Notes based on Joe Morlan's Ornithology class lecture November 3rd, 2010.
Joe Morlan is not responsible for these notes, any errors or omissions in them are mine.

Bell's Vireo

OCCURRENCE
Four different subspecies, including one called the Least Bell's Vireo, *pusillus* (Latin for small). That bird used to nest throughout the lowlands of CA in willow and alder thickets along stream courses. It is the smallest and grayest subspecies.
Best found by their song. Like a lot of vireos they sing constantly and pretty much throughout the day.
There are grayish ones with a little more yellow that are found in Arizona and New Mexico, the subspecies *arizonae*.
The nominate *belli* is found in Illinois, in the midwest. It is the yellowest although perhaps not quite as bright as shown in Nat Geo.
There is another one that is very poorly known that is found in west Texas, called *medius*. It is intermediate between *belli* and *arizonae*.
So there is a cline of variation: smallest and palest and grayest in CA, working through the Southwest and then up into the Midwest where they are slightly larger and more colorful.
Joe likes Sibley's pictures a little better. But Bell's Vireos tend never to look like in the book exactly. They are very subtle. Almost all Joe's ones were identified by song.

The situation in CA is dire. The subspecies was on the verge of extinction in CA. In the late 60s and early 70s people only knew about one territorial male Bell's Vireo in all of CA, they thought that that was probably the last one.
And yet when you go back and read Hoffman's Birds of the Pacific States, he describes quite vividly wandering into a willow thicket along the Sacramento River and hearing Bell's Vireos singing up and down the river. It was definitely a part of that habitat and that ecosystem back in the 1920s and 30s. What happened between the 30s and the 60s was the invasion of the Brown-headed Cowbird.
Grinnell and Miller say that the species exploded in southern CA around 1915 and then started to expand elsewhere in CA. There are old specimens from the SF Bay Area and the Los Angeles Basin well before that. Its status then was unclear, probably not very common. It exploded in LA and in SF probably because of the horses that were being used. But the cowbird is a relatively new "pest".
They came through a desert path. Irrigation allowed agriculture in desert areas in Arizona and in southern CA and that brought cowbirds with it because it also brought large animals. The Brown-headed Cowbird is a native bird to the Americas. It spread into CA in big numbers only because of habitat changes that we brought about mostly to create a bread basket.
The cowbird is an obligate brood parasite. During the springtime it goes into willow and alder thickets and looks for nests that it can lay its eggs in. If a bird like a vireo is parasitized by a cowbird, the vireo's chances of raising young of its own are reduced to probably under 10%. The cowbird is just too voracious, too fast growing, it will outcompete the little vireos.
Vireos are particularly vulnerable to cowbirds. We have lost a lot of Warbling Vireos also, particularly Warbling Vireos that nest in riparian habitats. Other species like the Yellow-breasted Chat have also been victimized. In the Central Valley the Swainson's Thrush, the Blue Grosbeak, the Yellow Warbler, the Willow Flycatcher. The Yellow Warblers that we see abundantly in migration are not birds that have bred in CA. It has to do with the habitat that they choose for

nesting. The cowbird does not inhabit the plains or the farm yards during the nesting season. They go into riparian habitat, which has the highest density of nesting land birds in it. Another thing that happened was the canalization of a lot of the rivers for flood control. That meant that a lot of riparian habitat was removed from the Central Valley, also for agriculture.
There are cowbirds in the highlands also. They have moved up and they parasitize birds like Dusky Flycatchers in the Sierra.
The reason the cowbirds can drive these host species to extinction or close to extinction without their own numbers collapsing is that they also parasitize on Red-winged Blackbirds, which will survive cowbird parasitism.
A recovery program was funded to recover the Least Bell's Vireo. That recovery program consisted primarily of cowbird trapping in southern CA. The Bell's Vireos are recovering. The Willow Flycatcher is also coming back. It is having a harder time then the Bell's Vireo which came back quite quickly with cowbird management. We even have Bell's Vireos occasionally in northern CA now. There was one in Menlo Park last spring. Occasionally singing males are reported in places like Pinnacles. More often on private property. In the Salinas River Valley there have been suppressed reports of Bell's Vireos.

