UKJ1905/19        | OQ536523           | OQ536538           | OQ536508         | OQ536553             | absent               | MT476988         |
|                          | UKJ1953/19        | OQ536524           | OQ536539           | OQ536509         | OQ536554             | absent               | MW353024         |
|                          | UKJ1254/20        | OQ536525           | OQ536540           | OQ536510         | OQ536555             | absent               | MW353026         |
|                          | UKJ1506/20        | OQ536526           | OQ536541           | OQ536511         | OQ536556             | absent               | MW353028         |
|                          | UKJ1891/20        | OQ536527           | OQ536542           | OQ536512         | OQ536557             | absent               | OQ550045         |
|                          | IHEM13570         | OQ536528           | OQ536543           | OQ536513         | OQ536558             | absent               | JQ407222         |
|                          | IHEM13572         | OQ536529           | OQ536544           | OQ536514         | OQ536559             | absent               | JQ407216         |
|                          | IHEM13697         | OQ536530           | OQ536545           | OQ536515         | OQ536560             | absent               | JQ407219         |
|                          | IHEM26522         | OQ536531           | OQ536546           | OQ536516         | OQ536561             | absent               | MK298974         |
| <i>T. schoenleinii</i>   | UKJ1317/12        | OQ536532           | OQ536547           | OQ536517         | absent               | OQ536562             | OQ550046         |
|                          | HEM13515          | OQ536533           | OQ536548           | OQ536518         | absent               | OQ536563             | JQ407212         |
| <i>T. mentagrophytes</i> | ATCC46950         | OQ536534           | OQ536549           | OQ536519         | OQ536564             | absent               | KJ606098         |

\*Acc. No. starting with MT or MW were as published [6], JQ No. in [4], MK No. in [48], KJ No. in [49].