

## D. TWEDDLE - CURRICULUM VITAE

### PERSONAL PARTICULARS

**Name:** Denis Tweddle

**Nationality:** British (South African resident)

**Present Address:** South African Institute for Aquatic Biodiversity, P/Bag 1015, Grahamstown 6140, South Africa (Telephone (Off.) (+27)(46)6035800, Fax no. (27)(46)6222403). E-mail d.tweddle@saiab.ac.za.  
(contact while in Namibia also via e-mail at same address)

**Marital Status:** Married, two adult sons

### EDUCATION

1960 - 67 King Edward VI Grammar School, Morpeth, Northumberland, England.  
9 O-levels, 3 A-levels.

1967 - 70 University College of North Wales, Bangor. B.Sc. Marine Biology/Zoology.

### EMPLOYMENT AND DUTIES

2013-present Project Executant, EU/NNF Community Conservation Fisheries in KAZA Project, Katima Mulilo, Namibia  
& Project Coordinator, SASSCAL Project for Improved knowledge of aquatic ecosystems supporting fisheries, development of integrated strategies for sustainable fisheries and improved fisheries management, Katima Mulilo, Namibia

2010-2012 Project Executant, MFMR/NNF/WWF Project for Integrated Co-Management of the Zambezi/Chobe Fisheries Resources, Katima Mulilo, Namibia.

2000-present Research Associate, South African Institute for Aquatic Biodiversity (formerly J.L.B. Smith Institute of Ichthyology), Grahamstown, RSA.

#### **Research Programme:**

Taxonomy, distribution and conservation of southern African river fishes.

#### **Consultancies and contracts:**

March - April 2012. Yekepa, Liberia. Fish specialist on EIA for iron ore mines. (URS for Arcelor Mittal).

March 2012. Caprivi, Namibia. Fish specialist. EIA for irrigation scheme proposing to draw water from Zambezi River. (Colin Christian & Associates CC)

June-December 2009. Project Coordinator (Fishery Biologist/Sociologist). Integrated Management of the Zambezi/Chobe River System Transboundary Fishery Resource, Namibia (MFMR, NNF, Norad, WWF Norway).

June 2010. Basic environmental assessment for trout farm development in Eastern Cape, South Africa (Envirofish Africa, EU).

April 2010 – present. Adviser/student supervisor for river fish biodiversity studies. Bunda College of Agriculture, Malawi. NEPAD biodiversity project.

May 2005 – 2011. Coordinator EU/IUCN/SAIAB southern African freshwater red data assessment programme (SAIAB).

2010 - present. Fish species identification and reporting for several EIAs in Guinea, Sierra Leone, DRC, Malawi and Namibia (various contractors).

August 2009. Review of the Instream Flow Requirements for Phase 1 Dams of the Lesotho Highlands Water Project (INR)

April – May 2009. Fishery Project Evaluation, Integrated Management of the Zambezi/Chobe River System Transboundary Fishery Resource, Namibia (Norad, WWF Norway)

February – March & August – September 2009 & September 2010. Malagarasi River, Tanzania, Aquatic Ecology specialist on EIA for hydroelectric scheme at Igamba Falls (in 2009) and downstream of falls (2010) (Norconsult)

December 2007 – April 2009. Coordinator, EIA on eradication of invasive alien fishes in Western Cape rivers (Envirofish Africa, CapeNature)

October – November 2008. Fish specialist responsible for demersal trawl fish biodiversity, research cruise in Indian Ocean between Mauritius and Seychelles. (ASCLME project)

July – August 2008. Survey of fishes of the Kwango tributary of the Congo River.

