**Gerald W. Esch**

Charles M. Allen Professor of Biology

B.S., Colorado College (1958)  
M.S., University of Oklahoma (1961)  
Ph.D., University of Oklahoma (1963)  
  
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Areas of Interest

Parasitology, Aquatic Biology

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| --- |
| Research  Over the years, my research interests have focused on host/parasite relationships in aquatic ecosystems. In general, these studies have centered on the population and community dynamics of parasitic helminths in both vertebrate and vertebrate hosts. In more recent times, our work has involved snail-trematode interactions in a small farm pond located near the Wake Forest University campus. Specificially, we have attempted to identify those facors which structure infra- and component trematode communities in two species of pulmonate snails. Our studies have also been aimed at relating these factors to the transmission dynamics of allogenic and autogenic species that infect these snails and their vertebrate definitive hosts in the pond. These efforts have employed standard field procedures as well as modern biochemical and molecular techniques in the laboratory. |

Selected Publications

Esch, G.W.  2007.  Parasites and Infectious Disease: Discovery by Serendipity, and Otherwise. Cambridge University Press, Cambridge, U.K. (In press).

Negovetich, N.J., K.J. Fellis, G.W. Esch, I.G. Horak, and J. Boomker. 2006.  An examination of the infra- and component nematode community from impala (Aepyceros melampus) in the Kruger National Park, South Africa.  Journal of Parasitology. (In press).

Fellis, K.J., and G. W. Esch.  2005.  Autogenic-allogenic status affects interpond community similarity and species-area relationship of macroparasites in bluegill sunfish, Lepomis macrochirus.  Journal of Parasitology 91: 764-767.

Fellis, K.J., and G. W. Esch.  2005.  Variation in life cycle affects the distribution and decay of similarity among bluegill sunfish parasite communities.  Journal of Parasitology 92: 1485-1488.

**PUBLICATIONS**

[Sorted by: Published](javascript:void(0);)

* **Article:**[**Population and infection dynamics of Daubaylia potomaca (Nematoda: Rhabditida) in Helisoma anceps.**](http://www.researchgate.net/publication/51064270_Population_and_infection_dynamics_of_Daubaylia_potomaca_(Nematoda_Rhabditida)_in_Helisoma_anceps?ev=prf_pub)

[Michael R Zimmermann](http://www.researchgate.net/researcher/57895627_Michael_R_Zimmermann/), [Kyle E Luth](http://www.researchgate.net/researcher/57869371_Kyle_E_Luth/), [Lauren E Camp](http://www.researchgate.net/researcher/57872251_Lauren_E_Camp/), Gerald W Esch

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Journal of Parasitology06/2011; 97(3):384-8.**· 1.40 Impact Factor**

* **Article:**[**The unusual life cycle of Daubaylia potomaca, a nematode parasite of Helisoma anceps.**](http://www.researchgate.net/publication/51064357_The_unusual_life_cycle_of_Daubaylia_potomaca_a_nematode_parasite_of_Helisoma_anceps?ev=prf_pub)

[Michael R Zimmermann](http://www.researchgate.net/researcher/57895627_Michael_R_Zimmermann/), [Kyle E Luth](http://www.researchgate.net/researcher/57869371_Kyle_E_Luth/), Gerald W Esch

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Journal of Parasitology06/2011; 97(3):430-4.**· 1.40 Impact Factor**

* **Article:**[**Complex interactions among a nematode parasite (Daubaylia potomaca), a commensalistic annelid (Chaetogaster limnaei limnaei), and trematode parasites in a snail host (Helisoma anceps).**](http://www.researchgate.net/publication/51064305_Complex_interactions_among_a_nematode_parasite_(Daubaylia_potomaca)_a_commensalistic_annelid_(Chaetogaster_limnaei_limnaei)_and_trematode_parasites_in_a_snail_host_(Helisoma_anceps)?ev=prf_pub)

[Michael R Zimmermann](http://www.researchgate.net/researcher/57895627_Michael_R_Zimmermann/), [Kyle E Luth](http://www.researchgate.net/researcher/57869371_Kyle_E_Luth/), Gerald W Esch

