1851.7

Dr. Morton on the subject of the Lobos, Coyote and Indian dogs. This letter was received by Dr. Morton on the 5th inst., and enclosed another in the French language from Dr. Louis Berlandier to Dr. Jarvis, dated Matamoras, Jan. 5th, 1851, with accompanying descriptions of several species of Canis indigenous to Mexico. Dr. Berlandier's knowledge and means of information on this subject had been very extensive, and his descriptions were well worthy the notice of the Society. His letter and descriptions were on motion referred to the Committee who had charge of Dr. Woodhouse's paper, viz., Dr. J. C Fisher, Dr. Leidy, and Dr. Morton.

Mr. Cassin stated, on behalf of the committee having in charge Dr. T. C. Henry's paper describing a new species of Fish from Oswego Lake, N. Y., that a more extended communication had been re-

ceived from the author by the Committee.

Mr. Cassin read a paper intended for publication in the Proceedings entitled, "Sketch of the Birds composing the green Vireo Vieill. and Vireosylvia, Bonap." &c. Referred to Dr. Wilson, Dr. Bridges, and Mr. E. Harris.

February 18th.

Vice President Bridges in the Chair.

Mr. Cassin read a paper describing new species of the green Bucco and Galbula, Briss. Referred to the committee on the paper by Mr Cassin read at last meeting.

A letter was read from the Secretary of the Asiatic Society of Bengal, dated Aug. 5, 1850, acknowledging the receipt of Part 3, Vol. 1, New Series of the Journal.

February 25th.

DR. MORTON, President, in the Chair.

The Committee on Mr. Cassin's papers, read 1th and 18th insts., reported in favor of publication in the Proceedings.

Sketch of the Birds composing the genera Vireo, Vieillot, and Vireosylvia, Bonaparte, with a List of the previously known and descriptions of three new species.

By John Cassin.

- 1. Genus VIREO, Vieillot. Hist. Nat. des Ois. de l'Am. Sept. i, p. 83 (Folio, Paris, 1807.
- 1. Vireo flavifrons, Vieill. Ois. d'Am. Sept. i, p. 85, pl. 54. Aud. B. of Ampl. 119.

Musicicapa sylvicola, Wilson. Am. Orn. i, p. 217, pl. 7, fig. 3.

Hab .- Eastern side of North America.

Obs.—The name given by Wilson, as above, of this handsome species, ap-

pears to have been taken from Bartram's Travels, p. 290, though not being expressly so stated by him, it may have been applied by Bartram to another bird.

- Vireo solitarius, (Wils.) Aud. B. of Am. pl. 28.
 Muscicapa solitaria, Wilson. Am. Orn. ii., p. 143, pl. 17, fig. 3.
 Hab.—The whole of North America.
- 3. Vireo noveboracensis, (Gm.) Aud. B. of Am., pl. 63.

 Muscicapa noveboracensis, Gmelin. Syst. Nat. ii., p. 947, (1788.).

 Vireo musicus, Vieill. Ois. d'Am. Sept. i, p. 83, pl. 52.

 "Muscicapa cantatrix, Bartram." Wilson Am. Orn. ii., p. 166, pl. 18, fig. 6.

 Hab.—The whole of North America.

Obs.—It appears upon the authority of Wilson that this is the Muscicapa cantatrix, Bartram. That name, even if it had priority, is not entitled to adoption, not being accompanied by any description whatever. The name alluded to is given with many others, in "Travels through North and South Carolina, Georgia, East and West Florida," &c., by William Bartram, Philadelphia, 1791, (octavo, 1 vol.,) p. 291. According to my views the authority for M. cantatrix should be Wilson, he having first defined the species, though very probably upon the designation of the celebrated Bartram himself. I do not mean to say, however, that none of the names of the latter ought to be adopted, for there a few of the species named by him, to which are attached sufficient descriptions, and which I hope to designate in an early paper.