April 2008. Species risk assessment, introduction of the Nile Tilapia (*Oreochromis niloticus*) into the Eastern Cape (Envirofish Africa, ECDC)

November – December 2007. Zambia, Lumwana copper and uranium mine EIA fish and fisheries consultant (Envirofish Africa, Knight Piesold)

January – February 2007. Audit of the Instream Flow Requirements for Phase 1 Dams of the Lesotho Highlands Water Project (INR)

November 2006 – January 2007. Economic impact of Nile tilapia as an alien invasive species (CSIR, GISP Programme)

May 2006. Malawi uranium mine EIA fish and fisheries consultant (Envirofish Africa, Knight Piesold)

July – September 2005. Freshwater fish/fisheries specialist, Assessing environmental flow requirements for the Marromeu complex of the Zambezi Delta: application of the DRIFT model (Carr Foundation, International Crane Foundation)

May 2005. Adviser, Proposal for an environmental tourism and aquaculture development in the Evelyn Valley, Eastern Cape.

2004 – 2005. Project Manager, WWF Freshwater Biodiversity Initiative.

May 2004. Adviser, Proposal for an environmental tourism development at Holo Hlahatsi Impoundment, Eastern Cape.

October 2002 – April 2004. Field manager for SAIAB/AWF Aquatic Biodiversity Survey of the Upper Zambezi system for the “Four Corners” Transboundary Natural Resources Management Area Project.

July 2002 – July 2003. Fisheries Adviser (SAIAB), Swaziland Fish and Fisheries Project.

November 2000, June 2001, April - May 2002. Fisheries Research Consultant (FAO & DFID funding) on World Bank Appraisal Missions for next phase of GEF Lake Malawi Environmental Management Project.

March 2002 and March 2001. Taxonomist on demersal trawling surveys using *RV Dr Fridtjof Nansen* off Angolan coast.

September 2000: Lesotho Maluti Minnow Conservation Project research team member.

June 2000: Fisheries expert on Conservation International AquaRAP team studying the Okavango Delta ecosystem.

- 1997 - 2000 Survey Biologist, Jinja, Uganda (UNECIA consultant and Team Leader)
- Duties: Under the EU-funded Lake Victoria Fisheries Research Project, coordinate all stock assessment research activities in Uganda, Kenya and Tanzania, with the aim of producing the information needed for effective management of the Lake Victoria fish resources through a management plan developed during the project.
- 1995 - 1997 Research Associate, J.L.B. Smith Institute of Ichthyology, Grahamstown, RSA.
- Research Programme:
- Taxonomy and distribution of Malawi and southern African river fishes.
- Consultancies:
- Fish survey of Sundays and Fish River systems in relation to spread of translocated species. For Eastern Cape Nature Conservation.
- Survey of Katse Reservoir fish populations and preparation of project proposal for support to Fisheries Section and development of subsistence fishing and trout fishing and farming in Katse Reservoir. For Lesotho Highlands Development Authority.
- 1995 Fishery Research Consultant, Study on Sustainable Multiple-Use Resource Management of Nkhotakota Wildlife Reserve, Malawi (JICA funding).
- Duties: A study of Nkhotakota Game Reserve fish and fisheries, comprising (1) a comprehensive checklist of the reserve's fishes and their ecology, (2) a report on the biology of mpasa and the status of the mpasa fishery, (3) a sociological study of the village communities exploiting the fish resources of the reserve.