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* **Article:**[**Albert o. Bush.**](http://www.researchgate.net/publication/47447450_Albert_o._Bush?ev=prf_pub)

Gerald W Esch

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* **Article:**[**Toxoplasmosis of Animals and Humans, Second Edition J.P Dubey . 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, Florida 33487-2742 . CRC Press, Taylor and Francis Group . ISBN: ISBN 978-1-4200-9236-3 (Hardback) . 313 p .**](http://www.researchgate.net/publication/47447438_Toxoplasmosis_of_Animals_and_Humans_Second_Edition_J.P_Dubey_._6000_Broken_Sound_Parkway_NW_Suite_300_Boca_Raton_Florida_33487-2742_._CRC_Press_Taylor_and_Francis_Group_._ISBN_ISBN_978-1-4200-9236-3_(Hardback)_._313_p_?ev=prf_pub)

Gerald W Esch

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* **Article: [Wincenty Wiśniewski: a retrospective view.](http://www.researchgate.net/publication/24249958_Wincenty_Winiewski_a_retrospective_view?ev=prf_pub)**

Gerald W Esch, [Kyle Luth](http://www.researchgate.net/researcher/30832874_Kyle_Luth/), [Michael Zimmermann](http://www.researchgate.net/researcher/14220283_Michael_Zimmermann/)

Wiadomości parazytologiczne02/2008; 54(4):279-81.

* **Article:**[**Observations on the ecology of Clinostomum marginatum in largemouth bass (Micropterus salmoides)**](http://www.researchgate.net/publication/230118352_Observations_on_the_ecology_of_Clinostomum_marginatum_in_largemouth_bass_(Micropterus_salmoides)?ev=prf_pub)

[Terry C. Hazen](http://www.researchgate.net/researcher/26227734_Terry_C_Hazen/), Gerald W. Esch

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Journal of Fish Biology01/2006; 12(5):411 - 420.**· 1.68 Impact Factor**

* **Article:**[**Relationship of season, thermal loading and red‐sore disease with various haematological parameters in Micropterus salmoides**](http://www.researchgate.net/publication/230250096_Relationship_of_season_thermal_loading_and_redsore_disease_with_various_haematological_parameters_in_Micropterus_salmoides?ev=prf_pub)

[Terry C. Hazen](http://www.researchgate.net/researcher/26227734_Terry_C_Hazen/), Gerald W. Esch, [Armand B. Glassman](http://www.researchgate.net/researcher/84221957_Armand_B_Glassman/), [J. Whitfield Gibbons](http://www.researchgate.net/researcher/26227732_J_Whitfield_Gibbons/)

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Journal of Fish Biology01/2006; 12(5):491 - 498.**· 1.68 Impact Factor**

* **Article:**[**Variation in life cycle affects the distance decay of similarity among bluegill sunfish parasite communities.**](http://www.researchgate.net/publication/7239679_Variation_in_life_cycle_affects_the_distance_decay_of_similarity_among_bluegill_sunfish_parasite_communities?ev=prf_pub)

[K Joel Fellis](http://www.researchgate.net/researcher/46656355_K_Joel_Fellis/), Gerald W Esch

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Journal of Parasitology01/2006; 91(6):1484-6.**· 1.40 Impact Factor**

* **Article:**[**Autogenic-allogenic status affects interpond community similarity and species area relationship of macroparasites in the bluegill sunfish, Lepomis macrochirus, from a series of freshwater ponds in the Piedmont area of North Carolina.**](http://www.researchgate.net/publication/6707005_Autogenic-allogenic_status_affects_interpond_community_similarity_and_species_area_relationship_of_macroparasites_in_the_bluegill_sunfish_Lepomis_macrochirus_from_a_series_of_freshwater_ponds_in_the_Piedmont_area_of_North_Carolina?ev=prf_pub)

[K Joel Fellis](http://www.researchgate.net/researcher/46656355_K_Joel_Fellis/), Gerald W Esch

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Journal of Parasitology09/2005; 91(4):764-7.**· 1.40 Impact Factor**

