The Prehistory of Language: A Triangulated Y-Chromosome-Based Perspective

Supplementary Figures

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Table of Contents

Table of Contents

Supplementary Figures for Chapter One and Y-Chromosome Adam

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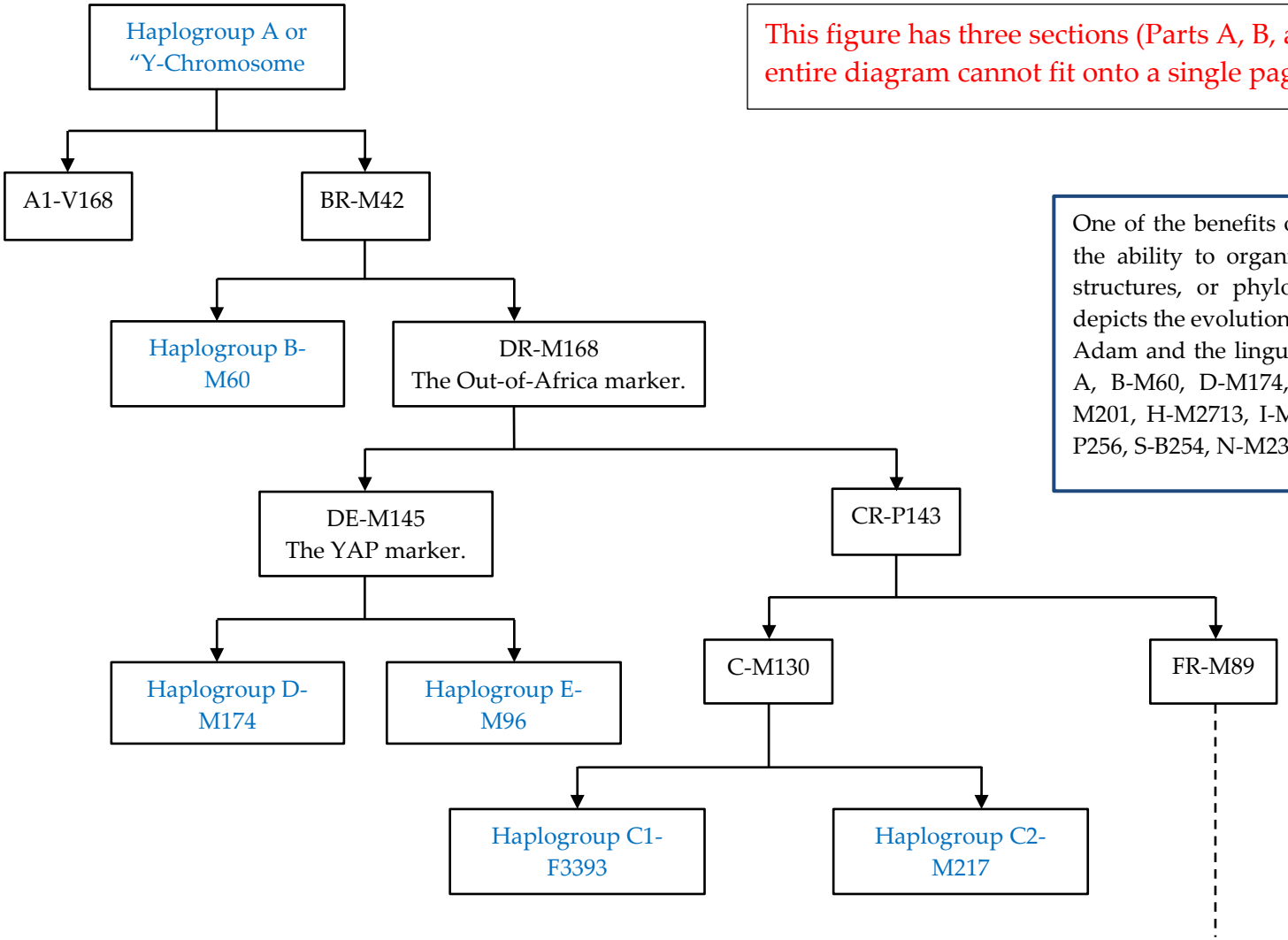
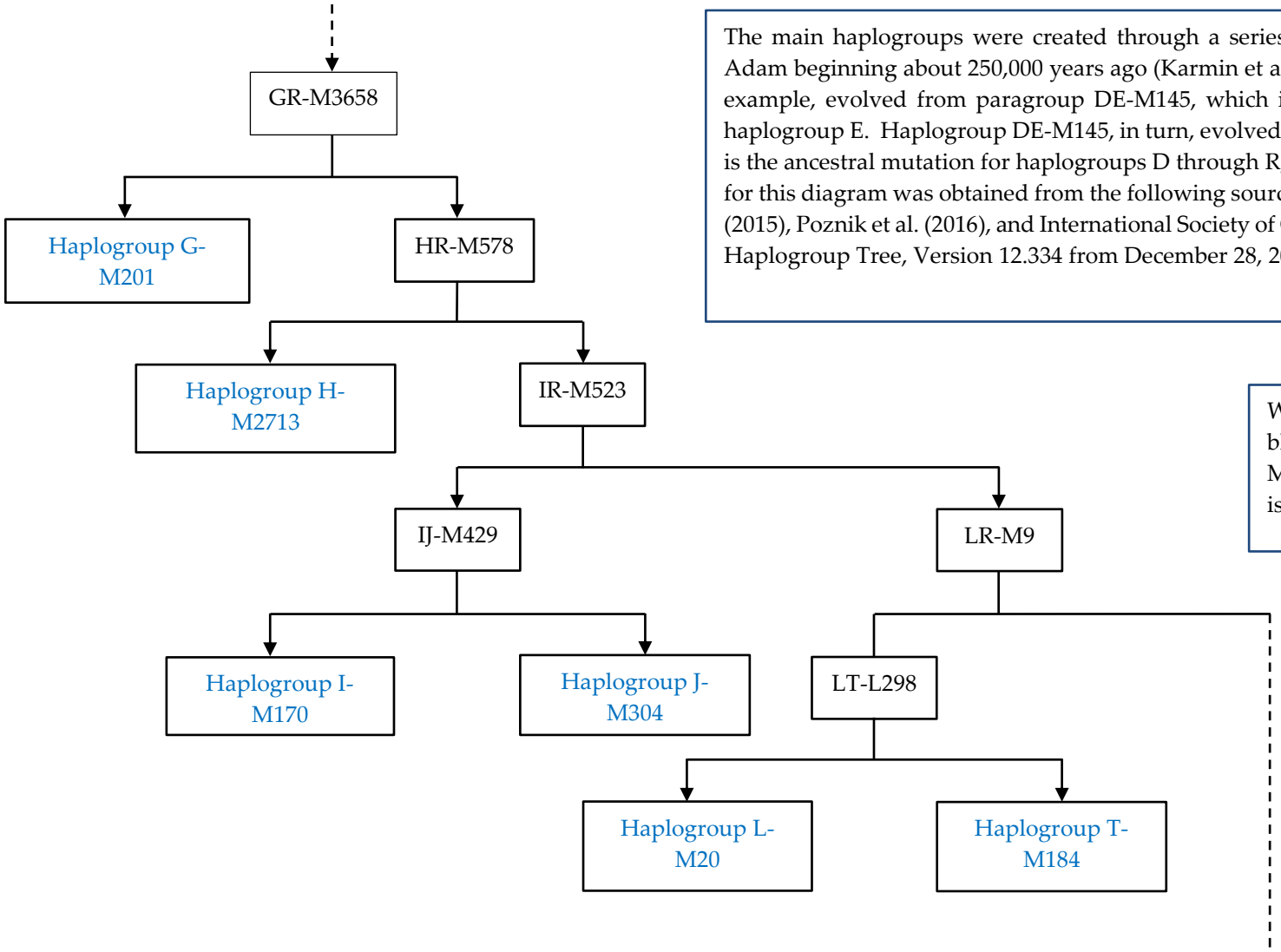
Supplementary Figure 1.1 (Part A). Y-Chromosome Adam and the Evolution of Linguistically Informative Haplogroups.



This figure has three sections (Parts A, B, and C) because the entire diagram cannot fit onto a single page.

One of the benefits of utilizing Y-chromosome data is the ability to organize the information into tree-like structures, or phylogenetic diagrams. This diagram depicts the evolutionary steps between Y-Chromosome Adam and the linguistically informative haplogroups: A, B-M60, D-M174, E-M96, C1-F3393, C2-M217, G-M201, H-M2713, I-M170, J-M304, L-M20, T-M184, M-P256, S-B254, N-M231, O-M175, Q-M242, and R-M207.

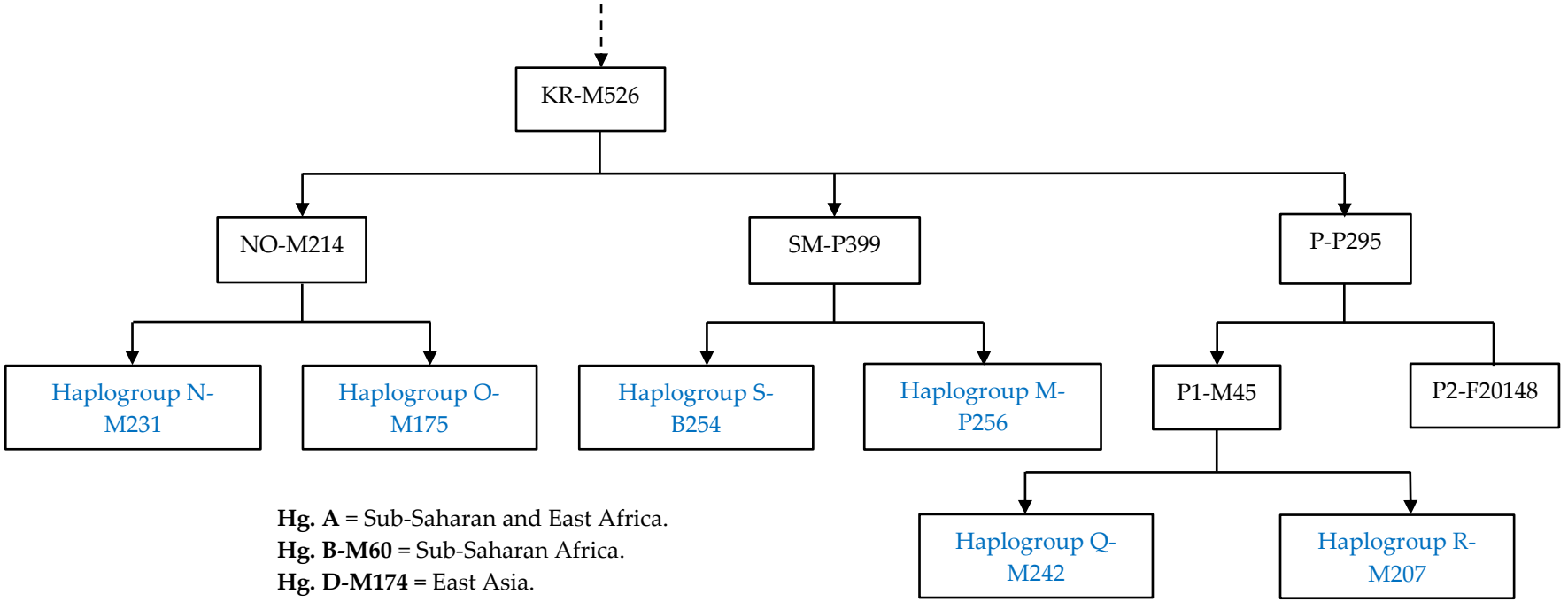
Supplementary Figure 1.1 (Part B). Y-Chromosome Adam and the Evolution of Linguistically Informative Haplogroups.



The main haplogroups were created through a series of mutational bifurcations from Adam beginning about 250,000 years ago (Karmin et al., 2015). Haplogroup D-M174, for example, evolved from paragroup DE-M145, which is also the ancestral mutation for haplogroup E. Haplogroup DE-M145, in turn, evolved from paragroup DR-M168, which is the ancestral mutation for haplogroups D through R, hence the descriptor "DR." Data for this diagram was obtained from the following sources: Oven et al (2014), Karafet et al (2015), Poznik et al. (2016), and International Society of Genetic Genealogy (2017), Y-DNA Haplogroup Tree, Version 12.334 from December 28, 2017.

Why does DE-M145 appear in black and D-M174 in blue? DE-M145 is a paragroup and D-M174 is a haplogroup.

Supplementary Figure 1.1 (Part C). Y-Chromosome Adam and the Evolution of Linguistically Informative Haplogroups.



WHERE WE FIND THEM

Hg. A = Sub-Saharan and East Africa.
Hg. B-M60 = Sub-Saharan Africa.
Hg. D-M174 = East Asia.
Hg. E-M96 = Africa, Middle East, and Southeastern Europe.
Hg. C1-F3393 = South Asia, Island Southeast Asia, Australia, and Oceania.
Hg. C2-M217 = East Asia, Northern Eurasia, and the Americas.
Hg. G-M201 = South Asia, the Caucasus, Europe, and the Middle East.
Hg. H-M2713 = South Asia.
Hg. I-M170 = Europe.
Hg. J-M304 = South Asia, Middle East, North Africa, and Mediterranean Europe.

Hg. L-M20 = Middle East and South Asia.
Hg. T-M184 = Middle East, South Asia, and Sub-Saharan Africa.
Hg. M-P256 = Island Southeast Asia.
Hg. S-B254 = Island Southeast Asia, and Australia.

Hg. O-M175 = East Asia, South Asia, Island Southeast Asia, and Oceania.
Hg. Q-M242 = Northern Eurasia, and the Americas.
Hg. R-M207 = Europe, Central Asia, South Asia, and North Africa.

Hg. = haplogroup

Supplementary Figures for Chapter Two and Haplogroup A

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Supplementary Figure 2.1. Phylogenetic Diagram for Haplogroup A.

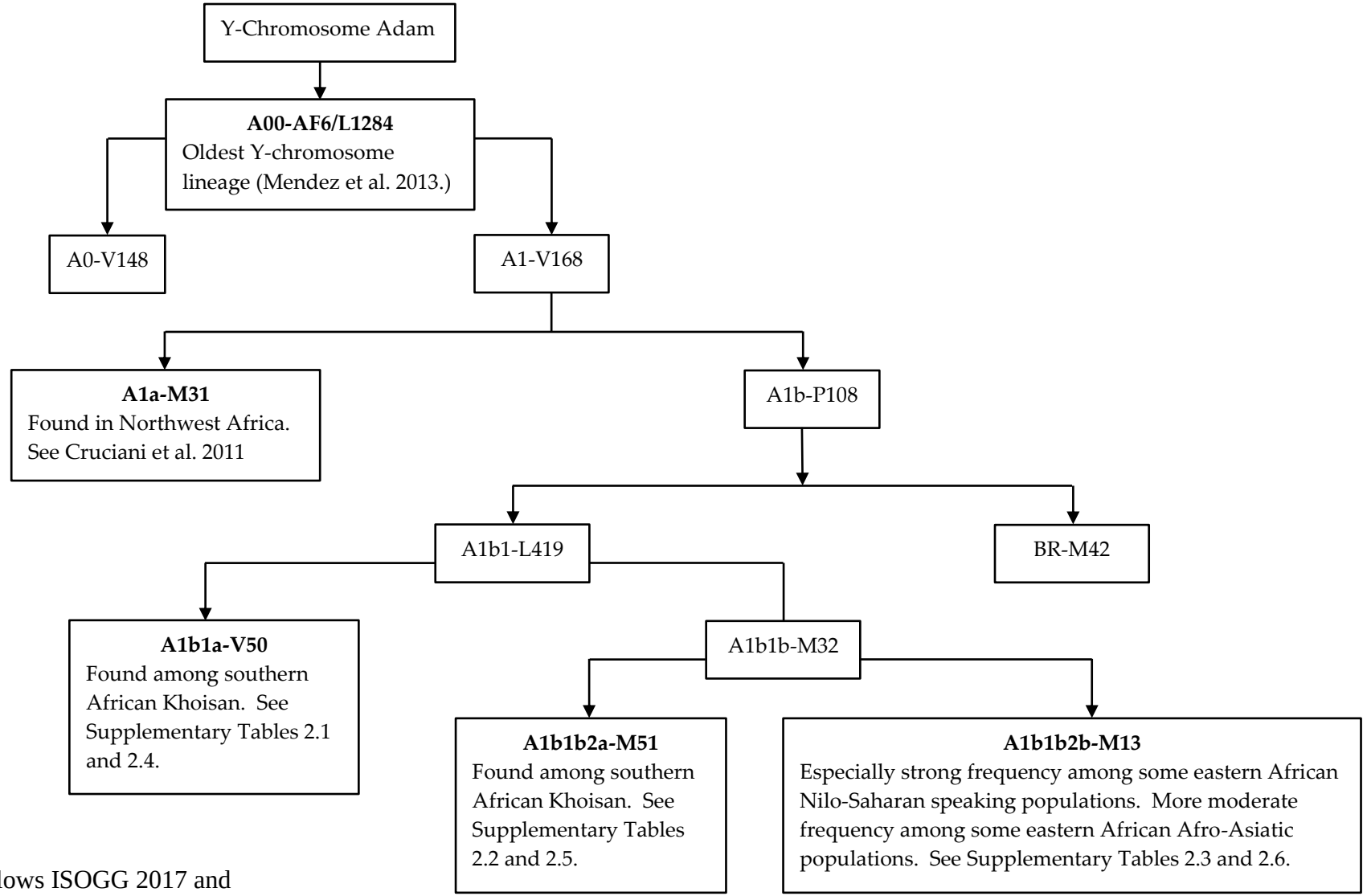

Diagram follows ISOGG 2017 and Poznik et al. 2016.

