Arunachal Pradesh, the largest (83743 km\(^2\)) union territories of India and situated in the north eastern proximity of the country significantly contains clusters of rivers and rivulets, most of which incidentally form the perennial tributaries of river Brahmaputra. Of them, eleven rivers namely, Kameng, Subansari, Dikrong, Pachin, Ranga, Siang, Dibang, Lohit, Noadhing, Buridhing and Tirap which constitute the principal watersheds of the territory are accounted in the present communication. The geographical position and courses of these rivers along with their survey stations have been depicted in Figure 132.

Three pronounced seasons namely, hot and dry summer (HDS) ranging from March to June; hot and wet summer (HWS) from July to September and prolonged winter (PW) extending from October to February are annually discernible in Arunachal Pradesh. Indeed, the rainfall trend are variable
throughout the region and the average value (mm) recorded in respect of each survey station during 1983 and 1984 is given hereafter in parenthesis against each river; Kameng (400), Subansari (500), Dikrong (390), Pachin (350), Ranga (200), Siang (500), Dibang (500), Lohit (450), Noadhing (250), Buridhing (270) and Tirap (220).

An account of each river along with the survey station, fluvial dynamics, water characteristics and fish communities recorded during 24 months of empirical studies is given in the following lines. Water velocity (m.sec\(^{-1}\)) and discharge rate (cum. sec\(^{-1}\)) are the parameters studied in fluvial dynamics. Six physical and chemical parameters of water namely, transparency (cm), temperature (\(^\circ\)C), hydrogen-ion-concentration, dissolved oxygen = DO (mg. l\(^{-1}\)), free carbondioxide = FCO\(_2\) (mg. l\(^{-1}\)) and total alkalinity = TA (mg. l\(^{-1}\)) have been analysed. Minimum and maximum values showing corresponding season in parenthesis followed by mean (\(\bar{X}\)) and amplitude (A) under each parameter have been purported. The same arabic numerals used in the systematic list have been used to denote the fish species of each river investigated.
Fig. 132. Map of ARUNACHAL PRADESH SHOWING DRAINAGE SYSTEM With respective Survey Station & Confluences with R-Brahmaputra in ASSAM.
River Kameng, a hilly stream rises from Indo-China border at an elevation of 3024 m (msl). After flowing c. 50 km. it receives two easterly flowing tributaries, R. Tenga and R. Bichom. Thence the river traverses c. 200 km. through the hilly terrain and enters Assam at Bhalukpong to finally join with the R. Brahmaputra at a place south of Jamuguri (26° 40' N and 92° 42' 18" E). Significantly, the river traverses through a series of gradients exhibiting a total fall of c. 2828 m in Arunachal Pradesh.

Survey station

Bhalukpong (27° 26' N and 92° 28' 23" E), the survey station, lies at an elevation of 218 m (msl) and is c. 40 km. from Tezpur town in Assam on metallled road.

Fluvial dynamics

Water velocity, 0.9 (PW) - 1.3 (HWS), \( \bar{x} \) 1.10, A 0.4; discharge rate, 160 (PW) - 1200 (HWS), \( \bar{x} \) 680, A 1040.
Water characteristics

Transparency, 8.0 (HWS) - 160 (PW), $\bar{X}$ 84.0, $A$ 152.0; temperature, 13.0 (PW) - 23.0 (HWS), $\bar{X}$ 18.0, $A$ 10.0; hydrogen-ion-concentration, 6.2 (HWS) - 7.2 (PW), $\bar{X}$ 6.7, $A$ 1.00; DO, 6.5 (HWS) - 12.0 (PW), $\bar{X}$ 9.25, $A$ 5.5; $\text{FCO}_2$, 0.5 (PW) - 1.0 (HWS), $\bar{X}$ 0.75, $A$ 0.50; $\text{TA}$, 25.0 (HWS) - 45.0 (PW), $\bar{X}$ 35.0, $A$ 20.0.

Fish fauna

73 good species (nos. 2, 4, 6, 7, 8, 11, 12, 13, 14, 16, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30, 32, 35, 36, 40, 43, 45, 46, 47, 48, 50, 52, 53, 54, 58, 61, 62, 66, 68, 69, 70, 72, 74, 77, 78, 80, 84, 85, 86, 93, 94, 102, 103, 104, 105, 106, 107, 109, 110, 111, 112, 114, 118, 119, 120, 121, 122, 123, 124, 125, 127, 128, 129) belonging to 48 genera were collected from the river during the investigation periods.