Colors.— 5 Under mandible, viewed from below, yellowish white, superior mandible light brown. Shafts of the quills on the inferior surface of the wing, white. Entire plumage above light olive tinged with greyish brown on the head, wings and tail brown, the feathers of both of which are edged externally with pale yellowish green, quills with their inner webs narrowly edged with yellowish white. Greater and lesser wing coverts conspicuously tinged with the same color. Plumage of the entire under parts of the body pale yellowish white, running into pure yellow on the sides and inferior tail coverts. Nares and ring around the eye yellowish white. Tarsi and feet dark.

Q. Slightly smaller, colors paler, head inclining to cinereous, under parts nearly white.

Hab .- Western side of North America.

Obs.—The smallest of the birds of this genus. It was discovered by Mr. Audubon on the Upper Missouri river, during the last expedition accomplished by him, and has since been found in California by Mr. John G. Bell, after whom it is named. The descriptions above are from the specimens of the latter gentleman and from the originals of Mr. Audubon, which were presented to the Academy by his friend and associate Mr. Edward Harris.

5. Vireo Huttoni, nobis.

Form.—Robust and rather broad, generally similar to that of V. noveboracensis.

Dimensions.— Total length of skin from tip of bill to end of tail 4 9-10ths inches, wing 2 4-10ths, tail 2 inches.

Colors.— \$\(\). Under mandible viewed from below, dark horn color, superior mandible nearly black. Shafts of quills on the inferior surface of the wing dark brown. Entire plumage above light olive green, inclining to yellowish on the rump and upper tail coverts. Greater and lesser wing coverts broadly tipped with white, appearing to form two conspicuous bars on the wing; quills brown externally, narrowly edged with yellowish green, and internally edged with white, conspicuous when viewed from below. Plumage of the entire under parts greenish cream color, (very delicate and peculiar,) inclining to yellowish on the flanks. Nares and ring around the eyes yellowish white. Tarsi and feet dark. "Iris dark hazel, feet blue."

5. Slightly smaller, very similar in color to the male.

Hab.—Monterey, California, (Mr. W. Hutton.) Georgetown, California, (Mr. J. G. Bell.)

Obs.—This species of Vireo may be recognized without difficulty, by the very delicate cream color of the entire under surface of its body, which color I have never seen in any other bird. In other respects it somewhat resembles Vireo Bellii, though it appears to be a stouter and more robust bird; the only specimen in the collection of the Academy is that of Mr. Bell; there are two others in the collection of the Smithsonian Institution, to which they were presented with many other birds, by Mr. Wm. Hutton, a zealous and talented young naturalist now resident at San Diego, in California, in honor of whom I have taken the liberty of naming it.

Mr. Bell's remarks on this species are as follows: "I shot this bird at Georgetown, October 15th, 1849. My attention was attracted to it by its song, which somewhat resembled that of the warbling Viero, (V. gilvus,) though the difference could easily be detected. It was in a very high pine tree, and the only specimen that I ever saw or heard. The country was hilly, and covered with a few oaks. This bird was a male."

- II. Genus Vireosylvia, Bonaparte. Geog. and Comp. List of the Birds of Europe and N. America, pl. 26, (1838.)
 - 1. Vireosylvia olivacea, (Linn.) Aud. B. of Am., pl. 150.

Muscicapa olivacea. Linn, Syst. Nat. i., p. 327.

Hab.—Eastern side of North America. Western?

2. Vireosylvia virescens, (Vieill.) Wilson Am. Orn. ii., pl. 12, fig. 3.? Aud. B. of Am., pl. 434, fig. 4.

Vireo virescens. Vieillot, Ois. d'Am. Sept. i., p. 84, pl. 53.

Lanius agilis, Lichtenstein. Verzeichness, p. 49? Spix. Av. Bras. ii., p, 25. pl. 34, fig. 1?

Vireo Bartrami, Swainson. Fau. Bor. Am. ii., p. 235.

Hab .- North and South America.