Supplementary Tables for Chapter Three and Haplogroup B-M60

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Supplementary Figure 3.1. Phylogenetic diagram for Haplogroup B-M60.

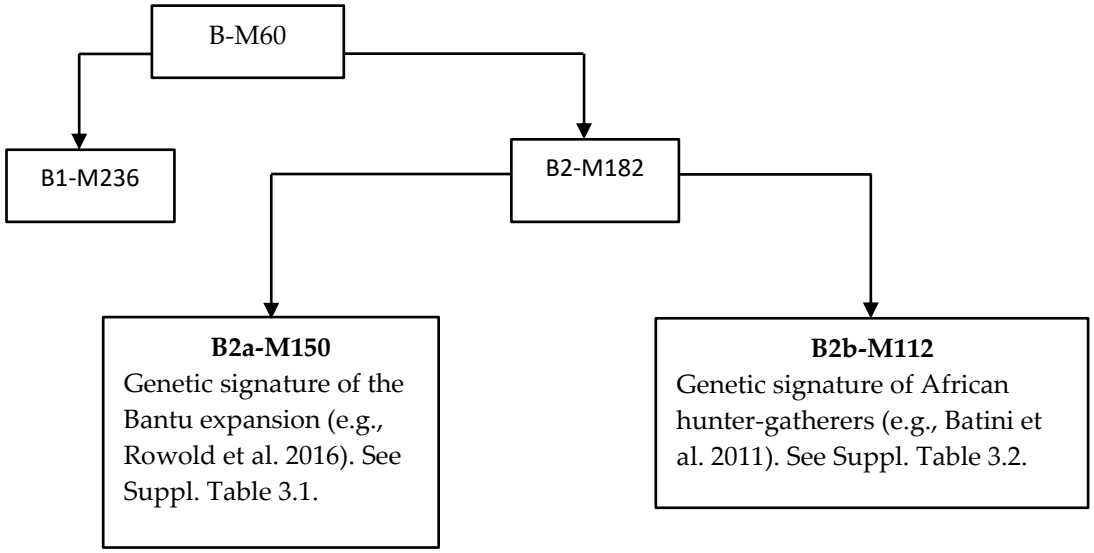

Diagram follows ISOGG 2017.

Supplementary Figures for Chapter Four and Haplogroup D-M174

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Supplementary Figure 4.1. Phylogenetic Diagram for Haplogroup D-M174.

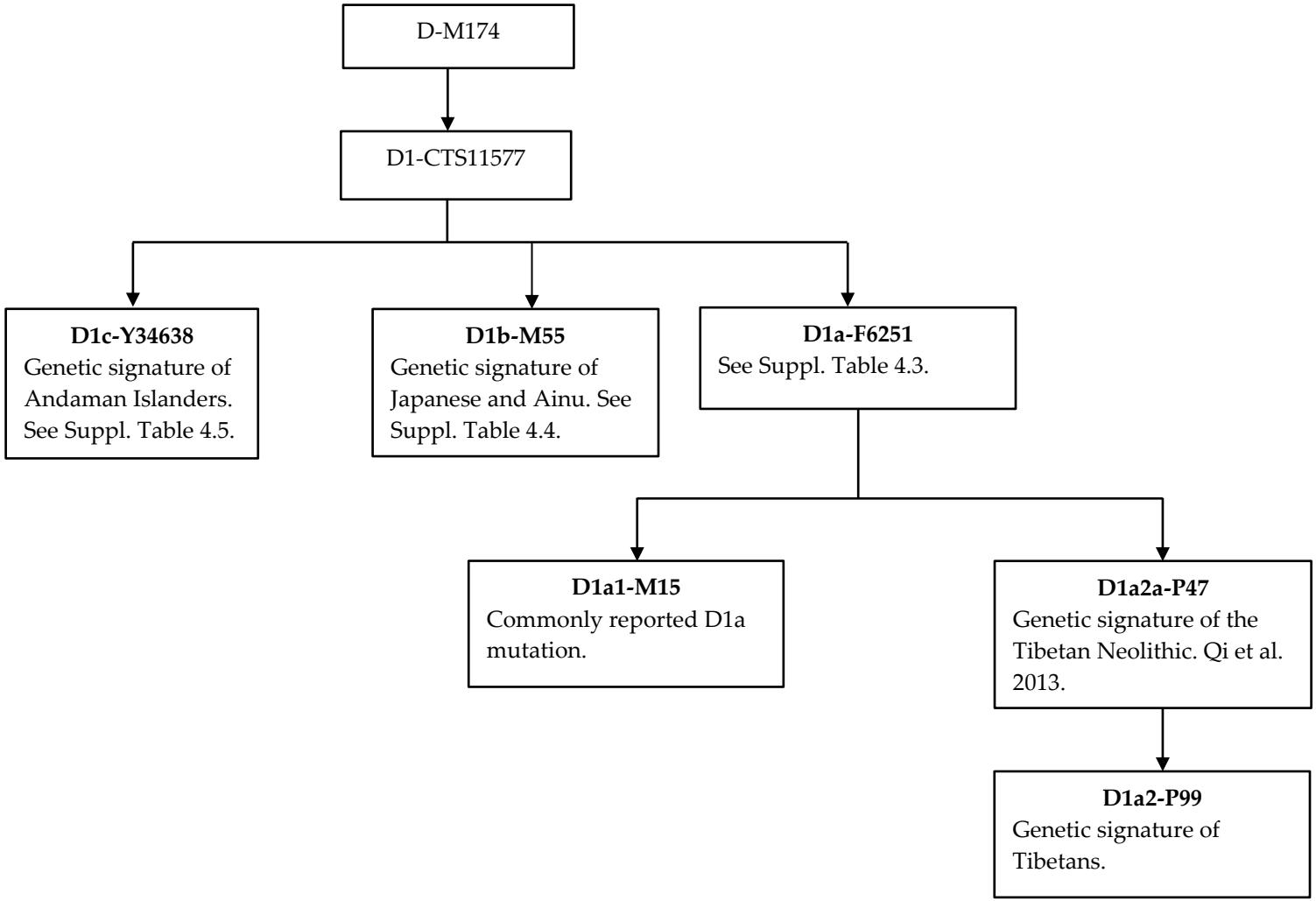

Diagram follows ISOGG 2017.

Supplementary Figures for Chapter Five and Haplogroup E-M96

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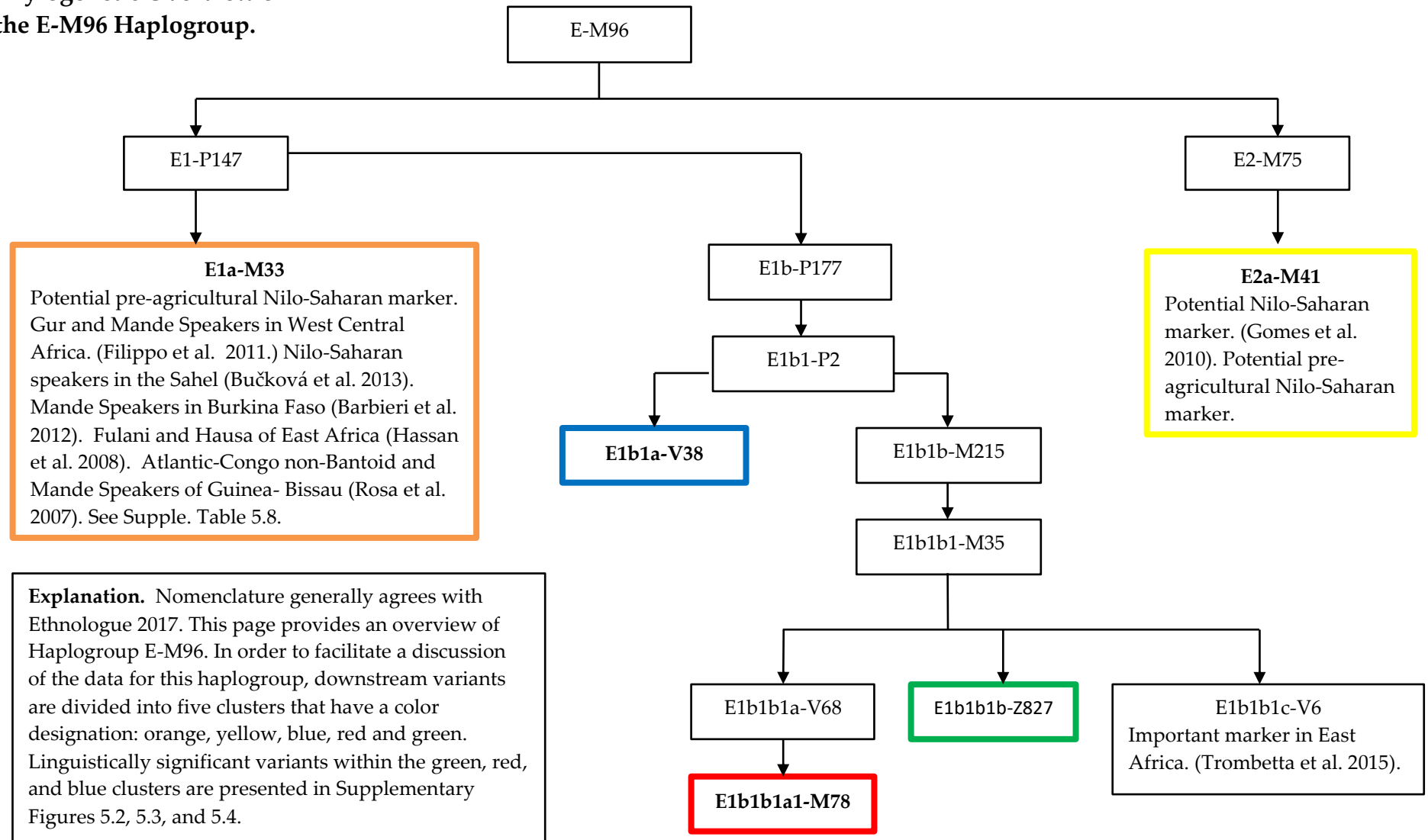
Supplementary Figure 5.1. Phylogenetic Overview of the E-M96 Haplogroup.



Explanation. Nomenclature generally agrees with Ethnologue 2017. This page provides an overview of Haplogroup E-M96. In order to facilitate a discussion of the data for this haplogroup, downstream variants are divided into five clusters that have a color designation: orange, yellow, blue, red and green. Linguistically significant variants within the green, red, and blue clusters are presented in Supplementary Figures 5.2, 5.3, and 5.4.

Supplementary Figure 5.2. Phylogenetic Diagram of Haplogroup E-M96 Green Cluster Mutations.

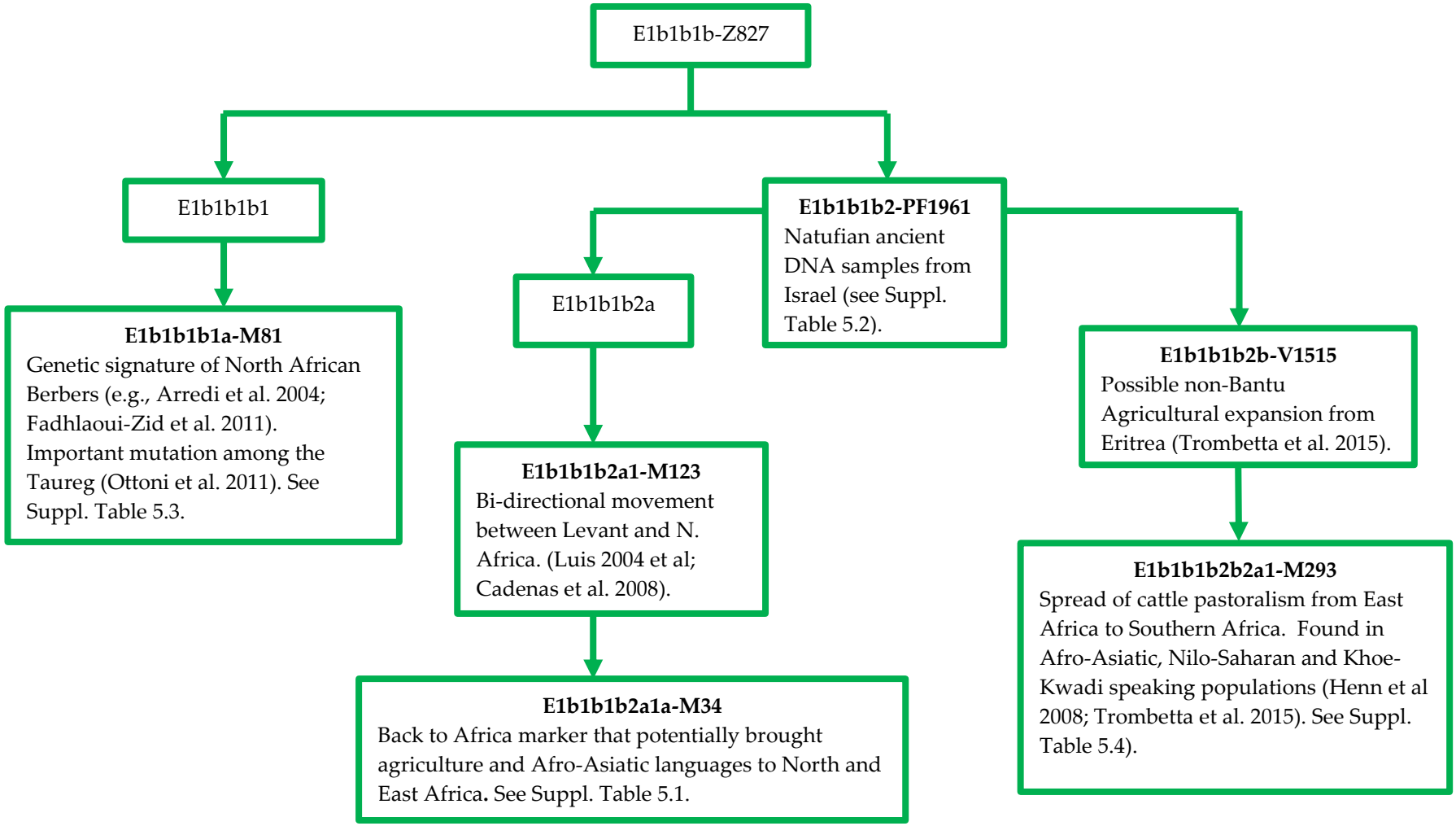


Diagram follows ISOGG 2017.

Supplementary Figure 5.3. Phylogenetic Diagram of Haplogroup E-M96 Red Cluster Mutations.