RIVER SUBANSARI

(Plate X.2)

River Subansari, locally called "Tsarichu"
originates from Tibet (5128 m, msl) in the Central Himalaya. The river cuts across the Central Himalaya's ridge and flows towards south-easterly course along the lesser Himalayan zone. Consequently, after traversing for a stretch of c. 208 km. through the outer Himalaya (Siwalik foot hills) debouches near Dulongmukh (27° 40' N and 94° 10' E) in Assam. Thence it unites with the R. Brahmaputra at Majuli Island (26° 5' N and 94° 0' E).

Survey station

Daporijo, the district headquarter of upper Subansari is the survey station (250 m high, msl; lat. 28° 45' N and long. 93° 45' E) and communicable by black topped road from North Lakhimpur (c. 365 km.) in Assam.

Fluvial dynamics

Water velocity, 0.6 (PW) - 0.9 (HDS), $\bar{X}$ 7.5, $\sigma$ 0.3; discharge rate, 91.4 (PW) - 228.52 (HDS), $\bar{X}$ 159.96, $\sigma$ 137.12.

Water characteristics

Transparency, 52.0 (HDS) - 165.0 (PW), $\bar{X}$ 103.5, $\sigma$ 113; temperature, 10.0 (PW) - 16.0 (HDS), $\bar{X}$ 13.0, $\sigma$ 6; hydrogen-ion-concentration, 6.5 (HDS) - 7.2 (PW), $\bar{X}$ 6.85,
Fish fauna

51 ichthyospecies (nos. 5, 6, 7, 8, 13, 14, 16, 20, 21, 23, 24, 25, 27, 30, 32, 35, 36, 40, 43, 45, 46, 47, 48, 52, 53, 54, 58, 60, 61, 62, 68, 69, 70, 72, 74, 87, 93, 94, 102, 111, 112, 113, 114, 115, 116, 118, 119, 120, 122, 128, 129) consisting of 30 genera were collected at the survey station during the periods under report.

RIVER DIKRONG

(Plate...)

River Dikrong (nee' Parnadi in local language) emerges from a series of peaks within the gradients of 2285 to 2590 m (msl). The river traverses through a meander course c. 80 km. in the Arunachal Himalaya. After it has moved out from narrow width to wider one at Doimukh (117 m, msl) the river joins with the R. Subanseri at Badati (26° 4' N and 93° 12' E) in Assam.
Survey station

Doimukh (27° 08' 3" N and 93° 45' E), the survey station is connected by a fair weather road (c. 40 km.) from North Lakhimpur in Assam.

Fluvial dynamics

Water velocity, 0.6 (PW) - 1.5 (HWS), $\bar{x}$ 1.05, $A$ 0.9; discharge rate, 45.7 (PW) - 498.0 (HWS), $\bar{x}$ 271.85, $A$ 452.30.

Water characteristics

Transparency, 5.0 (HWS) - 75.0 (PW), $\bar{x}$ 40.0, $A$ 70; temperature, 16.0 (PW) - 24.0 (HWS), $\bar{x}$ 20.0, $A$ 8.0; hydrogen-ion-concentration, 6.2 (HWS) - 7.5 (PW), $\bar{x}$ 6.85, $A$ 1.3; DO, 5.3 (HWS) - 9.3 (PW), $\bar{x}$ 7.3, $A$ 4.0; $\text{FCO}_2$, 0.5 (PW) - 1.0 (HWS), $\bar{x}$ 0.75, $A$ 0.5; TA, 25.0 (HWS) - 45.0 (PW), $\bar{x}$ 35, $A$ 20.

Fish fauna

87 species (nos. 1, 2, 4, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30, 32, 33, 34, 35, 36, 40, 43, 45, 46, 47, 48, 50, 52, 53, 54, 55, 57, 58, 60, 61, 62, 63, 67, 68, 69, 70, 71, 72, 74, 77, 78, 79, 80, 84, 85, 86, 87, 91, 92, 93, 94, 95, 96, 109, 110,
111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 127, 128, 129, 130) belonging to 52 genera were recorded from this river during the entire survey periods.

RIVER PACHIN
(Plate XI 2)

River Pachin is the major tributary of R. Dikrong which rises in the upper gradient (2029 m, msl) and flows c. 40 km. through fluvial course before culminating to its confluence.

