ICAR-CICFR (*formerly ICAR-DCFR*) Publications- 2021

1.	**Akhtar, M.S., Ciji, A., Tripathi, P.H. and Sharma, P., 2021.** Dietary β-glucan influences the expression of testicular aquaporins, antioxidative defence genes and sperm quality traits in endangered golden mahseer, *Tor putitora* (Hamilton, 1822). International journal of biological macromolecules, 193, pp.1286-1293. https://doi.org/10.1016/j.ijbiomac.2021.10.177
2.	**Akhtar, M.S., Tripathi, P.H., Pandey, A. and Ciji, A., 2021**. β-glucan modulates non-specific immune gene expression, thermal tolerance and elicits disease resistance in endangered *Tor putitora* fry challenged with *Aeromonas salmonicida*. Fish & shellfish immunology, 119, pp.154-162. https://doi.org/10.1016/j.fsi.2021.09.038
3.	**Akhtar, M.S., Tripathi, P.H., Pandey, A. and Ciji, A., 2021**. Transgenerational effects of β-glucan on thermal tolerance, growth performance, and immune gene expression of endangered cyprinid *Tor putitora* progeny. Journal of thermal biology, 102, p.103120. https://doi.org/10.1016/j.jtherbio.2021.103120
4.	**Akhtar, M.S., Tripathi, P.H., Rajesh, M., Pandey, A., Kamalam, B.S. and Ciji, A., 2021.** Molecular characterization of non-specific immune genes of endangered golden mahseer (*Tor putitora*) and their expression during embryonic and larval development. Fish & shellfish immunology, 118, pp.119-146. https://doi.org/10.1016/j.fsi.2021.07.016
5.	**Bhat, I.A., Dar, J.Y., Ahmad, I., Mir, I.N., Bhat, H., Bhat, R.A., Ganie, P.A. and Sharma, R., 2021.** Testicular development and spermatogenesis in fish: Insights into molecular aspects and regulation of gene expression by different exogenous factors. Reviews in Aquaculture, 13(4), pp.2142-2168. https://doi.org/10.1111/raq.12563
6.	**Bhat, R.A.H., Thakuria, D., Dubey, M.K., Tandel, R.S., Sharma, P., Khangembam, V.C., Dash, P., Tripathi, G. and Sarma, D., 2021**. Lethal dose and histopathological alterations induced by *Aeromonas salmonicida* in experimentally challenged common carp, *Cyprinus carpio*. Microbial pathogenesis, 158, p.105110. https://doi.org/10.1016/j.micpath.2021.105110
7.	**Bhat, R.A.H., Rehman, S., Tandel, R.S., Dash, P., Bhandari, A., Ganie, P.A., Shah, T.K., Pant, K., Yousuf, D.J., Bhat, I.A. and Chandra, S., 2021.** Immunomodulatory and antimicrobial potential of ethanolic extract of Himalayan *Myrica esculanta* in *Oncorhynchus mykiss*: Molecular modelling with *Aeromonas hydrophila* functional proteins. Aquaculture, 533, p.736213. https://doi.org/10.1016/j.aquaculture.2020.736213
8.	**Chandhini, S., Trumboo, B., Jose, S., Varghese, T., Rajesh, M. and Kumar, V.R., 2021**. Insulin-like growth factor signalling and its significance as a biomarker in fish and shellfish research. Fish Physiology and Biochemistry, 47(4), pp.1011-1031. https://doi.org/10.1007/s10695-021-00961-6
9.	**Chanu, K.V., Devi, L.G., Srivastava, S.K., Kataria, M., Thakuria, D. and Kumar, S., 2021**. Methanolic extract of *Phlogacanthus thyrsiflorus* Nees leaf induces apoptosis in cancer cells. Indian Journal of Experimental Biology (IJEB), 59(03), pp.153-161. https://doi.org/10.56042/ijeb.v59i03.46965