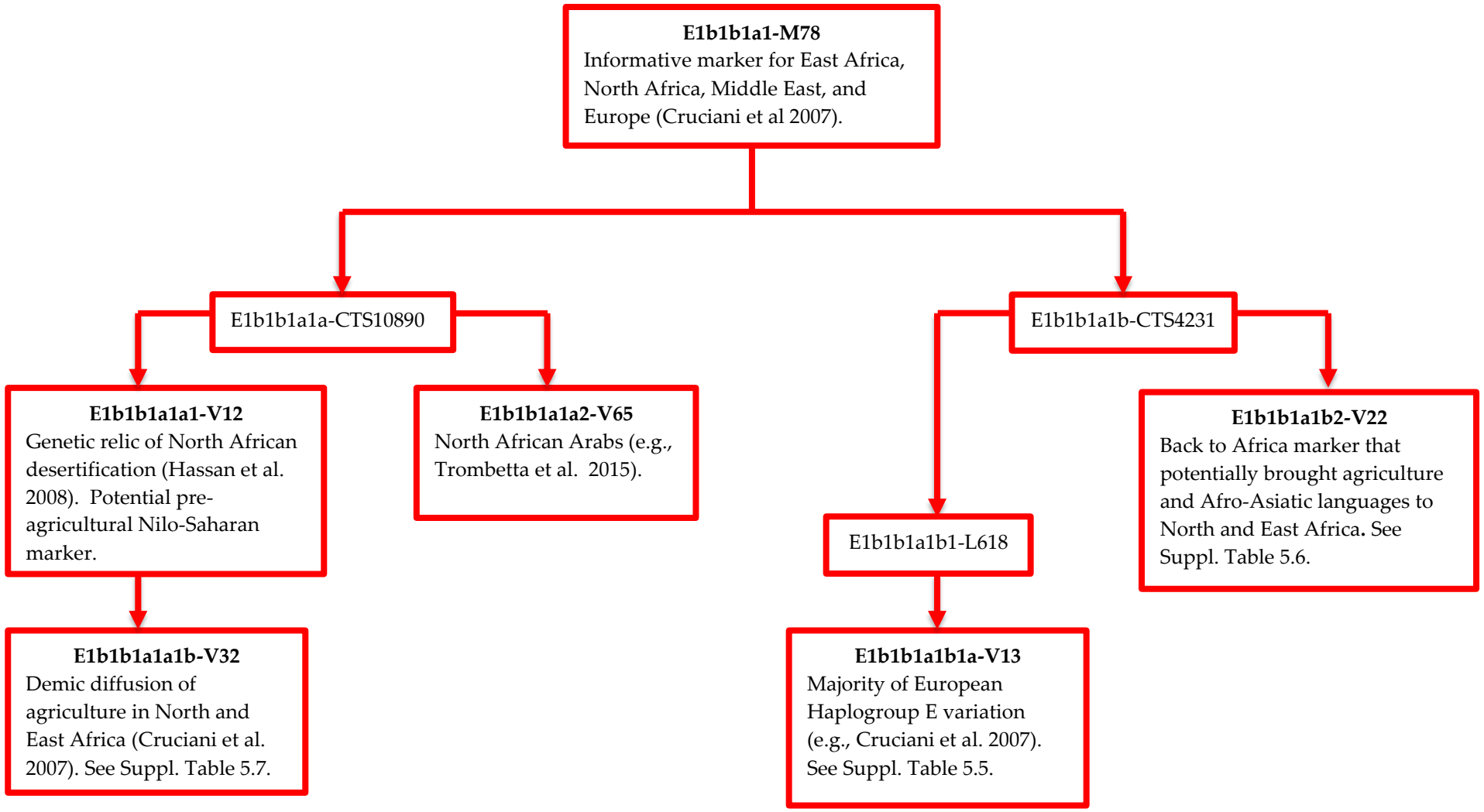


Diagram follows ISOGG 2017.

Supplementary Figure 5.4. Phylogenetic Diagram of Haplogroup E-M96 Blue Cluster Mutations.

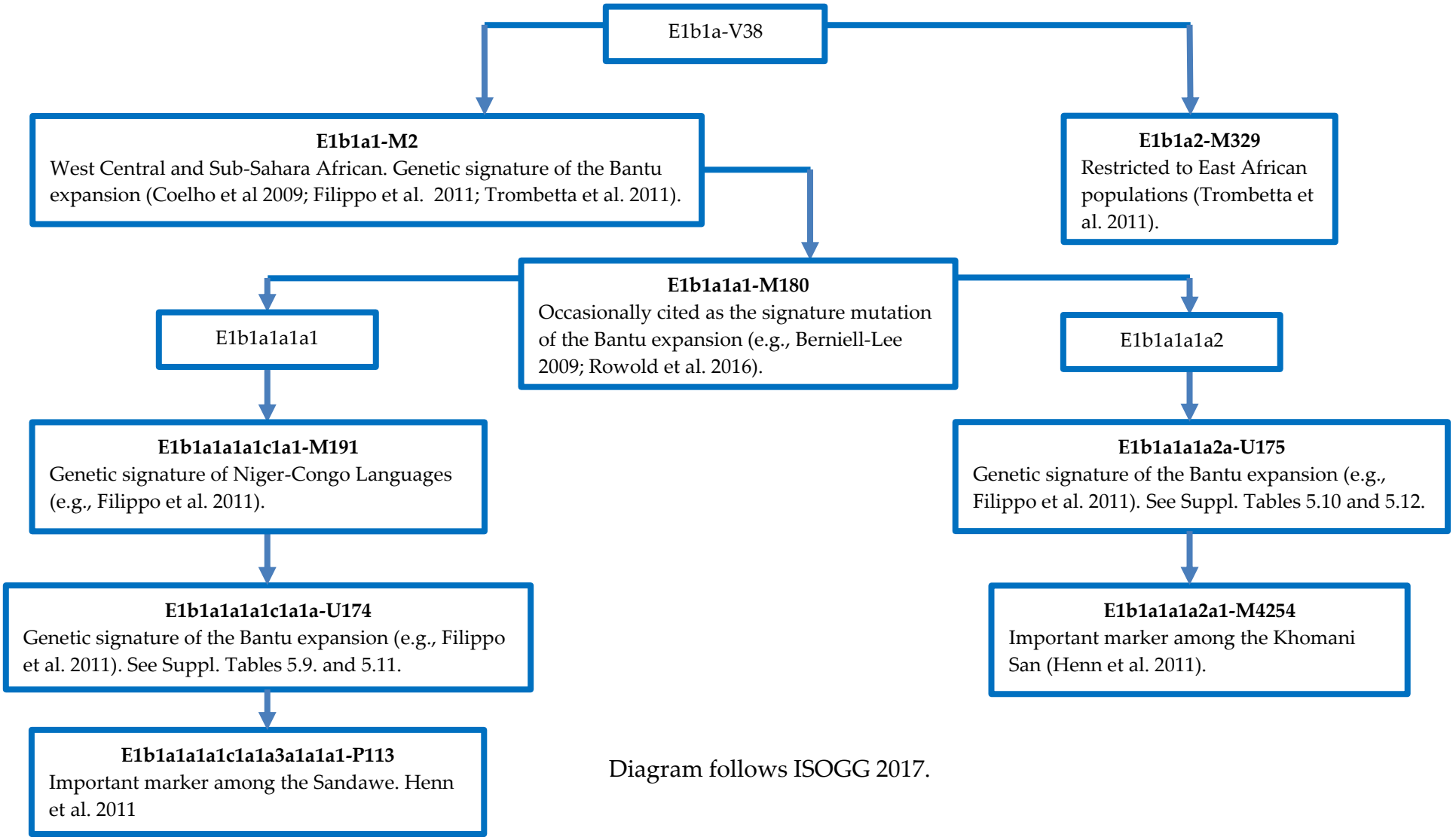


Diagram follows ISOGG 2017.

Supplementary Figures for Chapter Six and Haplogroup C1-F3393

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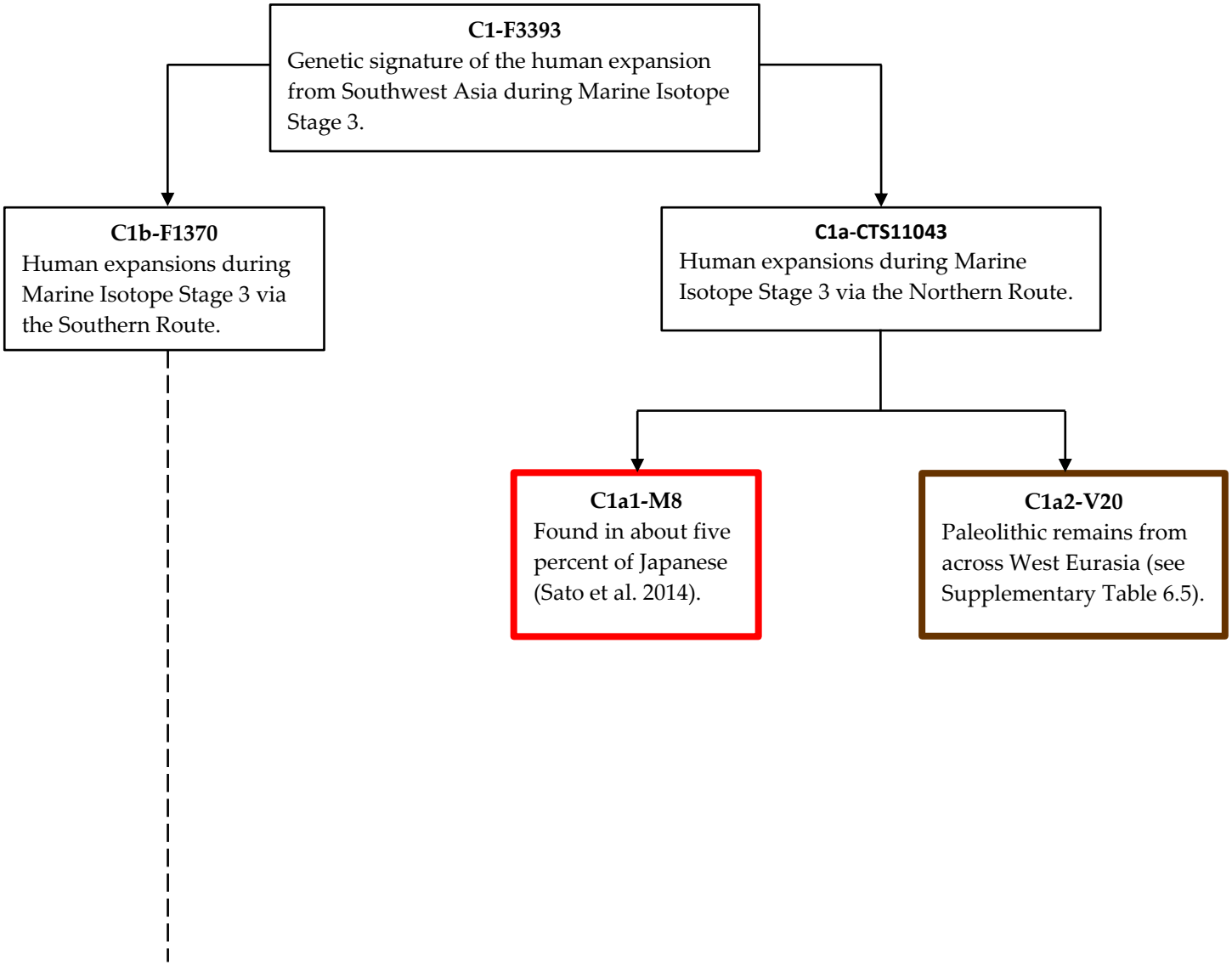
Supplementary Figure 6.1. Phylogenetic Diagram for Haplogroup C1-F3392.



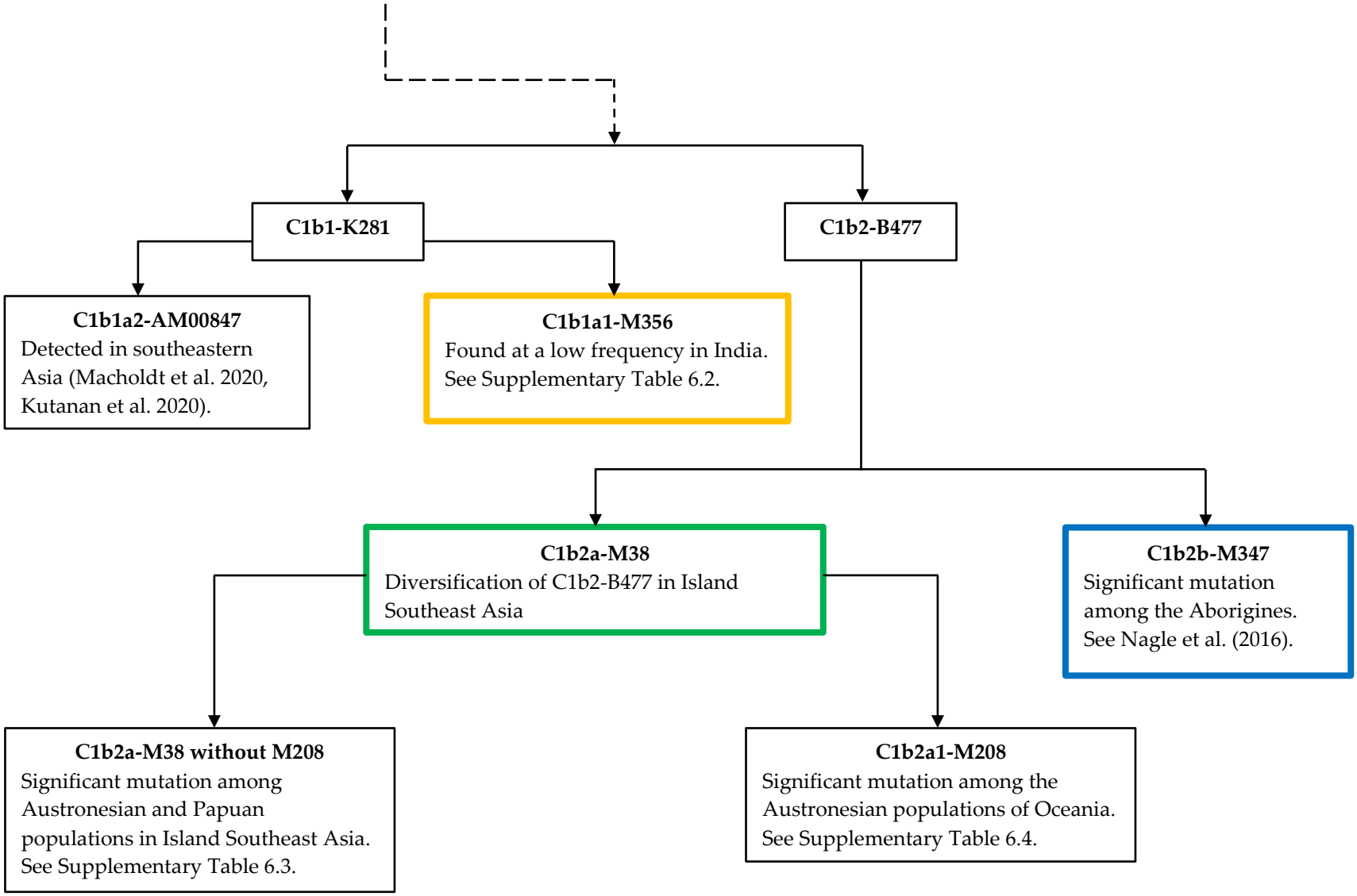


Figure follows ISOGG 2017.

Supplementary Figures for Chapter Seven and Haplogroup C2-M217

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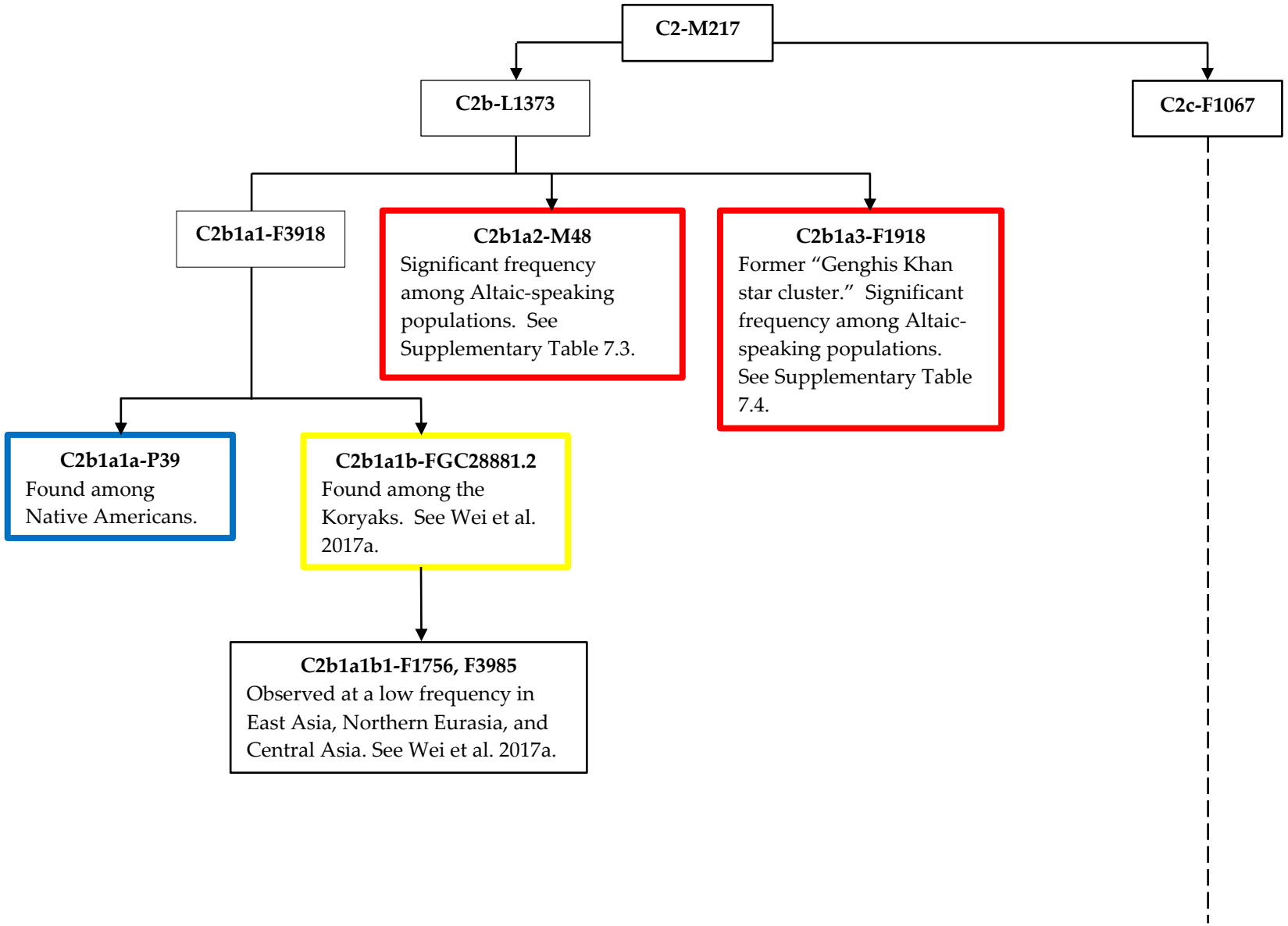
Supplementary Figure 7.1. Phylogenetic Diagram for Haplogroup C2-M217.



