



Temporal Ecology Lab, Harvard University

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OVERVIEW

- The Tree Spotter Story
- Our Volunteers
 - The Numbers
- Graphs and Figures
- Photos
- Tree Spotter Song
- THANK YOU!

OUR STORY

- The Tree Spotters Citizen Science Program started just over a year ago through Lizzie Wolkovich's Temporal Ecology Lab.
- The first meeting for the project was held March 25, 2015.
- The aim of the project is to work with local citizen scientists and collect phenological observations for 55 individual trees throughout the arboretum.
- Volunteers record observations for 11 different phenophases in Nature's Notebook, an online portal system through the USA National Phenology Network (NPN).





PHENOPHASES OBSERVED

Leaves:

Breaking Leaf Buds

Leaves

Increasing Leaf Size

Colored Leaves

Falling Leaves

Flowers:

Flowers or Flower Buds

Open Flowers

Fruits:

Fruits

Ripe Fruits



OUR VOLUNTEERS

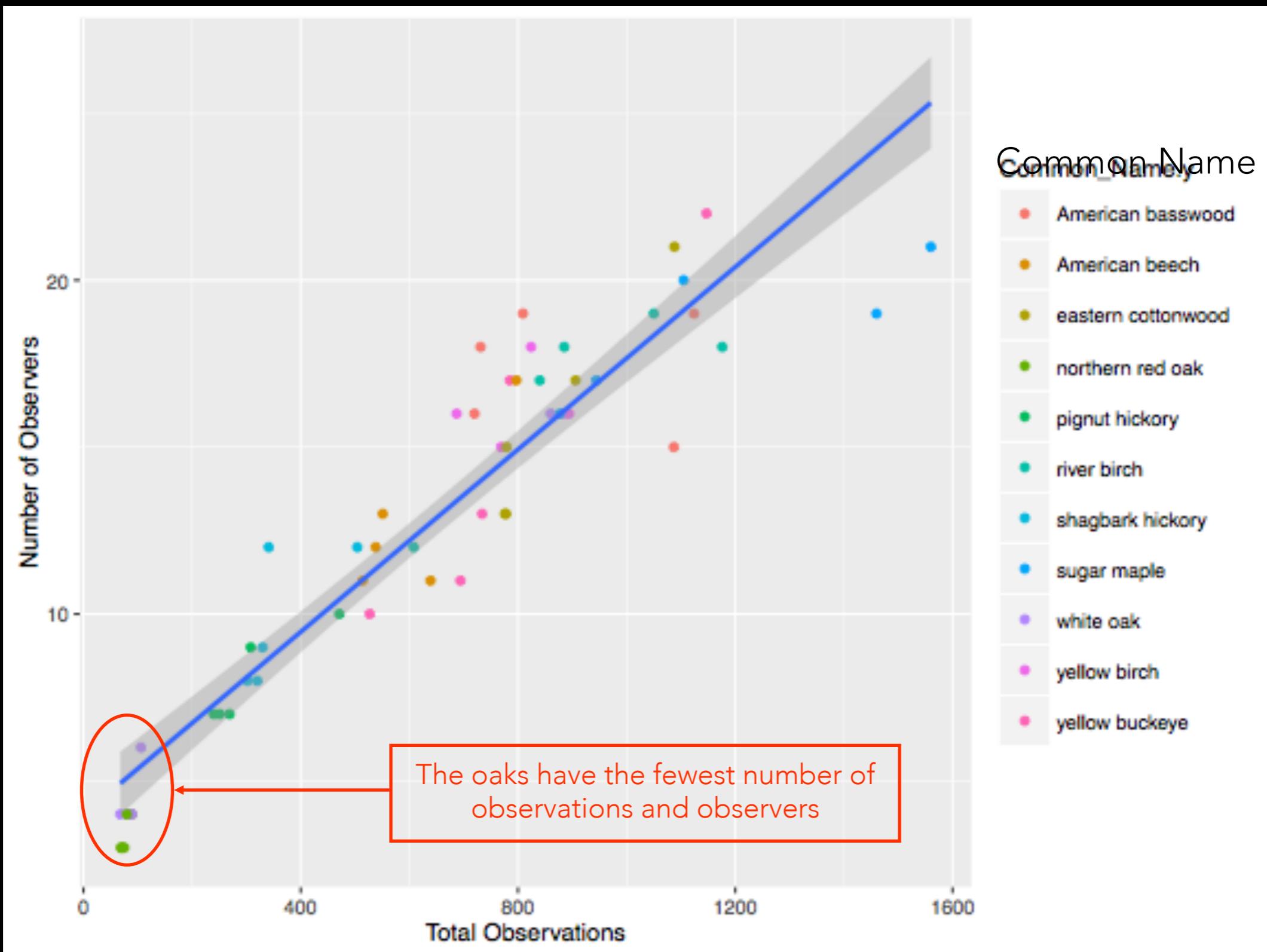


THE NUMBERS

- The first training session was held May 17, 2015.
- So far, there have been 179 individuals in the local community trained to Tree Spot.
- Of those 179 trained, 57 observers are still active today, which gives us a retention rate of **31.8%**!
- The NPN recommends striving for a retention rate of **20%**.
- 125 Tree Spotter volunteers have registered accounts on the Nature's Notebook website, giving us a success rate of **45.6%** of users who have completely signed up and been trained.
- We are SO pleased with our volunteers!! Thank you!



