

*Tec. que:* T. Boxall (1800) and W. Lambert (1816) wrote the earliest manuals; N. Felix, *Felix on the Bat* (1845); James Pycroft, *The Cricket Tutor* (1862); G. W. Beldam and C. B. Fry, *Great Batsmen* (1905), *Great Bowlers and Fielders* (1906), with action photographs and critical comment; C. B. Fry, *Batsmanship* (1912); *Cricket* in the "Badminton Series" and "Lonsdale Series"; D. R. Jardine, *Cricket* (1936); Sir Donald Bradman, *The Art of Cricket* (1958); Marylebone Cricket Club, *Cricket Coaching Book* (1952), *How to Play Cricket* (1957).

*Autobiographies, Reminiscences and Tours:* The majority of modern cricketers have given their names to reminiscences and accounts of tours. *The Fight for the Ashes* (several volumes, various authors) describe Anglo-Australian tours. The following writers are worth reading: John Arlott, J. M. Barrie, Denzil Batchelor, Lord Birkett, Edmund Blunden, Neville Cardus, Dudley Carew, Bernard Darwin, H. de Selincourt, P. G. H. Fender, C. B. Fry, Lord Harris, E. V. Lucas, G. D. Martineau, A. A. Milne, I. A. R. Peebles, R. C. Robertson-Glasgow, Alan Ross, R. C. Sherriff, E. W. Swanton, A. A. Thomson, Sir Pelham Warner. *Australia*; J. H. Fingleton, A. A. Mailey, A. G. Moyes, M. A. Noble, Ray Robinson. *South Africa*; Louis Duffus. *New Zealand*; R. T. Brittenden.

*References:* W. J. Lewis, *The Language of Cricket* (1938); Roy Webber, *Who's Who in World Cricket* (1952).

*Anthologies:* Alfred Taylor, *Catalogue of Cricket Literature* (1906); Thomas Moulton (ed.), *Bat and Ball* (1935); Gerald Brodribb (ed.), *The English Game* (1948), *The Book of Cricket Verse* (1953); Alan Ross (ed.), *The Cricketer's Companion* (1960). (R. AL.)

**CRICKET**, an orthopteran insect of the family Gryllidae (see ORTHOPTERA), universally known because of the musical chirping of the males. There are about 2,000 species, varying in length from one-eighth inch to over two inches; all have thread-like antennae, jumping hind legs, three-jointed tarsi and two slender abdominal cerci. The forewings are stiff and leathery, bearing a stridulatory apparatus in the males of most species; the hind wings are flying organs, long and membranous when developed. *Some species are wingless.*

Most distinctive among the 16 subfamilies of Gryllidae are: the tree crickets (Oecanthinae), delicate, greenish insects with transparent wings; the field and ground crickets (Gryllinae and Nemo-biinae), stout-bodied, black and brownish species, which often excavate shallow burrows; the ant-loving crickets (Myrmecophilinae), minute, wingless, hump-backed insects living in ant nests; and the mole crickets (Gryllotalpinae), subterranean insects with greatly modified shoveling forelegs, cylindrical bodies, pointed heads and velvety coats of hairlike setae.

Crickets chirp by rubbing an upturned scraper on one forewing along a row of 50–250 teeth on the underside of the other forewing. The dominant frequency in the sound depends upon the number of teeth struck per second, and varies from around 1,500 cycles per second (c.p.s.) in the largest species to nearly 10,000 c.p.s. in the smallest. The sounds are produced as series of pulses, up to about 250 per second, each pulse corresponding to a wingstroke; behavioural significance lies in variations in pulse rate and rhythm. Most commonly heard is the calling song, which attracts the female; the courtship or mating song induces the female to copulate and the fighting chirps repel other males. Both sexes possess highly sensitive and directional auditory organs, located within oval slits on the forelegs. Cricket sounds are affected by temperature; the North American snowy tree cricket, *Oecanthus niveus*, is popularly known as the "thermometer cricket" because a listener can determine the approximate temperature (Fahrenheit) by counting the chirps sounded in 15 seconds and adding 40. Individuals of this nocturnal species synchronize their chirps, and a dense colony produces an intense, monotonous beat.