- 1994 - 1995 Fisheries Research Adviser, Monkey Bay, Malawi (TCO contract)
- Duties: Through the ODA-funded Fisheries Research and Management Support Project, providing advice to Fisheries Research Unit on the current programmes discussed below and involvement in planning thereof. Continuation of preparation of status reports on Malawi's fisheries; preparation, planning and control of research symposium and editing and publication of proceedings.
- 1991 - 1994 Senior Fisheries Research Officer, Monkey Bay, Malawi (OSAS contract, 1991-1992; TCO Key Cadre contract, 1993 - 1994)
- Duties: Administration and supervision of all capture fisheries research projects and programmes for the Malawi Government. Project planning and implementation. Assistance in translating research results into management planning and implementation of management strategies. Continuation of studies of traditional fisheries from previous contracts. Representing the Fisheries Department at meetings relating to research and environmental affairs and impact assessments.
- During this period when I was in charge of research, many projects were under implementation and at various stages of planning. Projects in progress and at advanced stages of planning included: (1) Fisheries Research and Management Support Project - FRAMS (Funding, ODA: Aims, to provide management and research planning expertise to the Malawi Government Fisheries Department and to provide extensive staff training to strengthen the long term management of the department and the fisheries); (2) Fisheries Research Programme (Funding, World Bank, IDA: Aims, to provide funding for continued investigations into the trawl fishing potential of Lake Malawi, including the deployment of a new large research trawler, and into the traditional fisheries of the country as a whole); (3) Protection of the Biodiversity of Lake Malawi (Funding, World Bank Global Environment Facility: Aims, to increase understanding and awareness of the biodiversity of Lake Malawi through research programmes, education and publicity including the development of museum and educational facilities, strengthening of the Lake Malawi National Park, river catchment conservation programmes, etc.); (4) Aquatic Ecology of Lake Malombe (Funding, sub-project of ODA - FRAMS Project: Aims, to provide detailed knowledge of the exploited fish species and fish habitats of Lake Malombe, to improve understanding and ultimately management of the lake's resources). Several other projects were in earlier stages of planning.
- Projects completed during the period were: (1) Demersal Fisheries Re-Assessment Project (Funding, ODA: Aims, to assess current state of trawled cichlid fish stocks in terms of biomass, sustainability and species composition); (2) Chambo Research Project (Funding and implementation, FAO: Aims, to assess the state of Chambo (*Oreochromis* spp.) stocks in the southern part of Lake Malawi and in Lake Malombe to make management recommendations):
- 1981 - 1991 Fisheries Research Officer, Monkey Bay, Malawi (OSAS contract).
- Duties: Investigations into the status of the traditional fisheries of the rivers and lakes of Malawi. From 1986 this involved the planning, implementation and control of the ODA funded Traditional Fisheries Assessment Project. Initial aims of project were to analyse all existing data on traditional fisheries of Lakes Malawi and Malombe and provide management recommendations

based on the findings, to review the present statistical recording system, to arrange training and refresher courses for recording and supervisory staff, to carry out fishing programmes at stations around the lake to compare results with those from beach-recording returns, to provide baseline information on chirimila fisheries for utaka, to conduct aerial surveys of fishing activity in lake. This project was a continuation and expansion of the research programmes implemented earlier. The project was later expanded to cover Malawi's other waters, Lakes Chilwa and Chiuta and the marshes of the Lower Shire River.

Compilation of Malawi fisheries bibliography.

Continuation of long term studies on mpasa and other river fishes.

1978 - 1981 Fisheries Research Officer, Karonga, Malawi (OSAS contract).

Duties: Assessment of fisheries potential of northern waters of Lake Malawi. Charting of potential trawling grounds following echo sounding transect survey, and assessment of stock by experimental trawling.

Gill netting experiments to determine size of potential stock, species composition and general biology of important commercial species.

Study of biology of, and river fisheries for, the anadromous species *Opsaridium microlepis* (mpasa), the highest-valued fish in the lake.

General assessment of all river fisheries and taxonomy of river fish.

1975 - 1978 Fisheries Research Officer, Lower Shire, Malawi (OSAS contract).

Duties: Assessment of fisheries of the Shire River marshes, which produce up to 10,000 tonnes of fish per annum, and making recommendations for development thereof, based on the research findings. Investigation into ecology and interactions of commercially-important species, particularly the clariid catfishes. Taxonomy of Southern Region fishes. Supervision of trawling experiments on Lake Chilwa. Administration of Fisheries Department activities in River Shire area. Baseline surveys of river fisheries in connection with rivers potentially susceptible to pollution.

