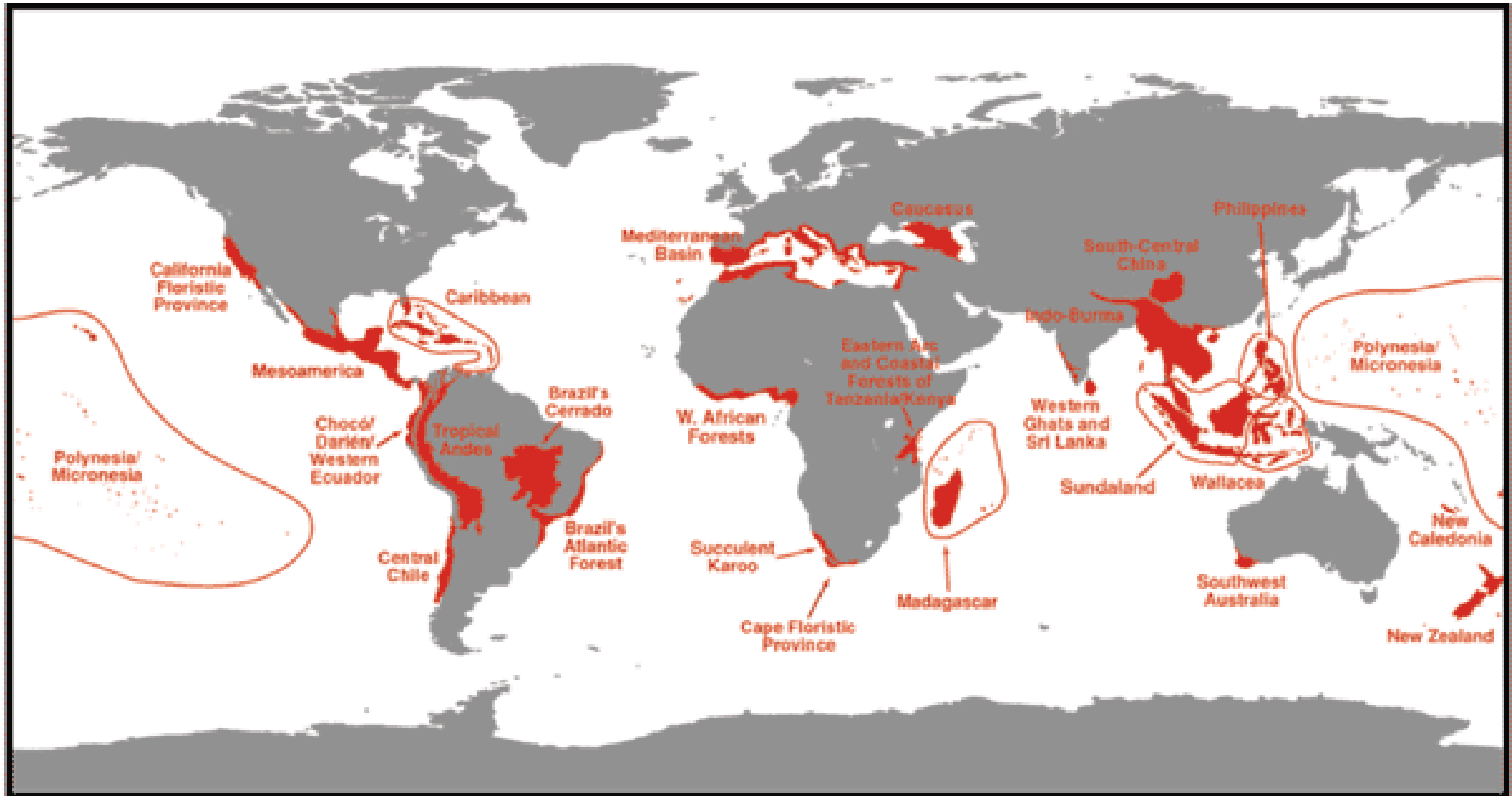


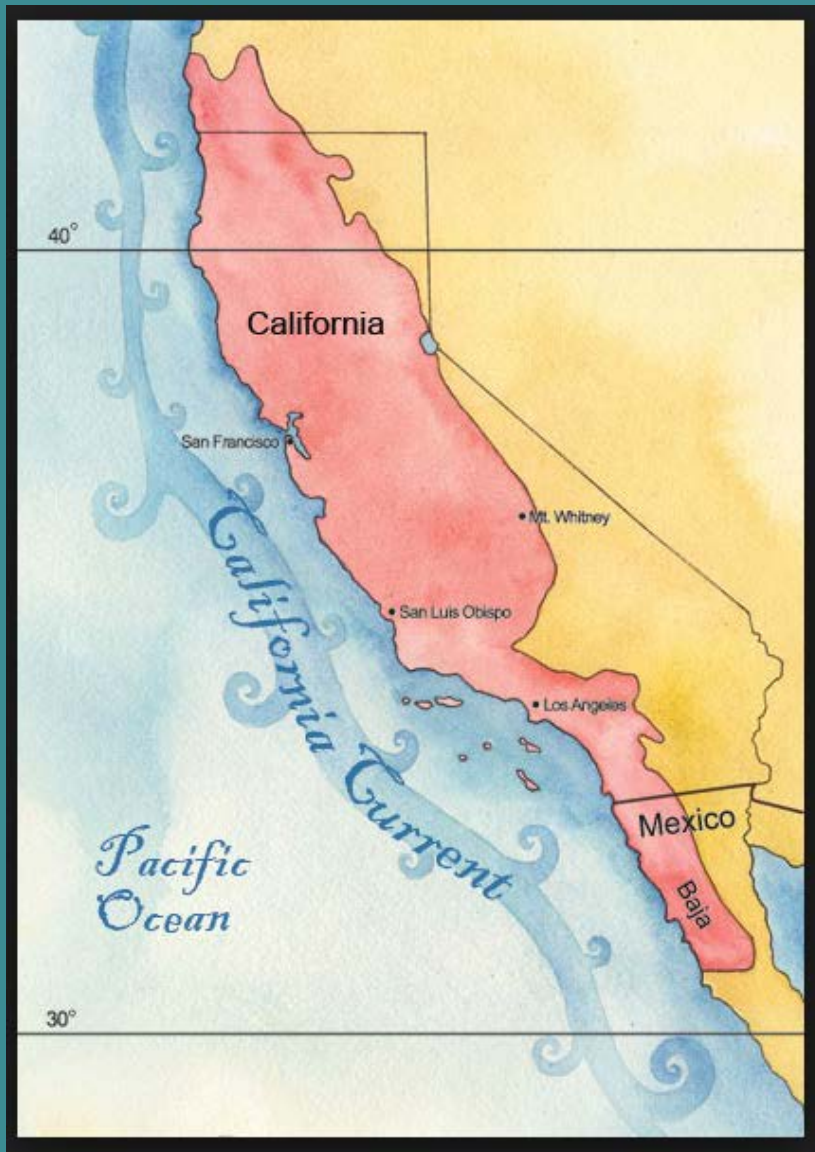
# “An Introduction to” The Tenebrionidae of California