TOTAL OBSERVATIONS AND OBSERVERS PER TREE THIS YEAR



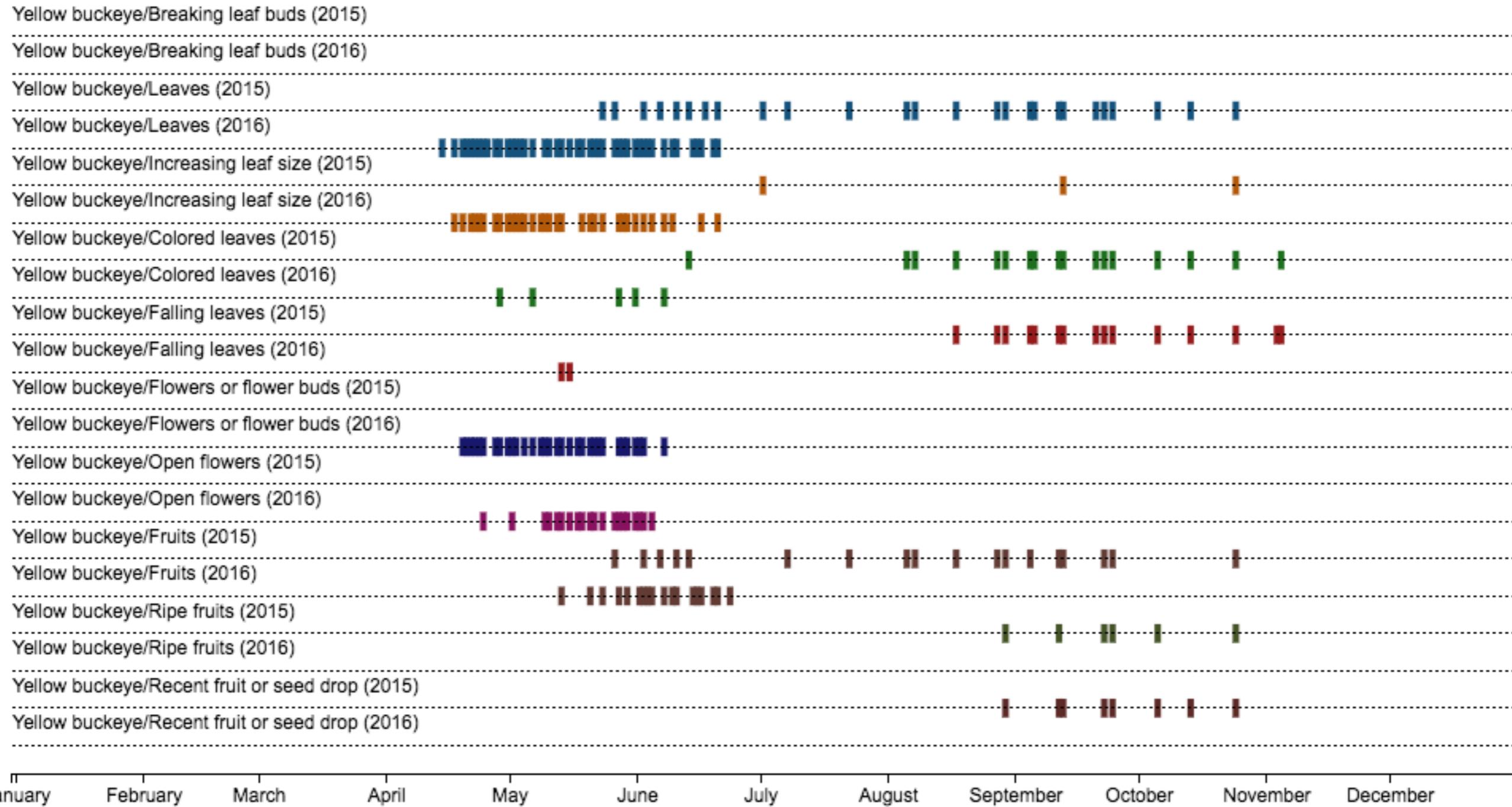
BREAKDOWN OF OBSERVATIONS IN 2016

ACQUISITION NUMBER	NUMBER OF OBSERVATIONS	NUMBER OF OBSERVERS	ROUTE AND TREE NUMBER
14585*B AMERICAN BEECH	538	12	BEECH - 1
14585*D AMERICAN BEECH	797	17	BEECH - 2
14585*C AMERICAN BEECH	551	13	BEECH - 3
14585*G AMERICAN BEECH	514	11	BEECH - 4
14585*J AMERICAN BEECH	639	11	BEECH - 5
1199*J RIVER BIRCH	608	12	BIRCH - 1
1251-79*B RIVER BIRCH	1176	18	BIRCH - 2
1251-79*A RIVER BIRCH	1050	19	BIRCH - 3
1251-79*E RIVER BIRCH	885	18	BIRCH - 4
1199*D RIVER BIRCH	840	17	BIRCH - 5
12843*A YELLOW BIRCH	824	18	BIRCH - 6
12843*D YELLOW BIRCH	687	16	BIRCH - 7
12843*H YELLOW BIRCH	769	15	BIRCH - 8
12843*E YELLOW BIRCH	894	16	BIRCH - 9
629-83*D YELLOW BIRCH	883	16	BIRCH - 10
12907*I SHAGBARK HICKORY	320	8	HICKORY -1
12907*G SHAGBARK HICKORY	504	12	HICKORY - 2
12907*B SHAGBARK HICKORY	302	8	HICKORY - 3
12907*D SHAGBARK HICKORY	330	9	HICKORY - 4
12907*N SHAGBARK HICKORY	341	12	HICKORY - 5
20095*A PIGNUT HICKORY	308	9	HICKORY - 6
6990*A PIGNUT HICKORY	269	7	HICKORY - 7
20098*A PIGNUT HICKORY	240	7	HICKORY - 8
2019*S PIGNUT HICKORY	251	7	HICKORY - 9
2019*R PIGNUT HICKORY	471	10	HICKORY- 10

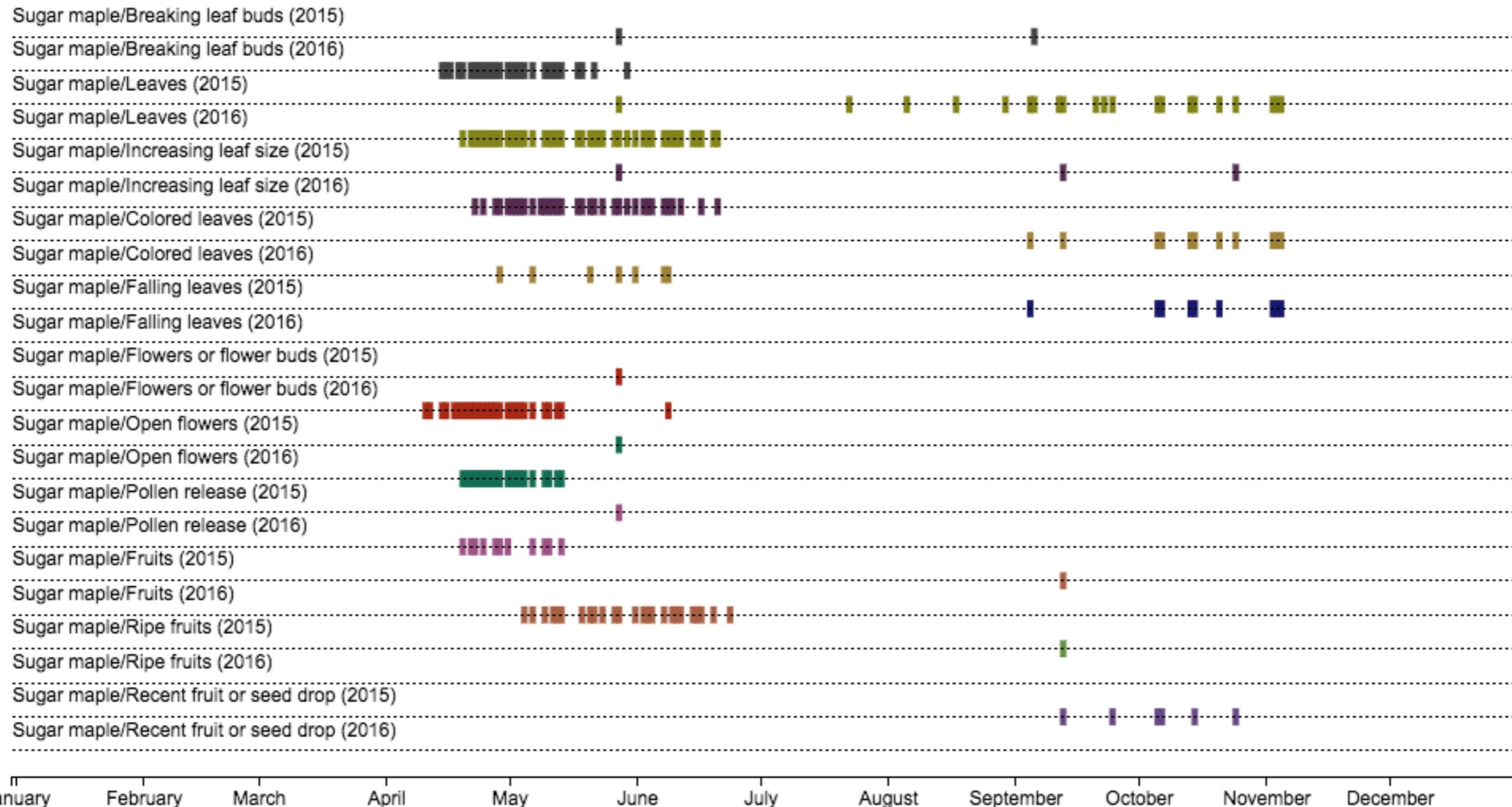
BREAKDOWN OF OBSERVATIONS (CONT.)

ACQUISITION NUMBER	NUMBER OF OBSERVATIONS	NUMBER OF OBSERVERS	ROUTE AND TREE NUMBER
17527*D AMERICAN BASSWOOD	809	19	LINDEN/NORTH WOODS - 1
19804*A AMERICAN BASSWOOD	731	18	LINDEN/NORTH WOODS - 2
7141*A AMERICAN BASSWOOD	720	16	LINDEN/NORTH WOODS - 3
925-79*B YELLOW BUCKEYE	1147	22	LINDEN/NORTH WOODS - 4
12651*H YELLOW BUCKEYE	734	13	LINDEN/NORTH WOODS - 5
12651*D YELLOW BUCKEYE	694	11	LINDEN/NORTH WOODS - 6
12651*C YELLOW BUCKEYE	527	10	LINDEN/NORTH WOODS - 7
187-2006*B SUGAR MAPLE	1460	19	MAPLE - 1
22834*B SUGAR MAPLE	1560	21	MAPLE - 2
20645*A SUGAR MAPLE	944	17	MAPLE - 3
12565*C SUGAR MAPLE	1105	20	MAPLE - 4
8197*A NORTHERN RED OAK	80	4	OAK - 1
5859*A NORTHERN RED OAK	71	3	OAK - 2
5859*B NORTHERN RED OAK	75	3	OAK - 3
16882*B NORTHERN RED OAK	69	3	OAK - 4
22886*D WHITE OAK	68	4	OAK - 5
227-2011*A WHITE OAK	89	4	OAK - 6
358-82*A WHITE OAK	80	4	OAK - 7
21815*E WHITE OAK	106	6	OAK - 8
11253*A NORTHERN RED OAK	89	4	OAK - 9
1323-82*A AMERICAN BASSWOOD	1124	19	PETER'S HILL - 1
16611*F EASTERN COTTONWOOD	776	13	PETER'S HILL - 2
16611*J EASTERN COTTONWOOD	779	15	PETER'S HILL - 3
16611*K EASTERN COTTONWOOD	778	13	PETER'S HILL - 4
16611*O EASTERN COTTONWOOD	906	17	PETER'S HILL - 5
22099*A EASTERN COTTONWOOD	1088	21	PETER'S HILL - 6
689-2010*A SUGAR MAPLE	877	16	PETER'S HILL - 7
611-2010*A WHITE OAK	860	16	PETER'S HILL - 8
12651*I YELLOW BUCKEYE	785	17	PETER'S HILL - 9
17538*A AMERICAN BASSWOOD	1087	15	PETER'S HILL - 10

