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Nota di contenuto	PART I. Tidal, Semilunar, and Lunar Rhythms -- 1 Timing in Tidal, Semilunar, and Lunar Rhythms -- 2 Circatidal Rhythms and Their Entrainment to the Tidal Cycle in Insects -- 3 Daily and Tidal Rhythms in Intertidal Marine Invertebrates -- 4 Circatidal and Circadian Rhythms in Crustacean Swimming Behavior -- 5 Coral Spawning Behavior and Timing -- 6 Lunar Periods in the Annual Reproductive Cycles of Marine

Invertebrates from Cold Subtidal and Deep-Sea Environments -- 7 Local Adaptations of Circalunar and Circadian Clocks: The Case of Clunio marinus -- 8 Circadian and Circalunar Clock Interactions and the Impact of Light in Platynereis dumerilii -- 9 Lunar Clock in Fish Reproduction -- 10 The Clock-Work Worms: Diversity and Function of Clock Expression in Marine Polychaete Worms -- PART II. Circannual Rhythms.-11 Circannual Rhythms: History, Present Challenges, Future Directions -- 12 Stem Cell Regulation of Circannual Rhythms -- 13 Seasonality of Life Histories in Tropical Birds: Circannual Rhythms and Zeitgeber -- 14 The Circannual Clock in the European Hamster: How Is It Synchronized by Photoperiodic Changes? -- 15 Circannual Clocks in Tropical Bats and Heritable Variation in Seasonal Reproductive Timing in Temperate Zone Mice -- 16 Circannual Rhythms in Insects.

Sommario/riassunto

There is more to biological rhythms than circadian clocks. This book aims at promoting the exciting potential of a deeper understanding of circannual, circatidal, and circalunar clocks. It highlights new developments, summarizes existing knowledge, and integrates different perspectives with the tools and ideas of diverse fields of current biology. For predominantly pragmatic reasons, research in recent decades was mostly concerned with circadian clocks. Clocks on other timescales, however, have been largely neglected and therefore still appear "enigmatic". Thanks to the rapid development of methods in molecular biology as well as in ecology, we are now able to re-approach these clocks. Laboratories around the world are showing fresh interest and substantial progress is being made in many independent projects. The book's two sections address the moon-derived circatidal, circasemilunar, and lunar cycles on the one hand (10 chapters), and the sun-derived circannual cycleson the other (6 chapters). This work brings together authors with an expansive array of expertise and study systems, ranging from tidal cycles of marine invertebrates to annual cycles of birds and mammals, and from behavioral to genetic and epigenetic backgrounds. While great challenges remain to be mastered, the book aims at conveying the excitement of unraveling, broadly, the rhythms of life.