



# 103rd CRC Seminar

## Air-breathing fish, water-breathing spiders and bugs: experiments with oxygen-sensing optodes

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Tarpon (*Megalops*)



River bug (*Aphelocheirus*)



Water spider 水蜘蛛 (*Argyroneta*)

Most animal groups exchange respiratory gases with either air or water. Fish usually use gills to exchange gases with water, and insects and spiders use tracheal systems to exchange gas with air. However, there are many air-breathing fish and water-breathing diving insects. There is also only one spider that lives under water. We have investigated respiration in three species of these unusual animals with recently-developed, fibre-optic oxygen sensors that permit measurements of oxygen in very small spaces. This presentation considers our research on tarpon fish that use a modified swimbladder to extract oxygen from air, the river bug that uses a film of air on the surface of the body as a gill, and the water spider that constructs an underwater 'diving-bell' of web that acts like a gill.

日時：3月27日（月） 15:00～16:30

場所：総合教育研究棟 1F 遠隔講義室（生命系スペースC）

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