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| Descrizione fisica      | 1 online resource (XIII, 258 p. 64 illus., 40 illus. in color.)   |
| Disciplina              | 597<br>590  |
| Soggetti                | Wildlife<br>Fish<br>Aquatic ecology<br>Conservation biology<br>Ecology<br>Animal genetics<br>Fish & Wildlife Biology & Management<br>Freshwater & Marine Ecology<br>Conservation Biology/Ecology<br>Animal Genetics and Genomics  |
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| Livello bibliografico   | Monografia  |
| Nota di bibliografia    | Includes bibliographical references and index.  |
| Nota di contenuto       | Acknowledges -- Preface -- Introduction -- 1. Genetic Resources: What are genetic resources and their importance for food production? -- 1.1. About biological diversity -- 1.2. What are biological resources, genetic resources, and genetic heritage? -- 1.3. Genetic resources and food production -- 1.4. Animal genetic resources -- 1.5. Genetic resources of freshwater fishes in the world -- 1.6. Genetic resources for aquaculture species -- 1.7. Biogeography of fishes globally -- 1.8. Biogeography of fishes in the Neotropical region -- 1.9. Fish genetic resources in the Neotropical countries -- 1.10. Threats to FiGR -- 1.10.1. Damming -- 1.10.2. Fish introductions and hybridizations -- 2. Characterization of Genetic Resources -- 2.1. The genetic structure of populations -- 2.2. Population and stock concepts for FiGR |

management -- 2.3. Genetic variation and its importance for FiGR -- 2.4. Genetic markers used in the characterization of fish populations -- 2.5. Evolution in use of population-based genetic markers studies of Neotropical fishes -- 2.5.1. Allozyme Markers -- 2.5.2. Mitochondrial DNA-based Markers -- 2.5.3. RAPD (Random Amplified Polymorphic DNA) -- 2.5.4. Minisatellites and microsatellites -- 2.5.5. Single Nucleotides Polymorphism -- 3. Genetic Resources of Freshwater Neotropical Fishes -- 3.1. Introduction -- 3.2. Biologically defined units for management of aquatic organisms -- 3.3. Genetic evaluation of Neotropical fishes -- 3.4. Summary and Prospects -- 4. Prospective Views and Recommendations -- 4.1. Explore and exploit quantitative variation in native Neotropical species for aquaculture -- 4.2. Programmatic survey population genetic variation of critical species -- 4.2.1. Phylogenetic characterization of all lineages -- 4.2.2. Range-wide characterization of population genetic differentiation -- 4.2.3. Application to management -- 4.3. Recommended future work -- 4.3.1. Landscape genetic assessment of genetic variation -- 4.3.2. Seeking adaptation-related genetic variation -- 4.3.3. Landscape genomics -- 4.3.4. Genetically cognizant hatchery-based fishery supplementation -- About the Authors -- Glossary -- Index.

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### Sommario/riassunto

The aim of this book is to systematize and discuss population genetic studies of freshwater fish in a region that harbors the greatest diversity of species among all inland water ecosystems. This volume explores the genetic evaluation for a number of orders, families and species of Neotropical fishes, and provides an overview on genetic resources and diversity and their relationships with fish domestication, breeding, and food production.

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