Obs.—This species is very similar to the preceding in color, but is smaller, its wings are shorter and its plumage is of more vivid green. The under parts of the body are tinged with yellow, especially the inferior tail coverts, much more than in V. olivaceus. It appears to be a common bird in South America, and I have seen specimens said to be from Trinidad. The best descriptions extant of

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this species are those of Swainson, as cited, and of Audubon in Ornith. Biog. v, p. 296. I am not without suspicion that this is the bird figured by Wilson, as above.

3. Vireosylvia altiloqua, (Vieill.) Vieill. Ois. d'Am. Sept. i., pl. 38. Muscicapa altiloqua. Vieillot, Ois. d'Am. Sept. i., p. 67. Vireo longirostris, Swainson. Fauna Bor. Am. ii., p. 237. "Vireosylvia olivacea, (Linn.)" Gosse, B. of Jamaica, p. 194? "Turdus hispaniolensis. Gm." Lath. Gen. Hist. v. p. 149.

Phyllomanes mystacalis. Cabanis, Erichson Archiv, 1837, p. 348?

Hab.—Florida, West Indies, and South America.

Obs.—A species also consideraby resembling V. olivacea, but larger and with the bill distinctly longer. It is easily distinguished by the narrow black lines running downwards from the corners of the lower mandible.

This is the largest of all the species yet discovered, and was first obtained within the present limits of the United States, by Dr. A. L. Heermann, in Florida. It is probably the bird alluded to by Mr. Gosse, in his delightful volume on the Birds of Jamaica. though I can only judge by the measurements given by him, which are too large for V. olivaceus. Mr. Gosse appears though to have had access to the plate of Audubon and possibly that of Wilson. He gives no detailed description. Nuttall, in Manuel i., p. 360, (1840,) says "the V. olivaceus has never yet been found in those Islands," (the West Indies,) but it does not appear to me to be impossible at all that it may be, as Audubon met with it in Florida and Louisiana. (Orn. Biog. II., p. 288.

4. Vireosylvia flavoviridis, nobis. Buff. Pl. Enl. 558, fig. 2?

Form.— Generally resembling that of V. altiloqua, but is rather smaller, the wings and legs are shorter, and the latter much less robust, the bill is also slightly more slender.

Dimensions. Total length of skin from tip of bill to end of tail $5\frac{1}{2}$ inches, wing 3 and 2-10ths, tail 2 and 2-10ths inches.

Colors. Head above pale cinereous, superciliary stripes pale ashy-white, not so distinctly defined as in V. altiloqua. Entire plumage of the body above fine yellowish olive, wings and tail brown with their feathers widely margined externally with the same yellowish olive and internally with yellowish white. Sides of the neck and of the body beneath, inferior wing and inferior tail coverts fine greenish yellow, middle of the body beneath from the base of the bill to the abdomen pure white. Upper mandible lead color, lower white. No black lines from the base of the lower mandible, and general color of the body above much more vivid than in V. altiloqua. Irides red.

5 Rather smaller and colors paler.

Hab. Panama, where it was obtained by Mr. John G. Bell, and San Juan de Nicaragua, from whence it was sent to this Academy by Mr. A. de Barruel.

Obs. This is a very handsome species, much more brightly colored, and without the black lines on the front of the neck which characterize the V. altiloqua. Four specimens are in the collection of the Academy.

Mr. Bell represents this bird as having been rather common near Panama in May, 1849, and that in habits and song it much resembled the red-eye, (V. olivacea.)

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5. Vireosylvia gilva, (Vieill.) Wilson Am. Orn. v, pl. 42, fig. 2. Aud. B. of Am., pl. 118.

Muscicapa gilva. Vieillot. Ois. d'Am. Sept. 1, p. 65, pl. 34.

Muscicapa melodia. Wilson Am. Orn. v. p. 35.

Hab. The whole of North America.

6. Vireosylvia philadelphica, nobis.

Form. Generally somewhat resembling that of V. gilva, but is smaller, with the bill much shorter, and the form generally shorter and stouter.