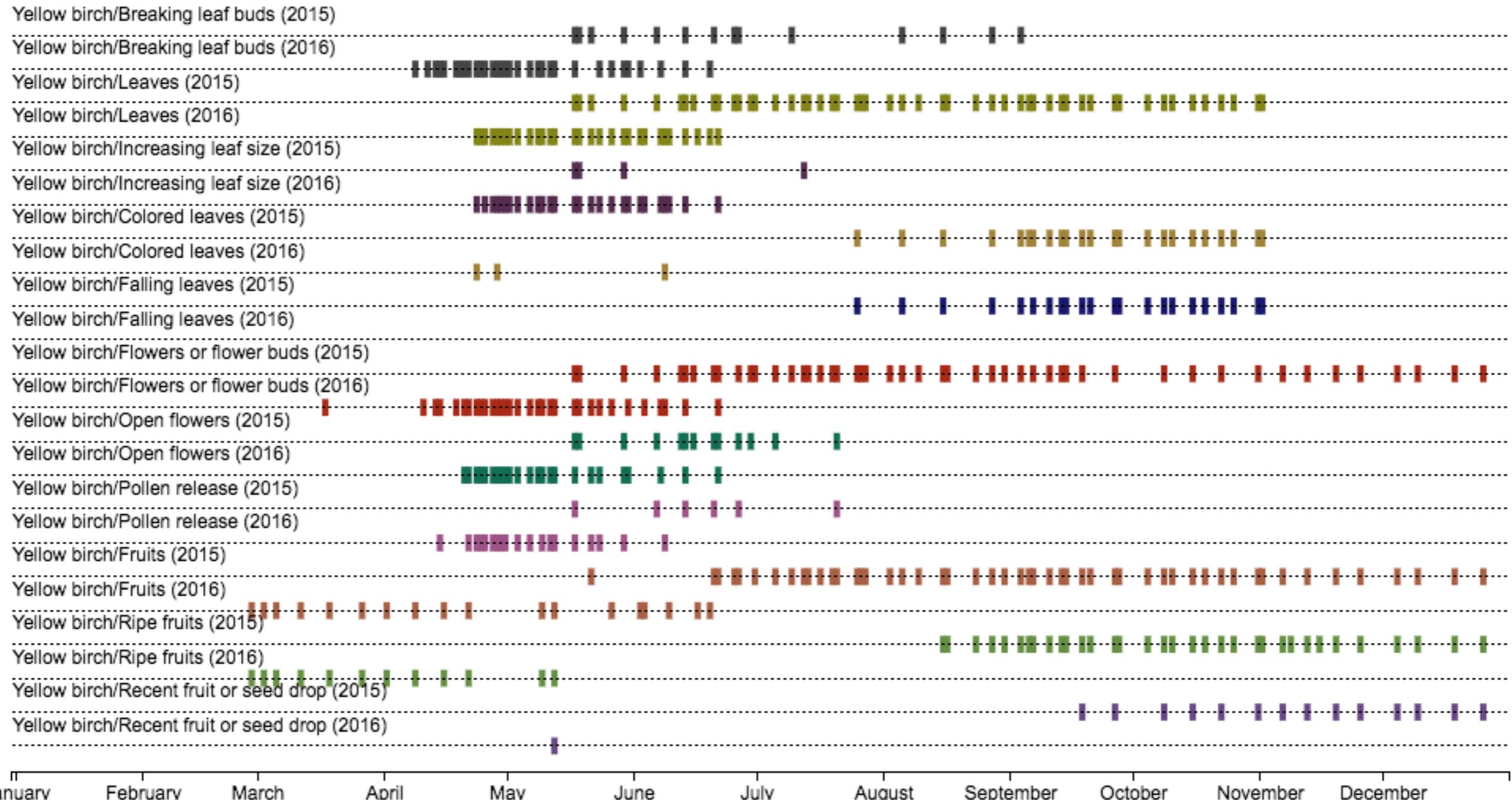
Comparing Observations 2015 to 2016: *Aesculus flava* (Yellow Buckeye)



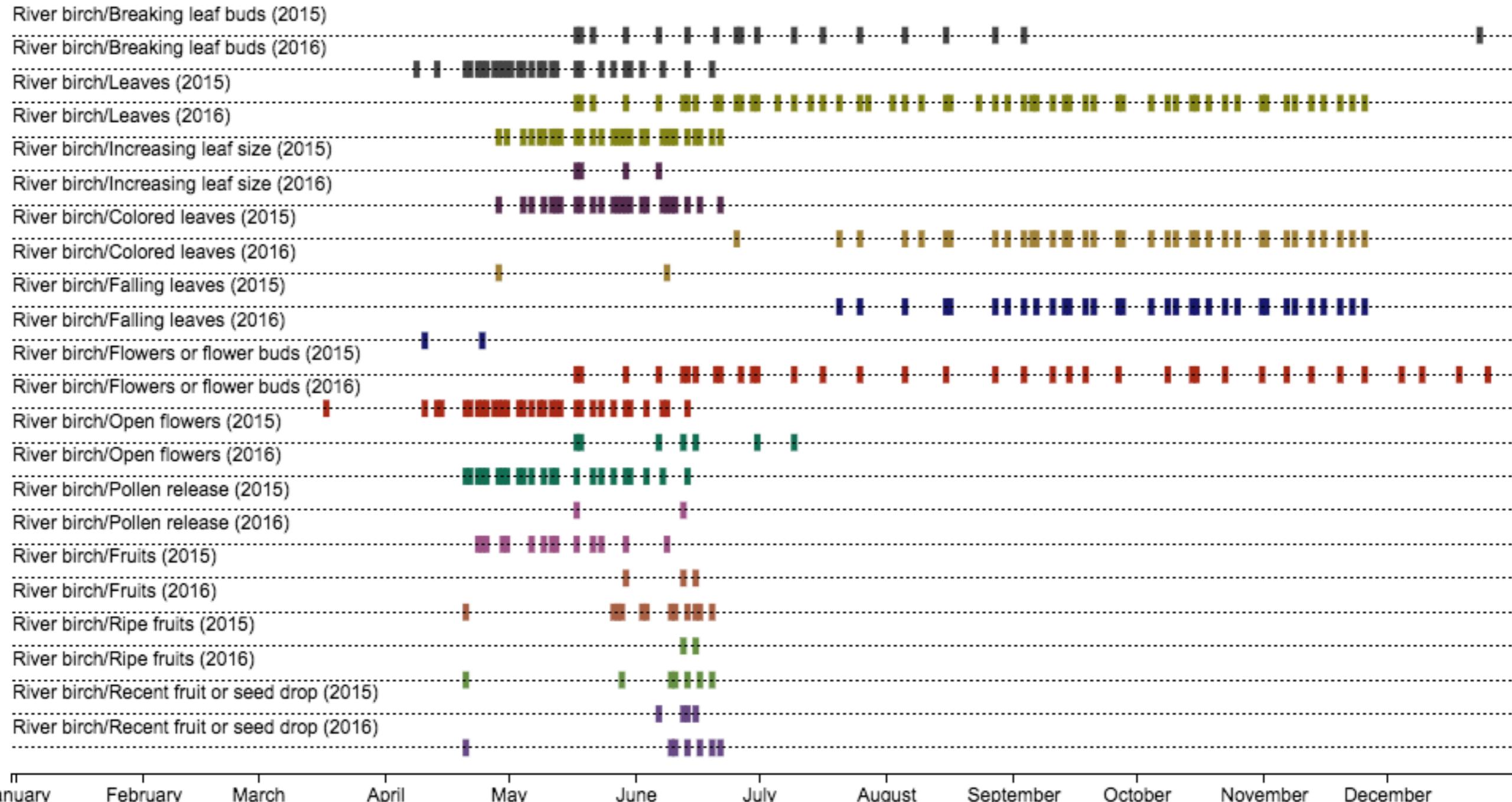
Comparing Observations 2015 to 2016: *Acer saccharum* (Sugar Maple)



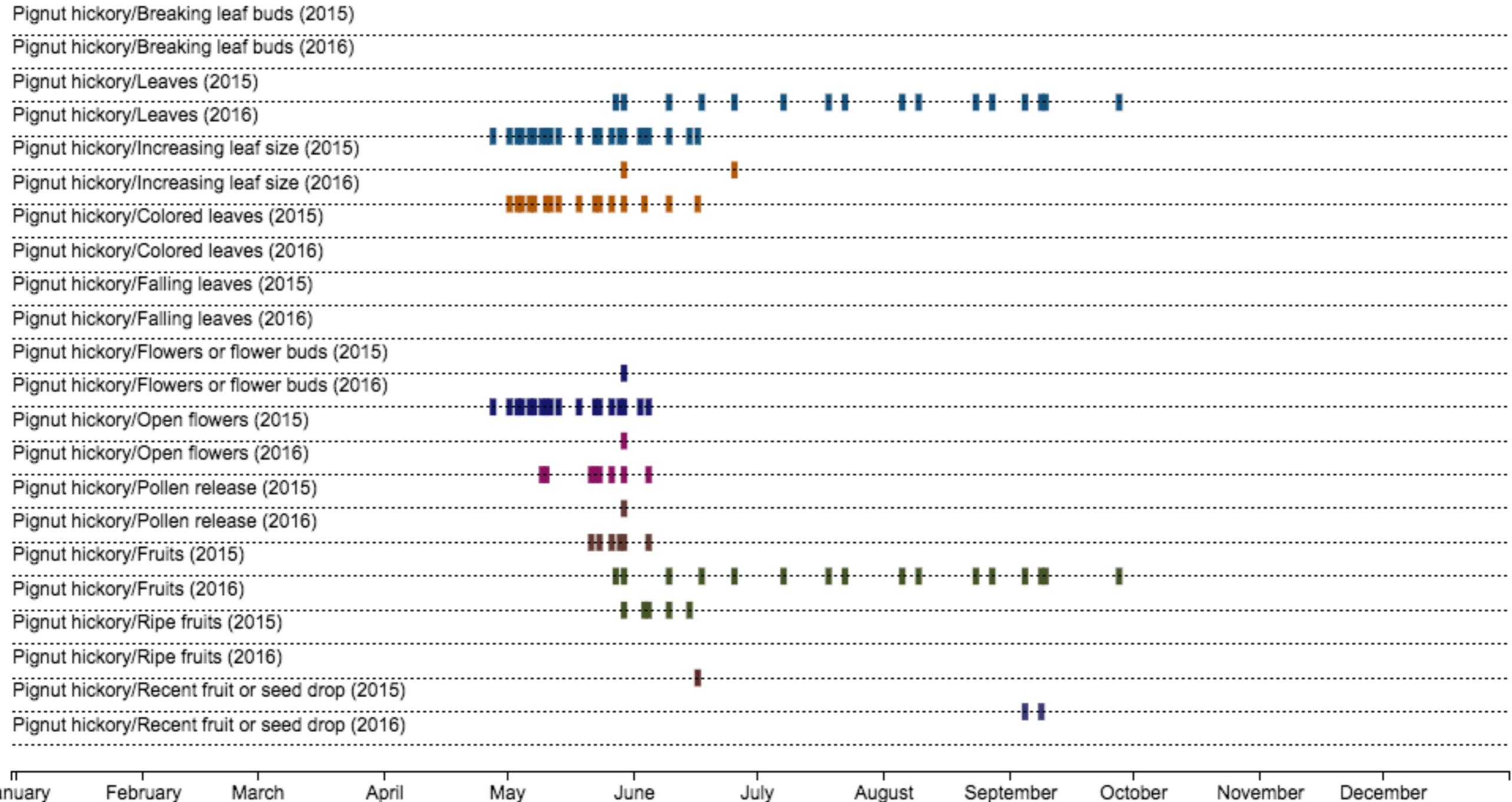
Comparing Observations 2015 to 2016: *Betula alleghaniensis* (Yellow Birch)



