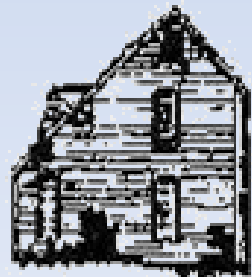


Pot Pourri

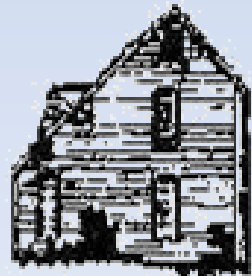
DNA, Database, Edmund Rice
(presented to ERA 2011 annual meeting)

John F. Chandler



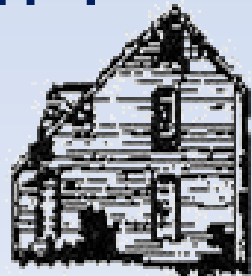
DNA Glossary

- (see <http://edmund-rice.org/dnagloss.htm>)
- DNA = Deoxyribonucleic Acid = blueprint of life
- Base = Nucleotide = smallest unit of DNA, one of four possible units, denoted as A, C, G, or T
- Marker = Locus = any identifiable feature on the DNA chain
- STR = Microsatellite = marker consisting of repeating sequences, characterized by the number of repeats, e.g., 15



Glossary (cont.)

- Mutation = any change in DNA sequence
- Chromosome = major grouping of DNA, visible at certain stages of cell division
- Y Chromosome = determines maleness
- mtDNA = Mitochondrial DNA = DNA found in cell components responsible for energy production (maintained outside the cell nucleus) – *much* slower mutations than Y STRs



Why Y? Why mtDNA?

- Usable for genealogy
 - Inherited from just one parent, no confusion
 - Inherited from just one grandparent, etc.
 - Traces an entire lineage
- Contrast with the rest of the DNA
 - Comes in pairs, one copy from each parent
 - The pairs are reshuffled and randomly subdivided at each generation -- may have no genes at all from a given distant ancestor



Rice DNA Projects

- (see <http://edmund-rice.org/haplotype.htm>)
- 328 members tested for Y DNA
 - 298 tested at FTDNA
 - 30 tested elsewhere
- 19 members tested for mtDNA
- Picture of a test kit:
<http://www.ftdna.com/dna-test-kit.aspx>



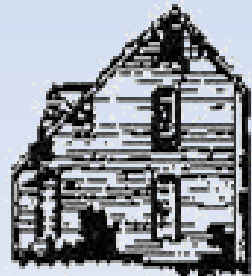
DNA Applications

- Exciting parts
 - Genealogy
 - “Deep Ancestry” (beware!)
- “Scary parts” (not relevant here)
 - Forensics
 - Health screening



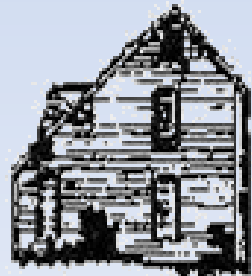
Scary DNA Applications (we don't do these)

- Forensics
 - Criminal identification
 - Paternity and other relationship testing
- Health screening
 - Diagnosis
 - Prediction

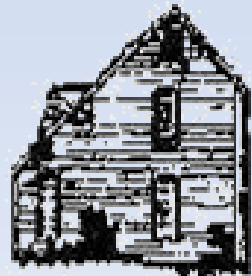
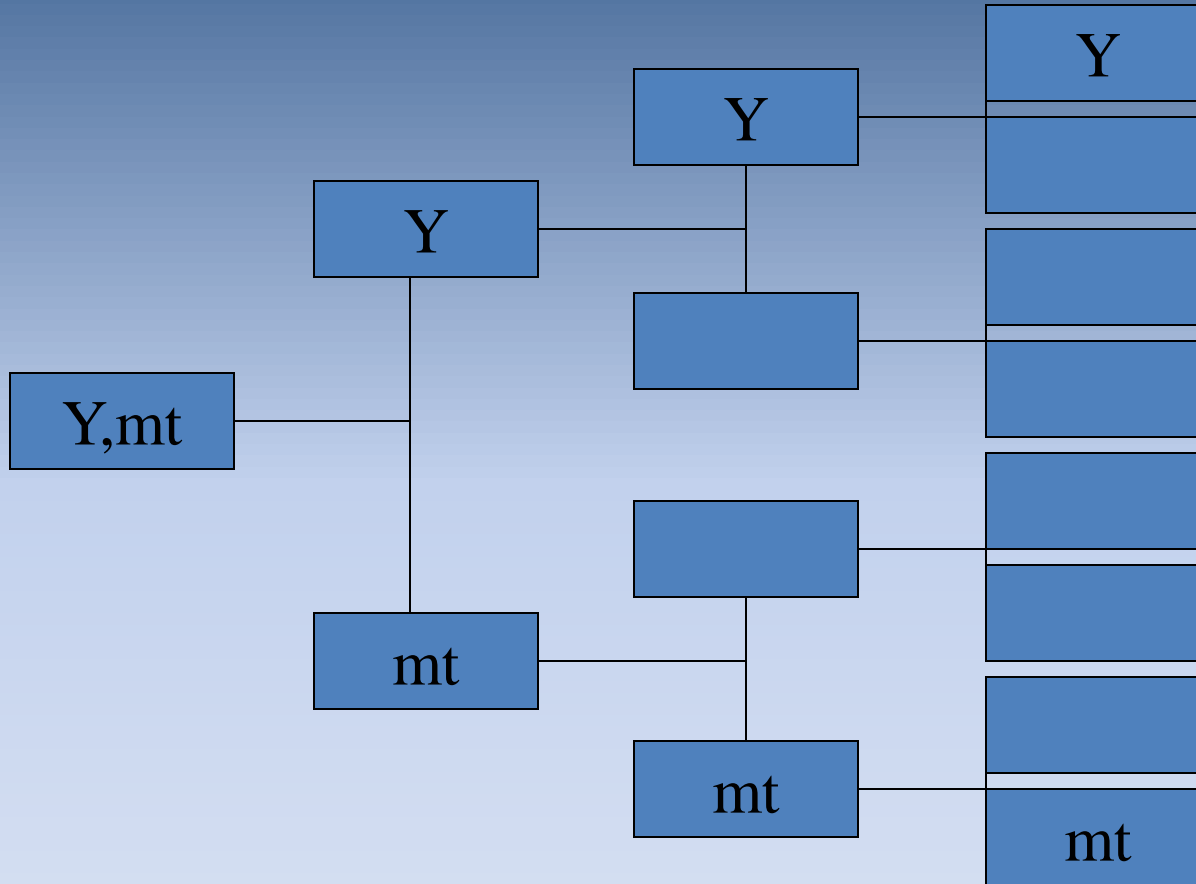


