

Ro (Yuloh) : Japanese Traditional Propelling Device

Ro (Yuloh); the traditional propeller for small boat in East Asia is the unique devices using hydrodynamic "Lift". It runs the boat very gently and economically.

1 Traditional propelling devices in Japan

There are 4 traditional types of device to run the boat in Japan.

- Sao : Long bamboo or wood lod to push the bottom of the shallow river, pond or lake.
- Uchikai : The same as the paddle of canoe.
- Kai : The same as the rowing oar. It is useful for short and fast rowing.
- Ro : It is the same mechanism as Chinese "yuloh". The Hydrodynamic lift produced by the long blade propels the boat gently and effectively. The origin is Southeast Asia (maybe). It is useful for long time boating for 2 hours over, but not so fast (apx. 5 knots by 1 person).

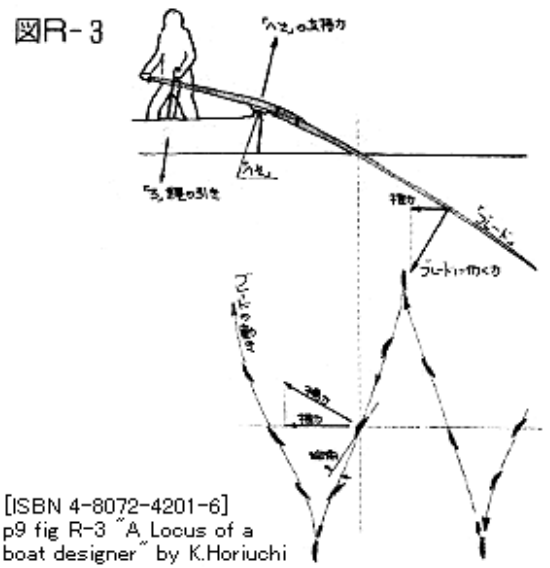
In Japan, we say simply "Ro". I think "Yuloh" is the term in China or Continental East-Asia. Maybe "Yu-" means "swinging-".

2 The mechanism of "Ro"

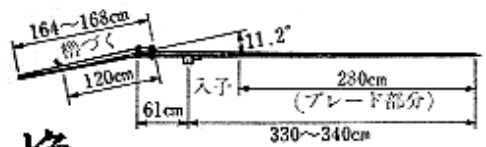
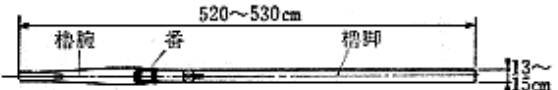
The blade gently swings sideways through the water. The sectional shape of the blade is just like the "wing". It creates the hydrodynamic lift.

The blade creates a strong downward force and a small forward force. "Ro-nawa"(rope) from the end of the "Ro-ude"(=handle) to the deck balances with the downward force. "Heso" or "Ro-beso" (ball joint. "Heso" means a navel.) and "Ireko"(socket) joint is flexible to each other, and enable the feathering motion at the turning point of zigzags.

図R-3



[ISBN 4-8072-4201-6]
p9 fig R-3 "A Locus of a boat designer" by K.Horiuchi



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ろ ro: Japanese Traditional Propeller for boat [Kodansha Blue Backs B412 p155 Fig.7-7]

