Reply to referee 1:

I thank the referee very much for his/her positive comments.

The referee also points out that the bias-optimal parameter values a_i^* can be much larger than 1, and that therefore the criterium $a_i^{n_i} \leq O(1)$ can prevent the use of parameters close to the optimal ones. That is indeed a serious problem, but I believe also that I have made this very clear in the paper.

Since I do not have a really satisfactory solution for this, I made no changes in the manuscript. The problem is clearly stated, and that is it.

Reply to referee 2:

I thank the referee very much for his/her positive comments, and for pointing out numerous minor corrections.

1) As regards his/her point 1), I tried now to be a bit more explicit in several places. But I do not want to change from the letter style (no sections) to the style of a long paper. As a compromise, I added "section" headings as bold face in-line phrases.

2) Answers to explicit points:

a) I am sorry, but "positive definite" was used in some of the older German literature to indicate "strictly positive", i.e. to exclude zero values. I changed it now to "strictly positive".

b) Eq.(20): There was indeed a factor n missing in the second line, which is now corrected.

c) The fourth line in Eq.(20) is obtained by substituting $t = x + 1$ in the third line, obtaining thereby

$$... = -z \int_1^{1+a} \frac{dt}{t} e^{-zt},$$

splitting the integral into

$$\int_1^{1+a}[...] = \{\int_1^{\infty} - \int_{1+a}^{\infty}\}[...],$$

substituting in the second part $u = t/(1+a)$, and finally using the definition of $E_1(z)$.

d) Immediately after Eq.(21), I did not intend to specify what "optimality" means. At this point I just wanted to say that Eq.(22) has more flexibility, if different a_i are used. The point here is that by changing a_i one can shift the balance between bias and variance of the estimator.

But Eqs.(20) to (22) are given only because (i) the Poissonian limit is somewhat easier, and (ii) some readers will wonder why it is not discussed, if I had no presented it. The really interesting result is that for the exact binomial case. I realized now that this might indeed have been confusing, thus I now changed the entire paragraph and added a corresponding comment. I also changed now the discussion near Eq.(6) to make clear that the Poisson limit is discussed only for completeness, but is not recommended.

e) Also in Eq.(23) there was a factor n missing, which is now corrected.

f) Eq.(26) is corrected

g) It is now said explicitly what is the correction term neglected in Eq.(27), and why (and in what sense) a_i^* is optimal.

h) The sign mistake in Eq.(30) is corrected, and it is also said more correctly that $g_n(a)$ is the second term in Eq.(19) (i.e., the integral times $(-1)^n$).

i) The caption for Fig.2 is corrected.

j) The meaning of the statement $a_i^{n_i} \leq O(1)$ is made more explicit.

k) The next point (wrong brackets) is corrected.

l) Ref.[22] is available as open access, so the reference to it should be sufficient.

m) The last point raised by the referee is the most difficult to answer. One problem is that it is not always clear what is 'sufficient'. Keeping all $a_i^{n_i}$ small is always possible, but whether one should be satisfied with the results depends certainly on the particular application in mind. I hate ready-made

recipes which supposedly can be applied blindly, and guess that there is no way to avoid trial-and-error tests. Thus I made no changes here either.