Dimensions. Total length of skin from tip of bill to end of tail $4\frac{3}{4}$ inches, wing 2 and 6-10ths, tail 2 inches.

Colors. Line over the eye pale greenish white, very distinct. Entire upper parts olive green, inclining to ash on the head, quills and tail feathers brown, narrowly edged with green. Under parts pale yellowish white, shading into greenish upon the sides. Nares dark, bill horn color.

Hab. Near Philadelphia.

Obs. This small species resembles V. gilva more than it does any other species, but is smaller and can at once be distinguished by its much shorter and weak bill. Its colors are more vivid and the superciliary line more distinct.

I shot the bird now described in Bingham's woods near Philadelphia in September, 1842, but have never seen another specimen. It was in the upper branches of a tree of considerable heighth, engaged in capturing insects, and attracted my attention by its slow and apparently deliberate movements.

- III. Notice of species which I have not seen, and general observations.
- 1. Vireo versicolor. Hartlaub. Revue Zoologique, 1843, p. 289.

Orig. descrip. "Supra olivaceo-viridis, pileo toto nuchaque nigricante-plumbeis; plumulis ciliaribus dilute flavis, tectricibus alæ majoribus rufis; remigibus primariis angustissime, secundariis latius rufo marginatis, tertiariis pogonio externo pallide fulvis; flexura alæ flavo et olivaceo variegata; subtus flavus, gula collo antico pectoreque fasciolis multis interruptis et irregularibus olivaceis transversim variegatis; cauda nigricante, rostro obscure plumbeo; mandibulæ tomiis apiceque albidis, pedibus nigris. Long. $4\frac{3}{4}$. La plus petite espece du genre."

Above olive green, with the head above and nape blackish lead color, ciliary feathers pale yellow, greater wing coverts rufous, primaries very narrowly, secondaries more broadly margined with rufous, tertiaries with their external webs pale fulvous, flexure of the wing variegated with yellow and olive; beneath yellow, throat, neck before and breast with many interrupted and irregular transverse little lines of olive, tail blackish, bill obscure lead color, edges of the mandibles and apex white, feet black. Length about 5 inches, (4\frac{3}{4} inches French.) The smallest species of the genus.

Obs. This bird must be quite different in general appearance from any other of either of the genera Vireo or Vireosylvia. Its rufous wing coverts and broad margins of the secondaries, also rufous, are quite peculiar.

M. Hartlaub is mistaken about this being the smallest of the genus. There are at least three species which are smaller.

Vireo Vigorsii, (Aud.) Richardson, Report on N. A. Zoology to Brit.
 Assoc. for the Adv. of Science, (in Sixth Rep. Brit. Assoc. 1837, p. 172.)
 Sylvia Vigorsii. Aud. Orn. Biog. 1 p. 153, pl. 30.

Obs. Audubon's figure has a Vireo-like look, and ought to be remembered. In his Synopsis, p. 55, he places this name as a synonyme for Sylvicola pinus, (Lath.)

3. Vireosylva is the orthography of M. Bonaparte in Geog. and Comp. List. p. 26, but in Conspectus Avium, p. 329, he makes it Vireosylvia, the former being apparently a typographical error. It is a very natural and easily defined genus, and was first pointed out by this deservedly celebrated naturalist in the edition of the work cited which was published in 1838. In Erichson's Archiv, xiii. p. 321, (1847,) Mr. Cabanis unnecessarily proposes the name Phyllomanes as a substitute.

Descriptions of new species of birds of the genera Galbula and Bucco, Briss., specimens of which are in the collection of the Academy of Natural Sciences of Philadelphia.

BY JOHN CASSIN.

1. Galbula cyanicollis, nobis.

Form. Not essentially different from that of other short-tailed species. Rather stout, space from the bill around the eye bare and conspicuous, middle tail feathers but slightly longest.

Dimensions. Total length of skin from top of bill to end of tail $7\frac{1}{2}$ inches, wing 3 and 1-10th, tail 3 inches.