* **Article:**[**Host specificity and the distribution-abundance relationship in a community of parasites infecting fishes in streams of North Carolina.**](http://www.researchgate.net/publication/11277516_Host_specificity_and_the_distribution-abundance_relationship_in_a_community_of_parasites_infecting_fishes_in_streams_of_North_Carolina?ev=prf_pub)

[Michael A Barger](http://www.researchgate.net/researcher/9924867_Michael_A_Barger/), Gerald W Esch

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Journal of Parasitology07/2002; 88(3):446-53.**· 1.40 Impact Factor**

* **Article:**[**The transmission of digenetic trematodes: style, elegance, complexity.**](http://www.researchgate.net/publication/51253218_The_transmission_of_digenetic_trematodes_style_elegance_complexity?ev=prf_pub)

Gerald W Esch, [Michael A Barger](http://www.researchgate.net/researcher/9924867_Michael_A_Barger/), [K Joel Fellis](http://www.researchgate.net/researcher/46656355_K_Joel_Fellis/)

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Integrative and Comparative Biology04/2002; 42(2):304-12.**· 2.45 Impact Factor**

* **Article:**[**Alterations in zooplankton community structure after selenium-induced replacement of a fish community: a natural whole-lake experiment**](http://www.researchgate.net/publication/226567199_Alterations_in_zooplankton_community_structure_after_selenium-induced_replacement_of_a_fish_community_a_natural_whole-lake_experiment?ev=prf_pub)

[David J. Marcogliese](http://www.researchgate.net/researcher/77288632_David_J_Marcogliese/), Gerald W. Esch, [Ronald V. Dimock](http://www.researchgate.net/researcher/78581298_Ronald_V_Dimock/)

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* **Article:**[**A Long-Term Study on the Population Biology of Crepidostomum cooperi (Trematoda, Allocreadidae) in the Burrowing Mayfly, Hexagenia limbata (Ephemeroptera)**](http://www.researchgate.net/publication/233784103_A_Long-Term_Study_on_the_Population_Biology_of_Crepidostomum_cooperi_(Trematoda_Allocreadidae)_in_the_Burrowing_Mayfly_Hexagenia_limbata_(Ephemeroptera)?ev=prf_pub)

Gerald W. Esch, [Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/), [D. J. Marcogliese](http://www.researchgate.net/researcher/2003698400_D_J_Marcogliese/), [T. M. Goater](http://www.researchgate.net/researcher/35498331_T_M_Goater/), [A. E. Crews](http://www.researchgate.net/researcher/33302618_A_E_Crews/)

American Midland Naturalist. 01/1986; 116(2):304-314.

* **Article:**[**Chemotactic Behavior of Aeromonas hydrophila**](http://www.researchgate.net/publication/233784106_Chemotactic_Behavior_of_Aeromonas_hydrophila?ev=prf_pub)

[Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/), [R. V. Dimock](http://www.researchgate.net/researcher/2003696744_R_V_Dimock/), Gerald W. Esch, [A. Mansfield](http://www.researchgate.net/researcher/2003702476_A_Mansfield/), [M. L. Raker](http://www.researchgate.net/researcher/2003693725_M_L_Raker/)

Current Microbiology. 01/1984; 10(1):13-17.

* **Article:**[**Chemotactic behavior ofAeromonas hydrophila**](http://www.researchgate.net/publication/227152284_Chemotactic_behavior_ofAeromonas_hydrophila?ev=prf_pub)

[Terry C. Hazen](http://www.researchgate.net/researcher/26227734_Terry_C_Hazen/), [Ronald V. Dimock](http://www.researchgate.net/researcher/78581298_Ronald_V_Dimock/), Gerald W. Esch, [Anne Mansfield](http://www.researchgate.net/researcher/79311290_Anne_Mansfield/), [Mark L. Raker](http://www.researchgate.net/researcher/79375478_Mark_L_Raker/)

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Current Microbiology12/1983; 10(1):13-17.**· 1.82 Impact Factor**

* **Book:**[**Impact of thermal loading and other water quality parameters on the epizootiology of Aeromonas hydrophila infections of centrarchids. Final report**](http://www.researchgate.net/publication/233784107_Impact_of_thermal_loading_and_other_water_quality_parameters_on_the_epizootiology_of_Aeromonas_hydrophila_infections_of_centrarchids._Final_report?ev=prf_pub)