1973 - 1975 Fisheries Biologist, UNDP/FAO/MALAWI GOVT. Project for the Promotion of Integrated Fisheries Development, Monkey Bay, Malawi (UN Volunteer).

Duties: Investigations into biology of commercially important species in the trawl fisheries of southern Lake Malawi.

Teaching Fisheries Biology and English at Fisheries Training Institute, Mpwapwe, Malawi.

1971 - 1972 Fishing Gear Technologist, Entebbe Fisheries Training Institute, Uganda (VSO).

Duties: Teaching fishing gear technology, fishing methods and coastal navigation to Fisheries Assistants.

## AREAS OF EXPERTISE

*Fish stock assessment:* Experienced in trawl and artisanal fisheries assessment. Age and growth studies. Fisheries ecology. Fisheries statistics.

*Project Management:* Fully controlled the ODA-funded Traditional Fisheries Assessment Project in Malawi, which received excellent reviews. Assumed control of the ODA-funded Demersal Fisheries Reassessment Project and saw it through to a successful conclusion. Field Manager for Aquatic Biodiversity Survey for the "Four Corners" Transboundary Natural Resources Management Area Project. Project Manager for WWF Freshwater Biodiversity Initiative. Coordinator for EU/IUCN southern African freshwater red data assessment project. Coordinator for final stages of Phase 1 of the WWF Zambezi/Chobe Fisheries Project. Project Executant for Phase 2 of the WWF Zambezi/Chobe Fisheries Project. Project Executant for EU/NNF Community Conservation Fisheries in KAZA Project & Project Coordinator, SASSCAL Project for Improved knowledge of aquatic ecosystems supporting fisheries, development of integrated strategies for sustainable fisheries and improved fisheries management.

*Project planning:* When in charge of fisheries research in Malawi, involved in the planning and implementation of numerous projects, some of which are listed under work experience above. Developed the project proposal, implemented by the JLB Smith Institute of Ichthyology with World Bank funding, for developing fisheries in Katse Reservoir, Lesotho, and for strengthening the Lesotho Fisheries Section to manage fisheries in all reservoirs to be constructed under the Lesotho Highlands Water Scheme. Involved in the development of a World Bank/GEF project for Lake Malawi watershed management and fisheries. Assisted in developing the Fish and Fisheries Project for Swaziland. Evaluated Phase 1 of the WWF Zambezi/Chobe Fisheries Project and developed the proposal for Phase 2. Identified research needs for Namibia fisheries and assisted in developing three project proposals, all of which are funded. Developed current projects for further management and research on the Upper Zambezi.

*Fisheries Management:* Controlled the fisheries research section of the Malawi Fisheries Department and played advisory roles for many years. Controlled several Fisheries stations for varying times over the years. Coordinator for series of projects in Namibia promoting community management of the fish resources of the Caprivi floodplain, including transboundary cooperation between Namibia, Zambia and Botswana.

*Sociological studies:* Involvement in developing community participatory management programme for Lake Malombe in Malawi. Conducted sociological survey of fishing activities in Nkhotakota District and proposed plans for community participation. Involved in, and advised on, community participation in management of Caprivi fisheries in several Fisheries Projects.

*Environmental Impact Assessments:* Reported on impacts and mitigation for fish and fisheries in rivers affected by uranium & copper mine developments in Malawi, Zambia and DRC. Aquatic Ecologist for EIA on hydroelectric scheme on Malagarasi River, Tanzania. Fish specialist on EIA for iron ore mine in Liberia. Fish specialist for irrigation scheme EIA in Caprivi, Namibia. Coordinated EIA on eradication of alien invasive fish species in streams of the Cape provinces in South Africa. Conducted basic assessments for aquaculture and tourism programmes in the eastern Cape, RSA.

*Education:* Taught Fisheries Assistants in Uganda and Malawi in biology and fishing gear technology. Prepared fisheries educational materials for Wildlife Society for use in schools in southern Malawi.