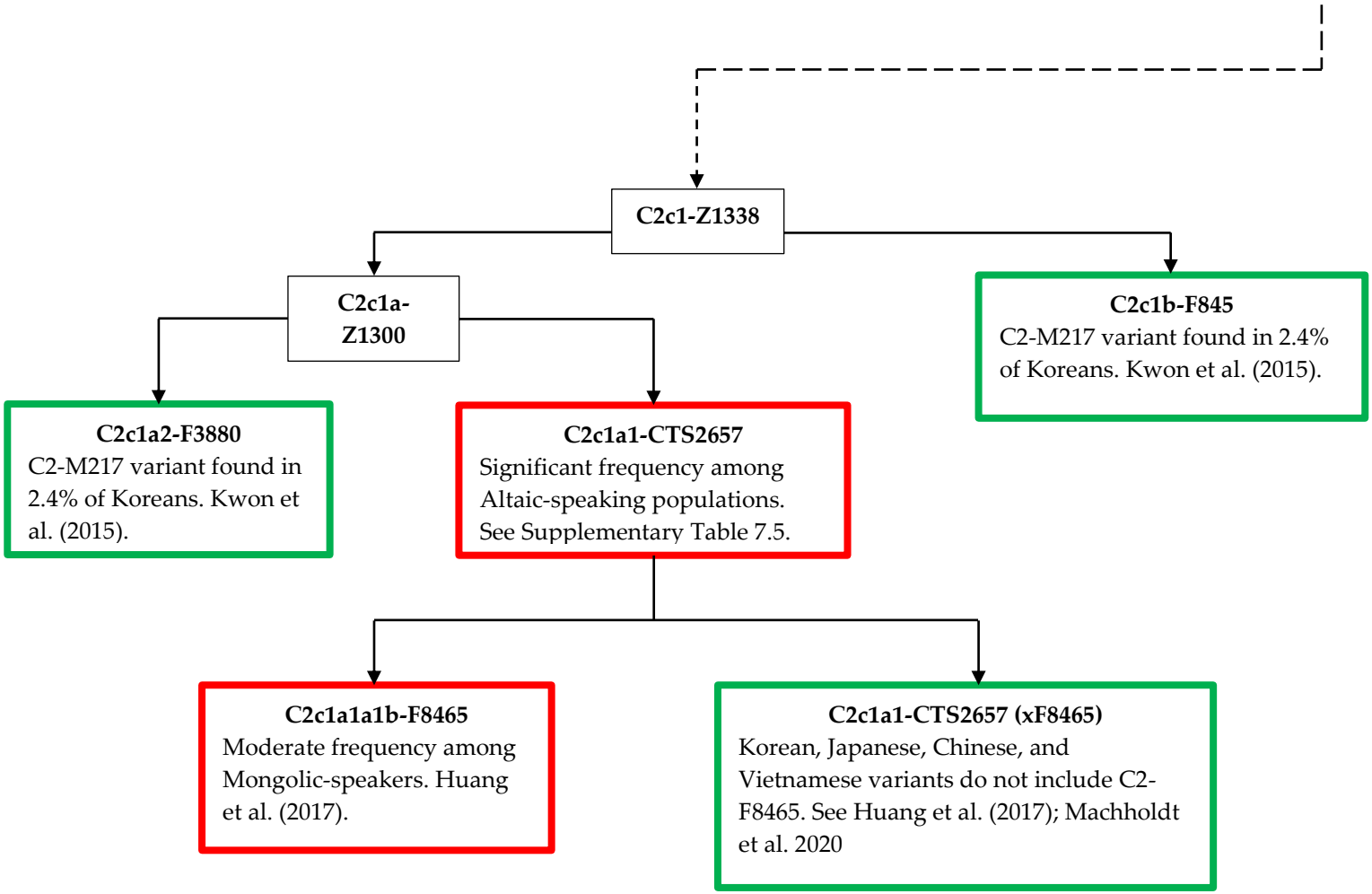


Diagram follows ISOGG 2017.

Supplementary Figures for Chapter Eight and Haplogroup G-M201

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Supplementary Figure 8.1. Phylogenetic Diagram for Haplogroup G-M201.

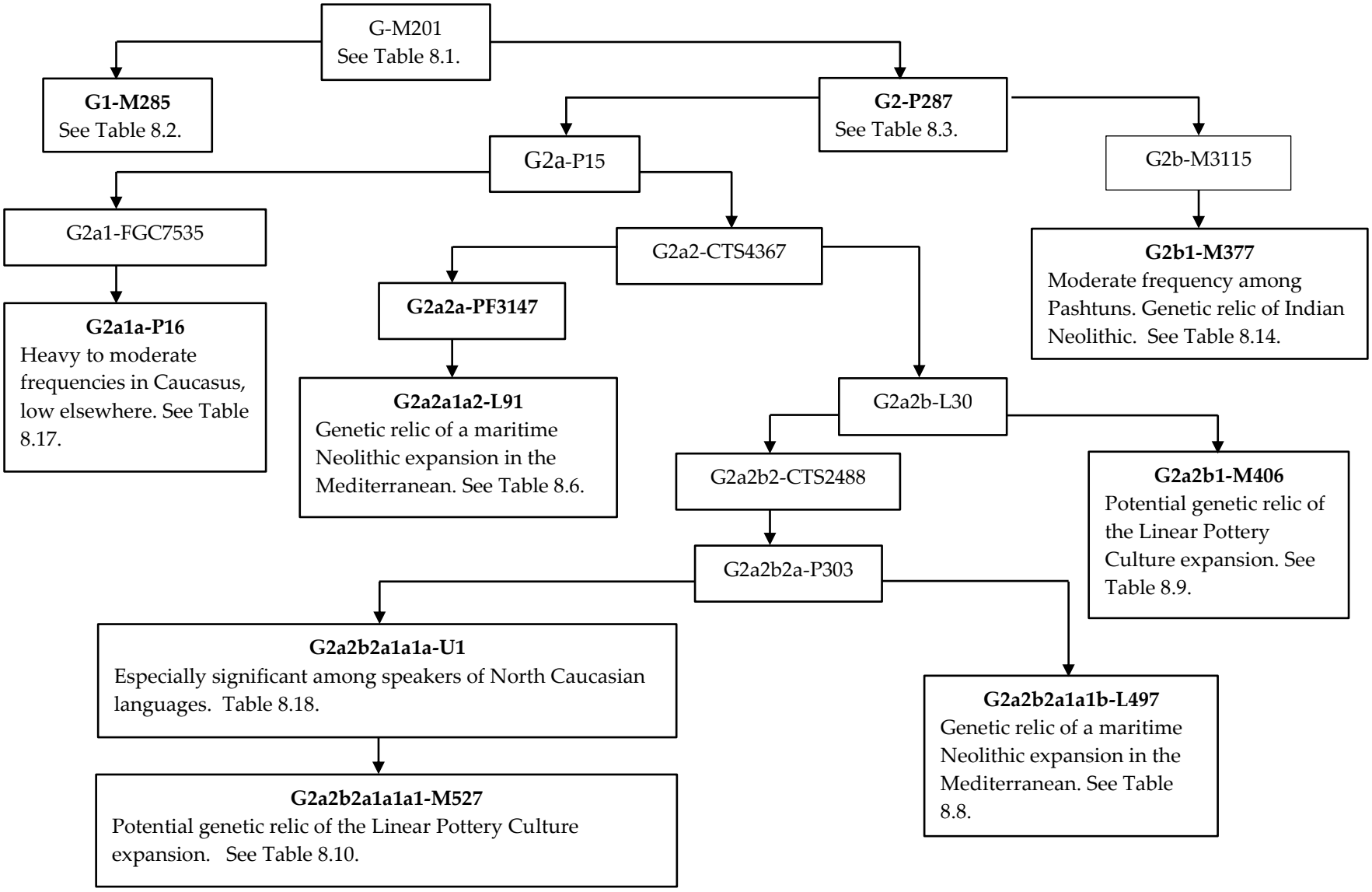

Diagram follows ISOGG 2017.

Supplementary Figures for Chapter Nine and Haplogroup H-M2713

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Supplementary Figure 9.1. Phylogenetic Diagram for Haplogroup H-M2713.

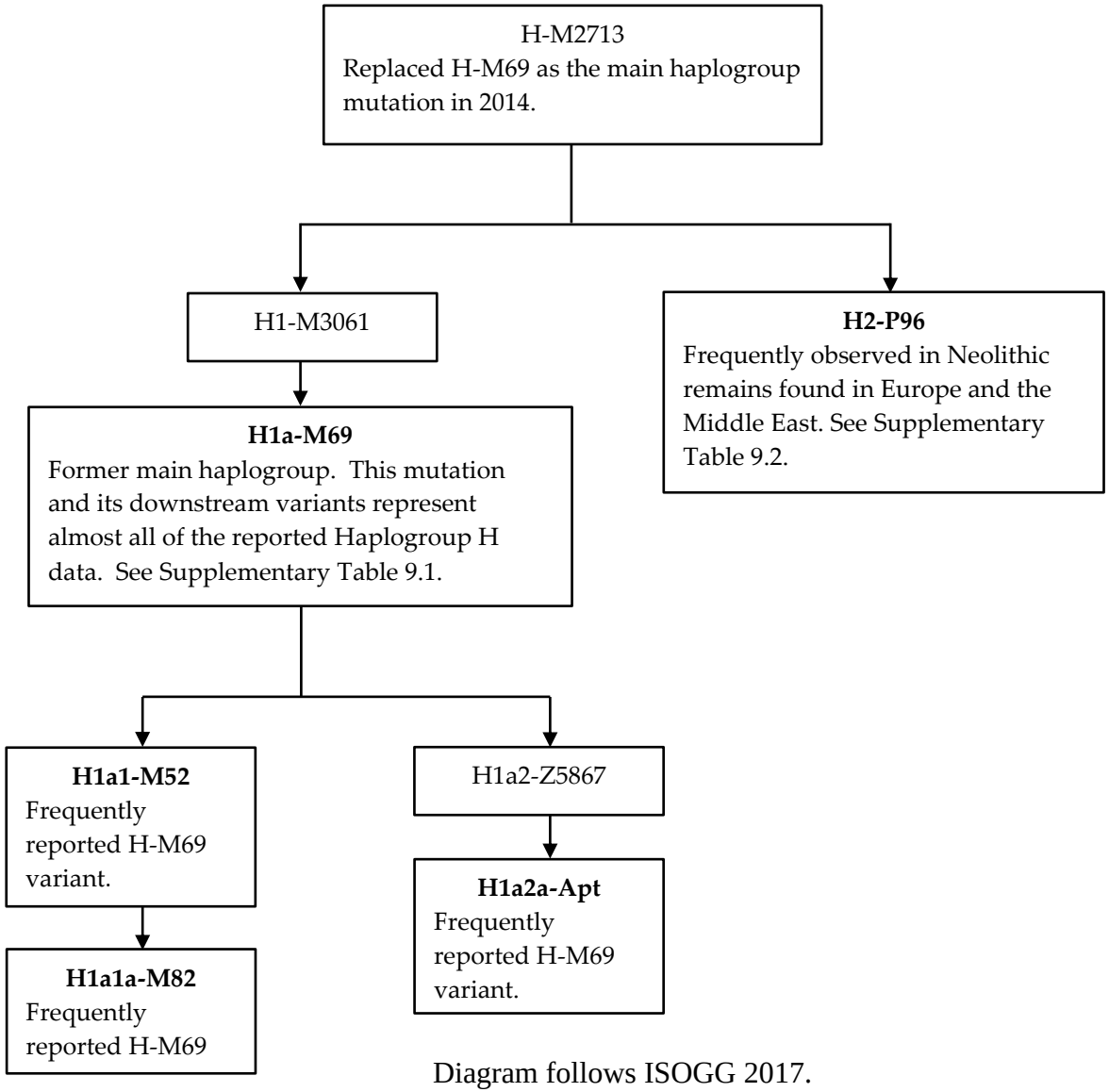

Diagram follows ISOGG 2017.

Supplementary Figures for Chapter Ten and Haplogroup I-M170

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Supplementary Figure 10.1. Phylogenetic Diagram for Haplogroup I-M170.

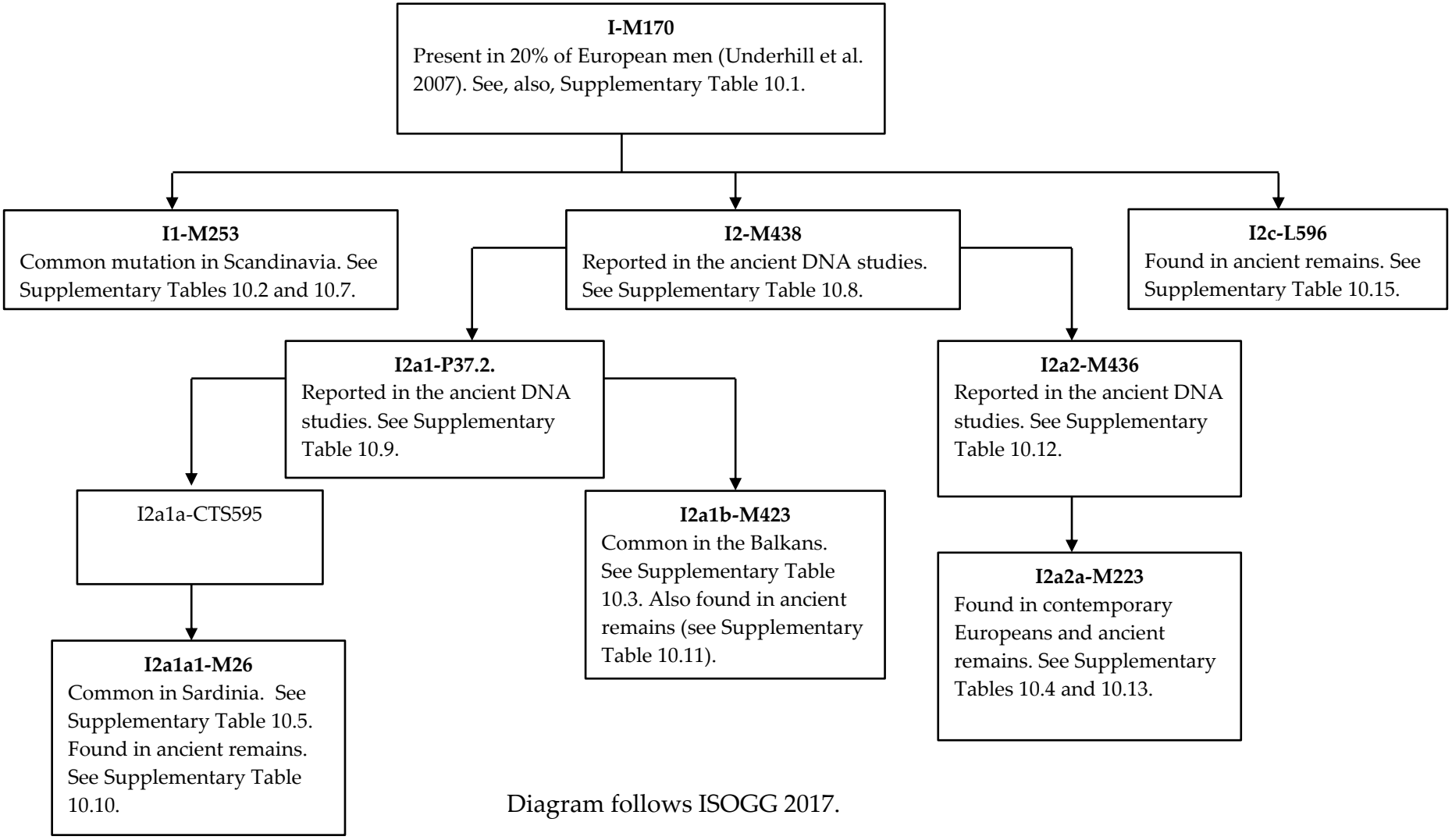

Diagram follows ISOGG 2017.

