11. ON THE IDENTITY OF RAT-TAILED ANCHOVY *COILIA NEGLECTA* WHITEHEAD, 1967

Whitehead (1967b) described a new species of rat-tailed anchovy, *Coilia neglecta* from the collections of the International Indian Ocean Expedition made during 1963-64, on the basis of one holotype and 10 paratypes. In these eleven specimens the number of post-pelvic scutes is 8-9 ; however, in his key to ten species of *Coilia* (p. 30) he states that in *C. neglecta* the number of post-pelvic scutes is 9-11. In the same key he indicates that the number of post-pelvic scutes in *C. dussumieri* Val. 1848, is 6-8. In the two specimens of *C. dussumieri* described by him earlier (RMNH 7073, Whitehead *et al.* 1966 ; MNHN 3749, Whitehead 1967a), the number of post-pelvic scutes is 8. In the 30 specimens of *C. dussumieri* from Gollapalem (Krishna District, Andhra Pradesh), all of which had pearly spots in fresh condition, the number of post-pelvic scutes is 7-9. According to Whitehead's Key, *C. dussumieri* is distinguished from the other 9 species in possessing pearly spots on flanks. Haneda (1961) identified them as light organs and according to him ' —if this material is preserved in formalin for several months, the golden orange colour of the luminous organ fades away completely, and it becomes almost impossible to recognise the luminous organ on opercular or body surface ' (p. 49-50).

Characters usually employed in distinguishing the species of *Coilia* are : (*a*) number of ventral rays, (*b*) length of maxilla, (*c*) presence or absence of pre-pelvic scutes, (*d*) number of pectoral filaments, (*e*) number of abdominal scutes, and (*f*) gill rakers. A comparison of the characters of *C. neglecta* Whitehead and *C. dussumieri* Val., shows considerable or complete overlap in all biometric characters (Tables I and II) ; the only positive difference between them is with regard to the pearly spots, which are absent in *C. neglecta*. Examination of *C. dussumieri* collected from Gollapalem shows that the pearly spots which are very distinct in fresh specimens disappear partially or completely, after preservation in formalin, as observed by Haneda. Since the description of *C. neglecta* was based on preserved material, and as stated earlier, the light organs in *C. dussumieri* may disappear after preservation in formalin, *C. dussumieri* could possibly be mistaken for *C. neglecta*, while working on preserved material.

A pseudobranch is present both in *C. neglecta* (Whitehead 1967b) and in the specimen of *C. dussumieri* in RMNH (No. 7073), but it was not found in the lectotype of *C. dussumieri* (Whitehead 1967a).

In the circumstances, it is suggested that the validity of *C. neglecta* remains doubtful until some stable characters are found to distinguish it from *C. dussumieri*, because formalin-preserved specimens of

TABLE 1

Character	*C. neglecta* Whitehead[1]	Lectotype, (MNHN 3749) of *C. dussumieri* Val.[2]	Lectotype (RMNH 7073) of *Leptonurus chrysostigma* Blkr. (= *C. dussumieri*)[3]	*C. dussumieri* Val. (Gollapalem, n = 30)
light organs on flanks ..	Absent	Present	Present	Present
pseudobranch ..	present	not found	minute	small (9-11 fil)
branchiostegals ..	10-12	10	8 (?9)	9-11
dorsal rays ..	I iii 10-11	I iii 12	I iii 12	I iii 10-11
pectoral rays ..	vi + 10-12	vi + 10	vi + 13	v-vi + 8-11
ventral rays ..	i 6	i 6	i 6	i 6
anal rays ..	iii 91-107	ii 100 (? 1 or 2 rays missing)	iii 103	100-112
gill rakers ..	17-19 + 23-26	17 + 12[4]	— + 26	17-21 + 24-26
scutes ..	5-6 + 8-9	5 + 8	5 + 8	5-6 + 7-9

[1] Whitehead 1967a.
[2] Whitehead 1967b.
[3] Whitehead *et al.* 1966.
[4] Whitehead (1967a, p. 154) gives the number of lower gill rakers in the lectotype of *C. dussumieri* as 12, this is possibly a printer's devil, because the number of lower gill rakers in this species is much higher.

MNHN : Muséum National d' Histoire Naturelle, Paris.
RMNH : Riksmuseum van Natuurlijke Historie, Leiden.

TABLE 2

Character	*C. neglecta* Whitehead[1]	Lectotype, (MNHN 3749) of *C. dussumieri* Val.[2]	Lectotype (RMNH 7073) of *Leptonurus chrysostigma* Blkr. (= *C. dussumieri*)[3]	*C. dussumieri* Val. (Gollapalem, n = 30)
body depth ..	18·4-20·3	19·7	17·2	18·7-21·7
head length ..	16·2-17·9	17·4	14·2	17·6-19·3
snout length ..	2·6- 3·6	3·4	3·4	3·6- 4·6
eye diameter ..	3.6- 4.1	4·2	3·4	3·7- 4·6
upper jaw length ..	14·0-16·0	16·1	14·6 (15·6)	—
lower jaw length ..	11·5-12·6	12·9	damaged	—
longest pectoral filament ..	31·3 & 37·2-49·0	39·8	damaged	39·4-47·0
pelvic fin length ..	5·5- 6·3	5·7	5·3	5·5- 6·9
length of anal fin base ..	58·8-64·2 & 69·9	60·0	—	—
pre-dorsal distance ..	26·3-27·7	28·5	28·0	25·0-27·2
pre-pelvic distance ..	26·7-29·1	27·2	25·8	23·9-26·6
pre-anal distance ..	37·0-41·6	38·8	37·3	37·3-40·6

[1] Whitehead 1967a.
[2] Whitehead 1967b.
[3] Whitehead *et al.* 1966.
MNHN : Muséum National d' Histoire Naturelle, Paris.
RMNH : Rijksmuseum van Natuurlijke Historie, Leiden.

C. dussumieri in which the pearly spots have become indistinct or have disappeared could be easily mistaken for *C. neglecta*.

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12. SOME SOIL ARTHROPODS COLLECTED FROM PADDY FIELDS AT VARANASI

Very little is known about the mesofauna of Indian soil. The present paper is the result of a quantitative investigation of the mesofauna collected from the paddy fields under drought conditions during September to November, 1966. Soil moisture, soil temperature, and percentage of organic matter was also recorded during the period of investigation.

The sampling plots were located on the Agriculture farm of the Faculty of Agriculture, Banaras Hindu University. Two plots of the size 12 × 12 m were selected and total of 32 soil samples (16 from each plot) were taken during the period of study up to the depth of 22·5 cm at randomized cores with a sampling unit 7·5 × 10 × 22·5 cm in size. Soil was carried to the laboratory in polythene bags. All the soil samples were processed in the Ladell Apparatus (Ladell 1936) by flotation method. The fauna collected and stored in glycerated 70% alcohol, were examined by using a binocular microscope. Oudman's fluid, Diaphane, DPX and Canada balsam were employed as mountant, Lacto-

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