*Fish taxonomy:* Currently describing several new species from Malawi's rivers, preparing field guide to Malawi's river fishes, and reviewing zoogeographical relationships of the faunas. Also involved in taxonomy of Upper Zambezi fishes and catfish revisions in southern-central Africa. Also familiar with west Atlantic marine offshore fish fauna, having published two papers on Angolan trawl fishes. Described new species from Seychelles bank in Indian Ocean.

*Fishing and gear technology:* Extensive experience in most fishing methods and gear design, and taught gear technology to Fisheries Assistants in Uganda.

## **MEMBERSHIP OF ORGANISATIONS**

Southern African Society of Aquatic Scientists.

Research Associate of the South African Institute for Aquatic Biodiversity. (Honorary position awarded in recognition of services to the institute and collaboration in research).

## **LANGUAGES**

French and German - High grades at GCE O-level.

## **HOBBIES AND INTERESTS**

Angling, photography, soccer, writing, African freshwater fish distribution, African wildlife & conservation in general.

## **LIST OF PUBLICATIONS**

### **International peer-reviewed papers and book chapters**

- Russell, B.C. & Tweddle, D. (2013). A new species of *Nemipterus* (Pisces: Nemipteridae) from the Western Indian Ocean. *Zootaxa*, 3630(1): 191-197.
- Conradie, W., Tweddle, D., Mäkinen, T. & Bills, R. (2012). Description of the tadpole of *Hylarana darlingi* Boulenger 1902 (Anura: Ranidae) from the Mulanje Area, Malawi. *Zootaxa*, 3441: 56-58.
- Marr, S.M., Impson, N.D. & Tweddle, D. (2012). An assessment of a proposal to eradicate non-native fish from priority rivers in the Cape Floristic Region, South Africa. *African Journal of Aquatic Science* 2012, 37(2): 131-142.
- Darwall, W. R. T., Holland, R. A., Smith, K. G., Allen, D., Brooks, E. G. E., Katarya, V., Pollock, C. M., Shi, Y., Clausnitzer, V., Cumberlidge, N., Cuttelod, A., Dijkstra, K.-D. B., Diop, M. D., García, N., Seddon, M. B., Skelton, P. H., Snoeks, J., Tweddle, D. and Vié, J.-C. (2011), Implications of bias in conservation research and investment for freshwater species. *Conservation Letters*, 4: 474–482. doi: 10.1111/j.1755-263X.2011.00202.x
- Eccles, D.H., Tweddle, D. & Skelton, P.H. (2011). Eight new species in the dwarf catfish genus *Zaireichthys* (Siluriformes: Amphiliidae). *Smithiana*13:3-28.
- Swartz, E. & Tweddle, D. (2011). Site scale conservation. Section 9.2 *In* The diversity of life in African freshwaters: underwater, under threat - an analysis of the status and distribution of freshwater species throughout mainland Africa, edited by Darwall, W., Smith, K., Allen, D., Holland, R., Harrison, I. & Brooks, E. IUCN, Gland, Switzerland and Cambridge, UK, 277-282.