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**Article: [Chemotaxis ofAeromonas hydrophila to the surface mucus of fish](http://www.researchgate.net/publication/227083423_Chemotaxis_ofAeromonas_hydrophila_to_the_surface_mucus_of_fish?ev=prf_pub)**

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Current Microbiology01/1982; 7(6):371-375.**· 1.82 Impact Factor**

* **Article:**[**Studies on the Seasonal Dynamics of Crepidostomum cooperi in the Burrowing Mayfly, Hexagenia limbata**](http://www.researchgate.net/publication/233784108_Studies_on_the_Seasonal_Dynamics_of_Crepidostomum_cooperi_in_the_Burrowing_Mayfly_Hexagenia_limbata?ev=prf_pub)

Gerald W. Esch, [Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/)

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* **Article: [Chemotaxis of Aeromonas hydrophila to the Surface Mucus of Fish](http://www.researchgate.net/publication/233784110_Chemotaxis_of_Aeromonas_hydrophila_to_the_Surface_Mucus_of_Fish?ev=prf_pub)**

[Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/), Gerald W. Esch, [R. V. Dimock](http://www.researchgate.net/researcher/2003696744_R_V_Dimock/), [A. Mansfield](http://www.researchgate.net/researcher/2003702476_A_Mansfield/)

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Current Microbiology. 01/1982; 7(6):371-375.

##### Article: [Agglutinating Antibody to Aeromonas hydrophila in Wild Largemouth Bass](http://www.researchgate.net/publication/233784111_Agglutinating_Antibody_to_Aeromonas_hydrophila_in_Wild_Largemouth_Bass?ev=prf_pub)

[Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/), Gerald W. Esch, [M. L. Raker](http://www.researchgate.net/researcher/2003693725_M_L_Raker/)

Transactions of the American Fisheries Society01/1981; 110(4):514-518.**· 1.59 Impact Factor**

##### Article: [Stress and Body Condition in a Population of Largemouth Bass - Implications for Red-Sore Disease](http://www.researchgate.net/publication/233784113_Stress_and_Body_Condition_in_a_Population_of_Largemouth_Bass_-_Implications_for_Red-Sore_Disease?ev=prf_pub)

Gerald W. Esch, [Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/)

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##### Article: [Ultrastructure of Red‐Sore Lesions on Largemouth Bass (Micropterus salmoides): Association of the Ciliate Epistylis sp. and the Bacterium Aeromonas hydrophila\*](http://www.researchgate.net/publication/227832470_Ultrastructure_of_RedSore_Lesions_on_Largemouth_Bass_(Micropterus_salmoides)_Association_of_the_Ciliate_Epistylis_sp._and_the_Bacterium_Aeromonas_hydrophila*?ev=prf_pub)

[TERRY C. HAZEN](http://www.researchgate.net/researcher/26227734_TERRY_C_HAZEN/), [MARK L. RAKER](http://www.researchgate.net/researcher/79375478_MARK_L_RAKER/), GERALD W. ESCH, [CARL B. FLIERMANS](http://www.researchgate.net/researcher/28805642_CARL_B_FLIERMANS/)

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Journal of Eukaryotic Microbiology07/1978; 25(3):351 - 355.**· 2.66 Impact Factor**

##### Article: [Long-Range Movement and Homing by Largemouth Bass ( Micropterus salmoides ) in a Thermally Altered Reservoir](http://www.researchgate.net/publication/233784118_Long-Range_Movement_and_Homing_by_Largemouth_Bass_(_Micropterus_salmoides_)_in_a_Thermally_Altered_Reservoir?ev=prf_pub)

[T. Quinn](http://www.researchgate.net/researcher/2003693231_T_Quinn/), Gerald W. Esch, [Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/), [J. W. Gibbons](http://www.researchgate.net/researcher/2003688570_J_W_Gibbons/)

