

## Contents

ROSENTHAL H.; POURKAZEMI M.; BRUCH R.: The 5th International Symposium on Sturgeons: a conference with major emphasis on conservation, environmental mitigation and sustainable use of the sturgeon re-sources .....	1	ZHU, B.; ZHAO, N.; SHAO, Z.; LEK, S.; CHANG, J.: Genetic population structure of Chinese sturgeon ( <i>Acipenser sinensis</i> ) in the Yangtze River revealed by artificial neural network .....	82
PRESENTED BY THE ISS5 PARTICIPANTS: Ramsar Declaration on Global Sturgeon Conservation.....	5	Zhao, N.; Chang, J.: Microsatellite loci inheritance in the Chinese sturgeon <i>Acipenser sinensis</i> with an analysis of expected gametes ratios in polyploidy organisms.....	89
<b>General Overview on Conservation Issues</b>			
POURKAZEMI, M.: Caspian Sea sturgeon Conservation and Fisheries: Past present and Future.....	12	NOWRUZFASHKHAMI, M. R.; SAFAIAN, S.; BAHMANI, M.; CHUBIAN, F.: Karyotype analysis in ship sturgeon <i>Acipenser nudiventris</i> in the south Caspian Sea using leukocyte culture .....	97
HOLČÍK, J; KLINDOVÁ, A.; MASÁR, J.; MÉSZÁROS J.: Sturgeons in the Slovakian rivers of the Danube River basin: an overview of their current status and proposal for their conservation and restoration.....	17	<b>Population Biology, Monitoring and Management</b>	
GESSNER, J.; ARNDT, G.-M.; TIEDEMANN, R.; BARTEL, R.; KIRSCHBAUM, F.: Remediation measures for the Baltic sturgeon: status review and perspectives ....	23	MOGHIM. M.; KOR, D.; Tavakolieshkalak, M.; Khoshghalb, M. B.: Stock status of Persian Sturgeon ( <i>Acipenser persicus</i> Borodin, 1897) along the Iranian coast of the Caspian Sea .....	99
XIANG-GUO, FAN; QI-WEI, WEI; JIANBO, CHANG; ROSENTHAL, H.; JIAN-XIANG, HE; DA-QING, CHEN; LI, SHEN; HAO, DU; DE-GUO, YANG: A review on conservation issues in the upper Yangtze River – a last chance for a big challenge: Can Chinese paddlefish ( <i>Psephurus gladius</i> ), Dabry's sturgeon, ( <i>Acipenser dabryanus</i> ) and other fish species still be saved? .....	32	AFRAEI, M. A.; SAFARI, R.; SALMANI, A.: Distribution and density of juvenile <i>Acipenser persicus</i> at the lower 10 meter depth of the southern Caspian Sea .....	108
HOLČÍK, J.: Is the naturalization of the paddlefish in the Danube River basin possible? .....	40	XIAO, HUI; LIU, DENGHONG; TANG, DAMING; GUO BOFU: Structural and quality changes in the spawning stock of the Chinese sturgeon <i>Acipenser sinensis</i> below the Gezhouba Dam (Yangtze River) .....	111
YAMIN, WANG; JIANBO, CHANG: Status and conservation of sturgeons in Amur River, China: A review based on surveys since the year 2000 .....	44	BRUCH, R. M.; MILLER, G.; HANSEN, M. J.: Fecundity of Lake Sturgeon ( <i>Acipenser fulvescens</i> , Rafinesque) in Lake Winnebago, Wisconsin, USA	116
RAYMAKERS, C.: CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora: its role in the conservation of Acipenseriformes .....	53	SHAHIFAR, R.: Economic comparison between Sturgeon fishery yield and releasing efforts of fingerlings in the Southern Caspian Sea (1972-2003) ....	119