Colours. Head above blue with golden olive reflections, the same color, blue, extends from the base of the bill upon the neck beneath the bare space around the eye, bordering (upon the neck only) the deep reddish brown of the entire under surface of the body. Entire plumage above and two middle tail feathers golden-green, very brilliant, and inclining to red in some lights. Outer tail feathers reddish brown, slightly edged externally with golden-green, quills black, primaries narrowly and secondaries broadly edged on their inner webs with brown, rather paler than that of the body beneath. A trace of a green collar on the neck in front.

Tip of upper mandible black, basal portion of upper, whole of under mandible (space around the eye and feet?) yellow.

Hab. Para, Brazil.

Obs. This species is related to G. chalcocephala, Deville, and G. albirostris, Lath. I am acquainted with no other species in which the head and neck are blue as above described. Several specimens are in the collection, all of which are from Para.

2. Bucco Ordii, nobis.

Form. Generally short and robust, feathers of the head but little elongated, wings and tail short. A strict congener of B. macrorhynchus and pectoralis.

Dimensions. Total length of skin from tip of bill to end of tail 73 inches, wing 3 and 3-10ths, tail 2 and 8-10th inches.

Colors. Tail with a central transverse white bar. Breast with a narrow band of black, immediately succeeded by another much wider of dark chesnut-brown,

throat and abdomen white, which is the color also of the frontal feathers of the internal webs of the primaries at their bases, and of a narrow collar on the back of the neck. Entire superior surface of the head, body, wings, and tail black, with a greenish gloss. Tail with a band of white most observable on the inner webs of the feathers, and narrowly edged with white at its end. Flanks striped with the same dark brown as the broader belt of the breast.

Hab. Venezuela.

Obs. A bird resembling generally the several species of which Bucco macrorhynchus, Gm., is a representative, but immediately recognizable by the white bar in its tail and its smaller size. I have seen only the specimen now described.

I have taken the liberty of naming this bird as a trifling tribute of respect to Mr. George Ord of this city, the Nestor of American naturalists, the early and constant friend and biographer of the great Alexander Wilson.

The Committee on Dr. Leidy's new species of Entozoa, reported in favor of publication in the Proceedings.

Descriptions of new species of Entozoa.

By JOSEPH LEIDY, M. D.

1. Cuculanus roseus.—Body rose-red with whitish tips, translucent, cylindrical, robust, narrowed at the extremities; anteriorly obtuse; posteriorly acute. Mouth elongated, surrounded by a papillated lip, and enclosing a complex, corneous, yellow colored, apparatus. Esophagus consisting of two portions: the first long, cylindrical; the second short, narrow, pyriform. Ventriculus broad, cylindrical. Anus very near the posterior end. Tail 1-5th of a line long.

Female.—Length 1 in. to $1\frac{1}{2}$ in.; breadth 3-5ths of a line. Generative aperture 4 lines from the end of the tail. Ovaries two, white, very tortuous.

Male.—Length 6 to 10 lines: breadth $\frac{1}{2}$ a line. Penis composed of two white, curved, spiculæ, 4-5ths of a line long, protruding close to the anal aperture.

Habitation.—I found 580 adult specimens and many thousand young of this species in the intestine of a Tortoise (Testudo) from Java. About one-fourth of the number were males.

2. ASCARIS Felis discoloris.—Body yellowish-white, sub-cylindrical, with prominent longitudinal lines; posteriorly acute; anteriorly moderately narrowed with the extremity furnished with a narrow lateral alaform expansion undulated at the free edge. Mouth distinctly trilobed. Tail short; anus just anterior to the point of the latter.

Length 1 in. to $1\frac{1}{2}$ in.; greatest breadth at the posterior third $\frac{1}{2}$ a line; posterior to alaform expansion $\frac{1}{4}$ of a line; length of latter 1 line; greatest breadth at base 1-10th of a line. Annulations 1-570th in. wide.

Habitation.—Six females obtained from the small intestine of Felis discolor.