Copeia01/1978; **· 1.10 Impact Factor**

##### Conference Proceeding: [Thermal ecology and stress: a case history for red-sore disease in largemouth bass ( Micropterus salmoides )](http://www.researchgate.net/publication/233784117_Thermal_ecology_and_stress_a_case_history_for_red-sore_disease_in_largemouth_bass_(_Micropterus_salmoides_)?ev=prf_pub)

Gerald W. Esch, [Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/)

Energy and Environmental Stress in Aquatic SystemsEnergy and Environmental Stress in Aquatic Systems, Augusta, GA; 01/1978

##### Book: [Impact of thermal loading and other water quality parameters on the epizootiology of red-sore disease in centrarchids. Progress report, December 1, 1977--November 30, 1978](http://www.researchgate.net/publication/233784116_Impact_of_thermal_loading_and_other_water_quality_parameters_on_the_epizootiology_of_red-sore_disease_in_centrarchids._Progress_report_December_1_1977--November_30_1978?ev=prf_pub)

Gerald W. Esch, [Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/)

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##### Book: [Parasitism and r- and K-selection](http://www.researchgate.net/publication/233784119_Parasitism_and_r-_and_K-selection?ev=prf_pub)

Gerald W. Esch, [Terry C. Hazen](http://www.researchgate.net/researcher/50533624_Terry_C_Hazen/), [J. M. Aho](http://www.researchgate.net/researcher/2003698365_J_M_Aho/)

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##### Article: [Thermal Effluent and Epizootiology of Ciliate Epistylis and Bacterium Aeromonas in Association with Centrarchid Fish](http://www.researchgate.net/publication/233784121_Thermal_Effluent_and_Epizootiology_of_Ciliate_Epistylis_and_Bacterium_Aeromonas_in_Association_with_Centrarchid_Fish?ev=prf_pub)

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Transactions of the American Microscopical Society01/1976; 95(4):687-693.

##### Article: [Growth and development of larval Taenia crassiceps (Cestoda)—I.: Aneuploidy in the anomalous orf strain](http://www.researchgate.net/publication/223222764_Growth_and_development_of_larval_Taenia_crassiceps_(Cestoda)I._Aneuploidy_in_the_anomalous_orf_strain?ev=prf_pub)

[J.Kenneth Smith](http://www.researchgate.net/researcher/72010724_JKenneth_Smith/), Gerald W. Esch, [Raymond E. Kuhn](http://www.researchgate.net/researcher/72935421_Raymond_E_Kuhn/)

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International Journal for Parasitology07/1972; **· 3.39 Impact Factor**

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[Paul E. Beavers](http://www.researchgate.net/researcher/72518706_Paul_E_Beavers/), Gerald W. Esch, [Raymond E. Kuhn](http://www.researchgate.net/researcher/72935421_Raymond_E_Kuhn/)

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##### Article: [Effects of thermal effluent on body condition of largemouth bass](http://www.researchgate.net/publication/31985359_Effects_of_thermal_effluent_on_body_condition_of_largemouth_bass?ev=prf_pub)

[J. WHITFIELD GIBBONS](http://www.researchgate.net/researcher/26227732_J_WHITFIELD_GIBBONS/), [DAVID H. BENNETT](http://www.researchgate.net/researcher/26227733_DAVID_H_BENNETT/), GERALD W. ESCH,[TERRY C. HAZEN](http://www.researchgate.net/researcher/26227734_TERRY_C_HAZEN/)

##### Article: [Growth and development of larval taenia Crassiceps (Cestoda)—II. RNA and DNA synthesis in the ORF and KBS strains determined by autoradiography](http://www.researchgate.net/publication/222342141_Growth_and_development_of_larval_taenia_Crassiceps_(Cestoda)II._RNA_and_DNA_synthesis_in_the_ORF_and_KBS_strains_determined_by_autoradiography?ev=prf_pub)

[J.Kenneth Smith](http://www.researchgate.net/researcher/72010724_JKenneth_Smith/), [Margaret Parrish](http://www.researchgate.net/researcher/72463064_Margaret_Parrish/), Gerald W. Esch, [Raymond E. Kuhn](http://www.researchgate.net/researcher/72935421_Raymond_E_Kuhn/)

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International Journal for Parasitology.