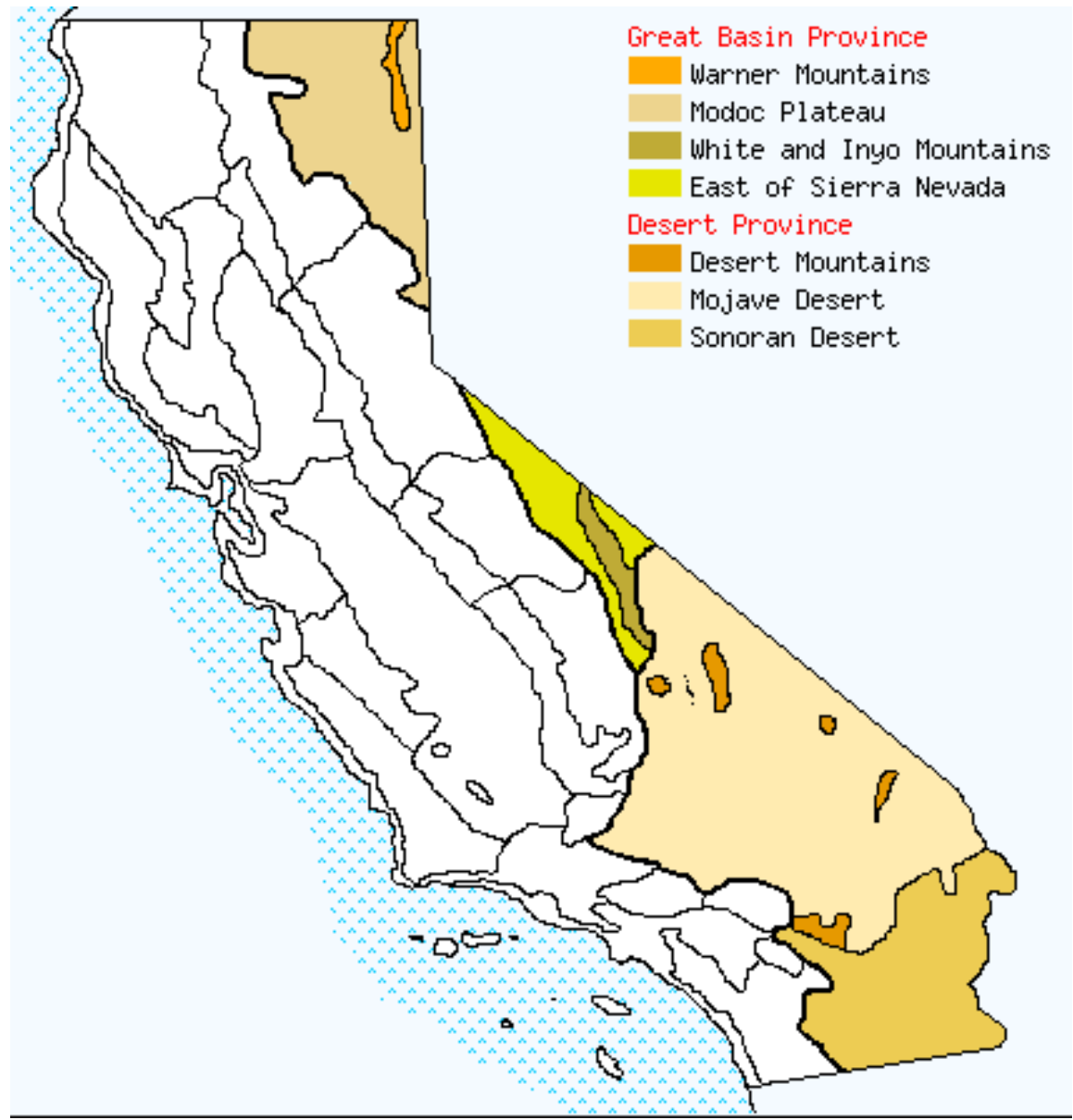


“An Introduction to”  
The Tenebrionidae of California

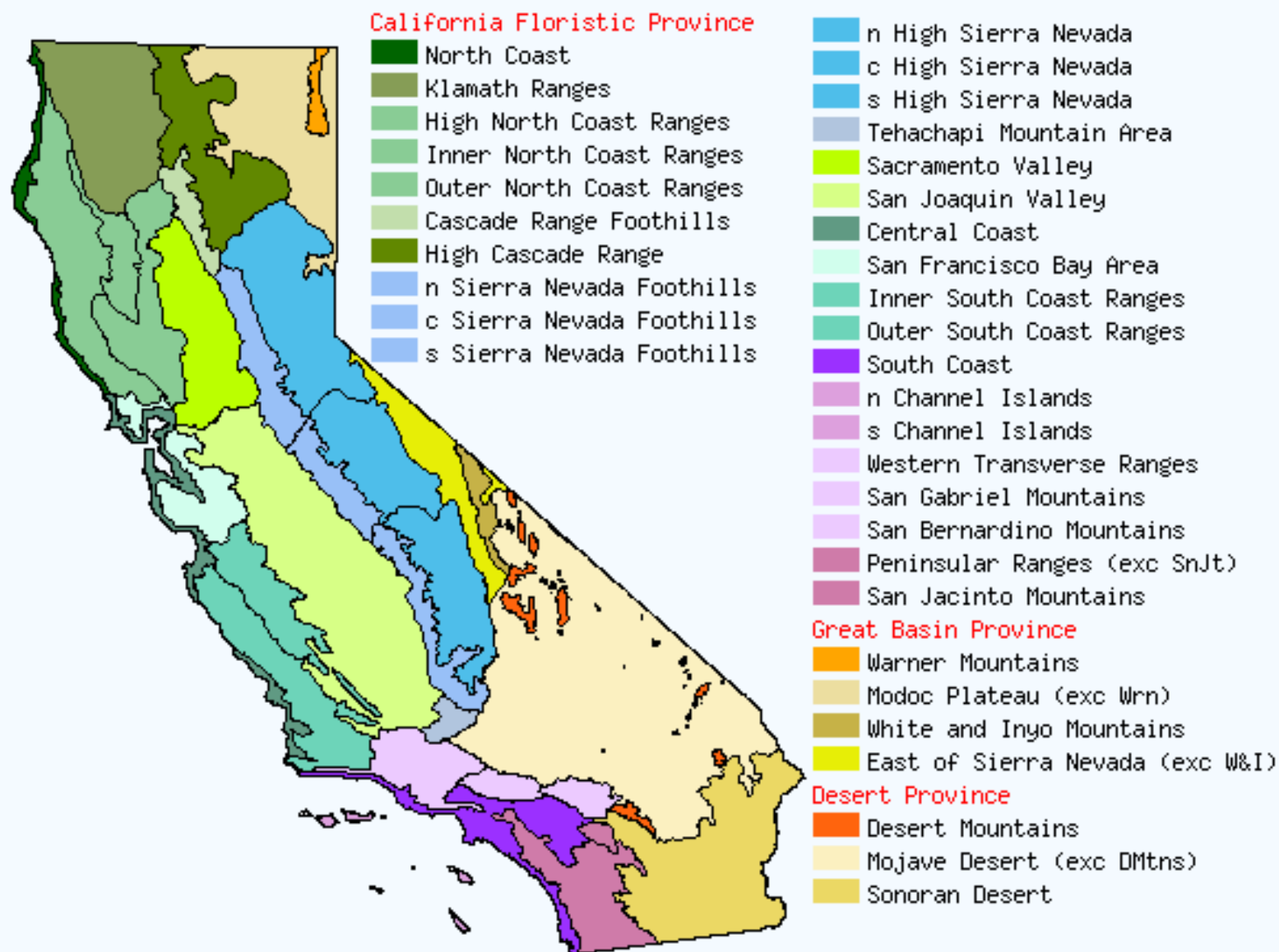


The 25 Biodiversity Hotspots





## GEOGRAPHIC SUBDIVISIONS OF CALIFORNIA



# Sources of Information

- Previous & Current workers & Published revisions
  - Previous Workers: Blaisdell, Doyen, Casey & others
  - Current Workers: Triplehorn, Somerby, Brown, Smith & others
  - Revisions: Coniontini, Eleodini, Edrotini, Cryptoglossini, Asidini & others
  - CAS species database
  - RLAC information
- Snapshot in time
  - Balance between synonymies from previous descriptions and New Species discoveries.
    - Casey descriptions (Coniontis, Various Genera of Edrotines)
    - 8 new undescribed species

# Present Inventory

- 33 tribes
- 114 Genera
- 461 Species (including known new species) with 197 Endemic

## Center for Diversity

### TRIBES:

- Coniontini
- Nyctoporini
- Eleodini

### GENERA:

- Eleodes
- Coelocnemis
- Nyctoporis
- Asbolus
- Coniontis
- Alaudes

# How does this compare ?

| REGION   | NUMBER OF SPECIES | NUMBER OF ENDEMICS | % ENDEMISM | AREA (Km <sup>2</sup> ) | SPECIES PER 1000 KM <sup>2</sup> |
|--|-------------------|--------------------|------------|-------------------------|----------------------------------|
| California*  | 461**             | 197                | 43%        | 423970                  | 1.09                             |
| USA***   | 1184              | ?                  | >60%       | 9827000                 | 0.12                             |
| Mexico***  | 1340              | 723                | 54%        | 1973000                 | 0.68                             |
