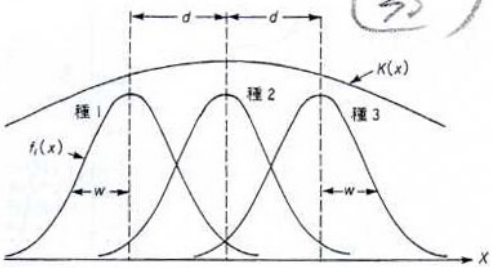

図 11-10 資源軸 (x) 上の資源利用曲線 $f_i(x)$ の模式図．3 種の $f_i(x)$ は x 軸上で各々の平均値が d だけ離れており，w の標準偏差を持つ正規分布としてあらわされている．

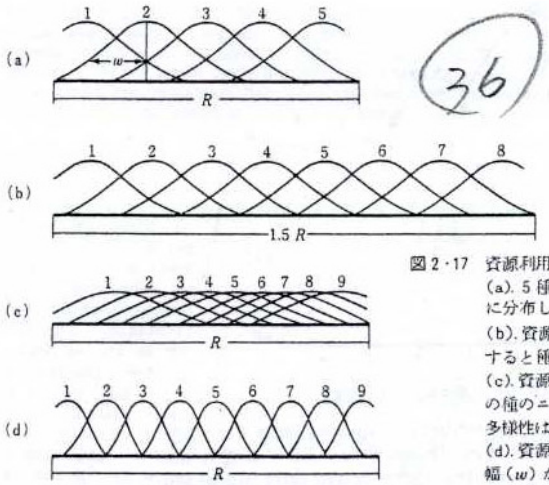

図 2・17 資源利用の様式と多様性
(a). 5 種がニッチ幅 w の重複で一定に分布している。
(b). 資源の量 R (種類) が 1.5 倍増加すると種数 (多様性) は増加する。
(c). 資源の量が一定でも，それぞれの種のニッチの重複が増加すれば種多様性は増加する。
(d). 資源の量が一定でも，ニッチの幅 (w) が狭くなれば種多様性は増加する。

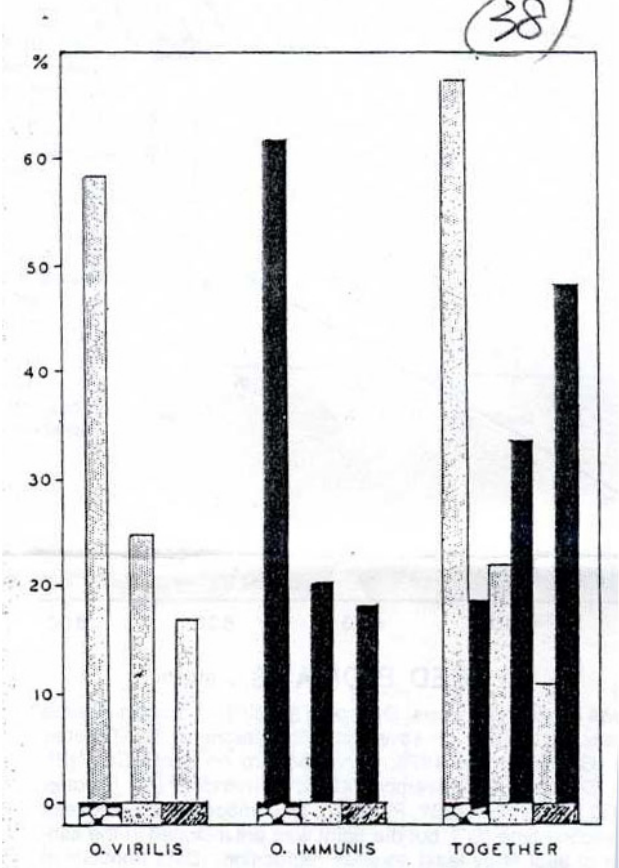

FIG. 4. Residence of crayfish in a tank 4 m long, divided into equal segments of rock, gravel, and muck substrata; expressed as percent of total positions recorded. Left: *O. virilis* alone; Center: *O. immunis* alone; Right: both species together. Total position recordings = 5,600.

