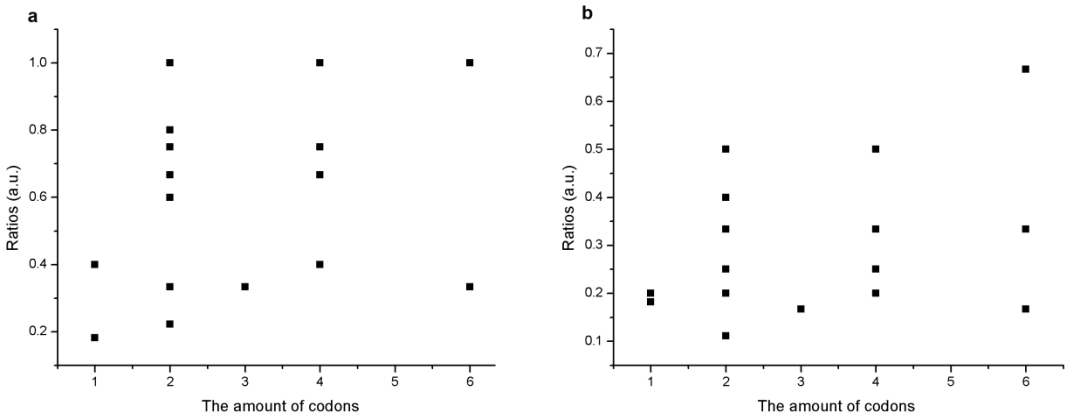
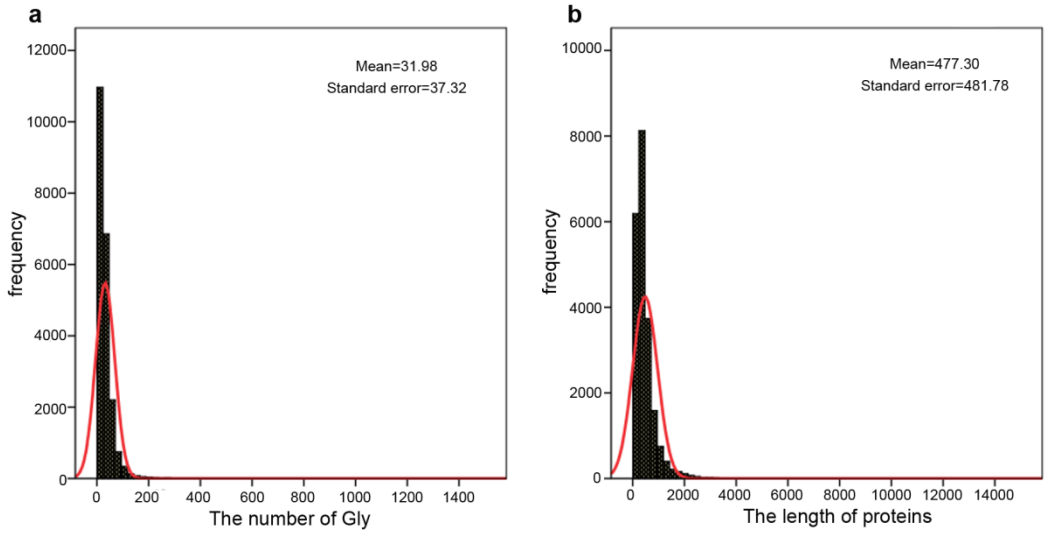
Supplementary Materials Table S1 The characteristics of proteins in 33 species. 33 species were sorted by number of proteins(from 40725 to 517).