| Baja California***   | 404               | 225                | 56%        | 73909                   | 5.47                             |
| <p>* Bordered by 3 states and Baja California</p> <p>** 40% of all U.S. species.</p> <p>*** numbers probably 3-5 years old</p> |                   |                    |            |                         |                                  |



# Most abundant Tribes and Genera in terms of Species Number

## Tribes

| <b>Tribe</b> | <b>Number of Species</b> |
|--------------|--------------------------|
| Eleodini     | 71                       |
| Edrotini     | 69                       |
| Asidini      | 54                       |
| Coniontini   | 51                       |
| Alleculini   | 30                       |
| Opatrini     | 25                       |
| Helopini     | 20                       |
| Triboliini   | 16                       |
| Stenosini    | 14                       |
| Eulabini     | 13                       |
| Cnodalonini  | 11                       |

## Genera

| <b>Genus</b> | <b>Number of Species</b> |
|--------------|--------------------------|
| Eleodes      | 64                       |
| Coniontis    | 37                       |
| Metoponium   | 21                       |
| Stenomorpha  | 21                       |
| Helops       | 20                       |
| Hymenorus    | 19                       |
| Stethasida   | 17                       |
| Araeoschizus | 12                       |
| Melanastus   | 12                       |
| Blapstinus   | 11                       |
| Eusattus     | 10                       |