Survey station

Itanagar (500 m, msl), the capital township of Arunachal Pradesh is the survey station (27°06' N and 93°39' E) and is c. 40 mins. journey by road from Harmuti (c. 36 km.) in Assam.

Fluvial dynamics

Water velocity, 0.4 (PW) - 0.9 (HWS), \( \bar{x} = 6.5 \), \( \sigma = 0.5 \); discharge rate, 10.6 (PW) - 91.4 (HWS), \( \bar{x} = 51.0 \), \( \sigma = 80.8 \).
Water characteristics

**Transparency**, 20.0 (HWS) - 125.0 (PW), \( \bar{x} \) 72.5, (A 105.0); **temperature**, 17.0 (PW) - 24.0 (HWS), \( \bar{x} \) 20.5, (A 7.0); **hydrogen-ion-concentration**, 6.1 (HWS) - 7.2 (PW), \( \bar{x} \) 6.65, (A 1.1); **DO**, 6.5 (HWS) - 10.0 (PW), \( \bar{x} \) 8.25, (A 3.5); **\( \text{FCO}_2 \)**, 0.2 (PW) - 0.8 (HWS), \( \bar{x} \) 0.5, (A 0.6); **TA**, 18.0 (HWS) - 40.0 (PW), \( \bar{x} \) 29.0, (A 22.0).

Fish fauna

38 fish species (nos. 7, 13, 16, 23, 24, 25, 27, 30, 32, 33, 35, 36, 40, 43, 45, 46, 47, 48, 52, 53, 54, 57, 58, 60, 61, 62, 66, 69, 70, 72, 74, 93, 111, 112, 114, 118, 122, 128) belonging to 23 genera are recorded from R. Pachin during the survey periods.

**RIVER RANGA**

(Plate XXXI)

**River Ranga** (nee' Panir in local dialect) is one of the sub-basin of R. Subansari. The river originates from Dafla hills (2286 - 3685 m, msl) in lower Subansari district and influxes into Assam at Kimin (200 m, msl) after flowing c. 76 km. in the hilly terrain of Arunachal Pradesh.
and then confluence with the R. Subansari beyond Bihpuria (26° 22' 11" N and 93° 40' E).

Survey station

Kimin, the border of Assam - Arunachal Pradesh and situated at an elevation of c. 200 m (msl) is the survey station (27° 18' 30" N and 93° 58' 12" E) selected for this river. The place is well communicated by a good road (c. 18 km.) from North Lakhimpur (in Assam).

Fluvial dynamics

Water velocity, 0.4 (PW) - 1.0 (HWS), \( \bar{X} \) 0.7, \( \bar{A} \) 0.6; discharge rate, 22.85 (PW) - 274.24 (HWS), \( \bar{X} \) 148.09, \( \bar{A} \) 251.39.

Water characteristics

Transparency, 25.0 (HWS) - 150.0 (PW), \( \bar{X} \) 87.5, \( \bar{A} \) 125; temperature, 9.0 (PW) - 24.0 (HWS), \( \bar{X} \) 16.5, \( \bar{A} \) 15; hydrogen-ion-concentration, 6.2 (HWS) - 7.0 (PW), \( \bar{X} \) 6.6, \( \bar{A} \) 0.8; DO, 6.4 (HWS) - 12.0 (PW), \( \bar{X} \) 9.2, \( \bar{A} \) 5.6; FCO₂, 0.4 (PW) - 0.8 (HWS), \( \bar{X} \) 0.6, \( \bar{A} \) 0.4; TA, 15.0 (HWS) - 26.0 (PW), \( \bar{X} \) 20.5, \( \bar{A} \) 26.
Fish fauna

41 fish samples (nos. 7, 13, 14, 16, 20, 21, 23, 24, 25, 27, 30, 32, 35, 36, 40, 43, 45, 46, 47, 48, 52, 53, 58, 61, 62, 68, 69, 70, 72, 74, 93, 94, 111, 112, 114, 118, 119, 120, 122, 128, 129) belonging to 24 genera collected from R. Ranga during the periods of study.

RIVER SIANG

(River Siang is commonly known as "Dihang" is one of the main tributary of R. Brahmaputra. It flows through Tibet at an elevation of c. 3100 m (msl) where it is called as "Tsangpo". The river enters Arunachal at Tuting (29° 26' N and 95° E) in West Siang district. And while meandering through steep gorges it receives south easterly flowing tributary, the Siyom at Pangin (28° 10' N and 94° 49' E). The river traverses a total length of c. 200 km. within Arunachal Pradesh and flows into the plains of Assam at Jonai (160 m, msl) which ultimately meets the R. Brahmaputra south east of Murkongselak (27° 8' N and 95° 19' 4" E).
Survey station

**Pangin** (260 m high, msl) in East Siang district is the location for survey in R. Siang which is communicable by a good gradient road (190 km.) from Silapathar in Assam.