<b>Evolution and Genetics</b>			
ARTYUKHIN, E. N.: Morphological Phylogeny of the Order Acipenseriformes .....	66	ABDOLHAY, H. A.; TAHORI, H. B.: Fingerling production and Release for Stock Enhancement of Sturgeon in the Southern Caspian Sea: an overview.....	125
KRAYUSHKINA, L. S.: Considerations on evolutionary mechanisms of osmotic and ionic regulation in Acipenseridae: an overview .....	70	MATHEWS, C. P.; PEACOCK, N.; GILKOLEI, R.: Theoretical scenarios for research and development needs to save dwindling sturgeon populations in the Caspian Sea .....	132
CHEN, J.; YUAN, H.; SUN, D.; LIANG, B.; ZHANG, S.: Sequence and expression of three members of the Sox gene in Amur sturgeon ( <i>Acipenser schrenckii</i> )	77	QIAO, Y.;TANG, X.;BROSSE, S.; CHANG, J.: Chinese Sturgeon ( <i>Acipenser sinensis</i> ) in the Yangtze River: a hydroacoustic assessment of fish location and abundance on the last spawning ground .....	140
		YANG, D.; KYNARD, B.; WEI, Q.; CHEN X.; ZHENG, W.; DU, H.: Distribution and movement of Chinese sturgeon, <i>Acipenser sinensis</i> , on the spawning ground located below the Gezhouba Dam during spawning seasons.....	145

BRONZI, P.; GAROFALO, E.; DALLA VALLE, Z.; BATTAGLIA, A.; ANSFERRI, S.; POGGIOLI, C.: Telemetry test trials on the behaviour of sub-adults of <i>Acipenser naccarii</i> reared in captivity and released into the River Po (Italy).....	152	ARSHAD, U.; ALIAKBAR, A.; SADEGHI, M.; JAMALZAD, F.; CHUBIAN, F.: Pesticide (Diazinon and Butachlor) monitoring in waters of the Shahid Beheshti Sturgeon Hatchery, Rasht, Iran.....	231
FADAAE, B.; POURKAZEMI, M.; TAVAKOLI, M.; JOUSHIDEH, H.; KHOSHGHALB, M.R.B.; HOSSEINI, M.R.; ABDULHAY, H.: Tagging and tracking juvenile sturgeons in shallow waters of the Caspian Sea (less than 10 m depth) using CWT (Coded Wire Tags) and barbel incision.....	160	FARABI, S. M. V.; YOUSEFIAN, M.; HAJIMORADLOO, A.: Aflatoxicosis in juvenile <i>Huso huso</i> fed a contaminated diet.....	234
GESSNER, J.; ARNDT, G.-M.: Modification of gill nets to minimize by-catch of sturgeons.....	166	<b>Environmental and Husbandry Factors in Sturgeon Culture</b>	
ARNDT, G.-M.; GESSNER, J.; BARTEL, R.: Characteristics and availability of spawning habitat for Baltic sturgeon in the Odra River and its tributaries.....	172	ZHU, Y.; WEI, Q.; YANG, D.; WANG, K.; CHEN, X.; LIU, J.; LI, L.: Large-scale cultivation of fingerlings of the Chinese Sturgeon <i>Acipenser sinensis</i> for restocking: a description of current technology.....	238
<b>General and Environmental Biology, Physiology and Pollution Effects</b>		LIU, J.; WEI, Q.; YANG, D.; TANG, G.; DU, H.; ZHU, Y.: The effect of some water parameters on the oxygen consumption rate of embryos and larvae of the Chinese Sturgeon ( <i>Acipenser sinensis</i> ).....	244
