Scientific.

THE MUSIC OF INSECTS.

Any contrivance that will cause two hundred and fifty-six impressions on the ear per but a more recent discovery promises practiapart, produces that musical note which important bearing upon various interests. ought to be given by a key near the middle | A species of sponge (not the ordinary sponge of a piano key-board, called middle do or middle C. If the impressions are more rapid considered useless,) which grows in exhaustthan that, the sound is higher, if slower, then it is lower. The sound may be produc- of the Bahama Islands and on the coast of ed by shot falling on a board or on a sheet Mexico and Florida, is ascertained to be exof tin by scraping comb-teeth under a finger- actly suited to a large variety of mechanical nail, by the vibration of a stretched string, of a piece of metal or of a tube-full of sir. The quality of the note depends on the character of the individual impressions, its pitch on the rapidity of them. Hence, if you hear Although the peculiar proper but a single note you can guess very well whether it is from air in a trumpet or the late the number of vibrations.

a piano till I find one of the same pitch, and | purposes far beyond the means now at comthen I know that the fly is making one hundred and seventy motions per second of some curled hair, and feathers which were too kind or other. They are the beats of his expensive for any except the opulent classes, wings, of course. If an insect makes fewer it seems complete. Henceforth the poor strokes than sixteen per second he flies si- man can throw away his bed of straw, and lently. The humming-bird makes more, at a moderate expense provide himself with and so he (alone, perhaps, of all birds) makes a place of rest as soft and luxurious as those

The note of the mosquito that serenaded you last night, is said to be on middle do or C; if so, you know that the attentive musiher song on your inappreciative ears she made as many beats as there are steps between Boston and New York. The drowsy beetles fly much more leisurely. If you ever imprisoned a bumble-bee in the flower of a pumpkin or squash, you have noticed, then, how fear or a desire to escape has quickened his wings, which ordinarily make but eighty-five beats per second. The same increase of action is noticed in the fly in the spider's

But the noise of flight is involuntary. Insects do not breathe through their throats, neither does any considerable part of their breath pass through any one channel, for the usual number of stigmata or breath-holes is of vocal music. A very few of them are furnished with musical instruments, but, perhaps more have apparatus for producing light cricket, grasshopper and locust, families emit sound.

I find no indubitable evidence of any others, and of these the males are only favored with musical organs. An Italian naturalist -he must have been badly mated says, that the reason why the cicadæ and grasshoppers are so merry is because their wives are dumb. But among birds, the male is more gifted with song than the female, though among hawks, at least, the female is larger and stronger. A very wide diversity in the sexes characterizes the whole animal world. I do not mean that the emission of sound, or even the voluntary production of rounced possesses not little commercial peared, there is little danger from it. This sound is so limited. The ticking of the death- importance.—N. Y. Journal of Commerce. watch by blows given by the jaws against whatever the insect stands on, is done by either sex, and probably for the sound. The death's head moth emits a tone caused by some rapid movement, as do bees, after their wings are cut off. Any movement rapidly repeated should produce a note.

I do not know how the snapping locust, locusta corallina, makes its noise when it flies; I suspect that it is involuntary and that it is common to the two sexes. Nature has supplied others of this family with two fiddouble up one of the hindmost to use as a bow. The shank is furnished with rows of short spires like comb-teeth, and by rubbing these back and forth over the edge of the wing-cover the elements of a note are obunder the first ring and probably also the surface of the wing cover. If locusts have fiddles, the grasshoppers and crickets have taborets. These are flat dises with ridges. One slides over the other, and the acuteness of the note depends on the frequency with which the ridges strike each other. There is, of course, a cavity beneath to give vol-ume to the sound. The taborets are attached to (or are a part of) the bases of the wing-covers. The katydid, perhaps the loudest of the grasshoppers, can be heard a quarter of a mile. Lastly, the male cicadas are furnished with a pair of internal kettledrums, sounded by a complicated set of internal muscles. The requisite sounding cavity is seen by raising two large valves beneath the abdomen. They can be heard a

Why is this musical apparatus given to one sex only? Perhaps in each of the three required for the development of the eggs. So, by requiring music of the male only, the sexes are kept more nearly balanced. They are intended to be different—not inferior and superior.

The chirping of the cricket is pitched the highest, or nearly so, of any that the human they or their neighbors the grasshoppers, are kept in cages for their music. - Watchman and Reflector.

THE COST OF A STORM.—The Supervisor of one ward in Philadelphia says that nearly \$9,000 will be necessary to repair the streets in his ward after the late storms. The whole damage to the city and neighborhood is estimated at nearly a million of

A NEW COMMODITY.