Fluvial dynamics

*Water velocity*, 0.6 (HDS) - 0.7 (PW), \(\bar{x} = 0.65\), \(A = 0.1\); *discharge rate*, 205.6 (PW) - 223.0 (HDS), \(\bar{x} = 214.3\), \(A = 17.4\).

Water characteristics

*Transparency*, 150.0 (HDS) - 210.0 (PW), \(\bar{x} = 180.0\), \(A = 60.0\); *temperature*, 8.0 (PW) - 14.0 (HDS), \(\bar{x} = 11.0\), \(A = 6.0\); *hydrogen-ion-concentration*, 7.0 (HDS) - 7.6 (PW), \(\bar{x} = 7.3\), \(A = 0.6\); *DO*, 11.0 (HDS) - 14.5 (PW), \(\bar{x} = 12.75\), \(A = 3.5\); *\(\text{PO}_2\)*, 0.2 (PW) - 0.6 (HDS), \(\bar{x} = 0.4\), \(A = 0.4\); *TA*, 45.0 (HDS) - 60.0 (PW), \(\bar{x} = 52.5\), \(A = 15.0\).

Fish fauna

77 ichthyospecies (nos. 2, 3, 4, 5, 6, 7, 11, 12, 13, 14, 16, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30, 32, 35, 36, 40, 43, 45, 46, 47, 48, 50, 52, 53, 54, 58, 60, 61, 62, 68, 69, 70, 72, 74, 77, 78, 80, 84, 85, 86, 87, 93, 94, 98, 99, 102, 106, 107, 109, 110, 111, 112, 113, 114, 115, 116).
under 48 genera constituted the fish fauna of this river collected during the investigation periods.

**RIVER DIBANG**

(Plate ***)

**River Dibang** also termed as "Tangon" in the upper reaches, originates from Indo-China border (5300 m, msl) and flows c. 180 km. through Arunachal Pradesh to finally discharge its contents into the R. Lohit near Sadiya (27° 42' N and 95° 30' E) in Assam.

**Survey station**

Roing, the survey station lies between (28° 29' N and 95° 5' E) and at an elevation of 350 m (msl). The place is linked by road from Tezu as well as navigable from Saikhoaghat in Assam through R. Dibang.

**Fluvial dynamics**

Water velocity, 0.7 (PW) - 1.25 (HWS), $\bar{X}$ 0.98, A 0.55; discharge rate, 68.0 (PW) - 377.0 (HWS), $\bar{X}$ 222.5, A 309.0.
Water characteristics

Transparency, 20.0 (PW) - 145.0 (HWS), $\bar{X}$ 82.5, A 125.0; temperature, 11.0 (PW) - 17.5 (HWS), $\bar{X}$ 14.25, A 6.5; hydrogen-ion-concentration, 7.2 (PW) - 6.6 (HWS), $\bar{X}$ 6.9, A 0.3; DO, 11.0 (PW) - 8.0 (HWS), $\bar{X}$ 9.5, A 3.0; PCO$_2$, 0.4 (PW) - 0.80 (HWS), $\bar{X}$ 0.6, A 0.4; TA, 40.0 (HWS) - 68.0 (PW), $\bar{X}$ 54, A 28.

Fish fauna

43 good species (nos. 6, 7, 13, 14, 16, 20, 21, 23, 24, 25, 27, 30, 32, 35, 36, 40, 43, 45, 46, 47, 48, 52, 53, 54, 58, 61, 62, 68, 69, 70, 72, 74, 93, 94, 111, 112, 114, 118, 119, 120, 122, 128, 129) under 25 genera were collected from R. Dibang during the period under report.

RIVER LOHIT

(Plate "...")

River Lohit or "Rongtochu" as it is locally known comes out from the upper reaches of the Himalayas (5100 m, msl). In the higher gradients it is enriched by numerous snow fed streams, but in the lower course Digaru and Kamlang forms its important tributaries. The river traverses
length of c. 200 km. through high mountains before debouching at Sunpura (240 m, msl) in the Arunachal Pradesh. Thence it enters Assam at Sadiya (27° 42' N and 95° 30' E) and conjoins R. Dibang and R. Siang to form the major R. Brahmaputra in the Assam Valley.

