



Abstract:

Shipworms, family *Teredinidae*, are woodboring mollusks that have evolved specialized feeding strategies to glean nutrients from the consumption of wood. Historically, this wood consumption has proved disastrous for human seafaring efforts.

Feeding Biology:

Shipworms settle into wood as larvae
 Organism uses specialized shell and anatomy to rasp into wood
 Symbiotic *Teredinbacter* bacteria in gut secrete degradation enzymes to break down the eaten ridged wood
 Shipworms nutritional need further supplement by filter feeding and nitrogen fixation of bacterium

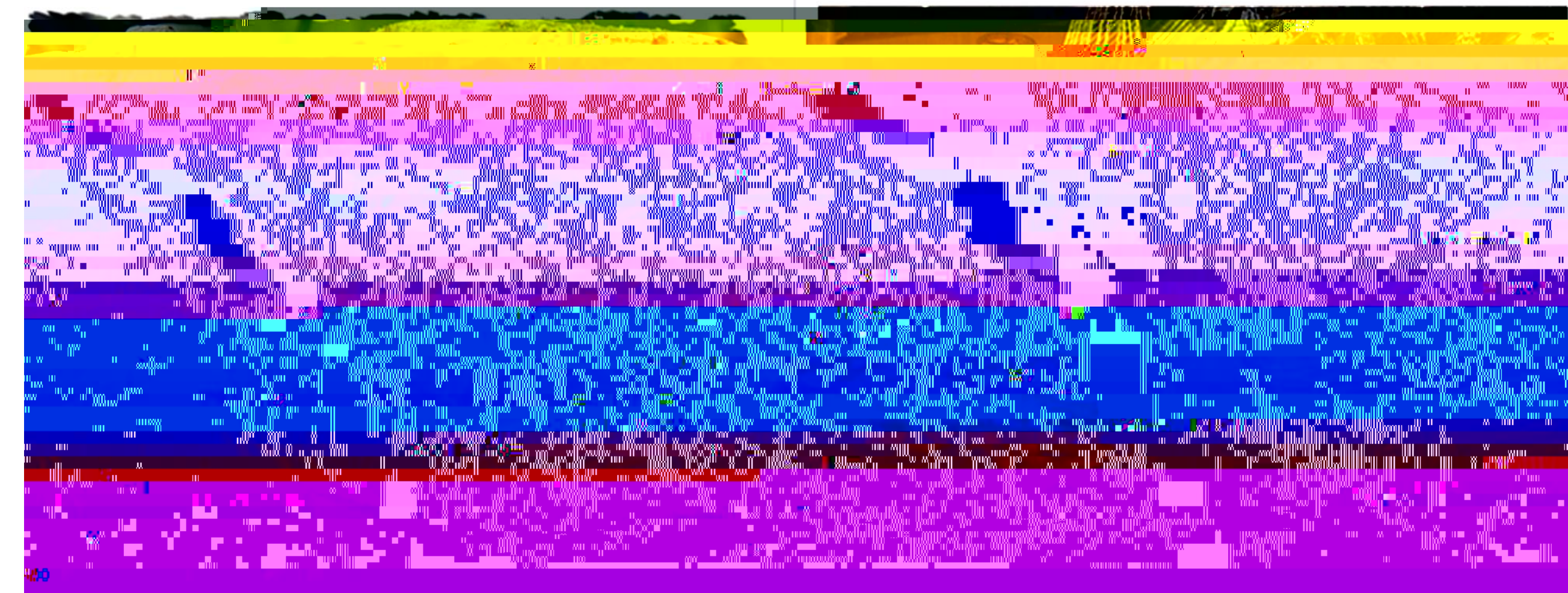


Figure 2: Shipworm burrows in driftwood (Left); Scandinavian ship exhibiting shipworm damage (Right). [Photo Credit: C. Skauge, X-Ray Mag]

Historical Implications:

Seafaring humans have long attempted to stop shipworm destruction
 Sailor since ancient times have covered ship bottoms with protective materials
 Ranging from wax to copper sheathing
 Beaching regiment on land often followed to kill off settled shipworm
 Skilled seamen Christopher Columbus, Francis Drake, James Cook all lost ships to shipworm feeding
 Shipworms ravaged the coastal waters of the American continents during late 19th century
 Impact so widespread "Teredo" (genus of shipworm) became a common insult

Shipworms Today:

Shipworms still cause an annual \$1 Billion in damages
 New non-wood building technologies lessened the impact of shipworms in modern era
 Shipworms and *Teredinbacter* still subject of ongoing research
 Topics range from Biofuel to Antibiotic production



Figure 3: Advertisement for plastic boat highlighting modern movement away from shipworm susceptible materials [Nelson]

Acknowledgments:

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Figure 1: Shipworm anatomy and feeding methodology in wood substate [Photo Credit: PQI Australia]