KRAYUAHKINA, L. S.; SEMENOVA, O. G.; Vyushina, A. V.: Level of serum cortisol and Na <sup>+</sup> /K <sup>+</sup> ATP-ase activity of gills and kidneys in different acipenserids.....	182	NEJAD, M. CH. D.; HAJIMORADLOO, A.; MAKHDOMI, N.: Reproductive performance of <i>Acipenser persicus</i> females in hatcheries after being captured in the southeastern Caspian Sea (Golestan, Province, Iran).....	248
KAZEMI, R.; BAHMANI, M.; HALLAJIAN, A.; POURKAZEMI, M.; Dezhandian, S.: Investigation of blood serum osmo- and ion-regulation of mature and reared juvenile <i>Acipenser persicus</i> .....	188	PARANDAVAR, H.; KAZEMI, R.; POURALI, H. R.; VAHABI, Y.; POURKAZEMI, M.: Potential for egg extraction from female sturgeon spawners through key-hole surgery.....	252
SHEIBANI, M.T.; PAHLAVAN YALI, M.: Histological structures of the accessory glands of the digestive system in adult Caspian Sea beluga ( <i>Huso huso</i> ).....	193	SALEHI, H.: A brief analysis on the economics of fingerling production of sturgeons in Iran: a case study for the period 2002-2003.....	257
CHAI, Y.; XIE, C.; WEI, Q.; CHEN, X.; LIU, J.: The Ontogeny of the Retina of Chinese Sturgeon ( <i>Acipenser sinensis</i> ).....	196	MASOULEH, A. S.; SHARIFPOUR, I.; ARANI, A.; S.: The aerobic bacterial flora of hatchery reared Caspian Sea sturgeon fingerlings.....	261
GISBERT, E.; DOROSHOV, S., I.: Allometric growth in green sturgeon larvae.....	202	JALILPOOR, J.; SHENAVAR MASOULEH, A.; MASOUMZADEH, M.: Fungal flora in <i>Acipenser persicus</i> eggs with particular emphasis on <i>Saprolegnia</i> sp. (Oomycetes) and mortality during mass incubation at the Shahid Beheshti hatchery.....	265
BOGLIONE, C.; CATALDI, E.; SIGHICELLI, M.; BRONZI, P.; Cataudella, S.: A contribution to the trophic ecology of the Adriatic Sturgeon, <i>Acipenser naccarii</i> : morphological observations on mouth and head sensorial equipment.....	208	WUERTZ, S.; LUTZ, I.; GESSNER, J.; LOESCHAU, P.; HOGANS, B.; KIRSCHBAUM, F.; KLOAS, W.: The influence of rearing density as environmental stressor on cortisol response of Shortnose sturgeon ( <i>Acipenser brevirostrum</i> ).....	269
RUBAN, G. I.; AKIMOVA, N. V.; GORIUNOVA, V. B.; MIKODINA E. V.; NIKOLSKAYA, M. P.; SHAGAYEVA V. G.; SHATUNOVSKY M. I.; SOKOLOVA, S. A.: Abnormalities in Sturgeon gametogenesis and postembryonal ontogeny.....	213	EBRAHIMI, E.: Determination of the best time to transfer Beluga ( <i>Huso huso</i> ) juveniles from natural to commercial diets.....	274
KARIMZADEH, K.; MOSTAFAEI, A.; ESMALI SARI, A.; POURKAZEMI, M.; ZAHMATKESH, A.: Induction and Purification of Cytochrome P4501A1 from $\beta$ naphthoflavon treated Beluga, <i>Huso huso</i> .....	221	MOHSENI, M.; POURKAZEMI, M.; BAHMANI, M.; FALAHATKAR, B.; POURALI, H. R.; SALEHPOUR, M.: Effects of feeding rate and frequency on growth performance of yearling great sturgeon, <i>Huso huso</i> .....	278
SAFI, H.; ROODSARI, H. V.; AHMADI, M. R.: The effect of levamisole hydrochloride on survival of Persian sturgeon ( <i>Acipenser persicus</i> ) fry.....	226		