Survey station

Sunpura, c. 5 km. from Tezu (district headquarter of Lohit district) is the survey station (27° 55' N and 95° 30' E) and motorable from Tinsukia (c. 130 km.) in Assam.

Fluvial dynamics

Water velocity, 0.7 (PW) - 1.5 (HWS), \( \bar{X} \ 1.1 \), \( A \ 0.8 \); discharge rate, 320.0 (PW) - 1234.0 (HWS), \( \bar{X} \ 777.0 \), \( A \ 914.0 \).

Water characteristics

Transparency, 10.0 (HWS) - 150.0 (PW), \( \bar{X} \ 80.00 \), \( A \ 140.0 \); temperature, 11.0 (PW) - 17.0 (HWS), \( \bar{X} \ 14.0 \), \( A \ 6.0 \); hydrogen-ion-concentration, 6.2 (HWS) - 7.6 (PW), \( \bar{X} \ 6.9 \), \( A \ 1.4 \); DO, 8.2 (HWS) - 11.6 (PW), \( \bar{X} \ 9.9 \), \( A \ 3.4 \); \( \text{CO}_2 \), 0.5 (PW) - 0.8 (HWS), \( \bar{X} \ 0.65 \), \( A \ 0.5 \); TA, 42.0 (HWS) - 63.0 (PW), \( \bar{X} \ 52.5 \), \( A \ 21.0 \).
Fish fauna

46 fish species (nos. 6, 7, 13, 14, 16, 20, 21, 23, 24, 25, 27, 30, 32, 35, 36, 40, 43, 45, 46, 47, 48, 52, 53, 54, 58, 61, 62, 68, 69, 70, 72, 74, 93, 94, 100, 105, 107, 111, 112, 114, 118, 119, 120, 122, 128, 129) under 28 genera could be collected from this river during the investigation periods.

RIVER NOADHING

(Plate IV:)

River Noadhing flows out from Chaukan Pass (1440 m, msl) in Tirap district and after traversing c. 205 km. from its source joins the R. Lohit at Seikhowaghat (27° 32' N and 95° 24' E) in Assam. The river at the debouching point near Miao (150 m, msl) in Arunachal Pradesh bifurcates into two branches, one flowing through Namsai (27° 30' N and 96° 24' E) in Lohit district as R. Noadhing and the other as R. Buridhing through Bordumsa (27° 29' N and 96° 10' E) in Tirap district.

Survey station

Namsai (150 m, high, msl), the survey station is
located at a distance c. 120 km. by road from Tinsukia in Assam.

**Fluvial dynamics**

- **Water velocity**, 0.3 (PW) - 0.7 (HDS), $\bar{x}$ 0.5, A 0.4; **discharge rate**, 23.5 (PW) - 102.0 (HDS), $\bar{x}$ 62.75, A 78.5.

**Water characteristics**

- **Transparency**, 90.0 (PW) - 15.00 (HDS), $\bar{x}$ 52.5, A 75.0; **temperature**, 15.0 (PW) - 28.0 (HDS), $\bar{x}$ 21.5, A 13.0; **hydrogen-ion-concentration**, 6.00 (HDS) - 7.6 (PW), $\bar{x}$ 6.8, A 1.6; **DO**, 6.0 (HDS) - 11.0 (PW), $\bar{x}$ 8.5, A 5.00; **FCO$_2$**, 0.60 (PW) - 1.20 (HDS), $\bar{x}$ 0.90, A 0.6; **TA**, 39.0 (HDS) - 55.0 (PW), $\bar{x}$ 47.0, A 16.0.

**Fish fauna**

95 ichthyospecies (nos. 2, 3, 4, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 61, 62, 68, 69, 70, 72, 73, 74, 75, 76, 77, 78, 80, 81, 82, 83, 84, 85, 86, 88, 89, 90, 93, 94, 97, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126,
127, 128, 129, 131) belonging to 56 genera were recorded from this river during the periods of survey.

RIVER BURIDHING

(Plate XIV.)

River Buridhing, the second important branch of R. Noadhing passes through Bordumsa (152 m, msl) and then flows in south-westwardly course through Ledo (27° 20' N and 95° 36' E) in Assam and finally confluences with the R. Brahmaputra beyond Dibrugarh (27° 24' N and 94° 43' E).