10.	**Ciji, A. and Akhtar, M.S., 2021.** Stress management in aquaculture: A review of dietary interventions. Reviews in Aquaculture, 13(4), pp.2190-2247. https://doi.org/10.1111/raq.12565
11.	**Dash, P., Tandel, R.S., Bhat, R.A.H., Sarma, D., Pandey, N., Sawant, P.B. and Chadha, N.K., 2021.** Spawning substrate preference and spawning behavior of chocolate mahseer, *Neolissochilus hexagonolepis*. Animal reproduction science, 233, p.106847. https://doi.org/10.1016/j.anireprosci.2021.106847
12.	**Dash, P., Tandel, R.S., Pandey, N., Sawant, P.B., Sarma, D., Rawat, K.D. and Chadha, N.K., 2021.** Effects of rearing temperature on egg incubation, growth, standard metabolic rate, and thermal tolerance of chocolate mahseer, *Neolissochilus hexagonolepis*. Journal of thermal biology, 98, p.102942. https://doi.org/10.1016/j.jtherbio.2021.102942
13.	**Giri, A.K., Sahu, N.P. and Dash, G., 2021.** Improvement in the growth status and carbohydrate utilization of *Labeo rohita* (Hamilton, 1822) fingerlings with dietary supplementation of chromium picolinate. Fish Physiology and Biochemistry, 47(2), pp.599-616. https://doi.org/10.1007/s10695-021-00934-9
14.	**Kala, K., Shahi, N., Singh, S., Rawat, S., Patiyal, R.S., Pande, V. and Mallik, S.K., 2021.** New host record of *Vibrio anguillarum* associated with haemorrhagic septicaemia in golden

	mahseer, *Tor putitora* (Hamilton, 1822) from India. Indian J. Comp. Microbiol. Immunol. Infect. Dis, 42(1), pp.71-83. http://dx.doi.org/10.5958/0974-0147.2021.00008.8
15.	**Kumar, G., Sharma, J., Goswami, R.K., Shrivastav, A.K., Kumar, N., Chandra, S. and Chakrabarti, R., 2023.** The study of effect of vitamin C and *Achyranthes aspera* seeds enriched diets on the growth, biochemical composition, digestive enzyme activities and expressions of genes involved in the biosynthesis of fatty acids in snow trout *Schizothorax richardsonii* (Gray, 1832). Journal of Applied Aquaculture, 35(3), pp.489-509. https://doi.org/10.1080/10454438.2021.1985679
16.	**Kumari, A., Tripathi, A.H., Gautam, P., Gahtori, R., Pande, A., Singh, Y., Madan, T. and Upadhyay, S.K., 2021.** Adhesins in the virulence of opportunistic fungal pathogens of human. Mycology, 12(4), pp.296-324. https://doi.org/10.1080/21501203.2021.1934176
17.	**Kumari, R., Sharma, P., Sarma, D., Siddaiah, G.M., Dubey, M.K., Mir, I.N. and Srivastava, P.P., 2021.** Ontogeny and development of the gastrointestinal system in Indian walking catfish (*Clarias magur*) during its early development. Fish physiology and biochemistry, 47(4), pp.1033-1052. https://doi.org/10.1007/s10695-021-00957-2
18.	**Kunal, K., Ganie, P.A., Baruah, D., Shukla, S.P., Jaiswar, A.K. and Sarma, D., 2021.** Length-Weight Relationship of Two Snow Trout, *Schizothorax Richardsonii* (Gray, 1832) and *Schizothorax Plagiostomus* (Heckel, 1838) from Kameng Drainage, Eastern Himalaya, India. Journal of Indian Fisheries Association, 48(1): 29–33. https://epubs.icar.org.in/index.php/JIFA/article/view/138925