Scientific research and intelligent investigation are constantly adding new substances to those already recognized as possessing a mercantile value. Within a few months a new textile has been announced, second, and those at a uniform distance cal results not only immediate, but having an less quantities among the coral formations purposes, and is destined to enter largely into domestic consumption. It grows in very shallow water, and hence requires no

Although the peculiar properties of this vegetable growth were unknown until within a recent period, vessels are leaving New vibration of a string or of a bell. And if York and Boston regularly to obtain cargoes you can ascertain the pitch you can calculate the number of vibrations.

and the substance, as prepared by machinery at the factory in Birmingham, Ct., is I hear a fly buzzing, and try the keys of in demand for bedding and upholstering

more favored with worldly goods. The newly discovered sponge grows in a scraggly form among the corals of the seashore, and is gathered by natives of the Bacian made two hundred and fifty-six beats hamas, and delivered dry at a certain price per second; and in the little time wasting per pound, payable in merchandise at the various places of deposit. A schooner be-longing to the New York Elastic Sponge Manufacturing Company left this city last week on her fourth trip; and another be-longing to the American Patent Sponge Company, of Boston, left at the same timethe latter company paying a royalty to the former. Each vessel brings from 80,000 to 100,000 fbs., compressed into bales by machinery. To render this substance merchantable, the first process is to put it into what paper manufacturers call a "stuff engine," where it is cut, washed, and freed from calcareous matter and other impurities. It is afterward passed through a series of rubber rollers, saturated with glycerine (which off; but far off as He may appear, He cereighteen. So the insect must be incapable preserves its natural elasticity,) and is then of youal music. A very few of them are furwill expand to twelve times its bulk. Thus prepared the sponge is free from all forms than sound. The cicadæ among the hemipters, and the jumping orthopters, that is the to decay, and is much softer and more elastic to decay. of insect life, never packs, and is not liable tic than other materials which it seems destined to displace—at least to a certain extent. One pound is considered equivalent to one and a half or two of either feathers or hair, and its cost is comparatively small. For carriage upholstery, car-seats, churchcushions, mattrass, &c., sponge is already in extensive use, and is highly commended.

As a new commodity, furnishing employment for skill and labor, starting new processes in machinery, and especially as affording to all classes additional means of time of sowing. It is the early sown wheat comfort without a corresponding tax upon that is attacked by the fly If the sowing pecuniary resources, the discovery thus anis deferred until after the insect has ap-

THE CHOLERA IN ITALY.

The Italian correspondent of the N. Y.

Tribune says: The cholera is, alas, rapidly on the increase, and this year seems more than ever resolved to baffle medical science. In Catania the cases in one day reached 500: the town is deserted, the public functionaries having struck. Palermo, too, despite the dles apiece, they stand on five legs and unremitting efforts of public authorities, seconded by the citizens, seems doomed. "The streets," writes a friend on the 5th, "are deserted, fear and squalor reign supreme; an extraordinary number of families have gone to the continent; the shops are tained. When one leg is tired he uses the closed, the courts and tribunals are abandonother. The sounding-boards to these violins ed; neither buyers nor sellers are seen on (and in all such instruments—even the human voice—they are very essential) are a the exchange. Despite the use of disinfection water, is subject to the greatest injury from the exchange. The only remedy for this evil couple of cavities in the sides of the abdomen science can suggest, the disease spreads with greater energy and vehemence than ever; nearly all of the cases prove mortal; and from the time of seizure to the time of death farming.

barely three hours intervene: a rapidity exbarely three hours intervene; a rapidity exceeding that of 1837. Hitherto it was believed that dirt and poverty were marked midable. Less than forty years ago this by the awful monster as its prey; but this enemy first made its appearance in this year the rich and cleanly have been the country, and for a long time its depredations greatest sufferers, and we find the majority of victims among the upper classes, even spread over a vast area of our country. It among families whose sobriety and regular is multiplied in immense numbers, and we habits cannot be contested. Last year the know of no means by which its rapid inquarter of the Tribunali was devastated; this crease can be checked. It is most destrucyear there are but few cases, whereas the tive in those varieties of wheat that are quarter of Monte Pieta is disseminated." The | characterized by the thinnest chaff, the eggs phenomenon is noted everywhere that the being inserted through the chaff into the cholera has this year become aristocratic forming grain soon after it has gone out of Como, and the villages near the valley of blossom. In fields of wheat that come for Aosta, the province of Novara, are the chief ward a few days earlier than the crop gensufferers in the North; but it is impossible erally, the midge will be found only in the to form any idea of the number of the vic- lower and later heads, that happen to be cases a like amount of mechanism is requir tims. There have been daily cases for weeks soft just at the time the insect is ready to ed for the boring and sawing apparatus of in Genoa; but the Municipality insisted on lay its eggs; this fact has suggested to some the female, and an equal amount of space ignoring them; at last the Prefect interfered, of the best farmers the importance of proand insisted on a daily bulletin, which com-menced on the 7th. Seven cases and six the earliest, so that it may become hard bedeaths were announced, but as a physician fore the insect emerges from its Winter said to me on that very day: "These steps quarters. Wheat, eight or ten days in adare useless, the bulletins only frighten peo- vance of the ordinary period of ripening, ple and you do not get at the true figure; often entirely escapes injury from this investerday there were forty cases; but the list ear can hear. In Southern Europe either of those in the hospital was alone publish Y, secures from half to two-thirds of a crop. ed." Certain it is, that as soon as the offi- of wheat, by having it ripen a few days cial Gazette recognized the existence of the en- earlier than others, who often lose their enemy, a general exodus commenced, and soon tire crop. This advantage he derives from we shall have shops closed and streets de- having his soil drained, and the application serted as in Palermo. As for the precau- of salt and other manures, by which means

thing that we attempt. In some parts even evil can be avoided. of the North of Italy, chemists' shops and the houses of the doctors have been attacked by the populace and the owners stoned as

A STAR HIDDEN BY A THREAD.