3. Spiroptera Didelphidis virginiana.—Body whitish, cylindrical; anteriorly narrowed, sub-acute; posteriorly curved, acute, furnished with a broad, inflated, lateral, alaform expansion of the integument, pierced on each side of the body with five minute respiratory tubes opening at the free edge of the expansion. Integument on the ventral surface, between the lateral expansions, presenting

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a number of elevated, longitudinal, moderately tortuous, papillated, linear ridges. Mouth small, round. Œsophagus long, cylindrical. Intestine simple, tortuous. Anus small, oval, situated about half the length of the alary expansion, from the posterior end.

Length 11 lines; breadth 3-5ths of a line. Transverse striæ of integument 1-650th in. wide. Œsophagus 2½ lines long; 1-5th of a line broad.

Habitation.—The description is taken from two males found within the stomach of Didelphis virginiana.

4. Spiroptera Scalopis canadensis.—Body whitish, cylindrical; anteriorly attenuated; posteriorly re-curved, furnished at the extremity with a lateral dilated alary expansion, containing four minute respiratory tubes, diverging from the position of the anus. Mouth small. Œsophagus cylindrical. Intestine moderately tortuous. Anus about half the length of the alary expansion from the posterior end.

Length 6 lines; breadth $\frac{1}{4}$ of a line. Œsophagus $\frac{1}{4}$ of a line long.

Habitation.—Description from a single male found in the stomach of Scalops canadensis.

5. Echinorynchus socialis.—Body white, cylindrical, with a dilatation of the apterior fifth; narrowed posteriorly, with a white spiral band passing around the whole length, and giving the appearance of transverse annulations. Proboscis moderately long, cylindrical, with twenty-six transverse rows of simple re-curved hooklets, sixteen in each row.

Male furnished with a posterior versicular appendage.

Length from $\frac{1}{2}$ an in. to 2 in. 4 lines; breadth of larger individuals anteriorly $\frac{2}{3}$ of a line; posteriorly 2-5ths of a line.

Habitation.—Found frequently in considerable numbers in the intestine of Platessa plana.

The Committee, to whom the paper of Dr. Berlandier, read to the Academy Feb. 11th, 1851, describing two species of Mexican wolves, was referred, reported:

That after a careful examination, they are satisfied that the first, the Canis Mexicanus of Desmarest, No. 297, and the Lupus Mexicanus of Col. Hamilton Smith, Vol. 9th, Mammalia Nat. Lib., though heretofore considered by Richardson and others as a variety of the common wolf, Lupus occidentalis, is yet, from its peculiarly marked form, entitled to be considered a distinct species. As this wolf has been described and figured in the work referred to, it would only be unnecessarily multiplying its synonyms to publish a new name for it, unless stronger reasons be given than exist in the present case. The second is unquestionably the one described by Dr. Woodhouse, under the name of Canis frustror, in a paper read to the Academy, Jan. 7th, 1851, and directed to be published in the Proceedings and in the Journal of the Academy. The same objection, the unnecessary multiplication of synonyms, also applies to the publication of the name given by Dr. Berlandier to this wolf. Although Dr. Woodhouse is entitled by priority of publication to the right of giving the specific name, yet the Committee feel unwilling to report against the publication of this part of the paper, especially as it strongly corroborates the views expressed by them in the remarks made on the Canis frustror. Considering the description of the first also as im1851.] 157

portant in establishing the claim of the Lupus Mexicanus to be ranked as a distinct species, and not as a variety, the Committee would recommend the publication of the translation of the paper of Dr. Berlandier, omitting the specific names given by him, in the Proceedings of the Academy.

CANIS MEXICANUS, Desm. 297.

Head elongated, reddish-grey, with a blackish band upon the forehead, not distinctly defined; ears reddish, a little darker upon the anterior margin; back mixture of ashy-grey; dirty red and blackish bands, which extend a little upon the flanks; a mane; abdomen dirty light-red; tail reddish, black above, very much tufted, and terminated by black hairs, not pendulous.

It inhabits almost the whole of Mexico, and is common in desert localities, particularly in the shore regions of the gulf of Mexico. It is found also upon the central plateau.