- Hoffman, M. *et al.* (incl. Tweddle, D.) (2010). The impact of conservation on the status of the world's vertebrates. *Science*, 330:1503-1509.
- Tweddle, D. (2010). Overview of the Zambezi River System: its history, fish fauna, fisheries, and conservation. *Aquatic Ecosystem Health and Management*, 13(3): 224-240.
- Weyl, O.L.F., Ribbink, A.J. & Tweddle, D. (2010) Lake Malawi: fishes, fisheries, biodiversity, health and habitat. *Aquatic Ecosystem Health and Management*, 13(3): 241-254.
- Tweddle, D., Bills, R., Swartz, E., Coetzer, W., Da Costa, L., Engelbrecht, L., Cambray, J., Marshall, B., Impson, D., Skelton, P.H., Darwall, W.R.T. & Smith, K.G. (2009). Chapter 3. The status and distribution of freshwater fishes. *In* The status and distribution of freshwater biodiversity in southern Africa edited by Darwall, W.R.T., Smith, K.G., Tweddle, D. & Skelton, P. IUCN, Gland Switzerland and SAIAB, Grahamstown, South Africa, 21-37.
- Darwall, W.R.T., Smith, K.G., Tweddle, D. & Skelton, P. (eds) (2009). The status and distribution of freshwater biodiversity in southern Africa. IUCN, Gland, Switzerland and SAIAB, Grahamstown, South Africa, viii + 120 pp.
- Darwall, W.R.T., Smith, K.G., Tweddle, D., Skelton, P., Katariya, V. & Coetzer, W. (2009). Chapter 8. Regional synthesis for all taxa. *In* Darwall, W.R.T., Smith, K.G., Tweddle, D. & Skelton P. The status and distribution of freshwater biodiversity in southern Africa IUCN, Gland, Switzerland and SAIAB, Grahamstown, South Africa, 99-114.
- Darwall, W.R.T., Tweddle, D., Skelton, P. & Smith, K.G. (2009). Chapter 1. Background. *In* Darwall, W.R.T., Smith, K.G., Tweddle, D. & Skelton P. The status and distribution of freshwater biodiversity in southern Africa. IUCN, Gland, Switzerland and SAIAB, Grahamstown, South Africa, 1-15.
- Tweddle, D. & Anderson, M.E. (2008). A collection of marine fishes from Angola, with notes on new distribution records. *Smithiana*, 8:3-24.
- Tweddle, D. & Skelton, P.H. (2008). New species of '*Barbus*' and *Labeobarbus* (Teleostei: Cyprinidae) from the South Rukuru River, Malawi, Africa. *Smithiana*, 8:25-39.
- Tweddle, D. (2007). First record of the river goby *Glossogobius callidus* (Smith, 1937) from Malawi. *African Journal of Aquatic Science*, 32(1): 89.
- Tweddle, D., Balirwa, J., MacLennan, D., Okaronon, J., Tumwebaze, R., Getabu, A. & Bassa, S. (2006). Occurrence of *Barbus profundus* Greenwood 1970 (Teleostei: Cyprinidae) in mid-water in Lake Victoria. *African Journal of Aquatic Science*, 31(1):155-157.
- Tweddle, D. (2005). Lakes Chilwa and Chiuta. Ecoregion 1. *In* Freshwater ecoregions of Africa and Madagascar, a conservation assessment, edited by Thieme, M.L., Abell, R., Stiassny, M.L.J., Skelton, P., Lehner, B., Teugels, G.G., Dinerstein, E., Toham, A.K., Burgess, N. & Olson, D. Island Press, Washington, 173-175.
- Tweddle, D. (2005a). Mulanje. Ecoregion 43. *In* Freshwater ecoregions of Africa and Madagascar, a conservation assessment, edited by Thieme, M.L., Abell, R., Stiassny, M.L.J., Skelton, P., Lehner, B., Teugels, G.G., Dinerstein, E., Toham, A.K., Burgess, N. & Olson, D. Island Press, Washington, 259-261.
- Tweddle, D. (2005b). Lower Zambezi. Ecoregion 66. *In* Freshwater ecoregions of Africa and Madagascar, a conservation assessment, edited by Thieme, M.L., Abell, R., Stiassny, M.L.J., Skelton, P., Lehner, B., Teugels, G.G., Dinerstein, E., Toham, A.K., Burgess, N. & Olson, D. Island Press, Washington, 308-311.
- Tweddle, D., Bills, R., van der Waal, B., Skelton, P., Kolding, J. & Nengu, S. (2003). Fish diversity and fisheries in the Okavango Delta, Botswana. *In* A rapid biological assessment of the aquatic ecosystems of the Okavango Delta, Botswana: high water survey, edited by Alonso, L.E. & Nordin, L. *RAP Bulletin of Biological Assessment*, Conservation International, Washington DC., 97-110 & 210-245.