FALAHATKAR, B.; SOLTANI, M.; ABTAHI, B.; KALBASSI, M. R.; POURKAZEMI, M.: Effects of dietary vitamin C supplementation on performance, tissue chemical composition and alkaline phosphatase activity in great sturgeon ( <i>Huso huso</i> ).....	283	WUERTZ, S.; NITSCHKE, A.; GESSNER, J.; KIRSCHBAUM, F.; KLOAS, W.: IGF-I and its role in maturing gonads of female sterlet, <i>Acipenser ruthenus</i> Linnaeus, 1758	346
MEMIS, D.; ÇELIKKALE, M.S.; ERCAN, E.: Effects of different diets on growth performance and body composition of Russian sturgeon ( <i>Acipenser gueldenstaedtii</i> , Brandt&Ratzenburg, 1833).....	287	SEMENKOVA, B.; BAYUNOVA, L. V.; WEBB, M. A. H.; KOLMAKOV, N. N.; ROMANOV, A. G.; BARANNIKOVA, I. A.: Effect of progestins on germinal vesicle break down in sturgeon follicles in vitro .....	353
ABTAHI, B.; SHAFIEZADE, P.; NAZARI, R. M.; RASSOULI, A.: Comparison of antifungal therapeutic indices of formalin, malachite green, and potassium permanganate in treating Persian Sturgeon eggs.....	291	CHEN, X.; WIE, Q.; YANG, D.; ZHU, Y.: Observations on the formation and development of the primary germinal tissue of cultured Chinese sturgeon, <i>Acipenser sinensis</i> .....	358
KAMALI, A.; KORDJAZI, Z.; NAZARY, R.: The effect of the timing of initial feeding on growth and survival of ship sturgeon ( <i>Acipenser nudiventris</i> ) larvae: a small-scale hatchery study.....	294	ARTYUKHIN, E. N.; SEMENKOVA, T. B.; BAYUNOVA, L.V.; LUNEV, G. E.; BARANNIKOVA, I. A.: Histological assessment of the testes coupled with determinations of sex steroid levels in <i>Acipenser gueldenstaedtii</i> males responding negatively to pituitary treatment .....	361
PRZYBYL, A.; MAZURKIEWICZ, J.; ROZEK, W.: Partial substitution of fish meal with soybean protein concentrate and extracted rapeseed meal in the diet of sterlet ( <i>Acipenser ruthenus</i> ).....	298	MALEKZADEH VIAYEH, R.; WEBB, M. A. H.; HALLAJIAN, A.; KAZEMI, R.; PAHLAVAN YALI, M.: Biochemical and morphometric parameters as indicators of sex and gonadal stages in maturing Persian sturgeon, <i>Acipenser persicus</i> .....	364
POURALI FASHTOMI, H. R.; MOHSENI, M.: Survival and growth of larval and juvenile Persian sturgeon ( <i>Acipenser persicus</i> ) using formulated diets and live food.....	303	YOUSEFIAN, M.: Sex differentiation by gonadogenesis and sex steroid hormones in cultured great sturgeon ( <i>Huso huso</i> ).....	369
KIRSCHBAUM, F.; HENSEL, E. C. K.; WILLIOT, P.: Feeding experiments with the European Atlantic sturgeon, <i>Acipenser sturio</i> L., 1758 to accustom large juveniles to a new feed item and the influence of tank size and stocking density on growth .....	307	RODINA, M.: Application of image analysis for the determination of nucleus position in sturgeon oocytes..	373
YOUSEFIAN, M.; FARABI, S. M. V.: A comparative study on the performance of two sturgeon hatcheries of Iran producing <i>Acipenser persicus</i> juveniles.....	316	SAROSIEK, B.; WYSOCKA, J.; WYSOCKI, P.; KOWALSKI, R.; GLOGOWSKI, J.: Characteristics of acid phosphatase from Russian sturgeon ( <i>Acipenser gueldenstaedtii</i> ) spermatozoa .....	375