The Bell's Vireo is very rare as a vagrant, but it is showing up. One wintered at Olema quite a few years back. That looked like maybe an Arizona type bird. Another Arizona type bird wintered in Santa Barbara one time. Here in SF a fairly yellow colored bird which was probably *belli* or maybe *medius* was found wintering in GG Park. A singing male was in Bayfront Park in Menlo Park this spring. It was the first singing male for a long time.

FIELD MARKS
Rather nondescript.
Nat Geo shows too much in the way of spectacles.
They tend to look like this:
Eye ring broken in front and in back.
Narrow white crescent above the eye, frequently a separated little patch in the lores, and little or nothing underneath the eye. It looks more like an eye brow than like spectacles.
These birds look a lot like a Warbling Vireo, which is a grayish vireo with a white supercilium and no wing bars.
Usually just one faint wing bar.
Bell's Vireo has faint wing bars, usually showing the rear wing bar more strongly than the front wing bar.
Kind of intermediate between the two groups of vireos.

The Bell's Vireos that we have here tend to droop their wings and often cock their tails in the air. The eastern Bell's Vireos tend to pump their tails like a Palm Warbler, the western ones tend to have a more side to side action with their tail, more like a gnatcatcher.

VOCALIZATIONS
The typical song is very rapid fire:
Cheedle, cheedle, cheedle, chee? Cheedle, cheedle, cheedle, choo. Cheedle, cheedle, cheedle, chee? Cheedle, cheedle, cheedle, choo.
So there is a question and answer but it is a much more complex song.
The song is pretty much the same throughout the species' range.

Hutton's Vireo

OCCURRENCE
Two populations:
One in the southwest. Larger and grayer.
Another on the Pacific coast. Smaller and greener.
The one vireo on this page that you can find in the Bay Area twelve months a year. They do not migrate, although they will disperse over inhospitable habitat. Have been at Pt Reyes.

In general Ruby-crowned Kinglets outnumber Hutton's Vireos by a good 20:1.
(However, this year Ruby-crowned Kinglets appear to be fairly scarce.)

Very much attached to oaks, they like to eat the inch worms that live on them. Fairly common in the Oakland hills, particularly in coast live oaks. A CBC many years ago reported hundreds of Ruby-crowned Kinglets there but no Hutton's Vireos, which they were clearly overlooking.

Restricted to Coast Live Oak habitats, particularly mixed woodland and savannah habitats. Very similar to the habitat preferred by the Oak Titmouse and the White-breasted Nuthatch.
There are not a lot of oaks in SF. The best stands of oaks are in the east side of GG Park, that is a place to look for them. Hutton's Vireo numbers are generally low in GG Park. Much easier to find in the East Bay where there is a lot of suitable habitat for them. Up in Marin County or down on the peninsula you can get them, too.

Use a combination of field marks to identify them!

FIELD MARKS
Has a break on the top of the eye ring, different from any other vireo.
The bottom of the eye ring is either broken or very thin.
Head relatively large to the extent that you can see where the neck is.
Underparts plain, very pale yellow or whitish.
Typically stronger wing bars than Bell's Vireo.
Both wing bars usually shown. That is based on whether the loose fluffy scapular feathers hide the front wing bar or not. The front wing bar is formed by the tips of the median coverts.
Yellow fringes on the primaries and secondaries that reach or almost reach the rear wing bar. The darkest part of the wing is usually between the two wing bars

VOCALIZATIONS
A call note given throughout the year that sounds like a descending whinney.
Song in the spring and summer: zeep - (pause) - zeep - (pause) - zeep - (pause) - zeep.
All day long. Some of the young ones will not quite get it right and zhoop, zhoop, they can be confused with Western Wood-Pewees.

Compare to the very, very similar **Ruby-crowned Kinglet:**
Head relatively smaller, no obvious narrowing at the neck.
The vireo has a big, rounded crown, a head that is more like a sphere.
Face pattern identical with an eye ring that is generally broken on top and narrow on the bottom and often including the pale area in the lores.