Survey station

Bordumsa (27° 29' N and 96° 10' E), the survey station, is situated c. 120 km. away from Tinsukia in Assam and is connected by black topped road.

Fluvial dynamics

Water velocity, 0.4 (PW) - 1.0 (HDS), \( \bar{x} = 0.7 \), A 0.6; discharge rate, 114.0 (PW) - 377.0 (HDS), \( \bar{x} = 245.5 \), A 263.0.
Water characteristics

Transparency, 30.0 (HDS) - 91.0 (PW), \( \bar{x} 60.5 \), A 61.0; temperature, 16.0 (PW) - 25.0 (HDS), \( \bar{x} 20.5 \), A 9.0; hydrogen-ion-concentration, 6.0 (HDS) - 7.2 (PW), \( \bar{x} 6.6 \), A 1.2; DO, 5.0 (HDS) - 11.0 (PW), \( \bar{x} 8.0 \), A 6.0; \( \text{CO}_2 \), 0.2 (PW) - 1.0 (HDS), \( \bar{x} 0.6 \), A 0.8; TA, 36.0 (HDS) - 70.0 (PW), \( \bar{x} 53.0 \), A 34.0.

Fish fauna

63 ichthyospecies (nos. 2, 4, 7, 11, 12, 13, 14, 16, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30, 32, 35, 36, 40, 43, 45, 46, 47, 48, 50, 52, 53, 58, 61, 62, 68, 69, 70, 72, 74, 77, 78, 80, 84, 85, 86, 93, 94, 109, 110, 111, 112, 114, 118, 119, 120, 121, 122, 123, 124, 125, 127, 128, 129) under 41 genera were collected and identified during the investigation periods from the R. Buridingh.

RIVER TIRAP

(Plate XV.1)

River Tirap emerges from Patkai range (2700 m, msl) bordering Indo-Burma in Tirap district. The river traverses a meander course of c.115 km. in Arunachal before it
debouches into the plains near Ledo (110 m, msl) to join the R. Buridhing in Assam.

**Fluvial dynamics**

Water velocity, 0.3 (PW) - 0.7 (HWS), $\bar{X}$ 0.5, $A$ 0.4; discharge rate, 23.0 (PW) - 84.8 (HWS), $\bar{X}$ 53.9, $A$ 61.8.

**Water characteristics**

Transparency, 30.0 (HWS) - 91.0 (PW), $\bar{X}$ 60.5, $A$ 61.0; temperature, 14.0 (PW) - 18.0 (HWS), $\bar{X}$ 16.0, $A$ 1.0; hydrogen-ion-concentration, 6.2 (HWS) - 7.5 (PW), $\bar{X}$ 6.85, $A$ 1.3; DO, 6.4 (HWS) - 11.9 (PW), $\bar{X}$ 9.2, $A$ 5.4; $\text{PCO}_2$, 0.3 (PW) - 0.8 (HWS), $\bar{X}$ 0.55, $A$ 0.5; TA, 40.0 (HWS) - 68.0 (PW), $\bar{X}$ 54.0, $A$ 28.0.

**Fish fauna**

48 good species (nos. 6, 7, 13, 14, 16, 20, 21, 23, 24, 25, 27, 30, 32, 35, 36, 40, 43, 45, 46, 47, 48, 52, 53, 54, 55, 56, 59, 61, 62, 64, 65, 68, 69, 70, 72, 74, 93, 94, 101, 111, 112, 114, 118, 119, 120, 122, 128, 129) belonging to 27 genera were collected from this river during the investigation periods.
Explanation of Plate X

Panoramic views of the drainages of Arunachal Pradesh.

1. R. Kameng.
2. R. Subansari.
Explanation of Plate XI

Panoramic views of the drainages of Arunachal Pradesh (Contd.).

1. R. Dikrong.
2. R. Pachin.
Explanation of Plate XII

Panoramic views of the drainages of Arunachal Pradesh (Contd.).

1. R. ranga.
2. R. Siang.
Explanation of Plate XIII

Panoramic views of the drainages of Arunachal Pradesh (Contd.).

1. R. Dibang.
2. R. Lohit.
Explanation of Plate XIV

Panoramic views of the drainages of Arunachal Pradesh (Contd.).

1. R. Noadhing.
2. R. Buridhing.
Explanation of Plate XV

Panoramic views of the drainages of Arunachal Pradesh

1 & 2. R. Tirap.