# Distributional Patterns

- Widespread –vs- very restricted species
  - Very restricted but not hard to collect species (Caves, single canyons)
  - Very restricted but very difficult to collect species (Eleodimorpha)
- Time based distribution (other than seasonal)
  - Previously common now very hard to find species. (Eleodes quadricollis, some stenomorpha)

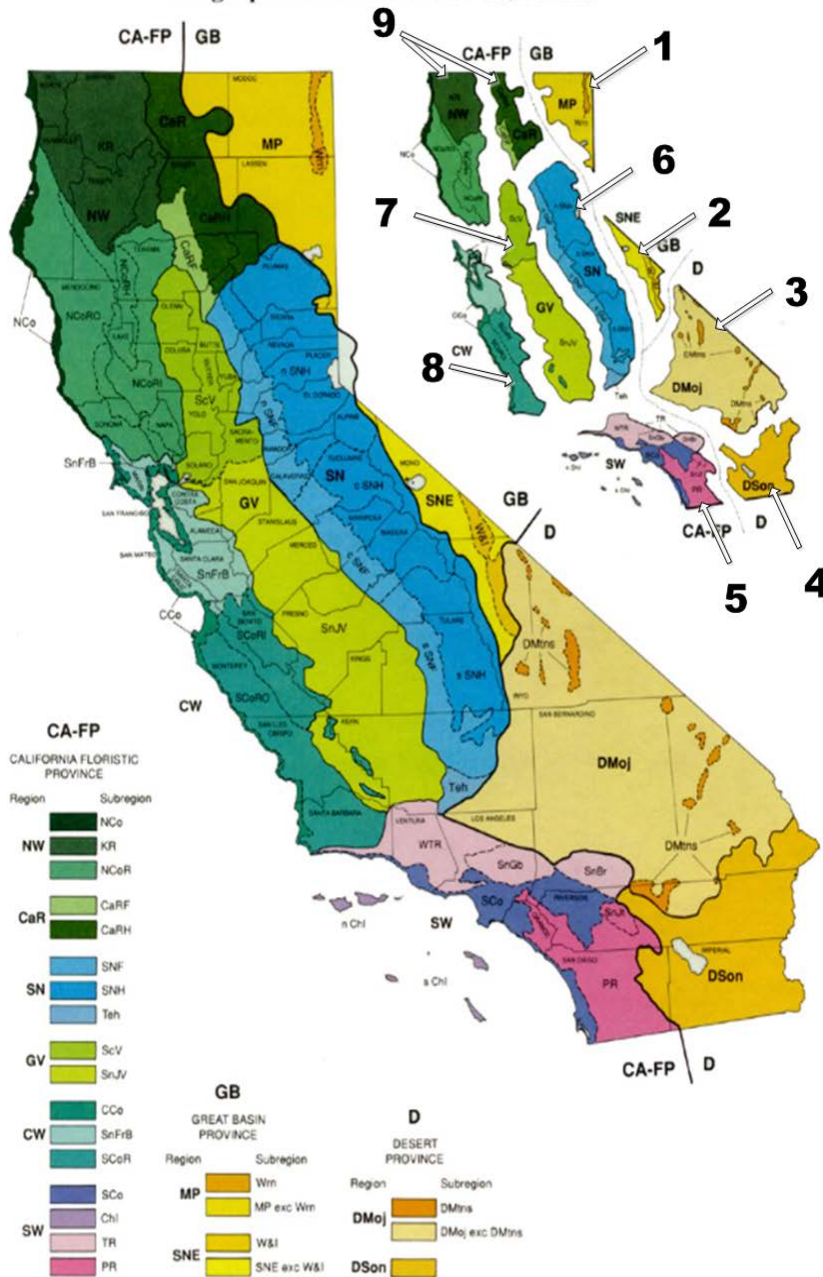


## Unusual Representations

- Laenini (two species)
- Strongylium (no representatives)



