

# Fish feat: Reef predator uses sign language to hunt

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This undated photo released by the Great Barrier Reef Marine Park Authority on April 23, 2009 shows an Algal overgrowth section of Australia's Great Barrier Reef. The roving coral grouper, a predator fish of the tropical reef, uses sign language to advise fellow hunters of hiding prey, according to a study published on Tuesday.

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It is the first time that a fish has been known to make "referential gestures," or specific signs that alert a partner to an object of mutual interest, it said.

Reporting in the journal *Nature Communications*, a trio of biologists at Switzerland's University of Neuchatel and Cambridge University in England studied how the coral grouper works with two hunting pals.

Previous research has shed light on the unusual relationship between the coral grouper (*Plectropomus pessuliferus marisrubri*), the giant moray eel (*Gymnothorax javanicus*) and the Napoleon wrasse (*Chelinus undulatus*).

By cooperating, the three species maximise their chances of getting dinner.

The grouper has "burst speed" to capture [prey](#) in open water, while the eel can slide into crevices where small [fish](#) lurk and the wrasse has powerful extendable jaws that can suck out prey from a hole or smash the reef around it.

The grouper has two signals it uses in these hunts, according to the paper.

The first is a "high frequency shimmy," or a kind of body shake, that it performs in front of the moray as a general invitation to join it in a chase.

The second is specific, or "referential."

It is a headstand, which the grouper performs vertically and head-down,

indicating to the moray or the wrasse where a prey is hiding or where it was last seen.

The team carried out 187 hours of observations of groupers in the wild, in reefs off Australia or Egypt.

They recorded 34 occurrences of the headstand. In 31 of the cases, either a moray or a wrasse rushed to inspect the location to which the grouper pointed. In five cases, the outcome was capture of the prey.

"In the [animal world](#), postures or referential gestures have until now only been seen among great apes and ravens," said Neuchatel researcher Redouan Bshary.

**More information:** The research paper, "Referential gestures in fish collaborative hunting", was published today, 23 April, in *Nature Communications*.

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