Most female crickets inject their eggs into the soil or into plant stems through long, slender ovipositors; the oviposition slashes of tree crickets often seriously damage berry canes and small twigs. Subterranean crickets lack long ovipositors, but place their eggs in underground chambers, sometimes along with plant materials upon which the newly hatched nymphs later feed. In northern latitudes most crickets mature in fall. They overwinter as eggs, which hatch into nymphs the following spring. A few burrowers overwinter as nymphs and mature in early summer. There are 6–12 nymphal molts, and the adults usually live 6–8 weeks.

Crickets vary in feeding habits, and many are omnivorous. Several species frequent human dwellings and refuse heaps, most notably the straw-coloured house cricket, *Acheta* (formerly *Gryllulus domesticus*), and the decorated cricket, *Gryllodes sigillatus*. Subterranean species subsist largely upon roots and are quite injurious when abundant in crops, gardens and newly reforested areas.

House and field crickets are reared and sold by the millions as fish bait in the United States; they are also important laboratory animals in many parts of the world. In the Orient, the males are caged for their songs, and cricket fighting has been a favourite sport in China for over a thousand years.

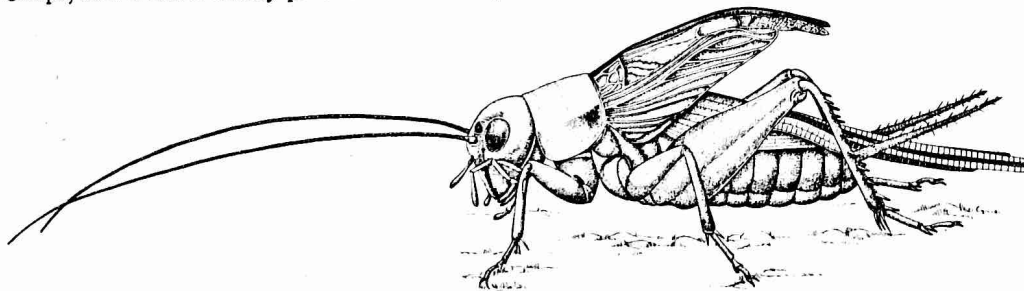
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**CRICKLADE**, a market town in Wiltshire, Eng., is 8 mi. N.W. of Swindon by road. Pop. (1951) 1,881. Its situation at a crossing of the upper Thames, where it first becomes navigable, gave it an early importance; the Roman Ermine street from Silchester to Cirencester passes through the parish. In A.D. 69 the emperor Vespasian established a centre of reconnaissance there and coins of Vespasian, Flavius Honorius and Galerius Valerius Maximinus have been found. Alfred the Great made Cricklade a burgh in 871. Early in the 10th century it possessed a mint and examples of its coins date from Aethelred II to William II (Rufus). During the 12th century Matilda (q.v.), in flight from Stephen, was befriended by the townsfolk to whom her son, Henry II, granted a charter in 1155.

St. Sampson's church, on the site of a 9th-century Saxon building, is cruciform and mainly Perpendicular. The small church of St. Mary has an Early English tower, Perpendicular aisles and a Norman chancel arch.

There is a creamery and canning factory outside the town, which also has a glove factory and rural hand potteries. It is the only parish council in the United Kingdom to bear arms. With Wootton Bassett it now forms a district council. (CL. A. H.)

**CRIEFF**, a small burgh in Perthshire, Scot., and the capital of Strathearn, 18 mi. W.S.W. of Perth by road. Pop. (1961) 5,773. It occupies the southern slopes of a hill on the left bank of the Earn and is a tourist centre for the Perthshire highlands. Anciently called the Burgh of Regality of Drummond, its charter is said to date from 1218, and it was the seat of the courts of the earls of Strathearn till 1747, when heritable jurisdictions were abolished. A stone cross with runic carvings, believed to be of the 12th century, and an octagonal 17th-century market cross stand in High street, but the great cattle fair, for which Crieff was once famous, was removed to Falkirk in 1770. It was probably in connection with this market that the "kind gallows of Crieff" acquired their notoriety, for they were mostly used for the execution of Highland cattle stealers; the timber is now in the tolbooth (1665), the present town hall. Among the principal buildings are Morrison's academy (1860), a school



BY COURTESY OF RICHARD D. ALEXANDER

MALE FIELD CRICKET (GRYLLUS ASSIMILIS) WITH FOREWINGS LIFTED IN STRIDULATION

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