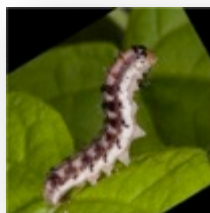




Insecticide Resistance Action Committee

Team 2015/16

50th IRAC International Meeting, Dublin
April 5-8th, 2016



Arthropod Pesticide Resistance Database (APRD) Update

<http://www.pesticideresistance.org>

- 2015 upgrade of database
 - International paid \$10,000
 - Starting in 2015, International pays \$7,500/year and IRAC-US pays \$12,500/year to maintain
 - New database platform
 - Increased search capabilities
 - Country of origin
 - IRAC MoA
 - Arthropod order or family

New Resistance Database Figures

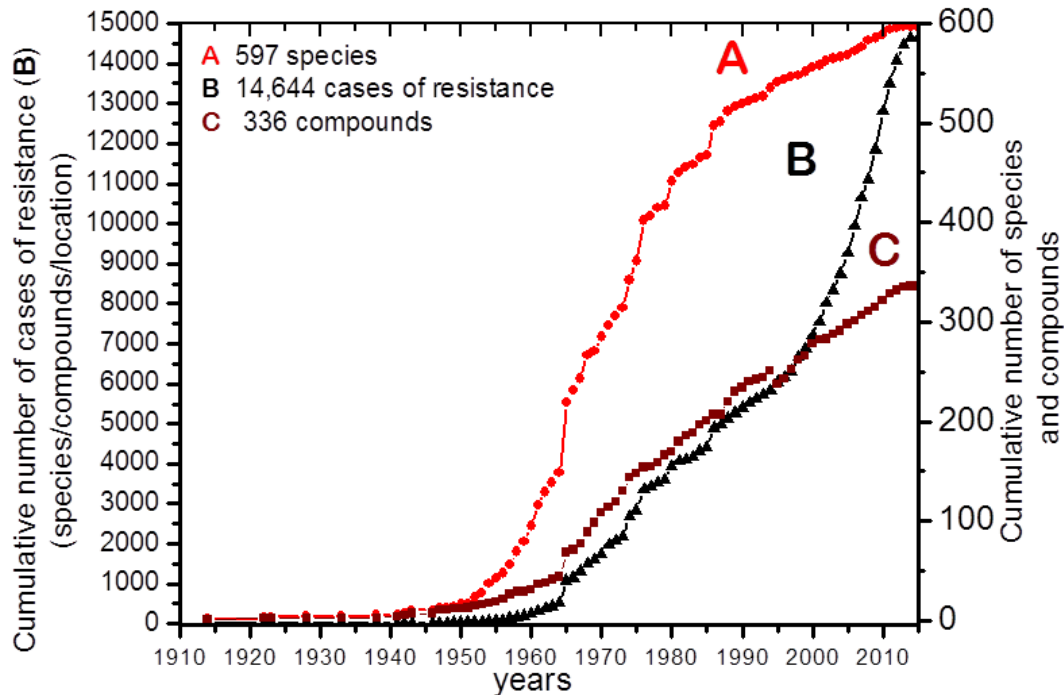


Fig 1. Evolution of arthropod insecticide resistance from 1914 to 2015. (species, compounds and total number of cases).

New Resistance Database Figures

Top 20 Arthropods by Cases of Resistance	
<i>Plutella xylostella</i>	777
<i>Helicoverpa armigera</i>	758
<i>Bemisia tabaci</i>	578
<i>Rhipicephalus microplus</i>	560
<i>Aedes aegypti</i>	536
<i>Spodoptera exigua</i>	514
<i>Spodoptera litura</i>	510
<i>Tetranychus urticae</i>	479
<i>Myzus persicae</i>	433
<i>Nilaparvata lugens</i>	396
<i>Musca domestica</i>	358
<i>Meligethes aeneus</i>	355
<i>Leptinotarsa decemlineat</i>	296
<i>Culex quinquefasciatus</i>	296
<i>Aphis gossypii</i>	261
<i>Blattella germanica</i>	219
<i>Panonychus ulmi</i>	197
<i>Aedes albopictus</i>	195
<i>Cydia pomonella</i>	191
<i>Frankliniella occidentalis</i>	165

Table 1. Top 20 Arthropods by Cases of Resistance. This table shows the number of cases associated with the top twenty most resistant species reported in the database.

Top 20 Countries by Cases of Resistance	
European Union	3520
United States of America	2621
China	1923
Pakistan	1693
Australia	677
Brazil	534
India	499
Japan	453
Canada	331
Mexico	282
Spain	267
France	255
Turkey	210
Czech Republic / Czechia	198
South Korea	198
Colombia	195
Thailand	163
Greece	153
Germany	152
United Kingdom	152

Table 2. Top 20 Countries by Cases of Resistance. This table shows the total number of cases reported from the top twenty most resistant countries listed in the database arranged from the country with the most reported cases of resistance.

Arthropod Pesticide Resistance Database (APRD) Update

- Future improvements to database
 - Working with Beta version
 - Expected ready 2016 late summer/early fall
 - Multiple search parameters simultaneously
 - Type of resistance (field-evolved or lab)
 - Graphic displays updated as new cases added to database
- What other improvements would IRAC like to see? Give feedback to Mark!

Outstanding Issues with APRD

- Succession plan
 - Mark Whalon retire end of 2017?
 - David Mota-Sanchez to take over with support from Mark during retirement
- More pressure from Michigan State and resources to maintain within university system
- IRAC International and US interest in continuing with database investment