NEW FLORA OF THE BRITISH ISLES
BEFORE and AFTER
FLORA
OF THE
BRITISH
ISLES

CLAPHAM
TUTIN
WARBURG

CAMBRIDGE UNIVERSITY PRESS
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Volume(s)</th>
<th>Years</th>
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<tbody>
<tr>
<td>HUDSON, W.H.</td>
<td>3</td>
<td>1762-1798</td>
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<tr>
<td>Flora Anglica</td>
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<tr>
<td>SMITH, J.E. &amp; SOWERBY, J.</td>
<td>3</td>
<td>1790-1886 (1892)</td>
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<tr>
<td>English Botany</td>
<td></td>
<td>(Syme)</td>
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<tr>
<td>BABINGTON, C.C.</td>
<td>10</td>
<td>1843-1922</td>
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<tr>
<td>Manual of British Botany</td>
<td></td>
<td>(Wilmott)</td>
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<td>BENTHAM, G, &amp; HOOKER, J.D.</td>
<td>8</td>
<td>1858-1924</td>
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<tr>
<td>Handbook of the British Flora</td>
<td></td>
<td>(Rendle)</td>
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<td>HOOKER, J.D.</td>
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<td>1870-1884</td>
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<td>The Student's Flora of the British Islands</td>
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<tr>
<td>CLAPHAM, A.R., TUTIN, T.G. &amp; WARBURG, E.F.</td>
<td>3</td>
<td>1952-1987</td>
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<tr>
<td>Flora of the British Isles</td>
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SILENE BACCIFERA
(Cucubalus baccifer)
AIMS

Up to date taxonomy and distributions

User-friendly format, e.g. keys, binding

Objective list of aliens

Selected drawings and photographs

Relatively low cost
MOLECULAR CLASSIFICATION

- **GOOD IDEA**
  - Not affected by environment
  - Not affected by gene expression
  - Constant across all life-forms
  - Will not change with time

- **BAD IDEA**
  - Characters are cryptic
  - Very expensive
  - Dependent on high level of expertise
  - Some radical taxonomic changes
<table>
<thead>
<tr>
<th>AMALGAMATIONS/SEGREGATIONS</th>
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<tbody>
<tr>
<td><strong>LYSIMACHIA</strong></td>
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<td><strong>ANAGALLIS</strong></td>
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<td><strong>GLAUX</strong></td>
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<td><strong>PSEUDOGNAPHALIUM</strong></td>
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<td><strong>LAPHANGIUM</strong></td>
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DATA FROM DNA SEQUENCES

CLADOGRAMS
LIMITATIONS OF MOLECULAR DATA

- INCONGRUITY
LIMITATIONS OF MOLECULAR DATA

- INCONGRUITY
- ‘NO DIFFERENCE’
LIMITATIONS OF MOLECULAR DATA

- INCONGRUITY
- ‘NO DIFFERENCE’
- LEVEL OF DISCRIMINATION
EQUALLY CORRECT ALTERNATIVES

TYPHACEAE/SPARGANIAE

LAMIUM/LAMIASTRUM

BORAGINACEAE/12 FAMILIES
The choice is yours:

Typha (bulrush)  Sparganium (bur-reed)
LIMITATIONS OF MOLECULAR DATA

- INCONGRUITY
- ‘NO DIFFERENCE’
- LEVEL OF DISCRIMINATION
- PARAPHYLY CONTROVERSY
YZ MONOPHYLETIC

XY POLYPHYLETIC
XY PARAPHYLITIC
LIMITATIONS OF MOLECULAR DATA

- INCONGRUITY
- ‘NO DIFFERENCE’
- LEVEL OF DISCRIMINATION
- PARAPHYLY CONTROVERSY
- PROBLEM OF POLYPLOIDY
FLORAS

FUTURE PROGRESS

• EXPLORE NEW METHODS OF PRESENTATION

• INCORPORATE NEW DATA AND UPDATE OLD DATA
WHAT YOU CAN DO

- THINK BEYOND PUTTING DOTS ON MAPS AND TAKING PHOTOGRAPHS
WHAT YOU CAN DO

- THINK BEYOND PUTTING DOTS ON MAPS AND TAKING PHOTOGRAPHS
- KNOW THE LITERATURE
WHAT YOU CAN DO

- THINK BEYOND PUTTING DOTS ON MAPS AND TAKING PHOTOGRAPHS
- KNOW THE LITERATURE
- BE CRITICAL OF EVERYTHING YOU READ OR ARE TOLD
WHAT YOU CAN DO

- THINK BEYOND PUTTING DOTS ON MAPS AND TAKING PHOTOGRAPHS
- KNOW THE LITERATURE
- BE CRITICAL OF EVERYTHING YOU READ OR ARE TOLD
- CHECK IT UP YOURSELF BY OBSERVATION AND EXPERIMENT
WHAT YOU CAN DO

- THINK BEYOND PUTTING DOTS ON MAPS AND TAKING PHOTOGRAPHS
- KNOW THE LITERATURE
- BE CRITICAL OF EVERYTHING YOU READ OR ARE TOLD
- CHECK IT UP YOURSELF BY OBSERVATION AND EXPERIMENT
- PRESERVE A VOUCHER SPECIMEN
WHAT YOU CAN DO

- THINK BEYOND PUTTING DOTS ON MAPS AND TAKING PHOTOGRAPHS
- KNOW THE LITERATURE
- BE CRITICAL OF EVERYTHING YOU READ OR ARE TOLD
- CHECK IT UP YOURSELF BY OBSERVATION AND EXPERIMENT
- PRESERVE A VOUCHER SPECIMEN
- TELL THE REST OF US WHAT YOU FIND