Genealogical DNA

- Male lines
 - Y DNA parallels surnames
 - Rice DNA project, for example
 - Crucial need also for conventional genealogy
- Female lines
 - mtDNA inherited only from the mother
 - Crucial need also for conventional genealogy
- Mixed lines
 - Still under development

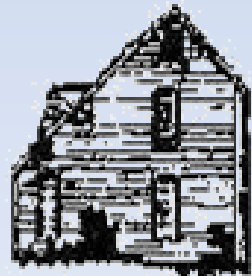


DNA on the pedigree



ERA Database I

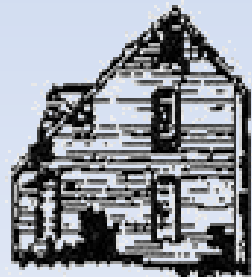
We are rapidly approaching 200,000 persons, but we still have a long way to go. We expect millions eventually, and it's just as well that we don't have them yet, since current hardware and software would be hard put to manage a database that big! Moore's Law is on our side.



ERA Database II

Contributions of DNA

1. Research validation – support or refute
2. Motivation – identify connections to be researched (vague or specific)
3. Not just RICE – any male or female line
4. Confidence – blood lines do exist



ERA Database III

FAMILYSEARCH.ORG

- Digitized VR images – Arizona, Illinois, Massachusetts, Michigan, New Hampshire, Vermont, Utah, and others
- Digitized census images – US, MA, RI
- Indexed (but...)
- Browsible (but...)
- So many data, so little time!



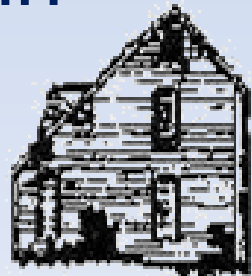
Edmund Rice on record

- No birth, baptism, or probated legacy
- Married twice: 1618 at Bury St Edmunds, 1655/6 at Sudbury
- Land grants in Massachusetts starting 1638
- Court deposition dated 1656 stating his age as “about 62”
- Died 1663 at Marlborough



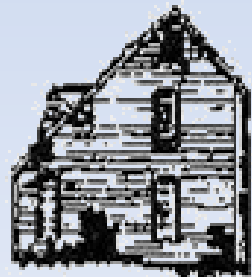
More Edmund Rice

- Baptisms of 4 children starting 1619 at Stanstead, Suffolk
- Baptisms of 5 more children starting 1627/8 at Berkhamstead, Herts
- Birth of 1 child by 1st wife in 1640 at Sudbury
- Birth of 1 child by 2nd wife in 1659, presumably at Marlborough, recorded in Sudbury



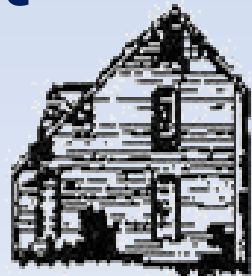
Still more Edmund Rice

- 1 child by 2nd wife, deduced from deeds
- 1 child buried at Berkhamstead
- 1 child rumored to have married in England and emigrated separately



Edmund Rice, public figure

- Deacon of the church in Sudbury, starting 1648
- Selectman of Sudbury in many years, beginning 1639
- Freeman of Massachusetts 1640
- Magistrate for several years in 1640's
- Petitioner in 1656 for the grant of what became the town of Marlborough



Edmund Rice genetics

- His Y DNA belongs to haplogroup I1, quite common in East Anglia, where he first appears on record, but quite rare in Wales
- His mtDNA is unknown and will remain so until his mother or sister can be identified and traced to the present by female lines
- His wives' mtDNA is not yet known, but may be someday