Organisms	Median total length (Mb)	Median GC%	Number of proteins	Mean length of proteins(aa)	<100 aa of proteins(%)	>1000 aa of proteins(%)
Zea mays	2067.62	46.82	40725	356.71(8-5101)	12253(30.1)	1006(2.5)
Arabidopsis thaliana	97.38	36.65	27142	398.74(16-5393)	2309(8.5)	1092(3.7)
Danio rerio	1391.74	36.9	25699	542.58(32-29256)	577(2.1)	2784(10.8)
Pan troglodytes	3021.76	41.8745	22251	499.78(24-8827)	878(3.9)	2054(9.2)
Mus musculus	2541.65	42.3	21736	471.47(25-34358)	681(3.1)	1684(7.7)
Homo sapiens	2994.61	41.3255	21560	477.30(24-14507)	777(3.6)	1749(8.1)
Gorilla gorilla	3035.66	41.332	21549	483.05(28-12739)	1078(5.00)	1910(8.86)
Sus scrofa	2508.91	42.226	21338	477.06(31-13288)	626(2.9)	1727(8.1)
Chlorocebus sabaeus	2789.66	40.9303	20771	532.96(23-14184)	630(3.0)	2178(10.5)
Bos taurus	2697.56	41.8776	20745	511.06(30-7569)	594(2.86)	2020(9.74)
Ovis aries	2615.52	42.4	19646	530.53(36-8974)	477(2.4)	2087(10.6)
Gallus gallus	1230.26	42.9197	14683	563.10(32-12010)	357(2.4)	1760(12.0)
Serinus canaria	1152.1	42.6	13632	585.50(28-34416)	336(2.5)	1801(13.2)
Drosophila Melanogaster	148.5	41.9402	13519	478.91(11-22949)	913(6.8)	1140(8.4)
Saccharomyces cerevisiae	12.3018	38.4253	5794	487.37(16-4910)	322(5.6)	481(8.3)
Bacillus anthracis	5.45	35.2	4764	262.84(26-5017)	905(19.0)	68(0.5)
Pseudomonas aeruginosa	6.57	66.2	4665	334.56(23-5627)	308(6.6)	63(1.4)
Pseudomonas putida	6.02	61.9	4366	338.08(23-8682)	387(8.9)	76(1.7)
Escherichia coli	5.17	50.6	4172	306.28(24-5291)	572(13.7)	68(1.6)
Vibrio Parahaemolyticus	5.11	45.3	4131	312.05(216084)	584(14.1)	65(1.6)
Bordetella bronchiseptica	5.2	68.2	3893	328.74(37-4218)	203(5.2)	28(1.1)
Bacillus subtilis	4.1	43.7	3629	292.15(25-5488)	515(14.2)	36(1.0)
Salmonella enterica	4.76	52.1	3384	316.48(13-3624)	302(8.9)	38(1.1)
Vibrio cholerae	4.02	47.5	2974	329.35(26-4555)	261(8.8)	43(1.4)
Bordetella pertussis	3.76	67.7	2868	326.41(37-4196)	163(5.7)	35(1.2)
Pseudomonas syringae	6.04	58.8	2773	350.31(36-13537)	192(6.9)	57(2.1)
Staphylococcus aureus	2.87	32.8	2354	284.58(29-9535)	423(18)	28(1.2)
Staphylococcus epidermidis	2.53	32	2106	286.57(25-9439)	372(17.7)	23(1.1)
Streptococcus pneumoniae	2.1	39.6	1467	315.28(38-2551)	182(12.4)	26(1.8)
Streptococcus pyogenes	1.83	38.5	1398	309.97(27-2045)	159(11.4)	18(1.3)
Helicobacter pylori	1.63	38.9	1142	332.98(30-2893)	104(9.4)	14(1.2)
Chlamydia trachomatis	1.05	41.2643	718	356.34(45-1786)	53(7.4)	21(2.9)
Buchnera aphidicola	0.64	25.6387	517	330.17(38-1407)	40(7.7)	6(1.2)



Supplementary MaterialsFigure S1 The relationships between the amount of codons and the O:C ratios and between the amount pf codons and the N:C ratios. No correlation was observed unlike the amount pf codons and the C:H ratios.



Supplementary Materials Figure S2 The frequency of the number of Gly and of the length of proteins in human. The number of Gly and of the length of proteins can not fit normal distribution(Z= 30.43 and 27.84, p<0.000) and Poission distribution(Z=65.65 and 88.25, p<0.000). The number of Gly was 31.98±37.32(from 0 to 1483) and the length of proteins was 477.30±481.78(from 24 to14507).