David Rittenhouse, of Pennsylvania, was a great astronomer. He was skilful in measuring the sizes of planets and deterstars, a silk thread stretched across the glass of his telescope would entirely cover a star: and moreover, that a silk fiber, however small. placed upon the same glass, would cover so much of the heavens that the star, if a small one and near the pole, would remain obscured behind that silk fiber several seconds. Thus a silk fiber appeared to be larger in diameter than a star.

You know that every star is a heavenly world, a world of light, a sun shining upon other worlds as our sun shines upon this world.

Our sun is 886,000 miles in diameter, and yet, seen from a distant star, our sun could be covered, obscured, hidden behind a thread, when that thread was near the eye, although in a telescope.

Just so we have seen some who never could behold the heavenly world. They always complained of dimness of vision, duliness of comprehension, when they looked in the heavenly direction. You might strive to comfort them in affliction, or poverty, or distress; but no, they could not see Jesus as the Sun of Righteousness. You might direct their eyes to the Star of Bethlehem through the telescope of faith and holy confidence; but alas! there is a secret thread. a filament, a silken fiber which, holding them in subserviency to the world, in some way obscures the light, and Jesus, the Star of Hope, is eclipsed, and their hope darkened. There are times when a very small self-grat-ification, a very little love of pleasure, a very small thread, may hide the light. To some sinners Jesus, as Saviour, ppears very far tainly can be and shall be seen where the heart lets nothing, nothing intervene.

Rural Economy.

WHEAT AND ITS ENEMIES.

Every year seems to multiply the enemies to this crop, and renders a femunerative re-turn more uncertain; hencethe science, and skill of the husbandman should be exercised to the fullest extent to mitigate the evils.

The Hessian fly has become a general enemy to the crop, but much can be done to avert its attacks by observing the proper may be done and still allow the crop sufficient time to become well rooted before winter sets in. we can nx for sowing the seed that will apply to all sections, but the experience of the farmer should suggest the proper time for his particular locality. When weat is attacked by this insect, its mischief is not confined to the Fall, but remains during Winter between the leaf and the min body of the plant, ready to continue its work of destruc-tion until its period of full maturity in the Spring. Little injury will be sustained from this insect if the proper time of sowing the seed is observed.

The next serious difficulty in the way of wheat growing, is its liability to water kill. The injury from this cause depends, in a great degree, upon the character and mechanical condition of the soil. Wheat upon any soil that retains an uldue quantity of water, is subject to the greatest injury from upon soil of this character, is thorough drainage—an improvement that is destined to work a wonderful revolution in American

wheat is subject, the midge is the most forwere confined to narrow limits; it has since tions taken they are next to useless. If I his crop is advanced several days. In adgo hence to Florence by steamer I must redition to this, he sows the best early varie-

main seven days in quarantine at Leghorn, ties of wheat he can procure. main seven days in quarantine at Liegnorn, lies of wheat ne can procure.

There are other casualties to which wheat THE BIBLE, now publishing in numbers. A liberal commission the station, and can enter the capital on the is liable, but the most formidable that

same day. The doctors despair of finding a we have not before alluded to, is rust remedy; the highest authorities affirm that This we believe, is entirely owing to the they have made no progress toward the dis- state of the weather at the time the grains covery of either cause or cure. When any are filling. Wet, warm, sultry weather, is one suggests a method, they say try it, by the fruitful cause of this malady. Early all means, we have no confidence in any-maturity is the only means by which thi

Early maturity, then, is a matter of the first importance, as a means of avoiding the evil effects of most of these causes. To secure this, the land must first be put in the best possible order before sowing. Where land is wet, nothing adds more to the early maturity of any crop than complete draining. No soil can be warm and suitable for any growing crop, that is saturated with water. Warming and stimulating manures mining the position of the stars. But he afford additional means to promote early found that, such was the distance of the maturity. Another, and the most important consideration of all, is to secure early varieties for seed. Like all other varieties of grain, there is a marked difference in the period of maturity of the different kinds now cultivated among us; and if the proper means were employed, new varieties might be produced, that would ripen earlier than any of the kinds now cultivated. Some of the best varieties of wheat now known among us, have been obtained by selecting the largest matured heads that showed marks of superiority over the general crop. -Rural World.

Advertisements.

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