

# AQUACULTURE

## SUMMARY OF 2016 CASE SUBMISSIONS TO THE AQUATIC RESEARCH AND DIAGNOSTIC LABORATORY

Lester Khoo, Pat Gaunt, and Matt Griffin

**"DIAGNOSTIC CASE SUBMISSIONS ARE AN IMPORTANT TOOL TO MONITOR DISEASE TRENDS. SUBMISSIONS TO THE LAB IN 2016 SUGGEST AN INCREASED ADOPTION OF CULTURED HYBRID CATFISH AND A PUTATIVE EMERGENCE OF HYBRID ASSOCIATED DISEASES LIKE *E. TARDA* (PISCICIDA) THAT WERE PREVIOUSLY OF MINIMAL CONCERN."**

Lester Khoo

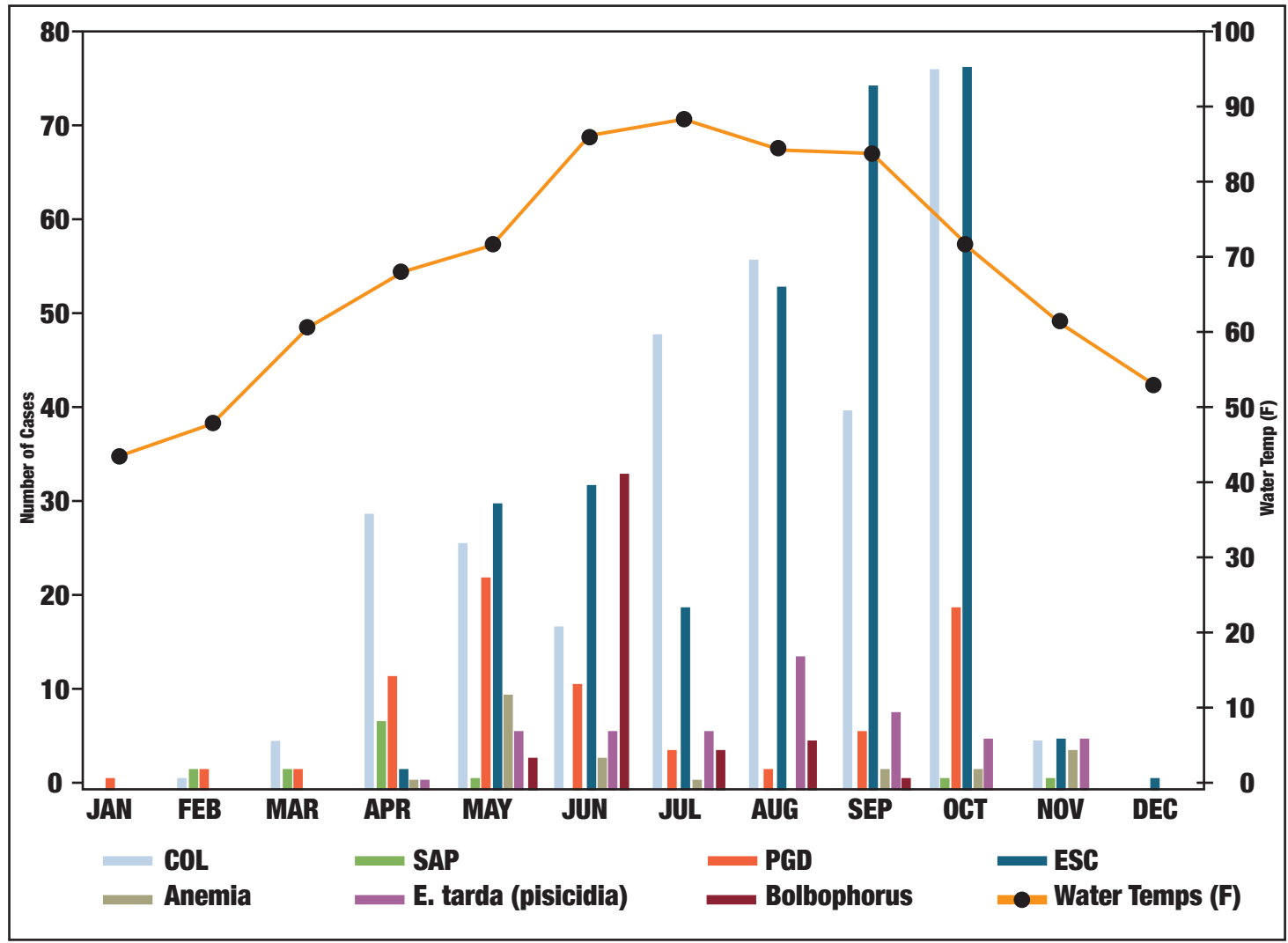
In 2016, the Aquatic Research and Diagnostic Laboratory (ARDL) received a total of 744 diagnostic case submissions from producers and researchers. Hybrid catfish represented 48.7% of accessions, which likely is a function of the increasing adoption of hybrid catfish in the industry. There were also 770 water samples submitted for analysis. Bacterial diseases had the highest incidence rate in 2016 accessions. Columnaris disease was reported from 303 submissions, the majority (290 cases) of which were from producers. Antibiotic resistance was not observed for any *Flavobacterium columnare* isolates in 2016. *Edwardsiella ictaluri*, the causative agent of enteric septicemia of catfish was isolated from 292 submissions, and the majority (289 cases) were from producers. Of these, 8.6% (25 cases) demonstrated antimicrobial resistance to one or more of the 3 approved antibiotics in medicated feed (Terramycin®, Romet® and Aquaflor®). 24 *E. ictaluri* isolates were resistant to Terramycin® with intermediate

resistance to Aquaflor®, and one isolate was resistant to only Terramycin®. There were 51 cases of *E. tarda* (all of which were confirmed by molecular testing to be *E. piscicida*). The majority (92.2%) of these cases were from hybrid catfish. This represents a dramatic increase from the previous year where *E. tarda/piscicida* was reported in only 12 cases. One *E. tarda/piscicida* isolate was resistant to Terramycin®. There were 24 atypical *Aeromonas hydrophila*, one of which

was resistant to Terramycin®. *Yersinia ruckeri*, a bacterial pathogen usually associated with salmonids, was diagnosed in four cases from hybrid catfish. Of the parasitic diseases, there were 82 cases of Proliferative Gill Disease, 46 cases of *Bolbophorus* trematode and two cases of *Ichthyophthirius multifiliis* (white spot). The number of *Bolbophorus* trematode cases were also much higher than last year, where *Bolbophorus* was reported from only 14 submissions. There were 11 cases of channel catfish virus.



Dr. Lester Khoo in the Aquatic Research and Diagnostic Laboratory.



*Water temperatures and prevalence of major catfish diseases in 2016.*