Supplementary Figures for Chapter Eleven and Haplogroup J-M304

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Supplementary Figure 11.1. Phylogenetic Diagram for Haplogroup J-M304.

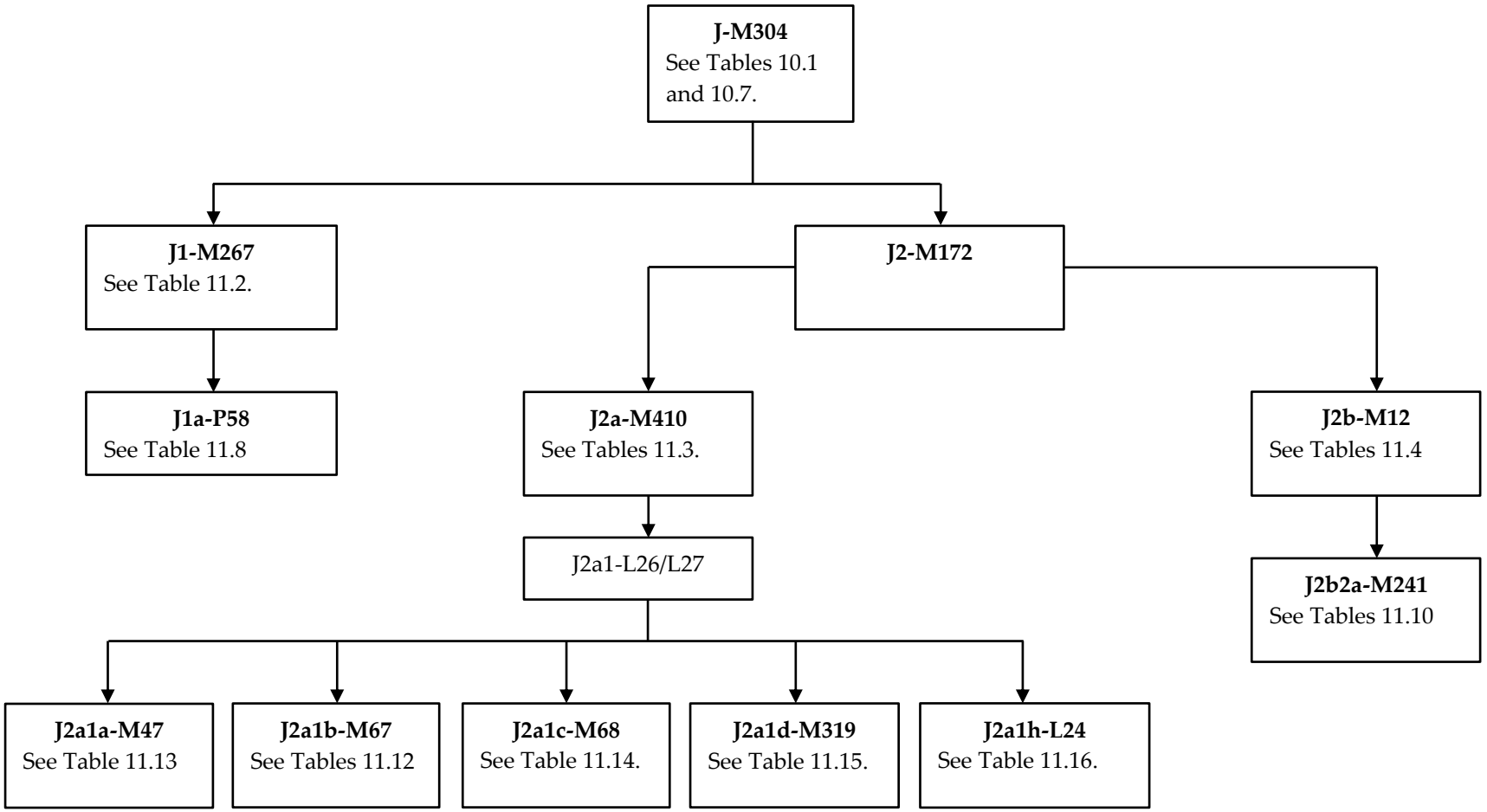

Figure generally conforms to ISOGG 2017.

Supplementary Figures for Chapter Twelve and Haplogroups L-M20 and T-M184

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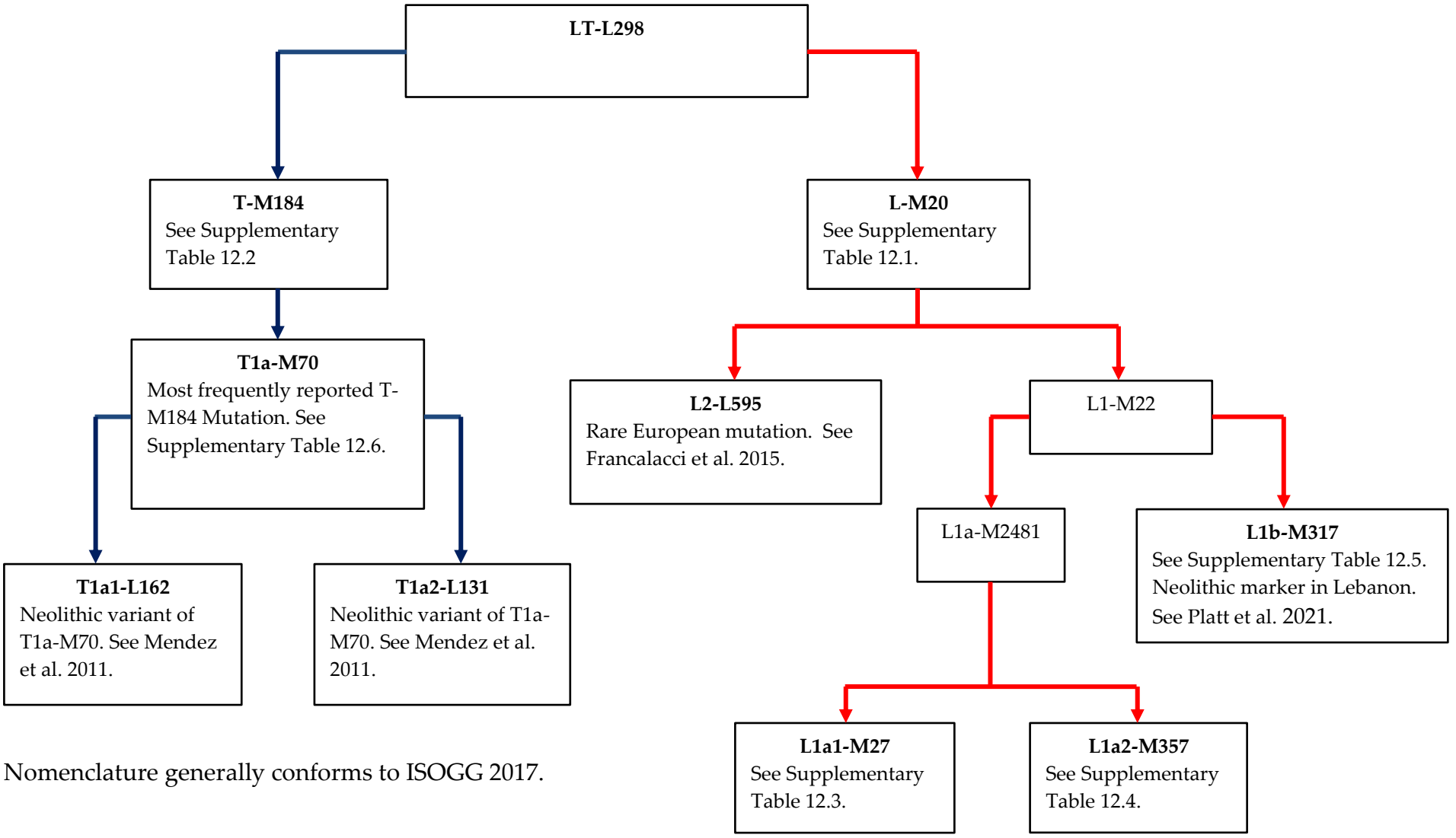
Supplementary Figure 12.1. Phylogenetic Diagram for Haplogroups L-M20 and T-M184.



Nomenclature generally conforms to ISOGG 2017.

Supplementary Figures for Chapter Thirteen and Paragroup KR-M526.

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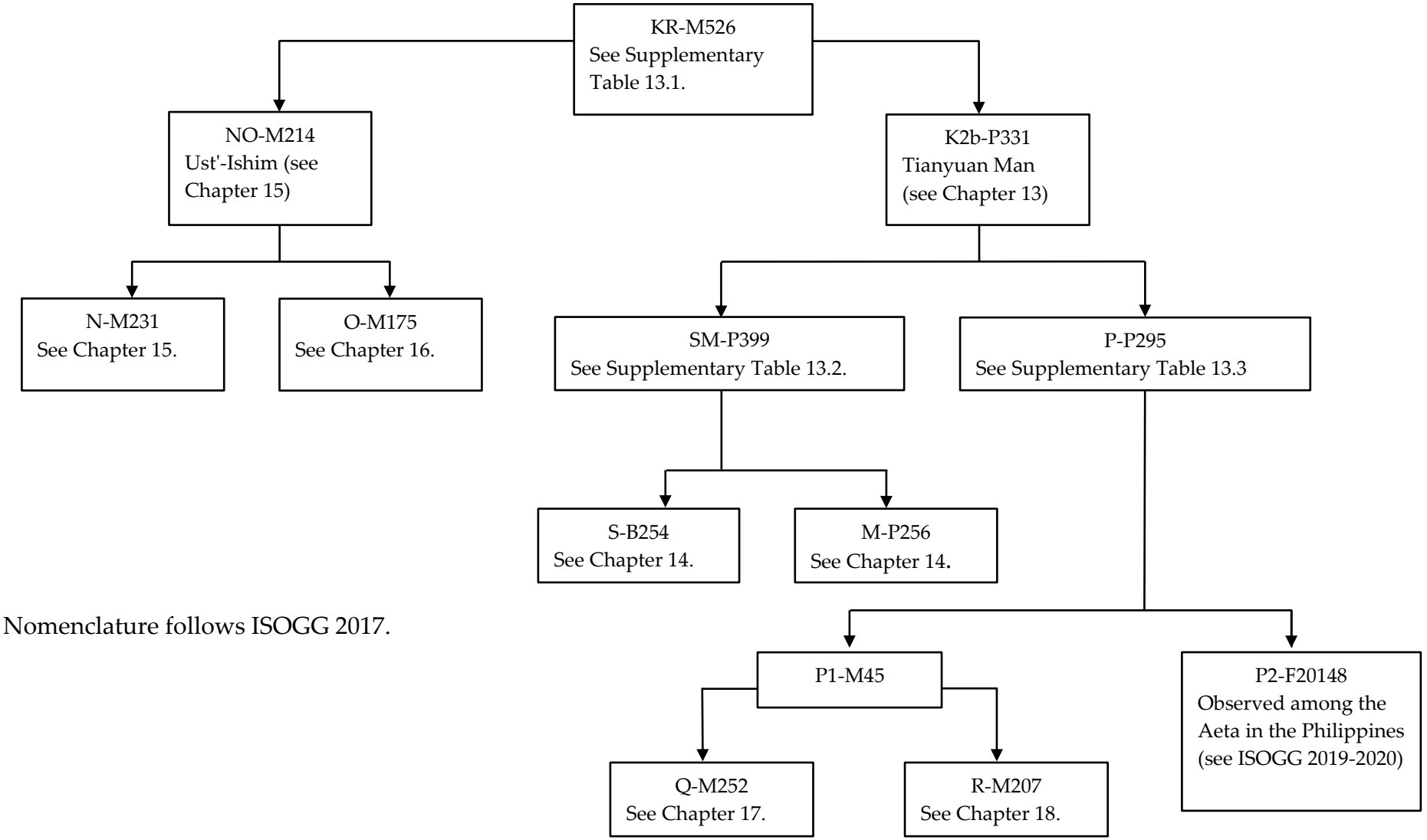
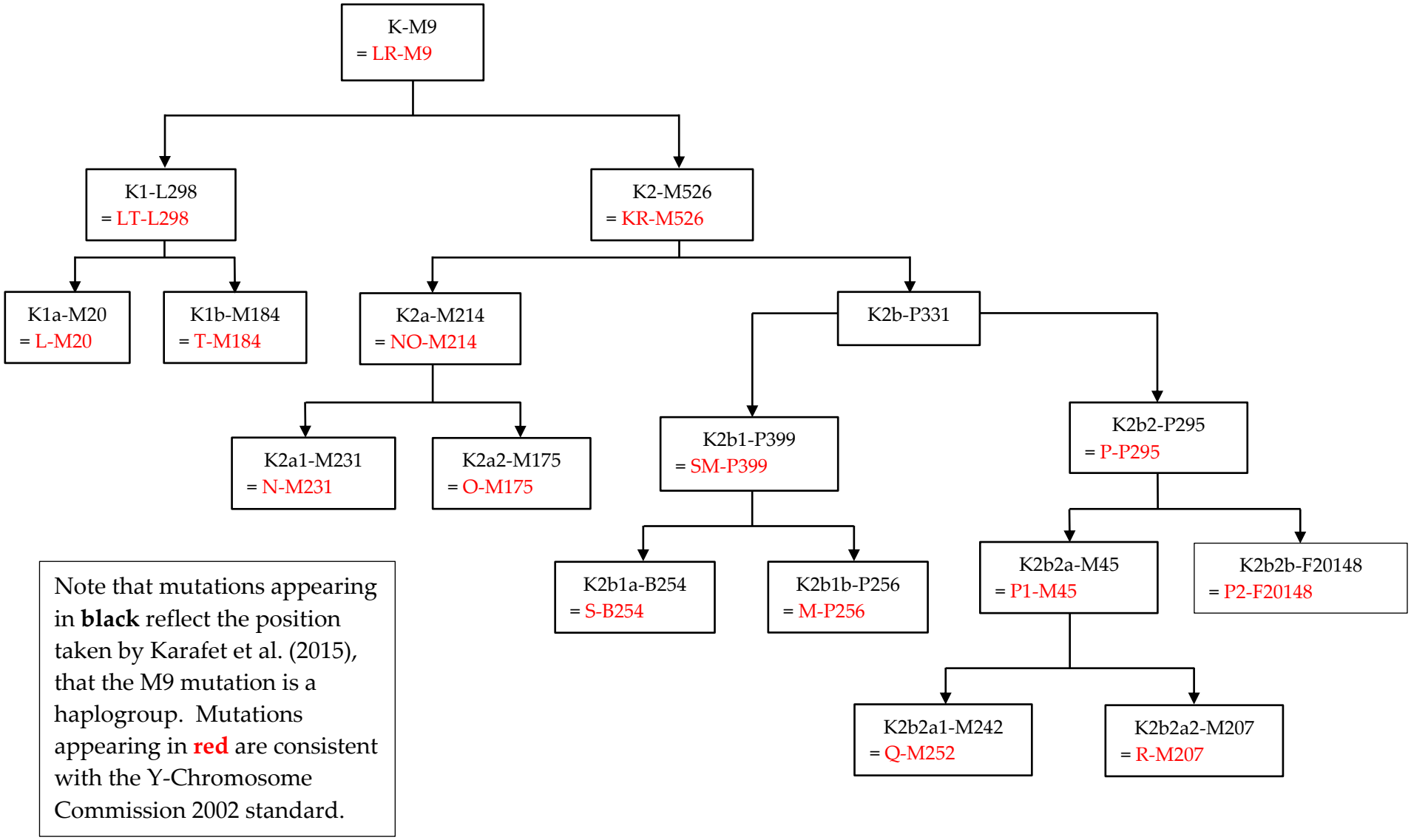
Supplementary Figure 13.1. Phylogenetic Relationships within the KR-M526 Paragroup.



Nomenclature follows ISOGG 2017.

Supplementary Figure 13.2. Nomenclature and the M9 Mutation: Haplogroup versus Paragroup.



Note that mutations appearing in **black** reflect the position taken by Karafet et al. (2015), that the M9 mutation is a haplogroup. Mutations appearing in **red** are consistent with the Y-Chromosome Commission 2002 standard.

Supplementary Figures for Chapter Fourteen and Haplogroups M-P256 and S-B254

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Supplementary Figure 14.1. Phylogenetic Diagram for Haplogroups S-B254 and M-P256.