- Anderson, M.E. & Tweddle, D. (2002). A new species of *Physiculus* (Teleostei: Moridae) from the Southeastern Atlantic. *Arch. Fish. Mar. Res.*, 50(1):17-22.
- Njiru, M., Othina, A.N., Getabu, A., Tweddle, D. & Cowx, I.G. (2002). Is the invasion of water hyacinth, *Eichhornia crassipes* Solms (Mart.), a blessing to Lake Victoria fisheries? In Management and ecology of lake and reservoir fisheries, edited by Cowx, I.G. Fishing News Books, Oxford, 255-263.
- Tweddle, D. (2001). Threatened fishes of the world: *Opsaridium microlepis* (Günther, 1864) (Cyprinidae). *Env. Biol. Fish.*, 61:72.
- Tweddle, D. (2000). The role of Nkhotakota Wildlife Reserve, Malawi, Africa, in the conservation of the mpasa *Opsaridium microlepis* (Günther, 1864). In Management and ecology of river fisheries, edited by Cowx, I.G. Fishing News Books, 400-417.
- Tweddle, D. & Skelton, P.H. (1998). Two new species of *Varicorhinus* (Teleostei: Cyprinidae) from the Ruo River, Malawi, Africa, with a review of other southern African *Varicorhinus* species. *Ichthyol. Explor. Freshwaters*, 8(4):369-384.
- Tweddle, D. & Davies, M.T.T. (1997). Preliminary observations on the fish populations of the recently-impounded Katse Reservoir, Lesotho. *Sth. Afr. J. aquat. Sci.*, 23(2):7-20.
- Tweddle, D., Eccles, D.H., Frith, C.B., Fryer, G., Jackson, P.B.N., Lewis, D.S.C. & Lowe-McConnell, R.H. (1997). Cichlid spawning structures - bowers or nests? *Env. Biol. Fish.*, 51:107-109.
- Banda, M., Tomasson, T. & Tweddle, D. (1996). Assessment of the trawl fisheries of the South East Arm of Lake Malawi using exploratory surveys and commercial catch data. In Stock assessment in inland fisheries, edited by Cowx, I. Fishing News Books, 53-75.
- Tweddle, D., Turner, G.F. & Seisay, M. (1995). Changes in species composition and abundance as a consequence of fishing pressure in Lake Malombe, Malawi. In The impact of species changes in African lakes, edited by Pitcher, T.J. & Hart, P.J.B. Chapman and Hall, London, 413-424.
- Turner, G.F., Tweddle, D. & Makwinja, R.D. (1995). Changes in demersal cichlid communities as a result of trawling in southern Lake Malawi. In The impact of species changes in African lakes, edited by Pitcher, T.J. & Hart, P.J.B. Chapman and Hall, London, 397-412.
- Tweddle, D. (1992). Conservation and threats to the resources of Lake Malawi. In Symposium on resource use and conservation of the African Great Lakes, Bujumbura 1989. *Mitt. Internat. Verein. Limnol.*, 23:17-24.
- Tweddle, D. (1992a). A brief review of the tourism resources and potential around the African Great Lakes. In Symposium on resource use and conservation of the African Great Lakes, Bujumbura 1989. *Mitt. Internat. Verein. Limnol.*, 23:121-124.
- Tweddle, D. & Crossley, R. (1991). Effects of an earthquake on demersal cichlid fishes of southern Lake Malawi. *J. Fish Biol.*, 38(2):305-308.
- Skelton, P.H., Tweddle, D. & Jackson, P.B.N. (1991). Cyprinids of Africa. In Cyprinid Fishes: Systematics, biology and exploitation, edited by Winfield, I.J. & Nelson, J.S. Chapman and Hall, London, *Fish and Fisheries Series*, 3:211-239.
- Tweddle, D. & Bowa, A. (1990). Gillnetting experiments in Lake Malawi, Africa: (1) Multicoloured gillnet trials, with a review of previous coloured net trials. *Collected Reports on Fisheries Research in Malawi. Occasional Papers, Volume 1*:37-46.
- Tweddle, D. & Bowa, A. (1990a). Gillnetting experiments in Lake Malawi, Africa: (2) A comparison of catches using nets with different mounting ratios. *Collected Reports on Fisheries Research in Malawi. Occasional Papers, Volume 1*:47-56.
- Tweddle, D. & Lewis, D.S.C. (1990). The biology of usipa (*Engraulicypris sardella*) in relation to fluctuations in productivity of Lake Malawi and species introductions. *Collected Reports on Fisheries Research in Malawi. Occasional Papers, Volume 1*:67-72.