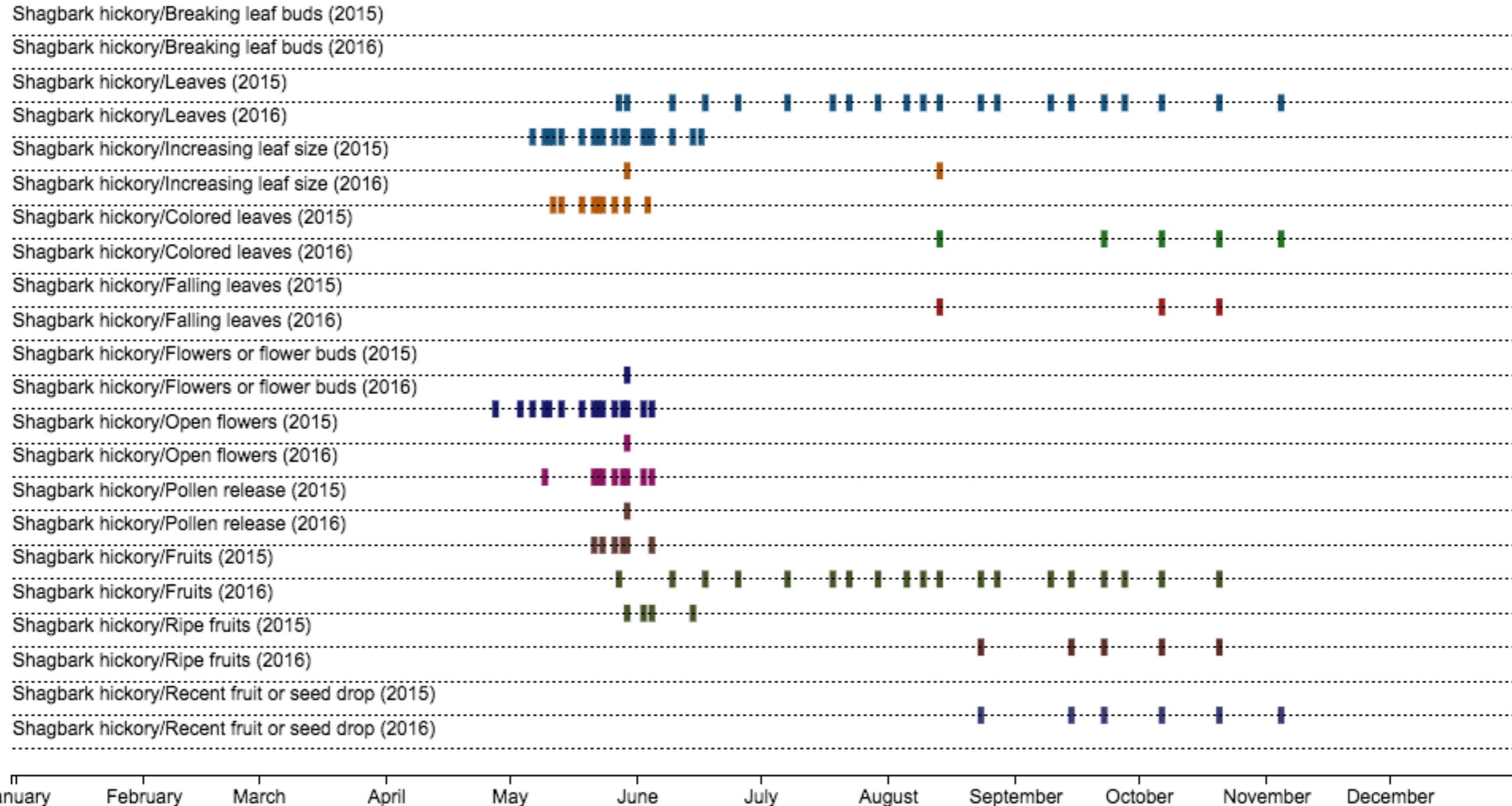
Comparing Observations 2015 to 2016: *Betula nigra* (River Birch)



Comparing Observations 2015 to 2016: *Carya glabra* (Pignut Hickory)

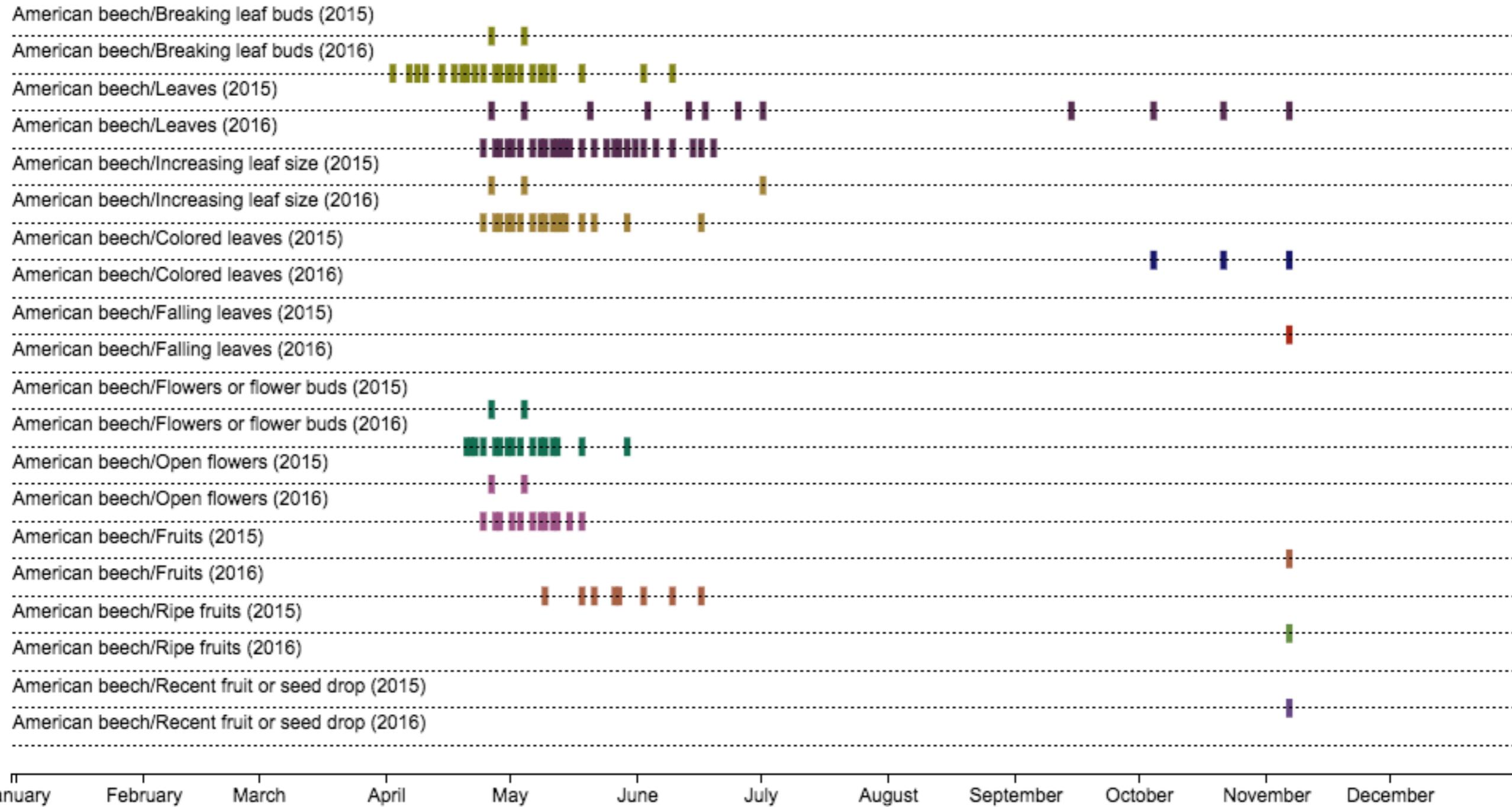


Comparing Observations 2015 to 2016: *Carya ovata* (Shagbark Hickory)