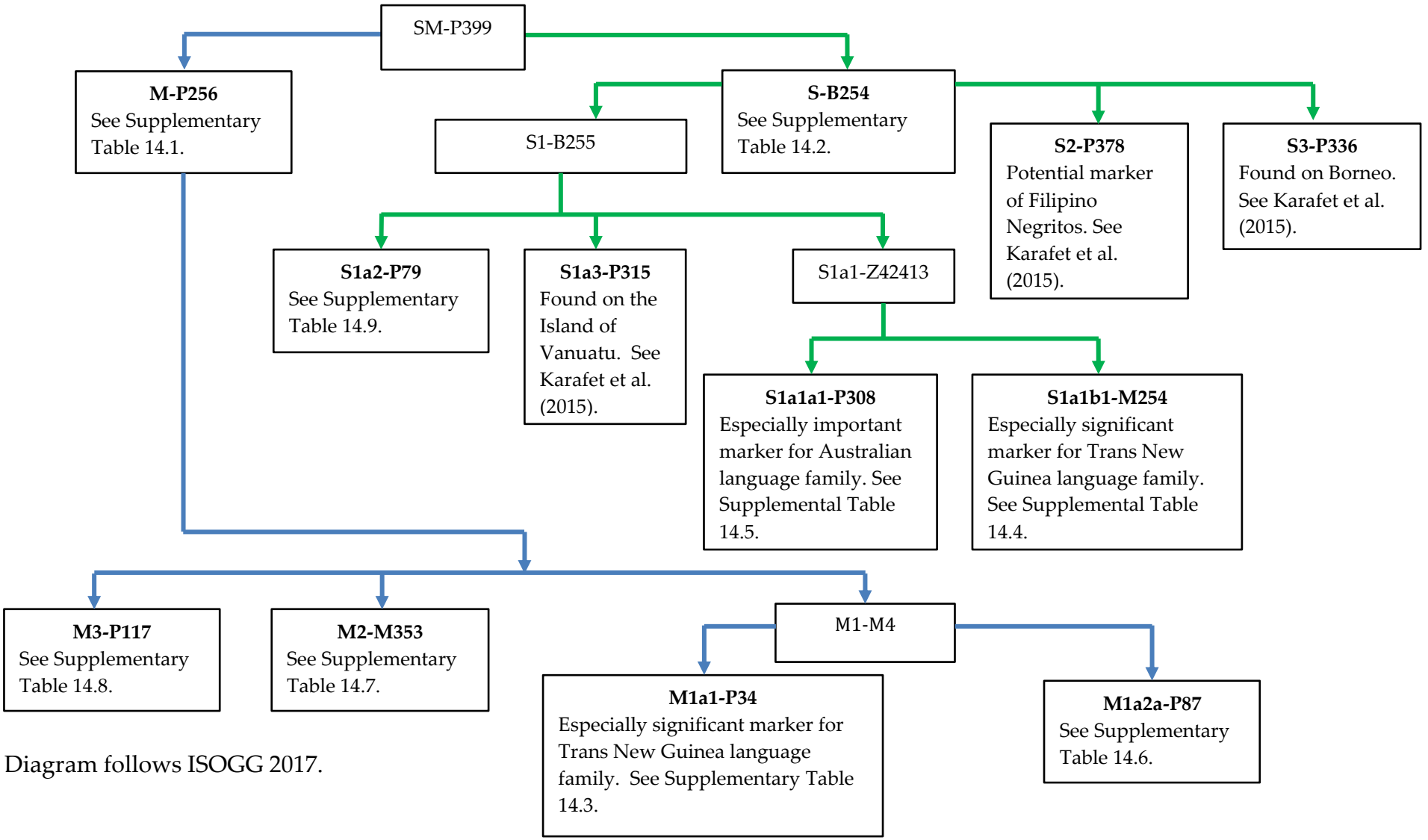

Diagram follows ISOGG 2017.

Supplementary Figures for Chapter Fifteen and Haplogroup N-M231.

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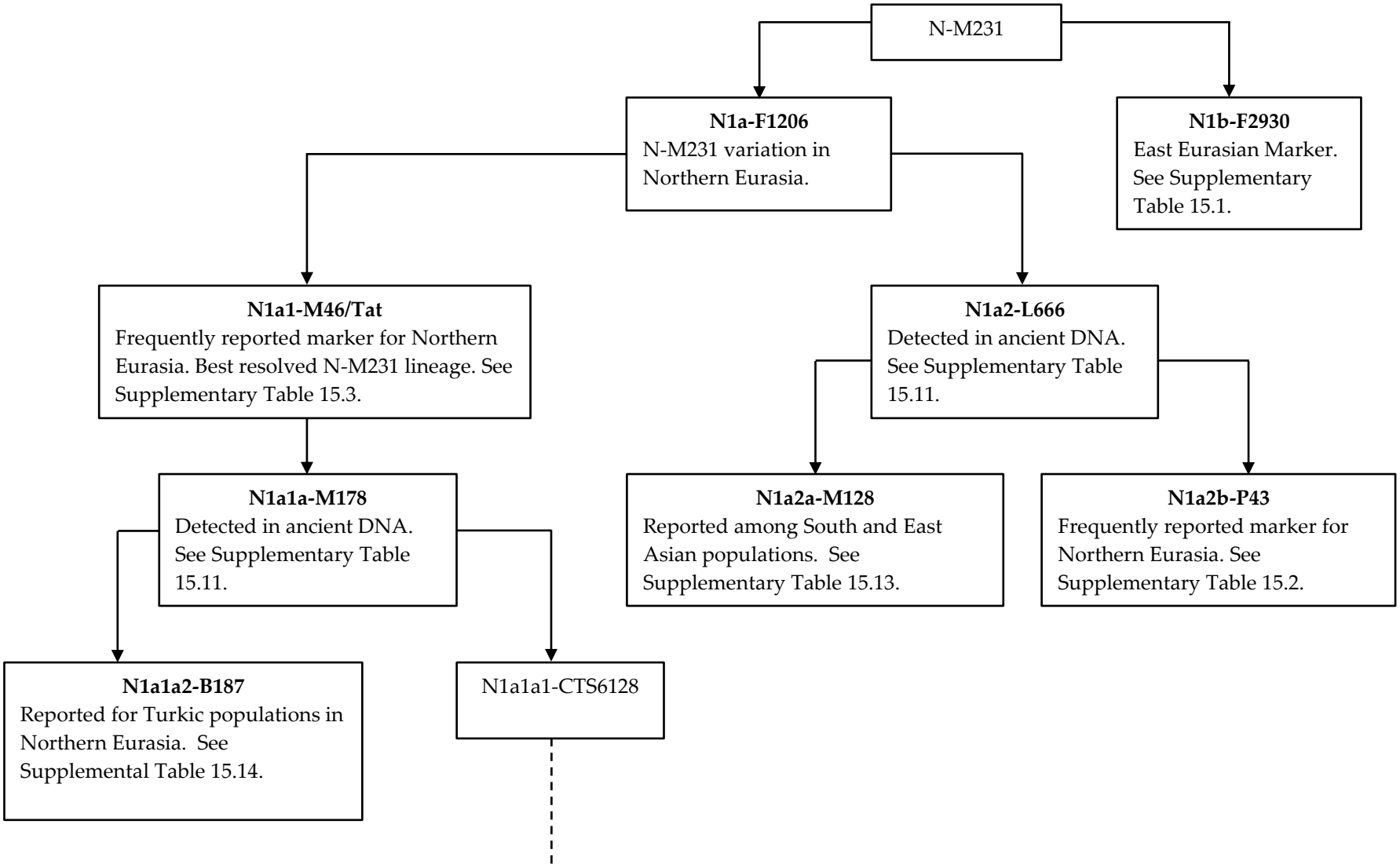
Supplementary Figure 15.1. Phylogenetic Diagram for Haplogroup N-M231.



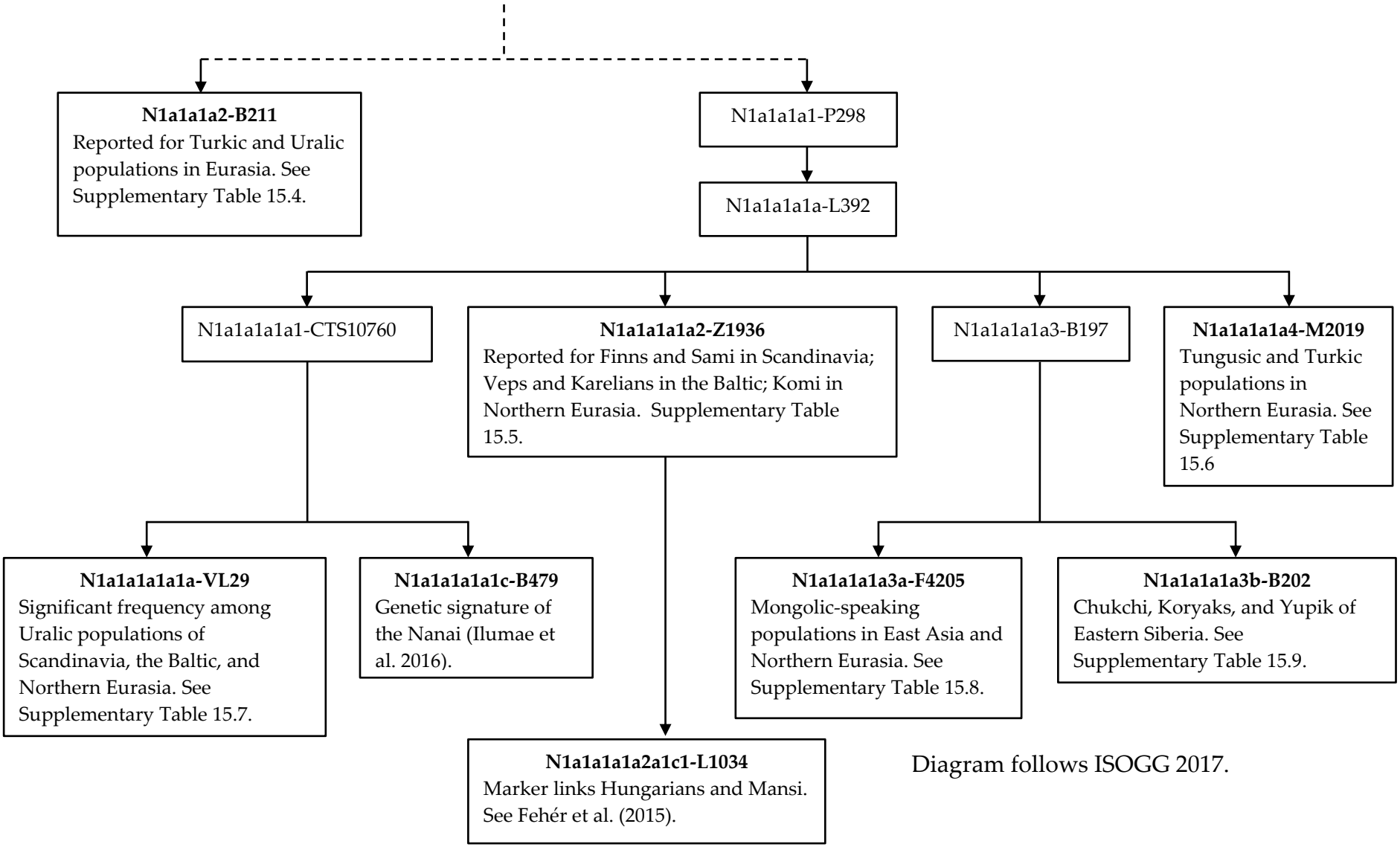


Diagram follows ISOGG 2017.

Supplementary Figures for Chapter Sixteen and Haplogroup O-M175

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Supplementary Figure 16.1. Phylogenetic Diagram for the O1-F265 Mutation.

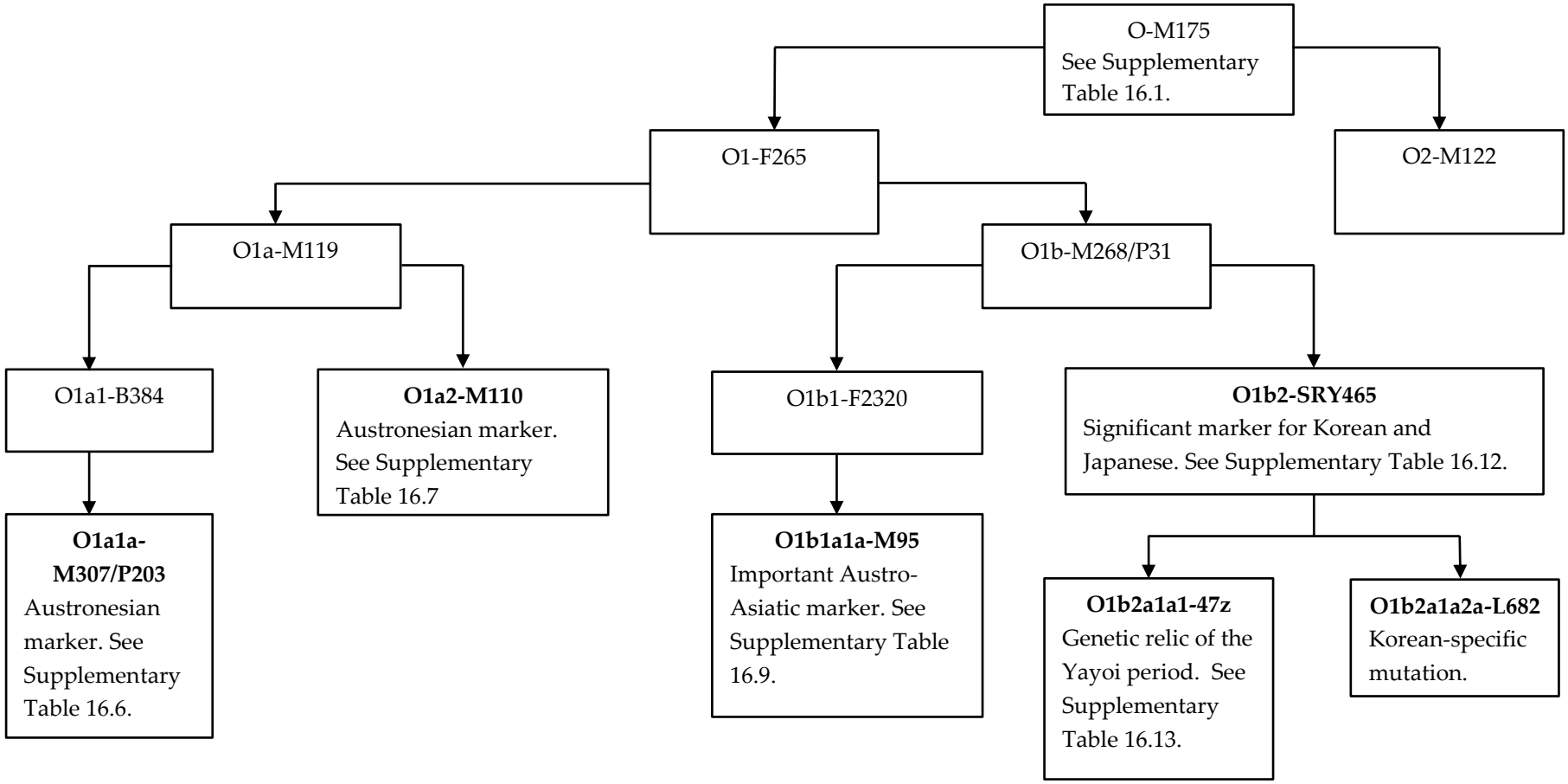


Diagram follows ISOGG 2017.

Supplementary Figure 16.2. Phylogenetic Diagram for the O2-M122 Mutation.