## Geographic Subdivisions of California

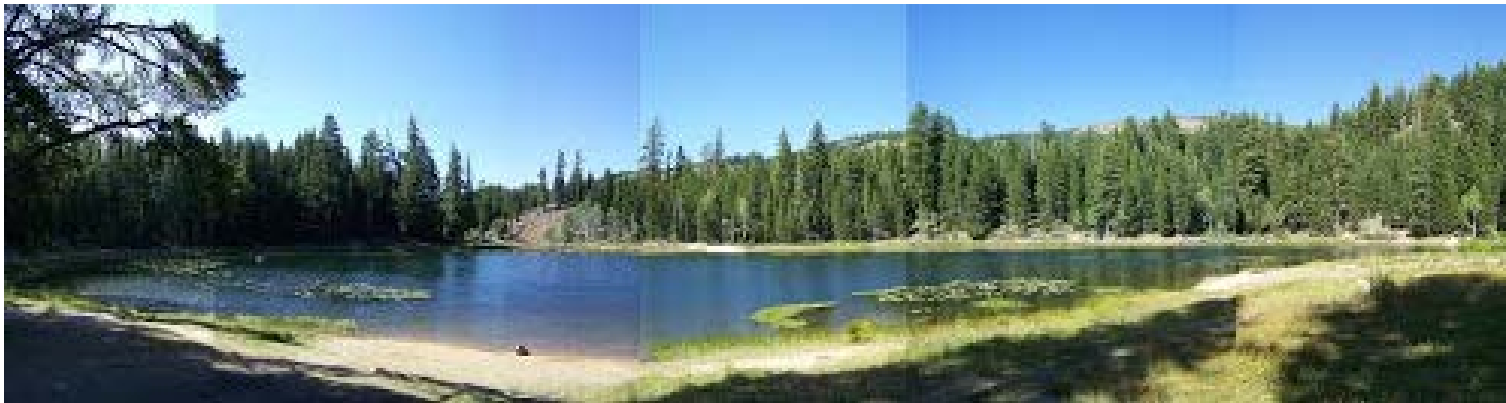


1. Northern Great Basin Province: including the Warner Mts. & Modoc Plateau
2. Southern Great Basin Province including the White & Inyo Mts. Intermountain Valley
3. The Mojave Desert and desert mountains.
4. The Colorado (Sonoran) Desert
5. The South Coast including the Transverse & Peninsular Ranges and Channel Islands
6. The Sierra Nevada Mountains
7. The Central Valley
8. The Central Coast including the San Francisco Bay area and Coast Ranges
9. The Northern Coast including the Cascade & Klamath Ranges as well as the Northern Coast Ranges.