Wing pattern a little bit different:
The front wing bar is usually hidden below overlying loose scapular feathers, usually only the rear wing bar is visible.
The bases of the flight feathers are black. A black area contrasts between the rear wing bar and the pale edged portion of the flight feathers. The feather edges stop short of the rear wing bar. This black area behind the rear wing bar is the darkest part of the wing.
Bill black and needle-like, thinner and more pointed than on the vireo.
No scaling on the legs (legs not plated), instead a "booted tarsus", it is smooth.
(Tasus or tarsometatarsus: the "lower leg", the fused bones homologous to mammalian ankle and foot bones.)
Pale on the underside of the toes, the toe pads. On some of them the toes are completely pink or yellow. On some of them some pink is running up the back of the tarsus.

The vireo is said to have a sluggish behavior, slow, deliberate motions, and the kinglet is said to be very active and flitty. By this you overlook a lot of Hutton's Vireos.
Sluggish behavior is a stereotype of vireos in general. But it applies mostly to field guides that are written from an eastern perspective and it applies particularly to birds like the Red-eyed Vireo. Some of the larger vireos that lack wing bars are indeed very sluggish birds. The Yellow-throated Vireo which has wing bars and spectacles is also an extraordinary sluggish bird. It works fairly well in the east that vireos will be sluggish. It does not work all that well in the west. The Hutton's Vireo is probably one of the most active vireos that there is. It flits around a lot.
But there are behavioral differences that can be good clues. Kinglets are extremely energetic and active and almost neurotic in their behavior. They are constantly jumping up and down and around. Another thing that they will do is called hover-gleaning. They hover in one place and at the same time glean little insects and spiders from the bottoms of the leaves. Hover-gleaning is not a behavior Joe has ever seen in any vireo.

We have Ruby-crowned Kinglets here in the fall, winter and spring, they don't nest here. The kinglet is a bird that breeds in montane fir forests. In the wintertime it is really common in parks, gardens and other types of disturbed vegetated habitat. It tends to forage at eye level or sometimes lower. Much easier to see than the Golden-crowned Kinglet which is a canopy foraging bird. Hutton's Vireo is also a mid-story forager, from eye level to ten, fifteen feet, maybe a little higher.

VOCALIZATIONS
The Ruby-crowned Kinglet has a very loud chatter, tcheck-tcheck, tch-tch, tch-tch
Song very high-pitched and fast.
See here, see here, see here, look-at-me, look-at-me, look-at-me.
Or: Chubby-cheeks, chubby-cheeks, chubby-cheeks.
We do hear them on the wintering grounds in March and April before they leave.

Western Flycatcher (= Pacific-slope + Cordilleran flycatchers)
Another bird which has an eye ring, is yellow underneath.
Flycatchers have flat bills and a pale mandible.

Gray Vireo

OCCURRENCE

Arid slopes in southern CA mountains with a mixture of certain kinds of desert shrubs and rocky outcroppings, often with a low shrub or tree to sing from.

The population in CA has collapsed. It was formerly fairly common in the foothills around the San Jacinto and San Bernardino mountains. Grinnell and Miller mapped very many nesting territories. Now the birds are completely absent from about 90% of those areas. Seeing a Gray Vireo in CA now involves getting detailed information on where the last few known birds are being seen. Kitchen Creek Road in eastern San Diego County is one place.

The reason for the decline is unclear. There is no obvious habitat destruction.

They are probably stable in the core, which is Nevada and Utah. CA has always been on the outskirts of the birds' range. It may just be a retrenchment away from an expansion that didn't succeed. In Nevada they still seem to occur in a fairly wide variety of remote habitats.

No accepted records for northern CA

Many claims are based on misidentified Plumbeous Vireos. It is gray, it has thicker spectacles and it has more prominent white wing bars. Its song is quite different. It is much more common in those habitats than the Gray Vireo is.

Short distance migrant, wintering in Baja and western Mexico. Winter range more or less restricted to the range of a peculiar tree, called the Elephant Tree. It provides tiny little seeds which appear to be the key food for the Gray Vireo in the winter.

A teeny population winters in a remote area of eastern San Diego County associated with the northernmost outpost for the Elephant Tree.

FIELD MARKS

Looks very much like a Bell's Vireo.

Barely one wing bar which is fairly faint.

If it has a front wing bar it is weaker than the rear wing bar.

Very gray colored, gray above and white below.

Complete circular eye ring makes it possible to confuse it with birds like *Empidonax* flycatchers.

The Solitary Vireo complex

The Solitary Vireo comprises three species that were split apart.