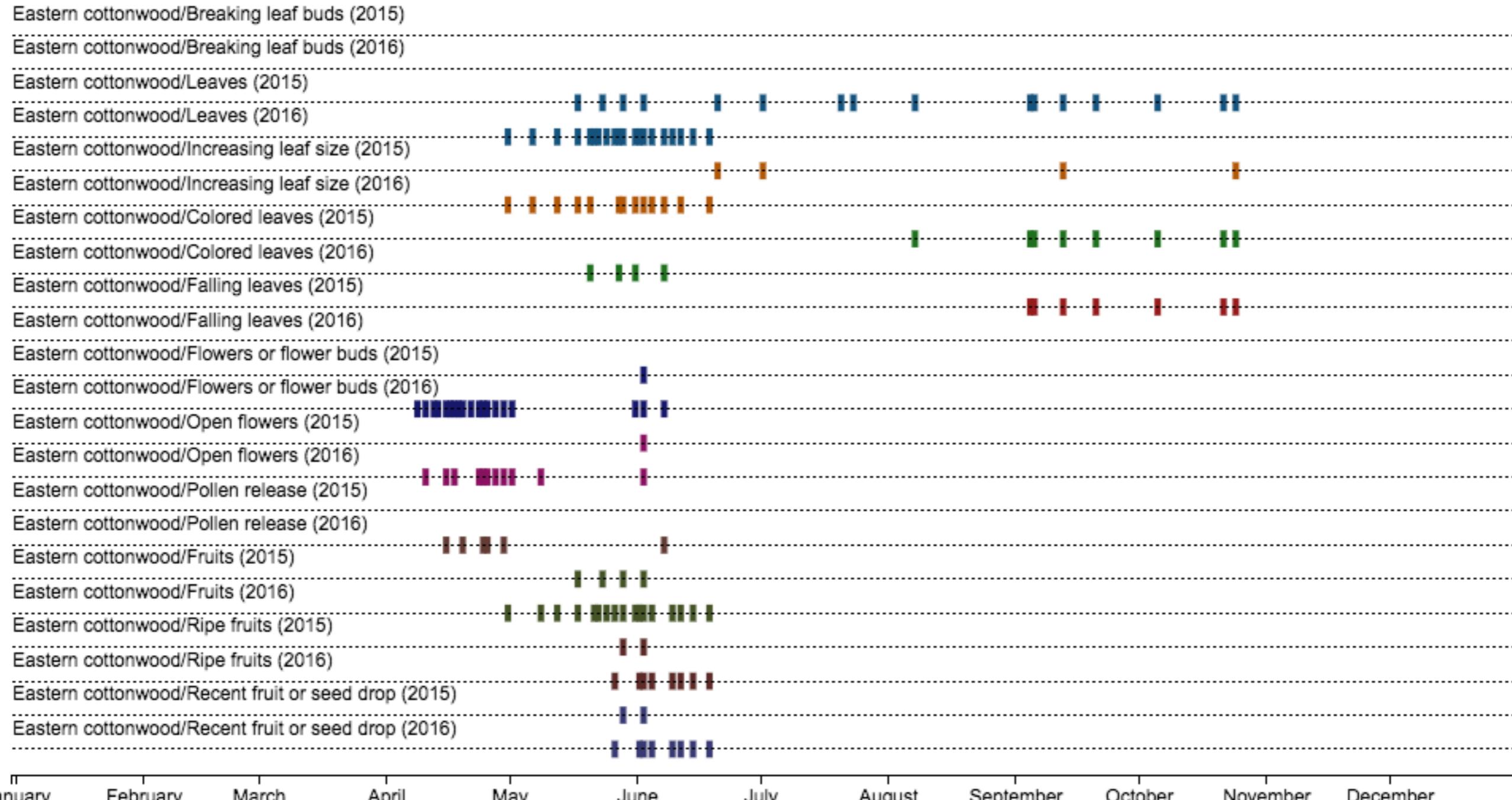


January February March April May June July August September October November December

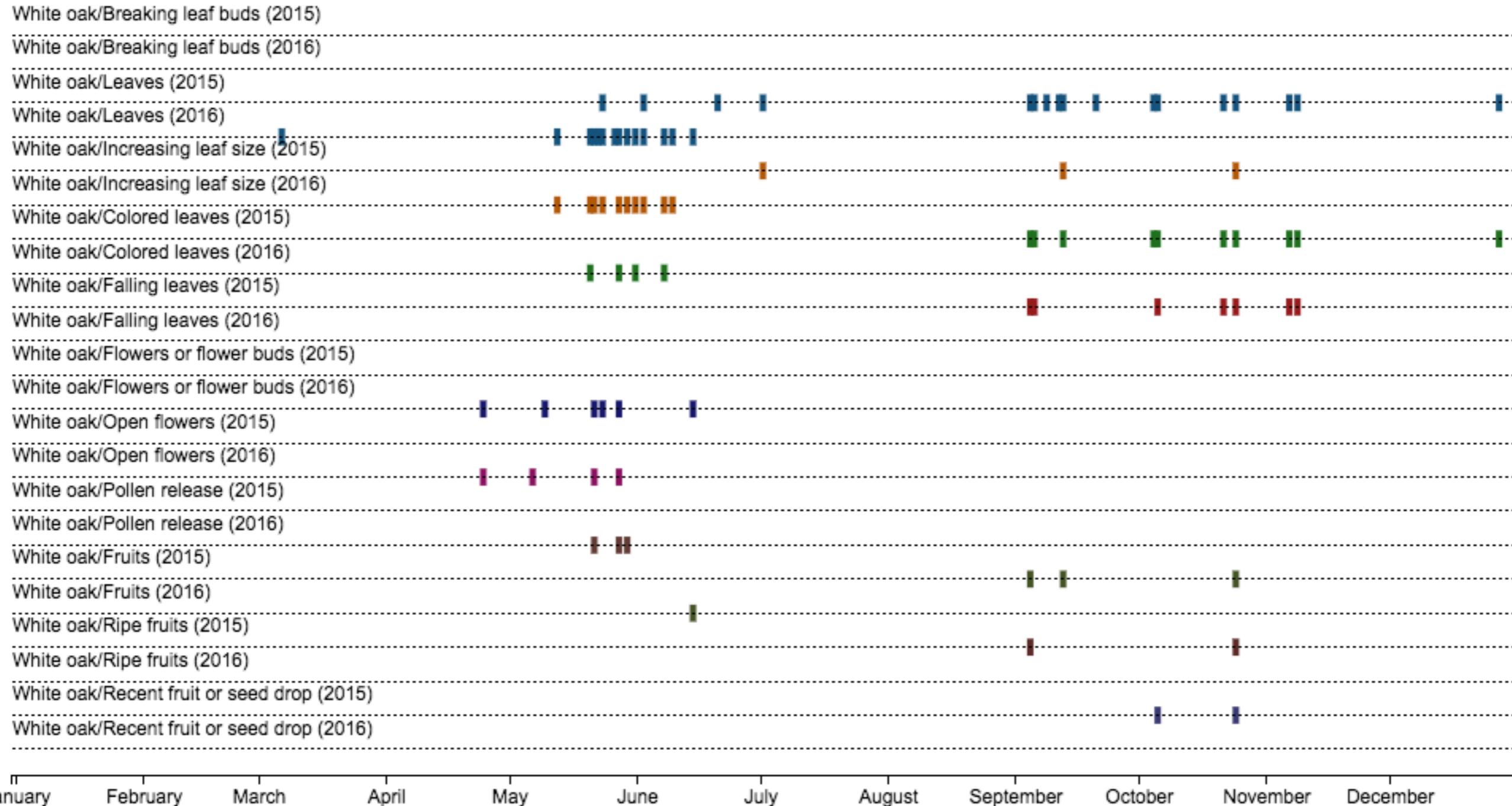
Comparing Observations 2015 to 2016: *Fagus grandifolia* (American Beech)



