Clupeomorpha, sister-group of Ostariophysi

G. Lecointre, G. Nelson. 1996. In Stiassny M.L.J., Parenti L. and Johnson D. (eds) : Interrelationships of Fishes II. Academic Press. pp. 193-207.

Analysis of molecular data, even with some methodological weakness, suggests a relationship between clupeomorphs and ostariophysans. If these two groups form a clade, that clade relates in some way to esocoids and neognaths (osmerans, salmonids, and neoteleosts). Molecular data suggest that esocoids are the sister-group either of salmonids or of neognaths. If so, clupeocephalans divide into two groups, Clupeomorpha + Ostariophysi and Esocoidei + Neognathi (Fig. 1I). Four morphological characters are suggested as possible synapomorphies of a clupeomorph + Ostariophysan clade : pleurostyle, fusion between hypural two and ural centrum one, fusion between hemal spines and centra anterior to preural centrum two, and fusion of extrascapulars and parietals.