It is as susceptible of being tamed as a dog; (those which I have raised were very good as watch dogs) it lives on good terms with the domestic animals. It howls principally at night when the weather is about to change. This wolf is celebrated for his cunning, his vivacity and his habits. All the inhabitants bestow upon him in a high degree these first qualities.

Total length from the end of the nose to the extremity of the tail, 4 feet 6 inches French. Height at the shoulder 1 foot 5 inches.

CANIS FRUSTROR, Woodhouse.

Size of the common fox, (Canis vulpes) or a little larger; reddish-grey; a blackish-grey mane along the back, shaded with black upon the shoulders; ears cinnamon-red; anterior feet red, in front blackish; extremity of the tail blackish.

Inhabits all the plains, more or less wooded, of Tamaulipas, New-Leon, Coahuila, and of Texas; is again found in greater or less abundance through - out the whole of Mexico, and perhaps also in the greater part of North America.

It is susceptible of being tamed, but preserves a distrustful character. It does not how llike the wolf, and its cry is rather a yelping bark, which is heard in the evening and also early in the morning.

Total length from the end of the nose to the extremity of the tail 3 feet 4 inches French. Height of the shoulder 1 foot 1 inch.

Mammal very cowardly, but also perhaps the most cunning.

The Corresponding Secretary read his Monthly Report, which was adopted.

The Auditors reported that they had examined the Report of the Treasurer for 1850, and had found it correct.

ELECTIONS.

The following were elected Correspondents of the Academy. Mr. W. Haidinger, President of the Imperial Geological Society at Vienna; Baron Von Hauer, of Vienna; Prof. Joseph Hyrtl, of Vienna; Dr. C. M. Deising, of Vienna; and Mr. Charles Girard, of Washington, D. C.

ERRATA IN VOL. V.

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Page 14, line 16 from bottom, for Zeuker read Zenker.
  " 22, " 10 " top, for February read August.
              23, "
  " 55. "
                      bottom, for Plumus read Plumos.
  ·· 117. ··
              16
                  66
                               for Vol. 5 read Vol. 4.
                      top, for necessarily read unnecessarily.
  .. 154, "
                  4.6
              12
  .. 157, "
                4
                       bottom, for Heidinger read Haidinger.
  .. 169, "
                  44
              10
                       top, for Dikaj read Dijak.
                  66
  . 209. "
                7
                       " for isosevles read isoscel's.
  .. 209.
          46
               10
                  66
                       " for joints read points.
  .. 210,
           "
                5
                   4 4
                       bottom, for papulus read Passalus.
           "
                   "
  " 210.
                4
                               for gulus read Julus.
  " 212,
           "
               21
                   ..
                               for 8 read 13, and for 34 read 54.
  . 224.
          ..
               10 and 11 from bottom, for Aspidagaster read Aspidogaster.
           "
                2 from bottom, insert John H. Brinton.
  . 227.
  4 256,
           66
                5
                               for Sowerly read Sowerby.
                         ..
  " 259,
              13
                  "
                               for Statisque read Statistique.
  " 275.
               10
                       top, for Longstreth read Langstroth.
  . 276.
               19
                   "
                       .. for robustum read priscum.
           "
               23
                   66
                        " for i. 1 read i. 3.
  " 276,
                       bottom, before "by" insert "read."
                   "
  * 276.
          ..
                2
  " 295,
           46
                8
                   44
                       top, for were read are.
                5
                   "
                       " for Silliquaria read Sigillaria.
  . 296.
               13 "
  .. 297, ...
                       " · for Ireland read Iceland.
  " 297, bottom line, for Arctos read maritimus.
  ** 301, line 21 from bottom, for cinque read cinque.
  " 345, top line, for puncticollis read poricollis.
  " 357, line 21 from top, for Coaco read Cocoa-
  " 357, " 11 " bottom, for Borneo read Africa.
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" 357, bottom line, for Fiuns read Finns.