# 1. Northern Great Basin Province including the Warner Mts. & Modoc Plateau

**GB**

- 27 species/ 1 endemic



## 2. Southern Great Basin Province including the White & Inyo Mts. Intermountain Valley

- 56 species/ 5 endemic



### 3. The Mojave Desert and desert mountains.

D

- 106 species/ 6 endemic



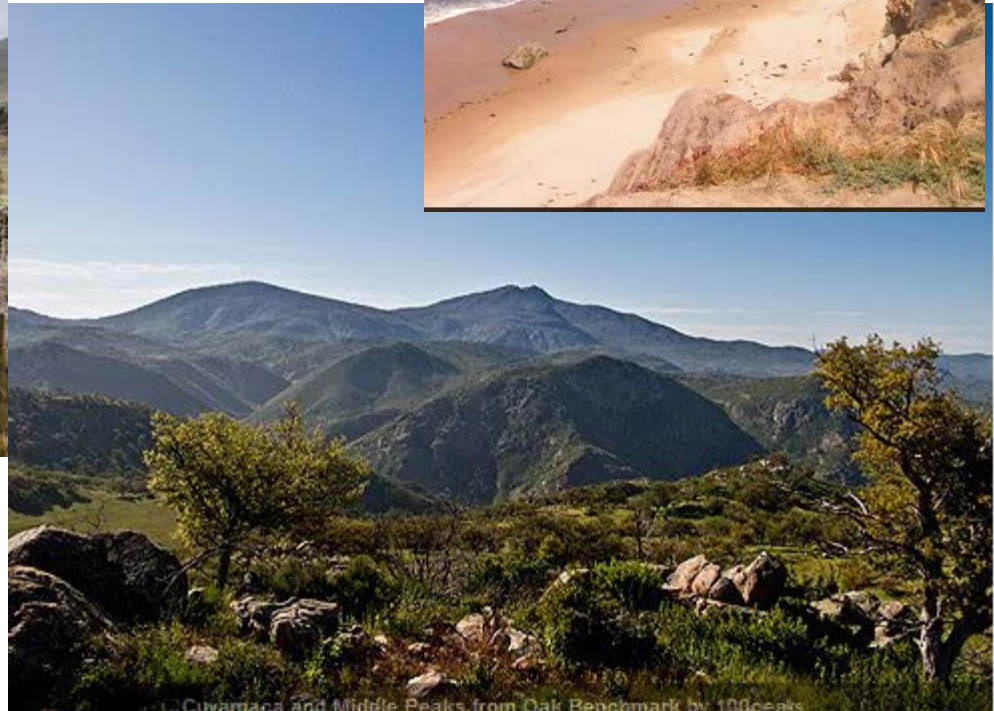
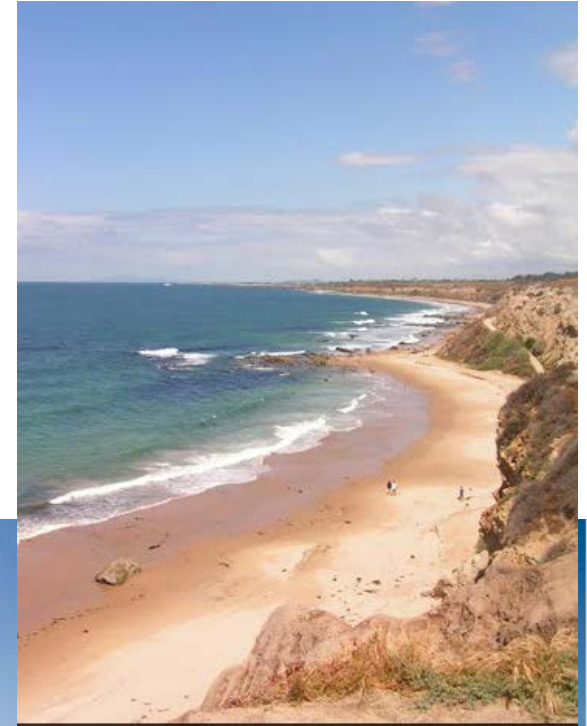
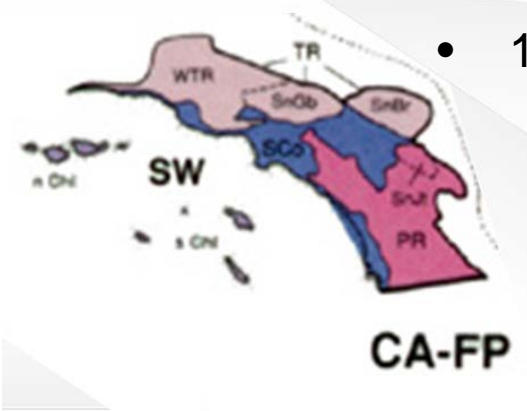
## 4. The Colorado (Sonoran) Desert