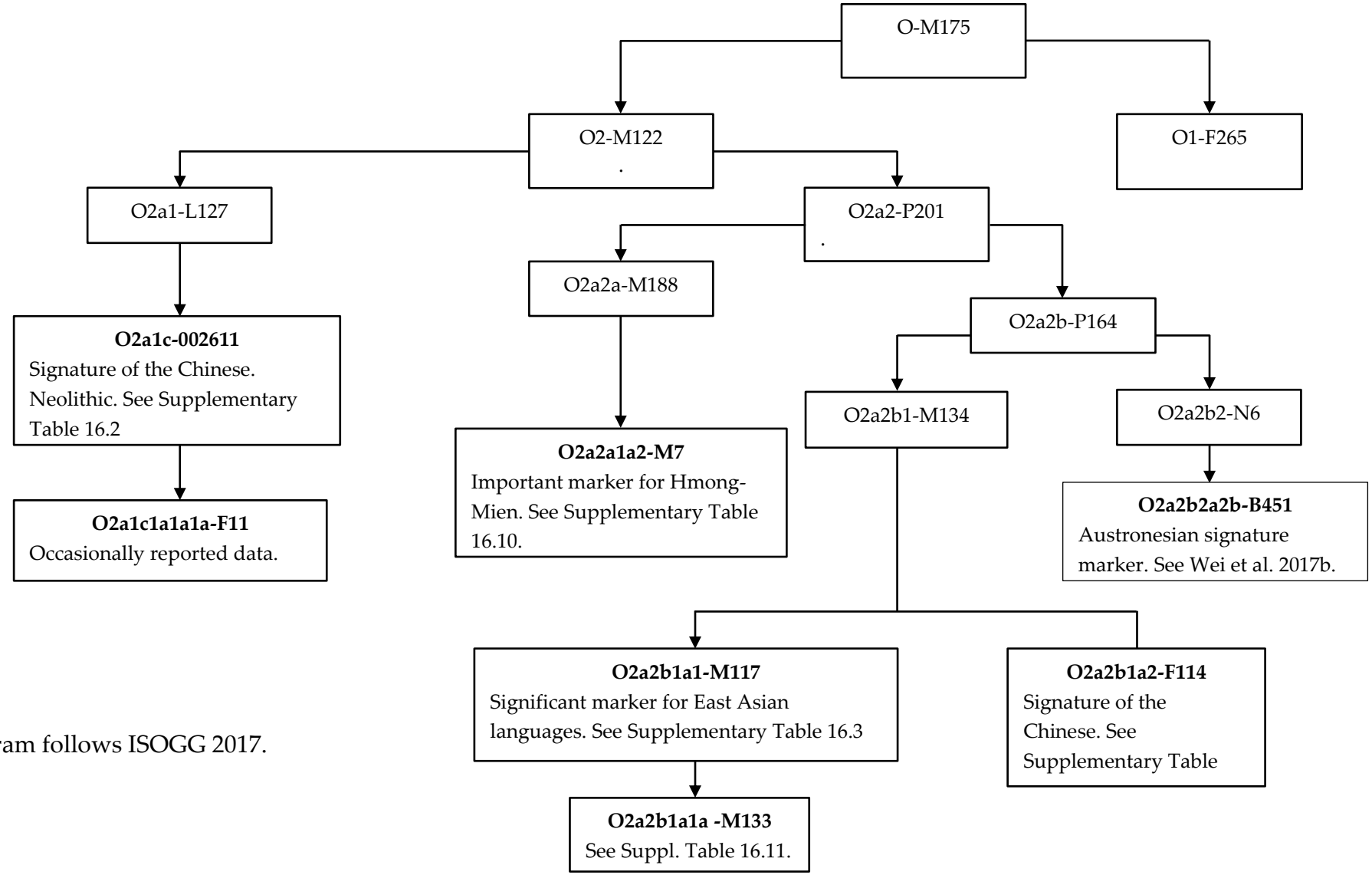


Diagram follows ISOGG 2017.

Supplementary Figure 16.3. Phylogenetic Diagram for the O1b-F1252 Mutation.

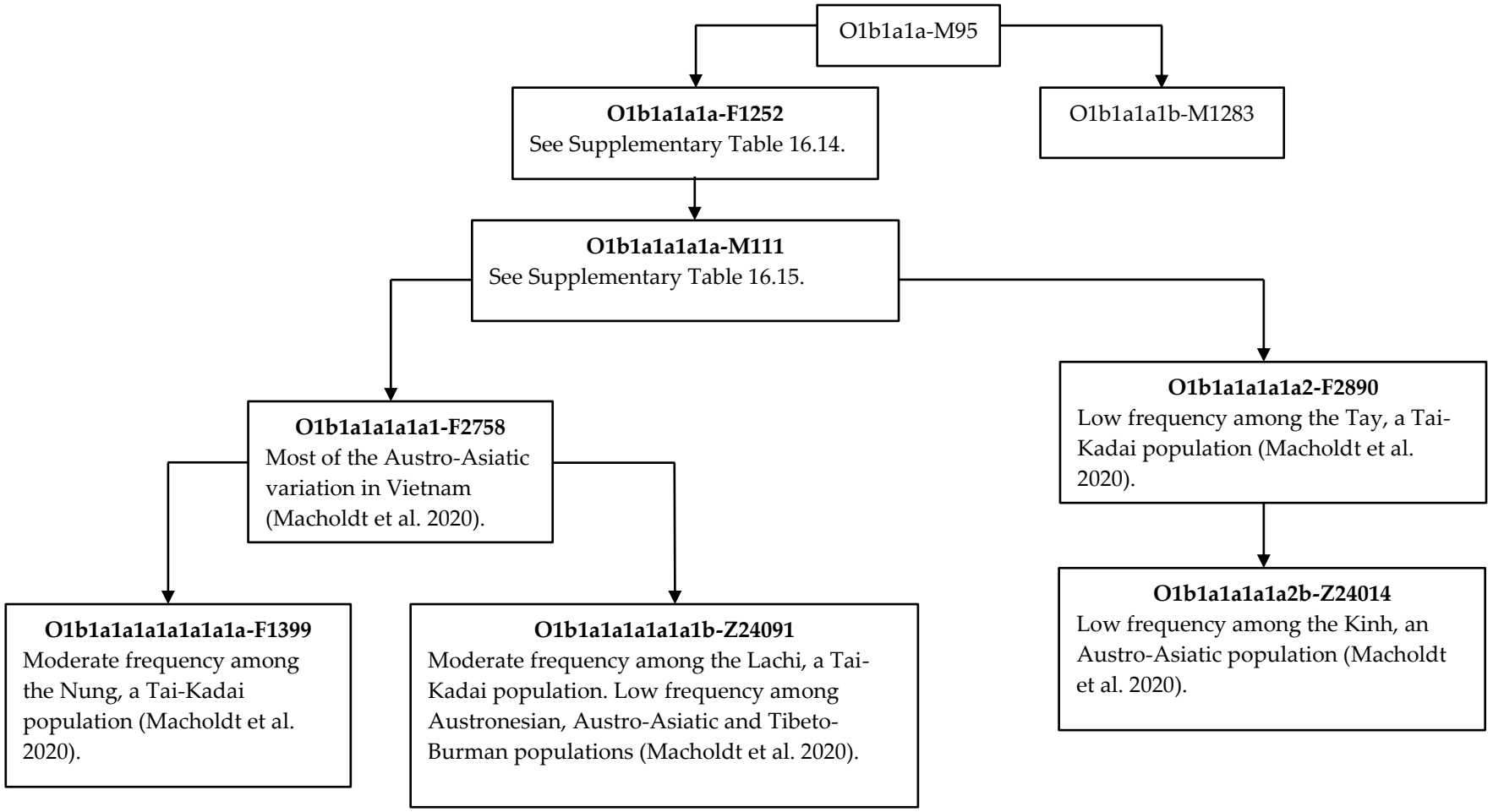


Diagram follows ISOGG 2017.

Supplementary Figure 16.4. Phylogenetic Diagram for the O1b-M1283 Mutation.

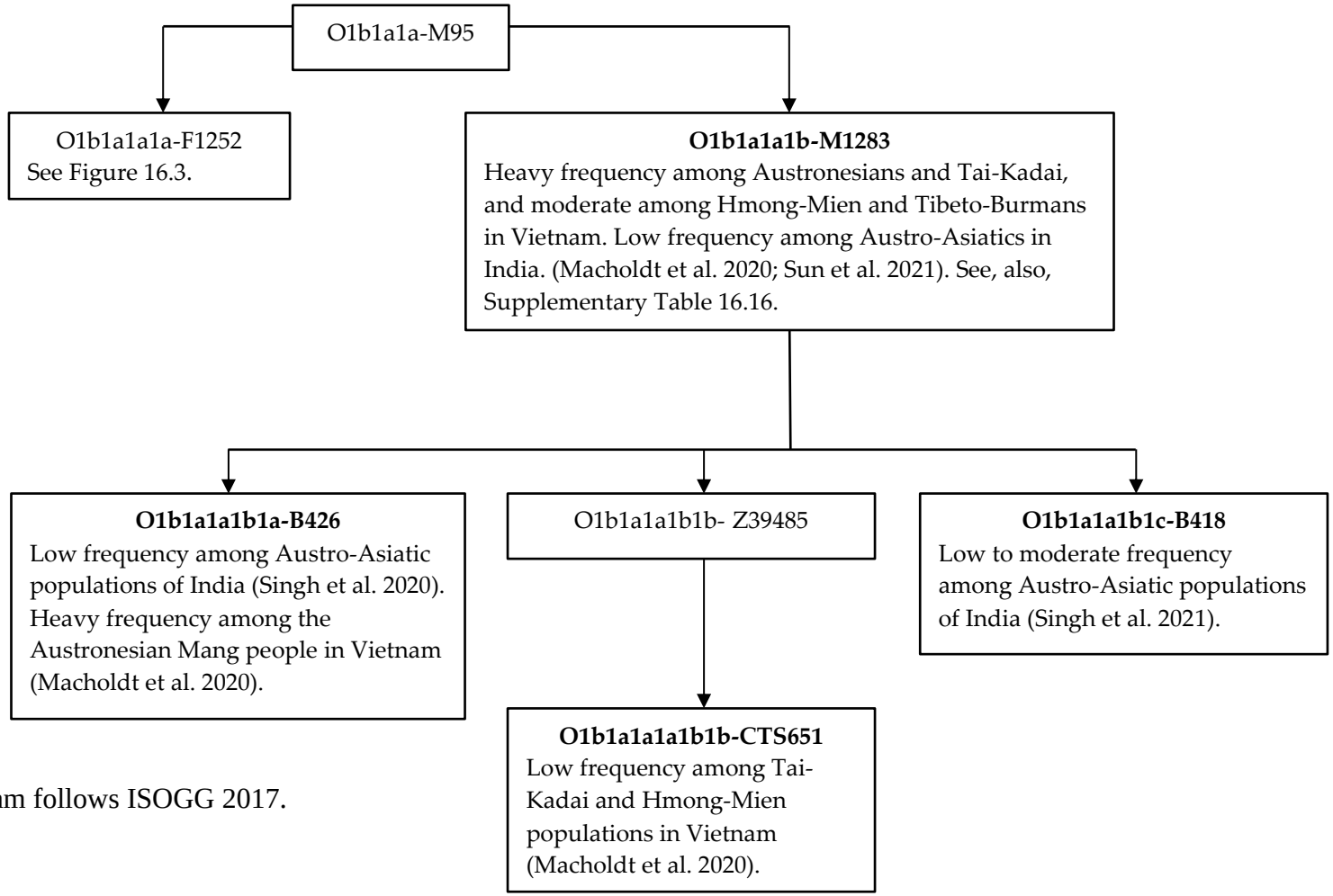
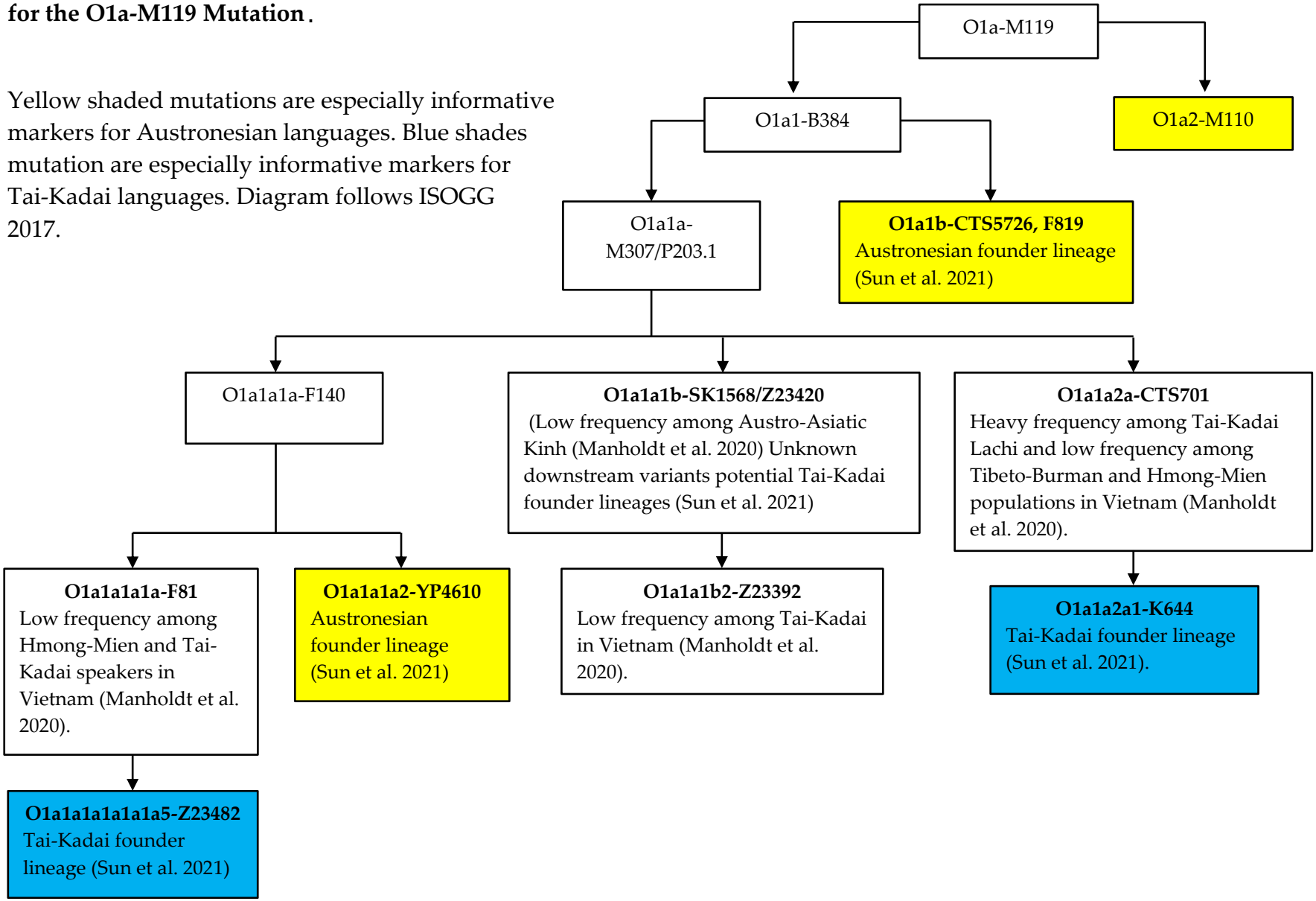


Diagram follows ISOGG 2017.

Supplementary Figure 16.5. Phylogenetic Diagram for the O1a-M119 Mutation.

Yellow shaded mutations are especially informative markers for Austronesian languages. Blue shades mutation are especially informative markers for Tai-Kadai languages. Diagram follows ISOGG 2017.