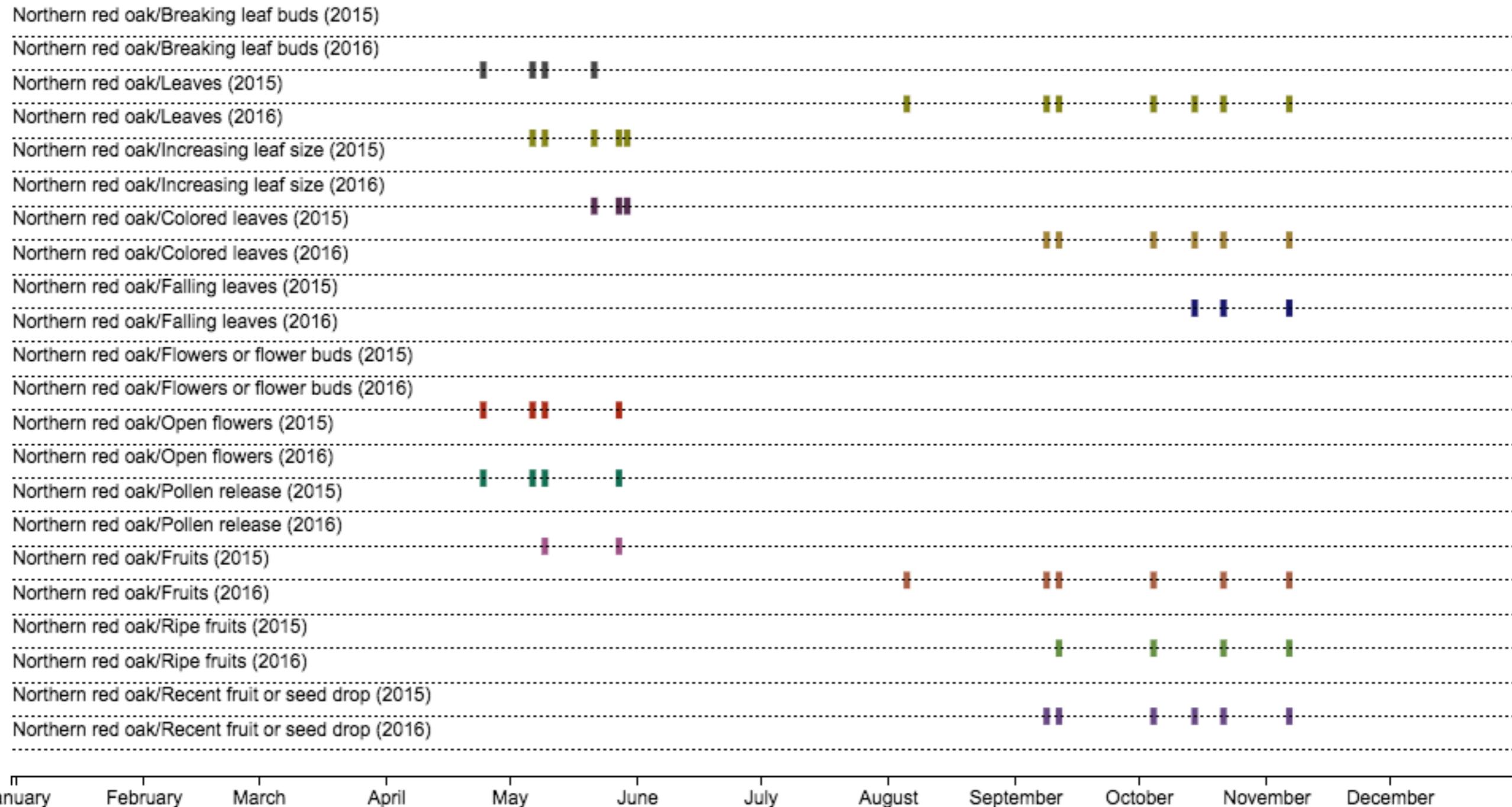
Comparing Observations 2015 to 2016: *Populus deltoides* (Eastern Cottonwood)



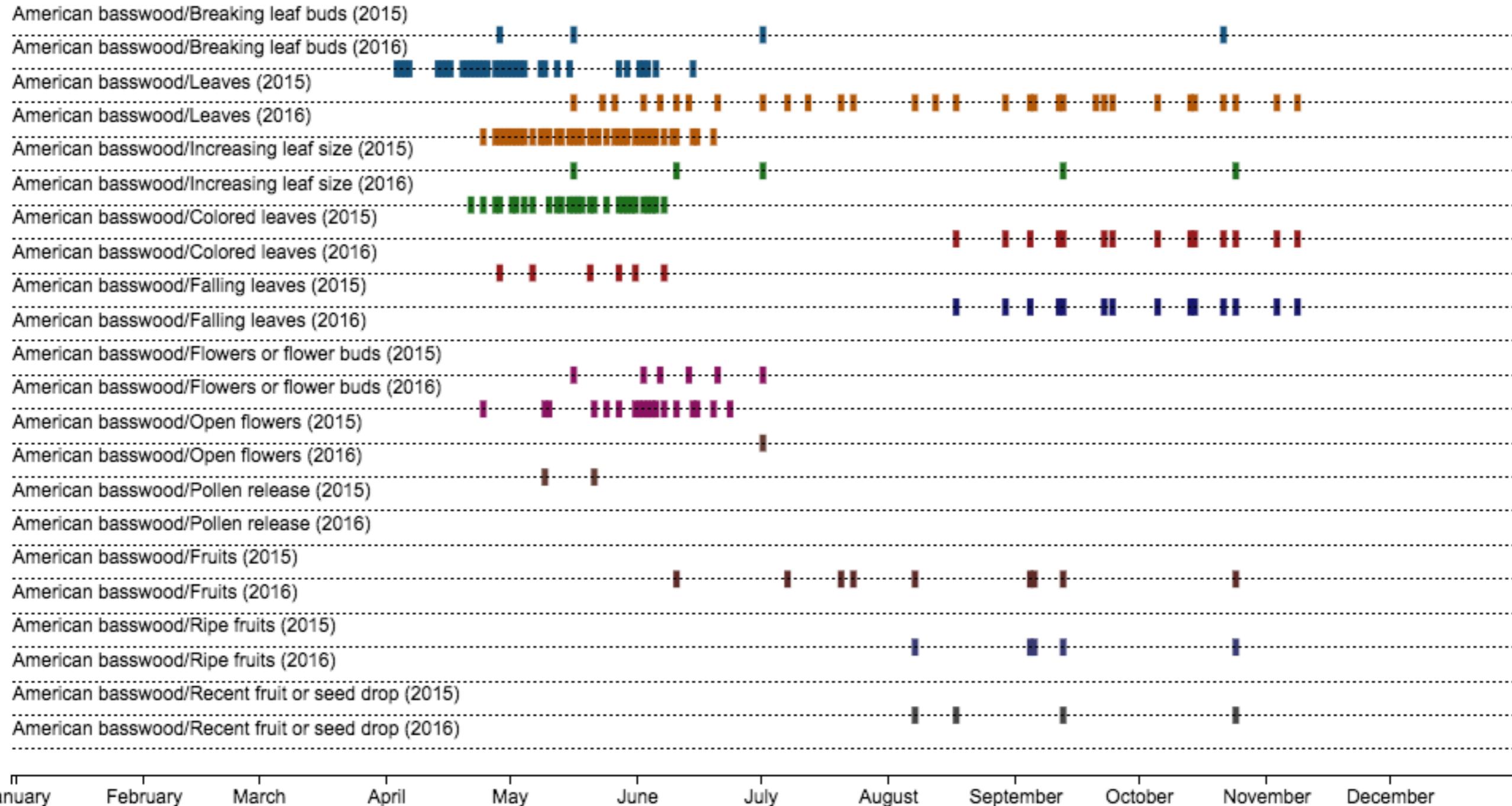
Comparing Observations 2015 to 2016: *Quercus alba* (White Oak)

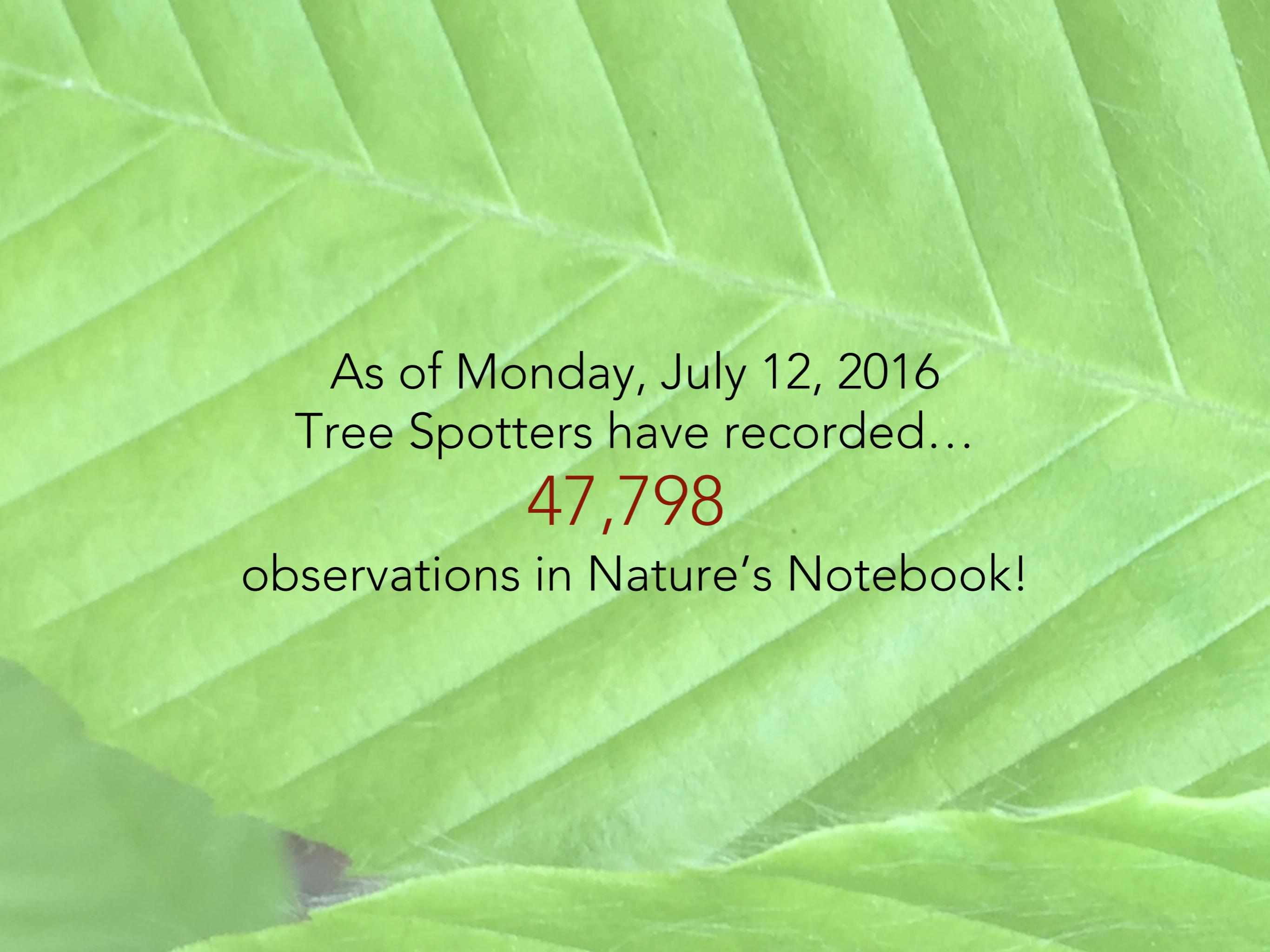


Comparing Observations 2015 to 2016: *Quercus rubra* (Red Oak)