- 110 species/ 12 endemic



## 5. The South Coast including the Transverse & Peninsular Ranges and Channel Islands

- 173 species/ 39 endemic





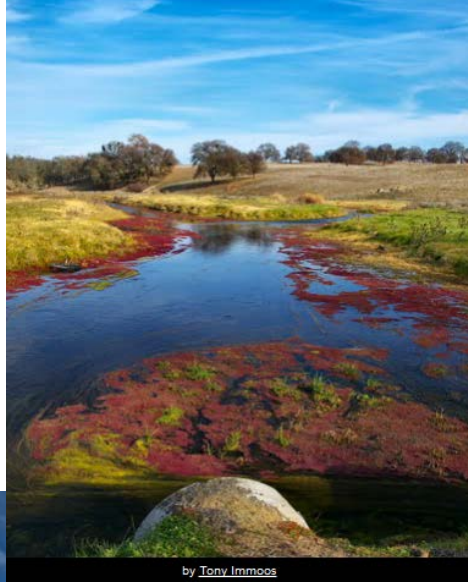
## 6. The Sierra Nevada Mountains

- 107 species/ 15 endemic



# 7. The Central Valley

- 88 species/ 6 endemic

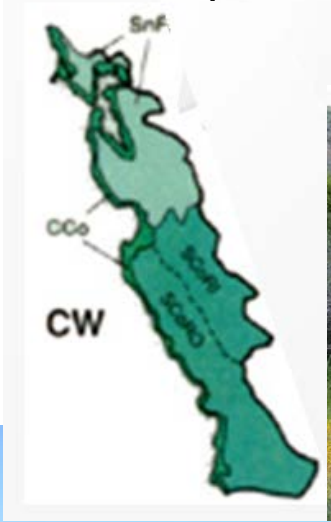


by Tony Immoos



## 8. The Central Coast including the San Francisco Bay area and Coast Ranges

- 110 species/ 17 endemic



# 9. The Northern Coast including the Cascade & Klamath Ranges as well as the Northern Coast Ranges.

77 species/ 4 endemic

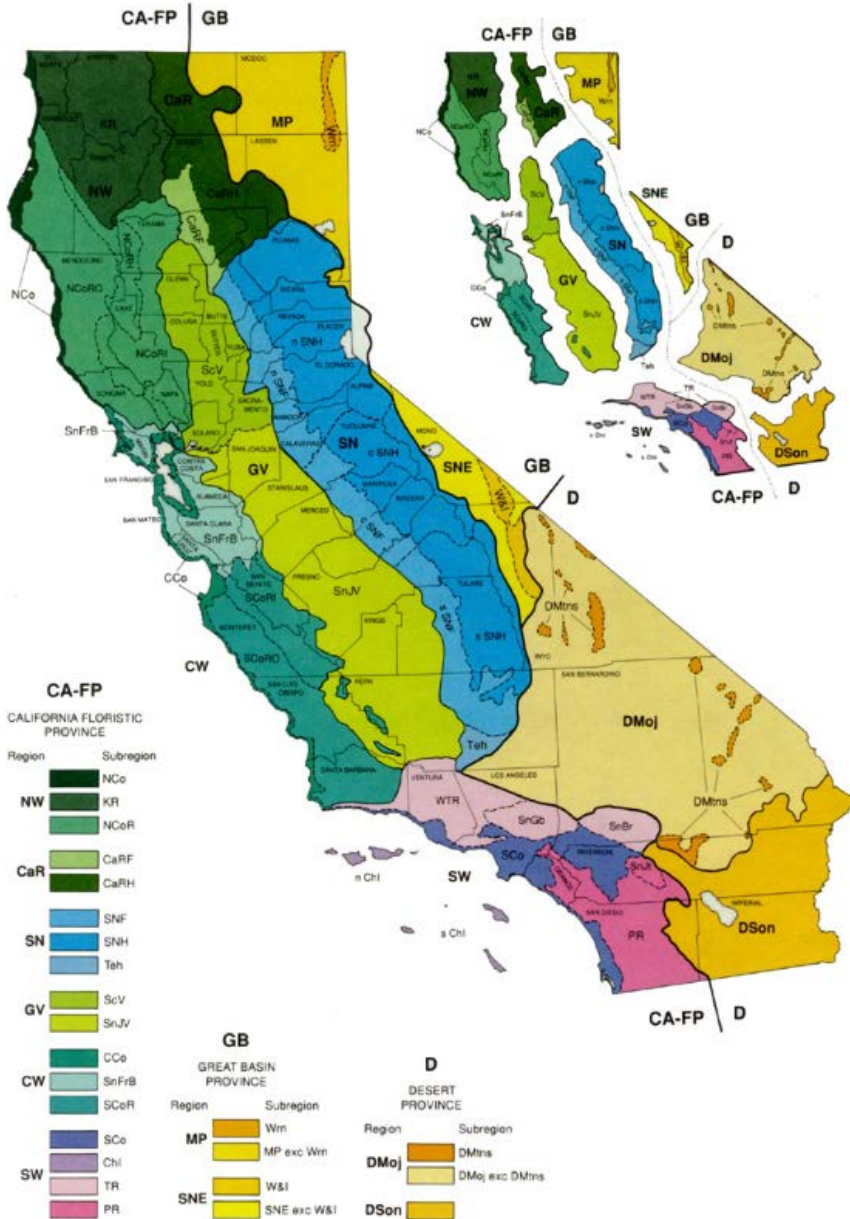


# Currently

| Region                   | Endemic species | All species | % Endemic | % of all California Endemics |
|--------------------------|-----------------|-------------|-----------|------------------------------|
| 5. South Coast & Islands | 39              | 173         | 22.54%    | 19.80%                       |
| 8. Central Coast & Bay   | 17              | 110         | 15.45%    | 8.63%                        |
| 6. Sierra Nevada         | 15              | 107         | 14.02%    | 7.61%                        |
| 4. Sonoran Desert        | 12              | 110         | 10.91%    | 6.09%                        |
| 7. Central Valley        | 6               | 88          | 6.82%     | 3.05%                        |
| 3. Mojave Desert         | 6               | 106         | 5.66%     | 3.05%                        |
| 2. South Great Basin     | 5               | 56          | 8.93%     | 2.54%                        |
| 9. North Coast           | 4               | 77          | 5.19%     | 2.03%                        |
| 1: North Great Basin     | 1               | 27          | 3.70%     | 0.51%                        |

\* 54 non-endemic species also occur in Baja California, 41 in Oregon

# Geographic Subdivisions of California



• 1