Supplementary Figures for Chapter Seventeen and Haplogroup Q-M242

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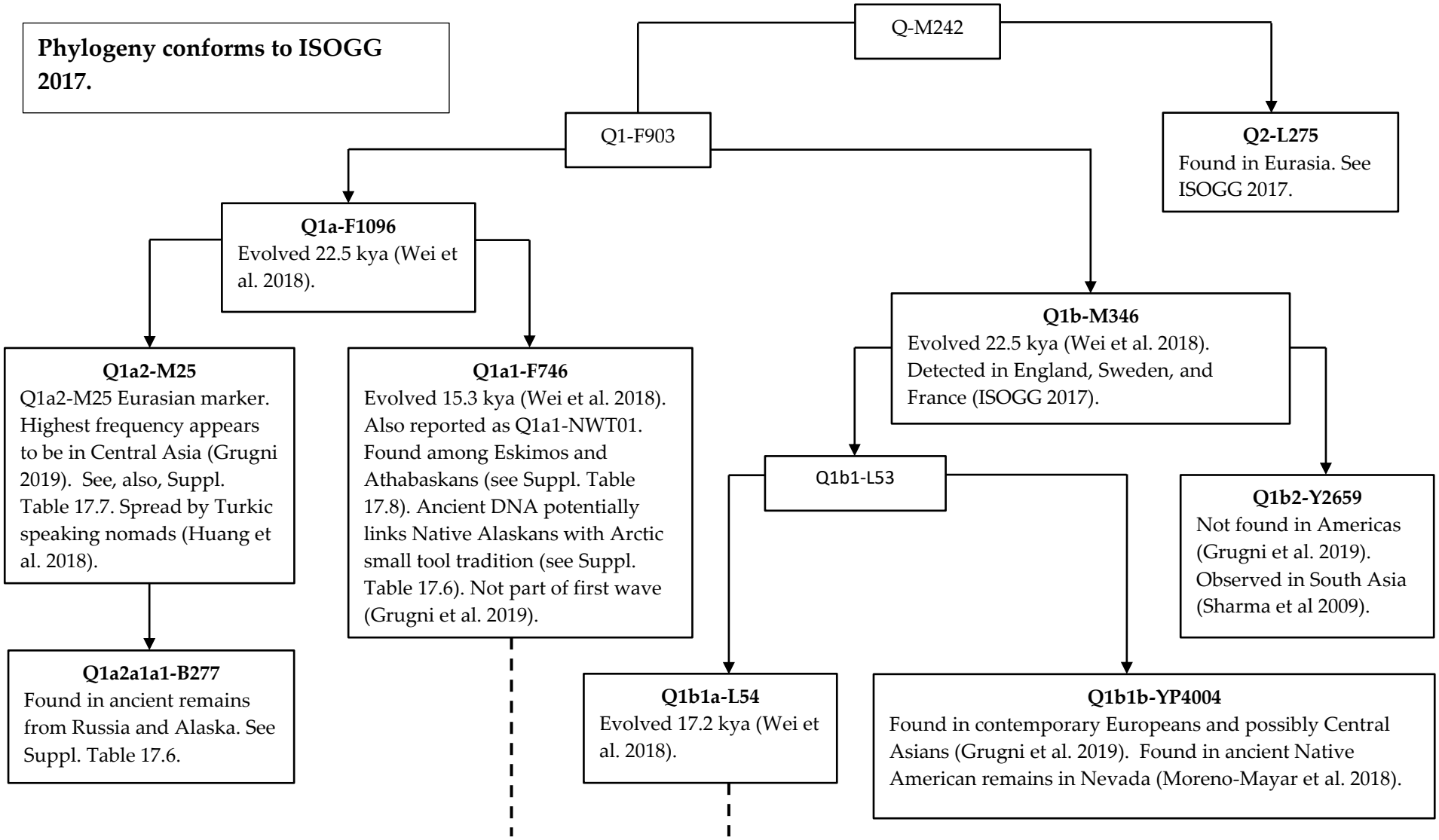
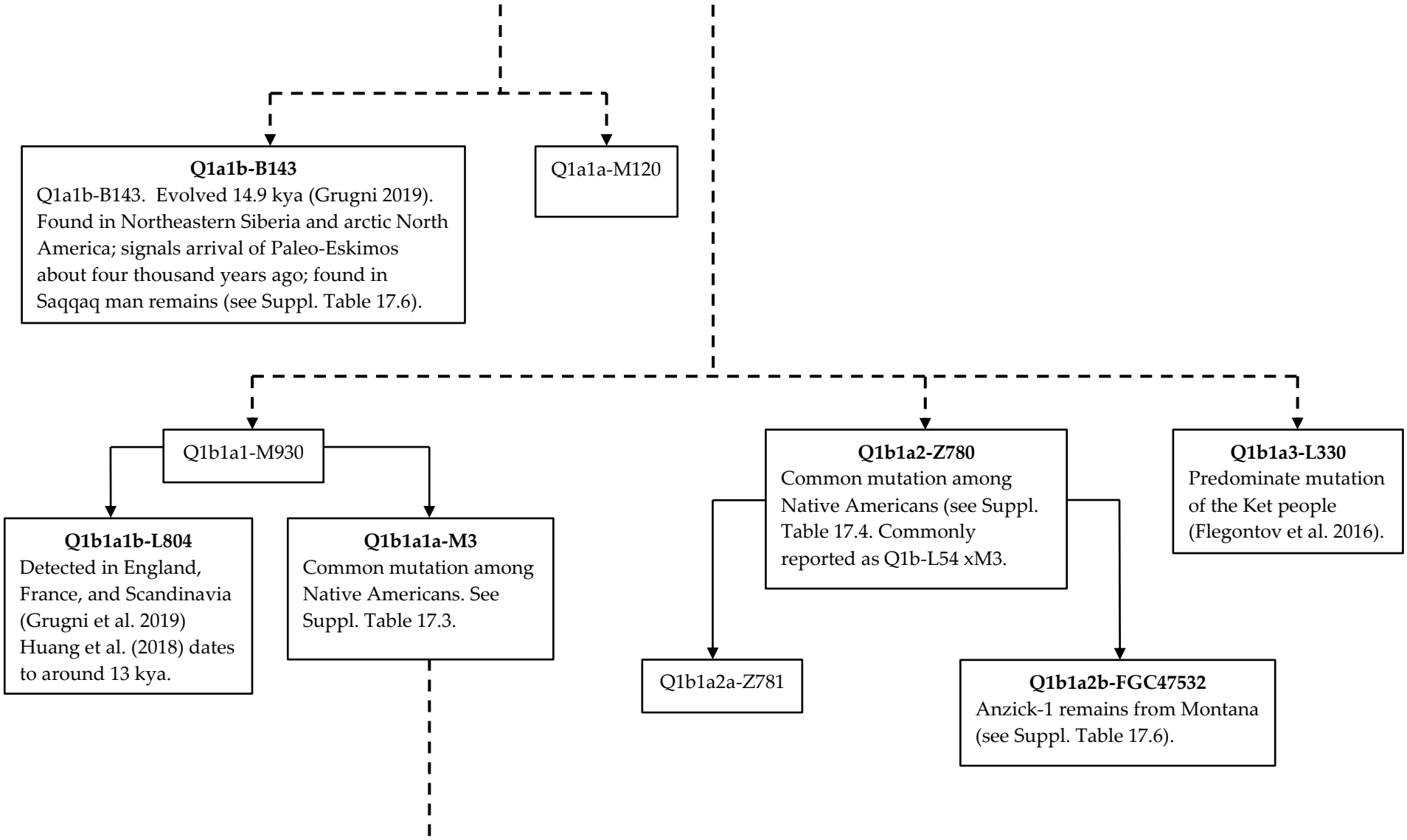
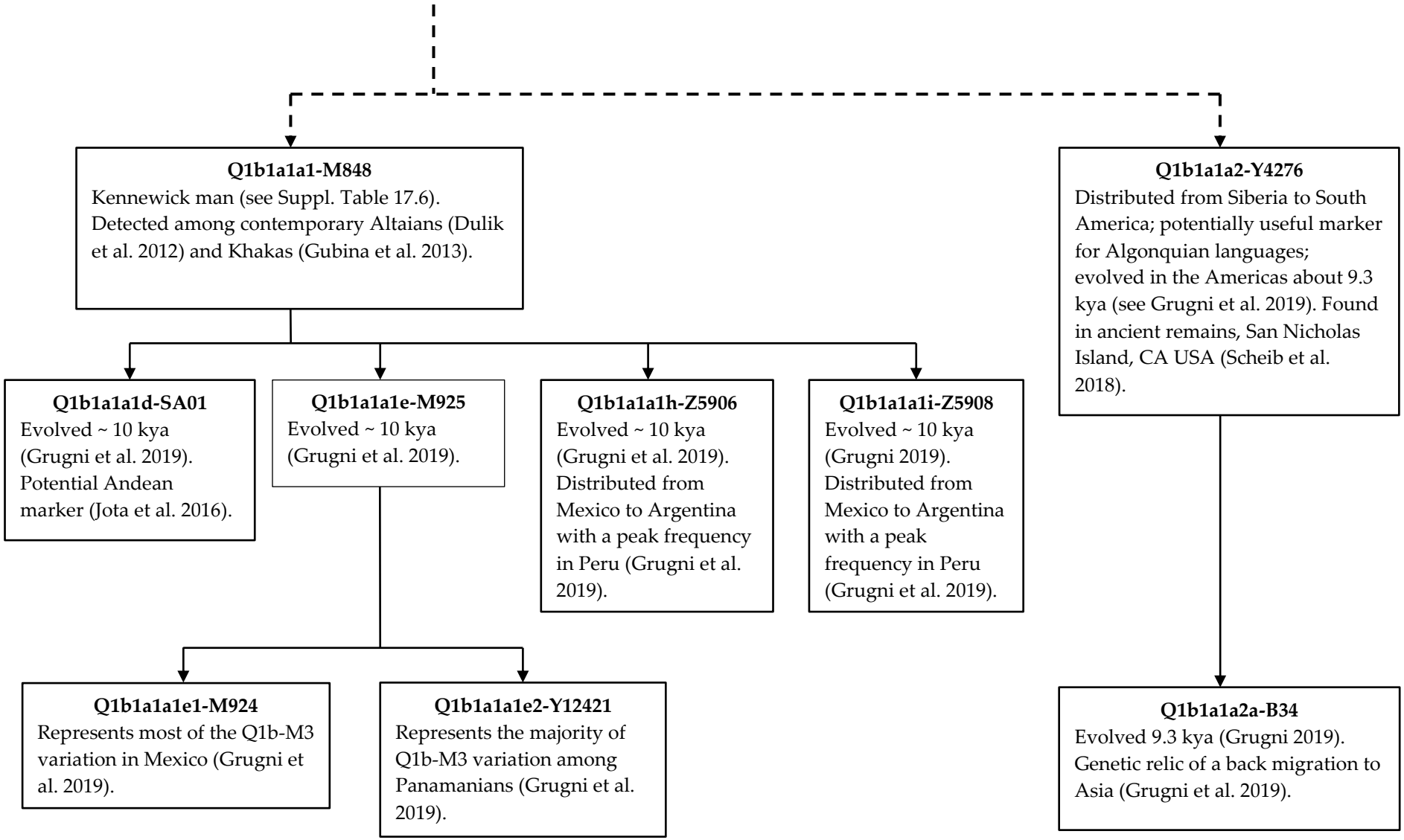
Supplementary Figure 17.1: Part A. Phylogenetic Diagram for Haplogroup Q-M242.



Supplementary Figure 17.1: Part B. Haplogroup Q-M242 and its Informative Downstream Mutations.



Supplementary Figure 17.1: Part C. Haplogroup Q-M242 and its Informative Downstream Mutations.



Supplementary Figures for Chapter Eighteen and Haplogroup R-M207.

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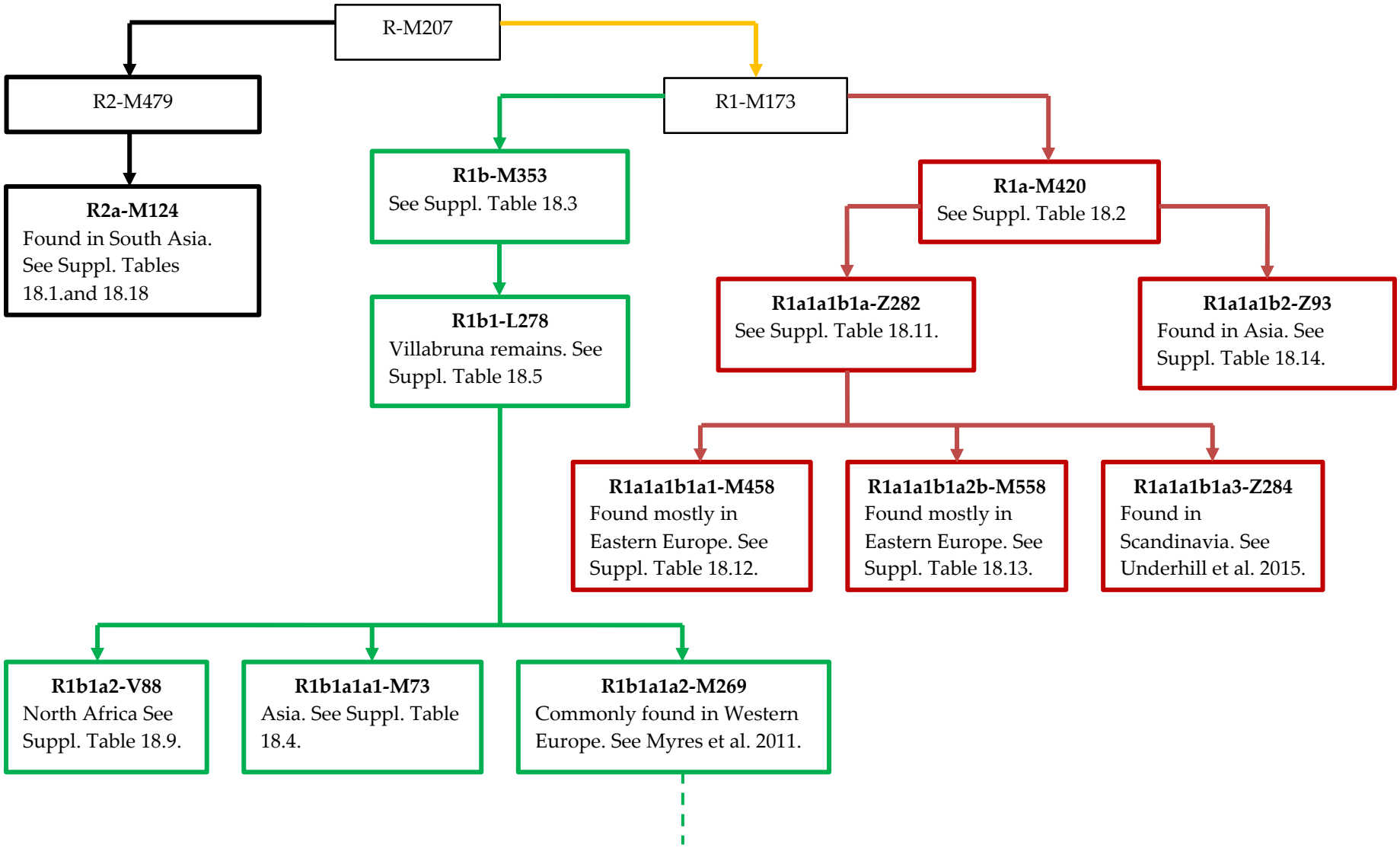
Supplementary Figure 18.1. Phylogenetic Diagram for Haplogroup R-M207.



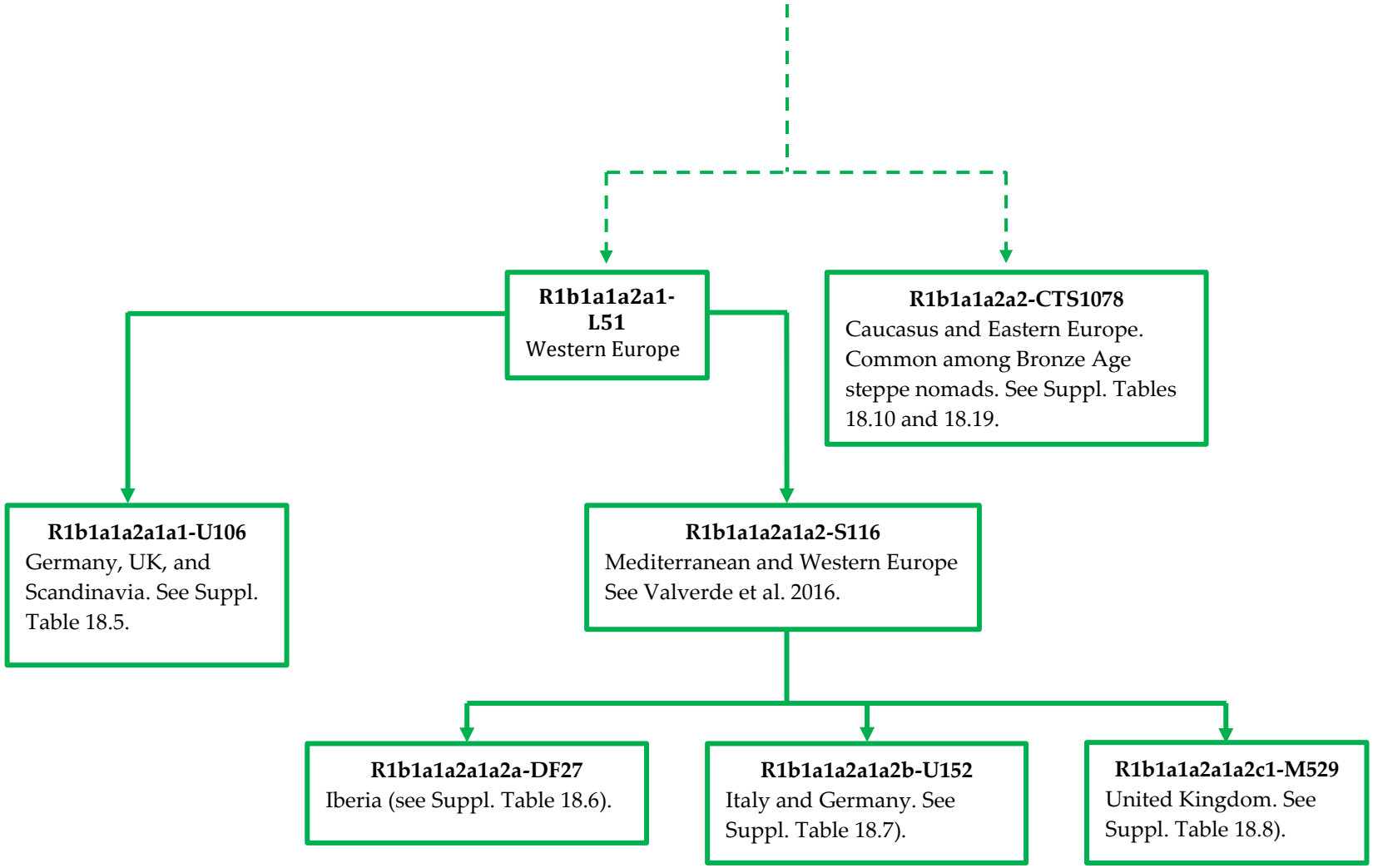


Diagram follows ISOGG 2017.

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