19.	**Shukla, S.P., Sarma, D. and Thungon, P.K., 2021**. Spatio-temporal variations in surface water quality parameters of Kameng drainage, Eastern Himalaya, Arunachal Pradesh, India. Journal of Entomology and Zoology Studies, 9(1): 781–787. https://www.entomoljournal.com/archives/2021/vol9issue1/PartK/9-1-121-572.pdf
20.	**Pandey, A., Rajesh, M., Baral, P., Sarma, D., Tripathi, P.H., Akhtar, M.S., Ciji, A., Dubey, M.K., Pande, V., Sharma, P. and Kamalam, B.S., 2021.** Concurrent changes in thermal tolerance thresholds and cellular heat stress response reveals novel molecular signatures and markers of high temperature acclimation in rainbow trout. Journal of Thermal Biology, 102, p.103124. https://doi.org/10.1016/j.jtherbio.2021.103124
21.	**Pandey, V., Bhat, R.A.H., Chandra, S., Tandel, R.S., Dubey, M.K., Sharma, P., Gehlot, B., Dash, P. and Joshi, R., 2021**. Clinical signs, lethal dose and histopathological lesions in grass carp, *Ctenopharyngodon idella* experimentally infected with *Edwardsiella tarda*. Microbial pathogenesis, 161, p.105292. https://doi.org/10.1016/j.micpath.2021.105292
22.	**Preeti, B., Patiyal, R.S., Pathak, B.C. and Pandey, N.N., 2021.** Food and feeding habit of indigenous fish sucker head *Garra gotyla gotyla* from Kosi River, Kumoan, Uttarakhand, India. Intern. J. Zool. Invest, 7(2), pp.679-688. https://doi.org/10.33745/ijzi.2021.v07i02.051
23.	**Rani A., Ghosh T.K. and Pandey N.N. (2021)**. Comparative growth performance of diploids and triploids snow trout (*Schizothorax richardsonii*). Journal of Entomology and Zoology Studies, 9(4): 231–233.
24.	**Rawat, S., Shahi, N., Mallik, S.K., Pathak, R., Singh, B. and Pande, V., 2021.** Biocontrol of toxin producing cyanobacterium *Microcystis aeruginosa* by algicidal bacterium *Exiguobacterium acetylicum* Strain TM2 isolated from mid-altitudinal Himalayan Lake of Northern India. Int. J. Curr. Microbiol. App. Sci, 10(11), pp.170-187. https://doi.org/10.20546/ijcmas.2021.1011.020
25.	**Shah, T.K., Kumar, A., Tandel, R.S., Sarma, D. and Bhat, R.A.H., 2021**. Evaluation of the acute toxicity of *Thymus linearis* ethanol extract and its effect on the hemato-biochemical and behavioural response of the Golden mahseer, *Tor putitora* (Hamilton, 1923). Environmental Science and Pollution Research, 28(33), pp.45335-45343. https://doi.org/10.1007/s11356-021-13970-y
26.	**Shah, T.K., Tandel, R.S., Kumar, A., Bhat, R.A.H., Dash, P. and Sarma, D., 2021.** Chemical composition, antifungal activity and molecular docking of Himalayan thyme leaf extract (*Thymus linearis*) against fish pathogenic oomycete *Saprolegnia parasitica*. Aquaculture, 543, p.736988. https://doi.org/10.1016/j.aquaculture.2021.736988
27.	**Sharma, A., Sharma, P., Das, P., Pande, V. and Sarma, D., 2021.** Study on the sex-specific seasonality of fatty acid profiles in golden mahseer (*Tor putitora*) collected from a lacustrine

	ecosystem of Indian Himalaya. SKUAST Journal of Research, 23(1), pp.23-32. https://indianjournals.com/api/article-view/skuastjr-23-1-004