- Lewis, D.S.C. & Tweddle, D. (1990). Breeding seasonality in some commercially important trawl-caught fish species in southern Lake Malawi. *Collected Reports on Fisheries Research in Malawi. Occasional Papers, Volume 1*:23-36.
- Lewis, D.S.C. & Tweddle, D. (1990a). The yield of usipa (*Engraulicypris sardella*) from the Nankumba Peninsula, Lake Malawi (1985-1986). *Collected Reports on Fisheries Research in Malawi. Occasional Papers, Volume 1*:57-66.
- Owen, R.B., Crossley, R., Johnson, T.C., Tweddle, D., Kornfield, I., Davison, S., Eccles, D.H. & Engstrom, D.E. (1990). Major low levels of Lake Malawi and their implications for speciation rates in cichlid fishes. *Proc. roy. Soc. B*, 240:519-533.
- Tweddle, D. & Magasa, J.H. (1989). Assessment of yield in multi-species cichlid fisheries of the South East Arm of Lake Malawi, Africa. *J. Cons. int. Explor. Mer*, 45(2):209-222.
- Tweddle, D. & Bodington, P. (1988). A comparison of the effectiveness of black and white gillnets in Lake Malawi, Africa. *Fisheries Research*, 6(3):257-269.
- Tweddle, D. (1987). An assessment of the growth rate of mpasa, *Opsaridium microlepis* (Günther, 1864) (Pisces: Cyprinidae) by length frequency analysis. *J. Limnol. Soc. South. Afr.*, 13(2):52-57.
- Tweddle, D. & Tweddle, S.C. (1984). Weaver nest predation by an African Fish Eagle. *Ostrich*, 55:35-36.
- Crossley, R. & Tweddle, D. (1984). A note on some sedimentary features revealed by echosounding in Lake Malawi, Africa. *Trans.geol.Soc.S. Afr.*, 87:45-51.
- Tweddle, D. (1983). Breeding behaviour of the mpasa, *Opsaridium microlepis* (Günther)(Pisces: Cyprinidae), in Lake Malawi. *J. Limnol. Soc. South. Afr.*, 9(1):23-28.
- Tweddle, D. & Willoughby, N.G. (1982). The distribution and identification of mormyrid fishes in Malawi, with notes on the synonymy of *Marcusenius nyasensis* and *M. livingstonii* (Mormyridae). *Spec. Publ. J.L.B. Smith Inst. Ichthyol.*, (24):11 pp.
- Tweddle, D. (1979). The zoogeography of the fish fauna of the Lake Chilwa basin. In Lake Chilwa : studies of change in a tropical ecosystem, edited by Kalk, M., McLachlan, A.J. & Howard-Williams, C. W. Junk, The Hague, *Monogr. Biol.*, 35:171-181.
- Tweddle, D., Lewis, D.S.C. & Willoughby, N.G. (1979). The nature of the barrier separating the Lake Malawi and Zambezi fish faunas. *Ichthyol. Bull. Rhodes Univ.*, 39:1-9.
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