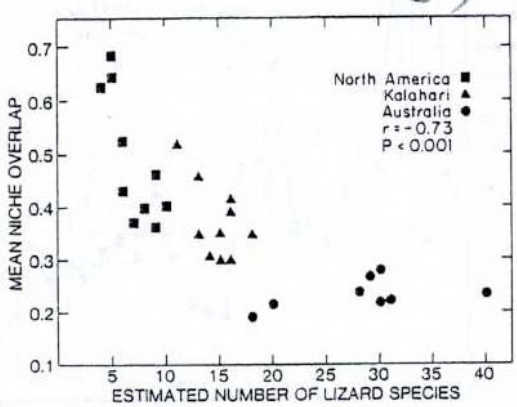

FIG. 2. Average overall summation niche overlap plotted against the estimated number of lizard species. Continents coded by *shape*, as indicated. Similar inverse correlations exist with overall multiplicative overlap values and with three different estimates of maximal tolerable niche overlap (see *text*).

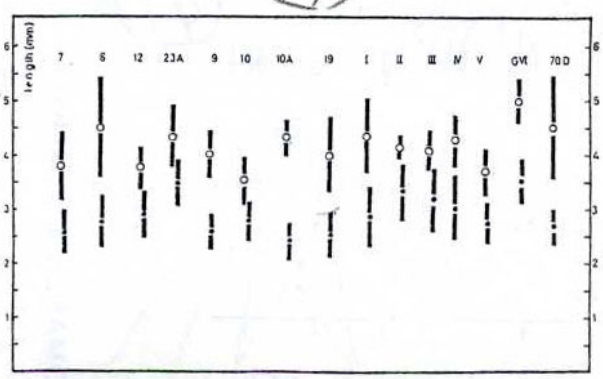

Fig. 2. Average lengths of *H. ulvae* (open circles) and of *H. ventrosa* (filled circles) from 15 localities in the Limfjord where the two species coexist. The vertical bars indicate one standard deviation. All samples are from the summer of 1974

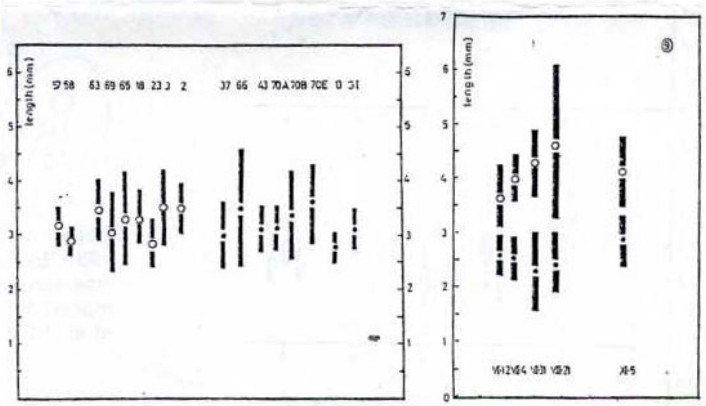

Fig. 3. Average lengths of *H. ulvae* and of *H. ventrosa* from 17 localities in the Limfjord where one of the two species occurs alone. All samples are from the summer of 1974. Legends as for Fig. 2

Fig. 4. Average lengths of *H. ulvae* and of *H. ventrosa* on Locality 9 on 5 dates between June and November 1974. Legends as for Fig. 2

㉟ 伊藤嘉昭、山村則男、嶋田正和　(1992)　動物生態学　蒼樹書房　P294　図11-10

㊱ 木元新作、武田博清　(1989)　群集生態学入門　共立出版株式会社　P44 図2・17

㊲ Pianka (1974) Niche overlap and diffuse competition. Proceedings of the National Academy of Sciences of the United State of America 71: 2141-2145. P2143 Fig. 2

㊳ Bovbjerg RV (1970) Ecological isolation and competitive exclusion in two crayfish (Orconectes virilis and Orconectes immunis). Ecology 51: 225-236. P231 Fig. 4

㊴ Frenchel T (1975) Character displacement and coexistence in mud snails (Hydrobiidae). Oecologia 20: 19-32. P23 Fig. 2 & Fig. 3、及びFig. 4