Comparing Observations 2015 to 2016: *Tilia americana* (American Basswood)





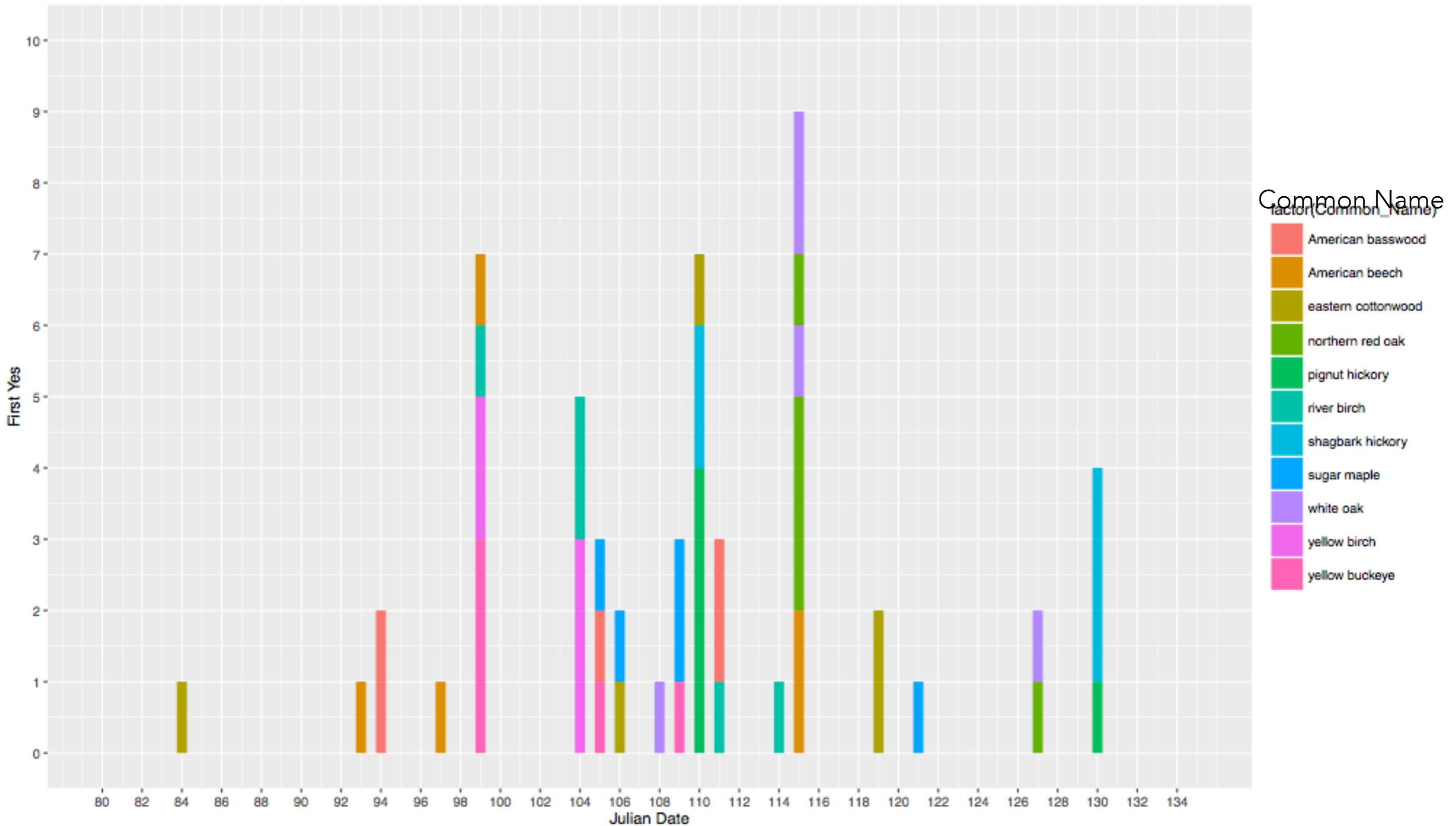
As of Monday, July 12, 2016
Tree Spotters have recorded...

47,798

observations in Nature's Notebook!

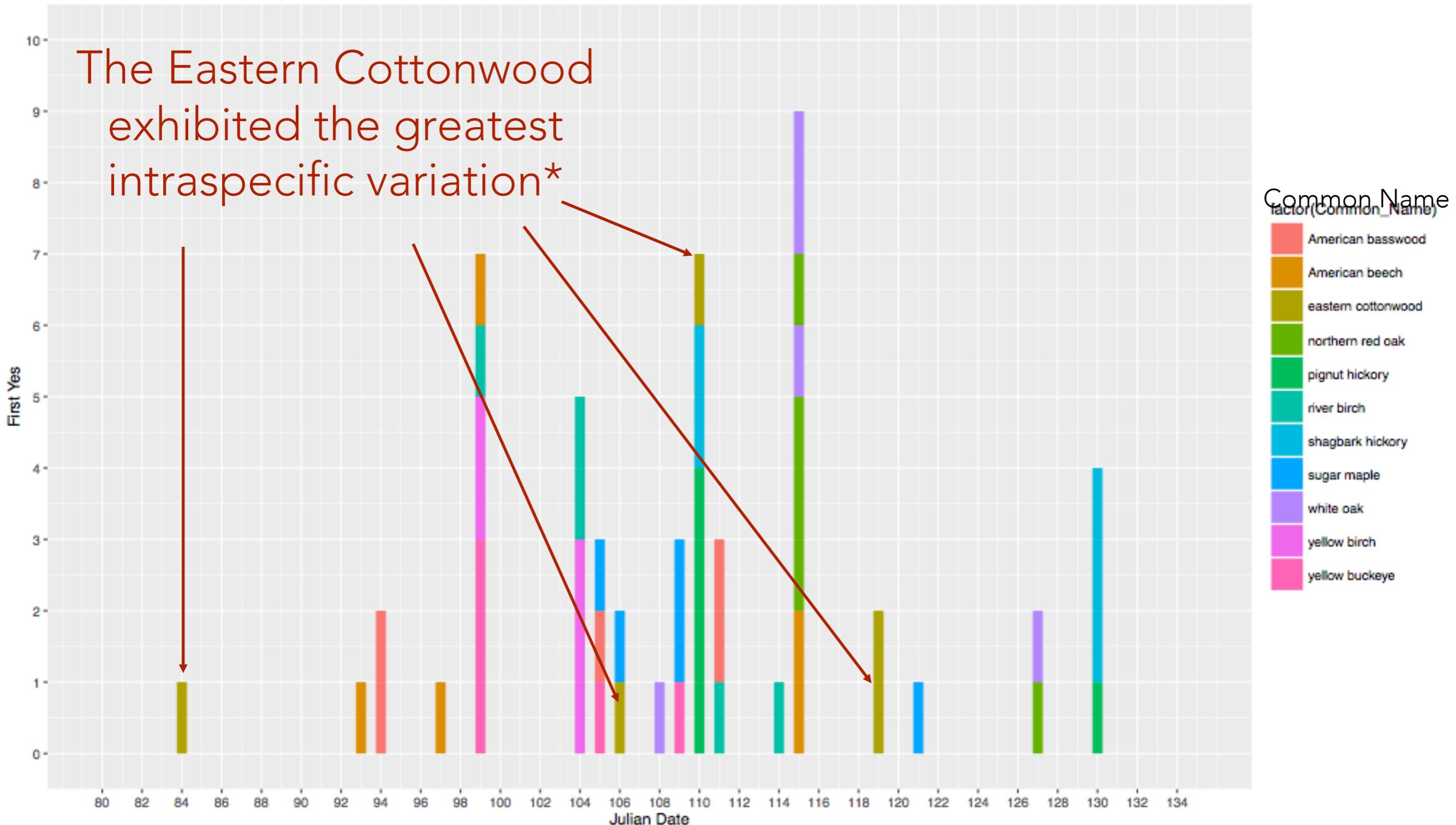
BREAKING LEAF BUDS:

Date the first “Yes” was recorded for each individual tree



BREAKING LEAF BUDS:

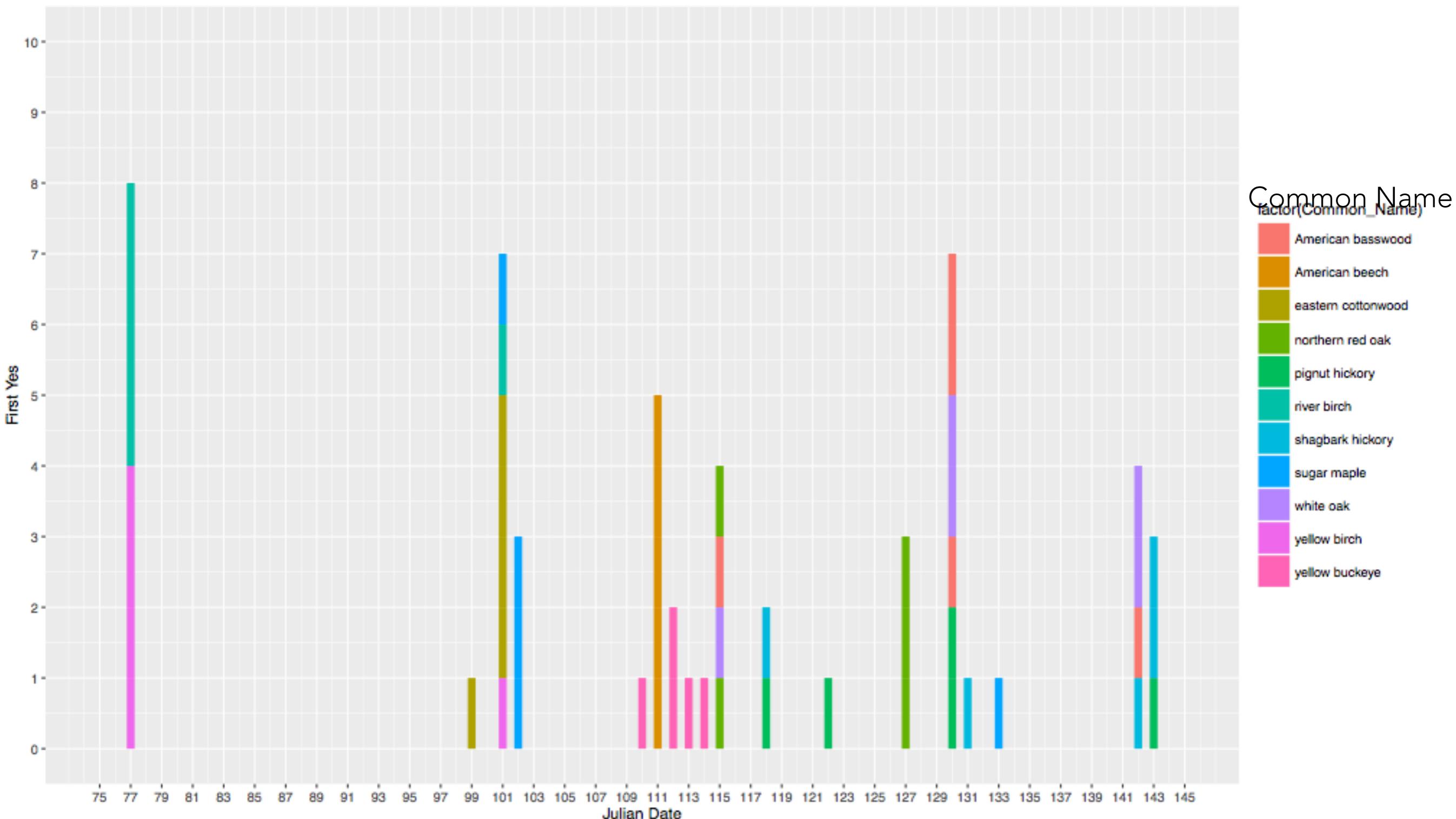
Date the first “Yes” was recorded for each individual tree



*Intraspecific Variation: variation occurring within species, i.e. between individuals of the same species

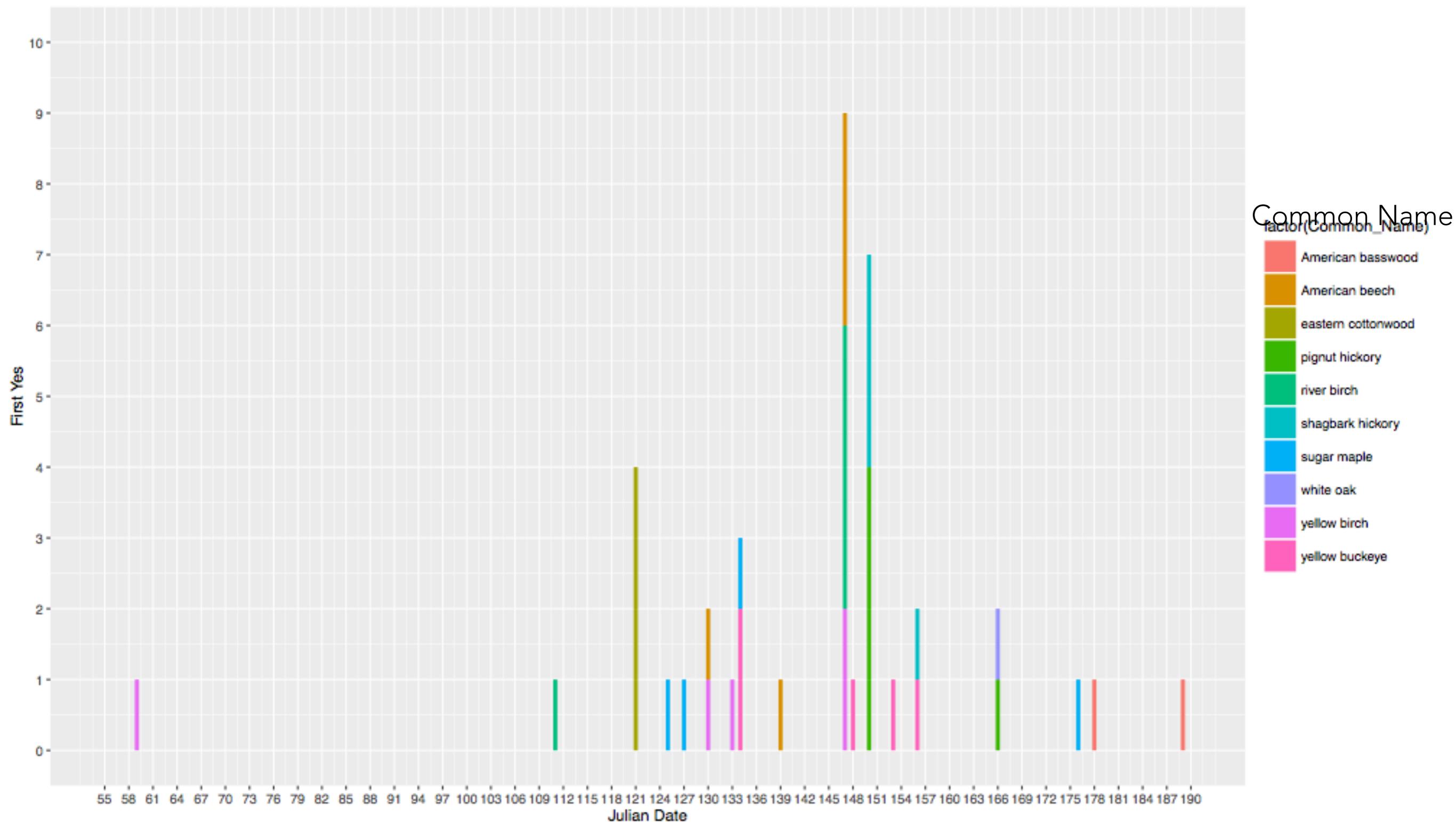
FLOWERS OR FLOWER BUDS:

Date the first “Yes” was recorded for each individual tree



FRUITS:

Date the first “Yes” was recorded for each individual tree





Shagbark Hickory

Photographs from our
flickr site

https://www.flickr.com/groups/arnold_arboretum_tree_spotters/



American Beech



Yellow Buckeye



River Birch





American Basswood

SPOTTING TOGETHER: WRITTEN AND PERFORMED BY BRIAN AND KATIE CARTWRIGHT



Spotting Together (to the tune of “So Happy Together” by the Turtles, 1967)

Me and you, and you and me.

We’re walking and we see a tree, a big beech tree.

We see a sign and wonder, “Oh, what could that be?”

We’re Spotting Together!

We’ll go up Peters Hill, we will.

We’ll stroll under the big blue sky, like Jack and Jill.

It’s all about phenology; we’ll get our fill.

We’re Spotting Together.

Arnold Arboretum, Tree Spotting we go

All ‘round the grounds.

We see more each time that we get up and go

All ‘round the grounds.

Hickory nuts you’ll find beneath your feet.

They’re good to eat, the meat is sweet – a tasty treat.

A simple pleasure. Oh what fun. They can’t be beat.

We’re Spotting Together!

We’ll see the sugar maple trees and the red oaks

As we’re observing with the fine Tree Spotter folks.

We’ll talk about our trees and maybe crack some jokes

We’re Spotting Together.

Arnold Arboretum, Tree Spotting we go

All ‘round the grounds.

We see more each time that we get up and go

All ‘round the grounds.

We’ll see the linden trees (don’t sneeze).

They say they’re very popular with all the bees.

The buckeyes are a lucky charm, the birches please.

We’re Spotting Together.

We’re Spotting Together.

Enjoying the weather.

Tree Spotting Together. (Ba-ba-ba-ba-ba-ba-ba)

Yes Spotting Together. (Ba-ba-ba-ba-ba-ba-ba)

Spotting Together. (Ba-ba-ba-ba-ba-ba-ba)

We’re Spotting Together. (Ba-ba-ba-ba-ba-ba-ba)

Yes Spotting Together. (Ba-ba-ba-ba-ba-ba-ba)

Tree Spotting Spotting Together. (Ba-ba-ba-ba-ba-ba-ba)



Thank you, Volunteers, for being so dedicated.
There is no way we could do this without you.