EBRAHIMI, E.; ZARE, P.: Growth and survival of Beluga ( <i>Huso huso</i> ) and Persian sturgeon ( <i>Acipenser persicus</i> ) fingerlings fed by live food and artificial diet	321	NOVEIRI, S. B.; ALIPOUR, A. POURKAZEMI, M.: Sperm morphometry, density and spermatocrit study in Persian sturgeon ( <i>Acipenser persicus</i> ) .....	380
VIZZIANO, D.; BARRIOS, F.; ASTIGARRAGA, I.; BRETON, B.; WILLIOT, P.: Unusual conditions for Siberian sturgeon ( <i>Acipenser baerii</i> Brandt) spawning.....	325	LIU, L.; WEI, Q.; GUO, F.; ZHANG, J.; ZHANG, T.: Cryopreservation of Chinese sturgeon ( <i>Acipenser sinensis</i> ) sperm.....	384
<b>Reproductive Physiology and Techniques</b>			
BARANNIKOVA, I.A.; BAYUNOVA, L.V.; SEMENKOVA, T. B.: Serum sex steroids and their specific cytosol binding in the pituitary and gonads of Russian sturgeon ( <i>Acipenser gueldenstaedtii</i> Brandt) during final maturation.....	331	LINHART, O.; MIMS, S. D.; GOMELSKY, B.; CVETKOVA, L. I.; COSSON, J.; RODINA, M.; HORVARTH, A.; Urbany, B.: Effect of cryoprotectants and male on motility parameters and fertilization rate in paddlefish ( <i>Polyodon spathula</i> ) frozen-thawed spermatozoa.	389
BAYUNOVA, L.; CANARIO, A. V. M.; SEMENKOVA, T.; DYUBIN, V.; SVERDLOVA, O.; TRENKLER, I.; BARANNIKOVA, I.: Sex steroids and cortisol levels in the blood of stellate sturgeon ( <i>Acipenser stellatus</i> Pallas) during final maturation induced by LH-RH-analogue .....	334	SOHRABNEZHAD, M.; KALABASSI, M. R.; NAZARI, R. M.; BAHMANI, M.: Short-term storage of Persian sturgeon ( <i>Acipenser persicus</i> ) ova in artificial media and coelomic fluid .....	395
SEMENKOVA, T. B.; CANÁRIO, A. V. M.; BAYUNOVA, L. V.; COUTO, E.; KOLMAKOV, N. N.; BARANNIKOVA, I. A.: Sex steroids and oocyte maturation in the sterlet ( <i>Acipenser ruthenus</i> L.)	340	ALAVI, S. M. H.; COSSON, J.; KAZEMI, R.: Semen characteristics in <i>Acipenser persicus</i> in relation to sequential stripping	400
		AMIRI, B. M.; TAKAHASHI, H.: Fine structure of spermatogenesis in a hybrid sturgeon, bester ( <i>Huso huso</i> ) female x <i>Acipenser ruthenus</i> male).....	406

**Processing, Products and Quality Control**

- JELODAR, A. S.; SAFARI, R.: Microbial and chemical quality evaluation of caviar in Iranian processing plants in line with the European Community code..... 411
- SAFARI, R.; YOSEFIAN, M.: Changes in TVN (Total Volatile Nitrogen) and psychrotrophic bacteria in Persian sturgeon Caviar (*Acipenser persicus*) during processing and cold storage ..... 416
- KOOCHÉKIAN, A.; GHORBAN, Z.; YOUSEFI, A.; Production of Isin glass from the swim bladder of sturgeons... 419
- ZAREH, G.; PORGHOLAM, R.; SHENAVAR, A.; JAFARI, A.; SAIFZADEH, M.: Quality assessment of various meat processing modes for meat from 2-year -old farmed *Huso huso*..... 422
- JOURDEHI, A. Y.; SABOUR, A. K.; GHASHTI, G. Z.: Initial investigation on liver oil extraction from three sturgeon species of the Caspian Sea ..... 427