

REFERENCES CITED

- Anon (1982-1984) Annual report of effort and catch statistics by area on Taiwan demersal fish fisheries. Demersal Fish Research Center, National Taiwan Univ. Taipei, Taiwan.
- AKAMINE T. (1984) The BASIC program to analyse the polymodal frequency distribution into normal distributions with Marquardt's method. Bull. Japan Sea Reg. Fish. Res. Lab. 34: 53-60.
- AKAMINE, T. (1985) Consideration of the BASIC programs to analyse the polymodal frequency distribution into normal distribution. Bull. Jap. Sea. Reg. Fish. Res. Lab. 35: 129-160.
- CHEN, C. Y., S. Y. YEH and H. C. LIU (1984) Age and growth of *Lutjanus malabaricus* in the north-western shelf off Australia. Acta Oceanographica Taiwanica 15: 154-164.
- HASSELBLAD V. (1966) Estimation of parameters for a mixture of normal distribution. Technometrics 8(3): 431-446.
- MACDONALD, P. D. M. and T. J. PITCHER (1979) Age groups from size-frequency data: a versatile and efficient method of analysing distribution mixtures. J. Fish. Res. Board. Canada, 36: 987-1001.
- MARQUALDT, D. W. (1963) An algorithm for least squares estimation of nonlinear parameters. J. Soc. Indust. Appl. Math. 11: 431-441.
- NELDER, J. A. and R. MEAD (1965) A simplex method for function minimization. Comput. J. 7: 308-313.
- RAO, C. R. (1973) Linear statistical inference and its applications. 2nd ed. John. Wiley and Sons New York, 625pp.
- RICKER, W. E. (1975) Computation and interpretation of biological statistics of fish population. Fish. Res. Bd. of Canada Bull. No. 191. 382p.
- ROBSON, D. S. (1966) Estimation of the relative fishing power of individual ships. ICNAF Res. Bull. 3: 5-14.
- SCHNUTE J. and D. FOURNIER (1980) A new approach to length frequency analysis: growth structure. Canada J. Fish. Aquatic Sci. 37: 1337-1351.

澳洲西北陸棚產摩拉巴笛鯛生殘率之估計

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摘 要

本報告係利用最大相似法 (maximum likelihood method), 將澳洲西北陸棚產摩拉巴笛鯛之體長組成轉換成年齡組成, 並估計其生殘率及全死亡係數。

結果顯示: (1)最大相似法可適當的將體長組成轉換成年齡組成。並且實測的體長頻度分佈與估算所得的體長頻度分佈相當吻合。(2)澳洲西北陸棚產摩拉巴笛鯛被漁獲的主要年級組為 3~6 歲。(3)在目前的漁業型態下, 本種魚的完全加入羣為 4 歲魚。(4)自 1982 年至 1986 年, 本種魚的全死亡係數分別是 0.4607、0.5494、0.6792、0.4332 及 0.3737。