They are characterized by having extremely well defined white spectacles. That means that there is an eye ring and there is a lore stripe, it looks like a pair of glasses. It wraps around the top of the eye, behind the eye and around the bottom of the eye and then stops abruptly in front of the eye where there is a dark area.

The wing bars are usually quite obvious and conspicuous, however in the spring the white tips to these feathers may be worn down a bit, so these birds don't always show prominent wing bars. In fresh plumage in the fall they have fairly obvious wing bars.

They are all pretty much identical except for the amount and saturation of yellow and green in the plumage.

The nests of these vireos are one of the great architectural achievements of a NA bird. Small but very, very well done. Nice and spherical, hanging from a fork on a horizontal branch.

They all have a question and answer type song. "Ti-di? Ti-du!"

Blue-headed Vireo

OCCURRENCE
Eastern and northern parts of NA.
Ranges as far west as British Columbia.
Very rare in CA, a CBRC review species. There are very few confirmed either-or field marks. We are dealing with judgements. Joe thinks the CBRC is being well too lenient on Blue-headed Vireo records.

FIELD MARKS
Generally brighter in color than any of the other Solitary Vireo species.
Fairly bright lemon yellow along the sides and flanks, often across the vent.
Dark slate-blue color to the head.
Frequently shows a fair amount of contrast to its pristine white throat and chest in the malar region.
Also a fair amount of contrast between the slate-colored head and the greenish back.
A lot of them show yellow edges in the tertial fringes and the wing bars will frequently be suffused with yellow.

VOCALIZATIONS
Much more musical and higher pitched than Plumbeous Vireo.

Plumbeous Vireo

OCCURRENCE
Great Basin
Expanding, has been moving in to southern CA as a breeding bird. Is now well established in the Great Basin ranges in southern CA.
Right now there is a bird at Crown Memorial State Beach in Alameda that was thought to be possibly a Plumbeous. The photos show a bird that looks just like a Plumbeous but with green fringes on the secondaries and very little yellow on the underparts.
Plumbeous Vireo is an exceptional rarity for the Bay Area

FIELD MARKS
Has little or no yellow on it at all.
The secondaries are fringed with white, the wing bars are white, the underparts are white.
There may be a slight tinge of yellow on a few younger individuals, but usually that is not visible in the field.
There is supposed to be more white on the tail than on Cassin's Vireo, but there is a lot of variation in that.

VOCALIZATIONS
Lower pitched and throatier than Blue-headed Vireo.

Cassin's Vireo

OCCURRENCE
West Coast.
Breeds in mixed forests, particularly mixtures of pine and oak in the foothills of the Sierra Nevada. Also occurs locally as a breeding bird in the coastal ranges. For example Joe found it nesting at Lake Lagunitas in Marin County. Has nested in Santa Clara County in appropriate habitat. Gets to be a little more common at low elevations in the Sierra Nevada. It shares that habitat with the Black-throated Gray Warbler. Also nests in higher elevations in Sonoma County. An uncommon to fairly common migrant through the Bay Area. Mostly in the spring, a little bit in the fall. They are easier to find in the spring because they sing during migration.

FIELD MARKS
Head a paler color than Blue-headed Vireo, grayer, not really that dark slaty color.
There is more blending of the gray in the malar region.
The color of yellow on the underparts is generally a pale yellowish wash rather than a deep lemon yellow as on Blue-headed Vireo.
Some greenish on the back.
Often some greenish on the edges of the flight feathers.
Clean snowy white throat and chest combined with the extremely well defined spectacles, the wing bars and the yellow wash on the underparts make the identification of a Cassin's Vireo relatively straight forward.
If you have sunlight transmitted through green leaves the bird may appear to be much greener or yellower than it would if it was in plain light. Light conditions have a lot to do with our perception of what these birds look like.
In the spring they can look extremely dull and be easily misidentified as Plumbeous Vireos. Look for things like the fringes of the secondaries, they have to be white on a Plumbeous Vireo. Any yellow on the underparts is pretty much a dealbreaker for a pure Plumbeous Vireo.
The color of the head converges on Blue-headed on some birds. Especially in the fall some of the young birds can look extraordinarily bright. Those birds are occasionally misidentified as Blue-headed Vireos.

VOCALIZATIONS
Same song as Plumbeous Vireo.