28.	**Sheetal, S., Bisht, H.C.S., Pandey, N.N. and Vishwakarma Bipin, K., 2021.** Herbal feed additives for gonadal maturity and milt quality in males of snow trout (*Schizothorax richardsonii*). Intern. J. Zool. Invest, 7(2), pp.637-646. https://ijzi.net/Issue/6036303221IssueMS48.pdf
29.	**Uzma, S., Nityanand, P., Bipin, K.V., Dinesh, M., Preetam, K. and Santosh, K., 2021**. Artificial breeding, gonadosomatic index (GSI) and fecundity of captive reared *Labeo gonius* in coldwater condition. Intern. J. Zool. Invest, 7(2), pp.955-960. https://ijzi.net/Issue/6322415146IssueMS87.pdf
30.	**Uzma, S., Amrita, R., Bisht, H.C.S. and Nityanand, P., 2021.** Variation in hematological parameters of snow trout (*Schizothorax richardsonii*) during gonadal maturity and breeding. *Intern. J. Zool. Invest*, *7*(2), pp.772-778. https://doi.org/10.33745/ijzi.2021.v07i02.062
31.	**Singh, S., Mallik, S.K., Kala, K., Shahi, N., Pathak, R., Giri, A.K., Chandra, S., Pant, K. and Patiyal, R.S., 2021.** Characterization of *Flavobacterium columnare* from farmed infected rainbow trout, *Oncorhynchus mykiss* (Walbaum, 1792) of Central Indian Himalayan region, India. Aquaculture, 544, p.737118. https://doi.org/10.1016/j.aquaculture.2021.737118
32.	**Tandel, R.S., Chanu, K.V., Hussain Bhat, R.A., Dash, P., Shah, T.K. and Thakuria, D., 2021**. Morphometric and molecular identification of *Argulus japonicus* (Thiele 1900) in vulnerable Himalayan snow trout, *Schizothorax richardsonii* (Gray 1832). Aquaculture research, 52(12), pp.6770-6778. https://doi.org/10.1111/are.15486
33.	**Tandel, R.S., Dash, P., Bhat, R.A.H., Thakuria, D., Sawant, P.B., Pandey, N., Chandra, S. and Chadha, N.K., 2021**. Anti-oomycetes and immunostimulatory activity of natural plant extract compounds against *Saprolegnia spp*.: molecular docking and in-vitro studies. Fish & Shellfish Immunology, 114, pp.65-81. https://doi.org/10.1016/j.fsi.2021.04.018
34.	**Tandel, R.S., Chadha, N.K., Dash, P., Sawant, P.B., Pandey, N.N., Chandra, S., Bhat, R.A.H. and Thakuaria, D., 2021.** An in-vitro study of Himalayan plant extracts against oomycetes disease *Saprolegniasis* in rainbow trout (*Oncorhynchus mykiss*). Journal of Environmental Biology, 42(4), pp.1008-1018. https://ui.adsabs.harvard.edu/link_gateway/2021JEnvB..42.1008T/doi:10.22438/jeb/42/4/MRN-1623
35.	**Tandel, R.S., Dash, P., Bhat, R.A.H., Sharma, P., Kalingapuram, K., Dubey, M. and Sarma, D., 2021.** Morphological and molecular characterization of *Saprolegnia spp.* from Himalayan snow trout, *Schizothorax richardsonii*: A case study report. Aquaculture, 531, p.735824. https://doi.org/10.1016/j.aquaculture.2020.735824
36.	**Vishwakarma, B.K., Bisht, H.C.S., Pandey, N.N., Sharma, S., Mohan, D., Kala, P. and Kumar, S., 2021.** Verification of Triploid Golden Mahseer (*Tor putitora*) by Erythrocyte Measurement. Asian Pacific Journal of Health Sciences, 8(3): 146–149. https://doi.org/10.21276/apjhs.2021.8.2.25
37.	**Vishwakarma B.K., Bisht H.C.S., Pandey N.N. and Sharma S. (2021)**. Comparative study on growth performance and survival of diploid and triploid golden mahseer (*Tor putitora*) at early stage. Bulletin of Environment, Pharmacology and Life Sciences, 10(6): 96–100.